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THE

Gardeners' Chronicle

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SUMMER PRUNING.

THE time for summer pruning hardy fruit trees is once more at hand. It may be confessed that, like many other gardening practices, it is liable to misapplication and abuse. Why do we summer-prune fruit trees, of which for brevity's sake the Apple may be chosen as an example? Some will reply that it is in order to induce the formation of fruit buds for another year. Others, to relieve the tree of a redundancy of shoots, while not a few perhaps have only custom to fall back upon for a reason. It is not wise to laugh at a thing because it has nothing but custom to recommend it, and it is not always safe to break away from that which long usage has sanctioned as almost imperative, but at the same time it is not a stable footing to rest upon. Therefore custom may be set aside as being not altogether satisfactory. The other reasons are perfectly sound. I do not recall any season in which there has been such a profusion of clean, healthy foliage as the present, nor one in which the work of dis-budding has needed more time. It should be remembered that summer pruning, properly understood, is simply a corollary to dis-budding, and both are indicative of a system of repression that is artificial, but none the

less beneficial. Our cordons are artificial in intent and in fact; the very fruit they bear is to some extent imbued with the character of artificiality, for in comparison with that produced by a standard in a large measure left to itself, the size and quality of the two differ essentially.

In summer pruning the first question one has to solve is whether any more buds are required than the tree already is able to mature, or whether there are already too many. It is quite possible that the latter case may be the condition of the tree; and if so, it is obvious that much of the pruning will resolve itself into a removal of the weaker and worst placed spur-buds, including not improbably here and there a whole spur. Many persons approach summer pruning without considering the possibility of a tree carrying more spurs and potential fruit buds than is good for it. But, no doubt, such a condition is not only possible but highly probable, the high state of perfection to which indoor fruit-culture has been carried proving that it is, to say the least, unwise to overload a tree with more buds and foliage than it can usefully employ.

Shoots that have been allowed to extend, and are considered necessary to preserve and to shorten, are sometimes allowed to harden somewhat before being pruned, the idea being that secondary growths will not obtrude themselves at that stage. The rationale of "thumb" pruning has rather lost sight of by its opponents as well as by those who, unwittingly or not, practise this method of shortening. They fear that the growth of a shoot being abruptly terminated, the buds which it was hoped would be preserved and matured will, on the contrary, be presently forced prematurely into growth. Yet observation shows that shoots may be shortened while yet absolutely immature and that only one or two of the uppermost buds push into growth. It is according to how these are treated that the utility of thumb pruning, as opposed to knife pruning, which is equivalent to late pruning, rests. It is usual to pinch the tips of these repeatedly, and the little shoots which succeed them, in the vain expectation that they exert some obscure influence on the roots. Yet the best method to pursue is to rub off all the secondary growths as they are produced, leaving only the primary leaves, the value of which can hardly be over-estimated, because we know when these have been crippled or destroyed by any means the secondary foliage on which the tree has then to depend, while serving to keep it in existence, is nevertheless incapable of assisting a crop of fruit to develop to anything near perfection, or of enabling the tree to provide for the succeeding crop. On the other hand, with a limited quantity of primary foliage the tree is able to mature the current year's crop and to provide for that of the succeeding year.

To draw these few threads together, I think it must be clear that the removal of shoots and foliage obviously beyond the necessities of the tree is beneficial. That the sooner a tree is relieved of what is superfluous, must, in the nature of things, tend to induce vigour and fertility, and that, once relieved, the tree should as far as possible be kept in the same condition during its state of active growth, free from "spray," which is capable only of affecting it prejudicially. B.

DISEASE OF SEAKALE.

IN the autumn of 1906 serious damage to various kitchen garden crops was noticed in the vegetable department at Wye College, Kent. This damage proved to be due to the attacks of the fungus *Rhizoctonia violacea*, a root or stem-parasite capable of attacking a very wide range of host-plants. This fungus had not been noticed before in the gardens, but on raising the root crops it was found that during the season it had attacked several crops. The disease had done considerable damage to the Salsify, reducing the crop by fully one half; the fungus had also attacked Parsnips and Carrots, and, to a very serious extent, the Seakale, the crowns of which (required for the next year's forcing) were rendered useless to the extent of nearly half the crop. Many of the diseased crowns had rotted away.

The fungus *Rhizoctonia* is seen as a felted mass of violet spawn, or mycelium, adhering closely to the surface of the root, and forming conspicuous violet or purplish patches. The threads (hyphæ) of the spawn are very characteristic in appearance when seen under the microscope; they are violet or purplish in colour, rather thick, and branched rather frequently at right angles. Scattered about over the spawn, or sometimes densely clustered, are usually to be found numerous small, firm, violet bodies, appearing to the naked eye as minute, round specks not unlike the heads of very small pins. These bodies are called sclerotia, and are, in fact, little globular masses of the spawn in a resting condition. They are composed throughout of densely interwoven hyphæ compacted into practically a solid mass of tissue. A microscopic section through one of these sclerotia shows at the base a mass of hyphæ passing right into the tissue of the host-plant, and it is thus that the host is attacked, and the necessary nourishment obtained by the fungus. Decay of the tissues of the host-plant ultimately sets in over the affected areas, and in severe cases of attack the whole, or, at any rate, a large area of the root or stock rots away, either before or after the plants are stored. The sclerotia may be looked upon as carrying out the function of winter spores, since they are capable of remaining dormant for a long period, being very resistant to cold, drought, or other unfavourable conditions. Then, when suitable conditions again obtain, the sclerotia grow out into the ordinary vegetative spawn of the fungus, which extends through the soil, attacking various plants as it reaches them.

So serious were the effects of the disease on the Seakale that it was decided to try various remedial measures during the season of 1907. The recurrence of the disease, if no steps were taken, was almost a certainty, since in the first place some of the cuttings used (which were all taken from the crop previously grown) had in all probability borne numerous patches of the fungus, since it occurred so plentifully on most of the roots; and secondly, the position of the Seakale bed being required to be the same, there was a strong probability that the soil was already infected with sclerotia, and possibly with growing spawn. It was, therefore, decided to treat portions of the bed with various soil fungicides. Just before the planting of the cuttings, in March, 1907, the bed was divided up into 11 plots. The size of each plot was 19 feet by 9 feet, with the exception of Plot 2, which measured 9 feet 6 inches by 9 feet, and Plot 3, which measured 28 feet 6 inches by 9 feet. The Seakale was planted in rows, the cuttings being about 18 inches apart in the row. The plots received the following treatment:

Plot 1.—Copper sulphate solution, 1 lb. to 1 gallon water; 40 gallons applied.

Plot 2.—Saturated solution of iron sulphate

with 1 per cent. sulphuric acid; 20 gallons applied.

Plot 3.—Control plot; no treatment.

Plot 4.—Mercuric chloride (corrosive sublimate), 1 ounce to 8 gallons water; 40 gallons applied.

Plot 5.—Phenol (carbolic acid), 1 ounce to 1 gallon water; 40 gallons applied.

Plot 6.—Formalin (commercial), 2 ounces to 1 gallon water; 20 gallons applied.

Plot 7.—Formalin (commercial), 1 ounce to 1 gallon water; 20 gallons applied.

Plot 8.—Petroleum 3 parts, water 10 parts; 40 gallons applied.

Plot 9.—Control plot; no treatment.

Plot 10.—Sulphur ("flowers of sulphur") at the rate of 600 lbs. to the acre, worked into the surface soil.

Plot 11.—Control plot.

Plot 12.—Quicklime at rate of 4 tons to the acre, worked into the surface soil.

The phenol, corrosive sublimate, copper sulphate, and iron sulphate were dissolved in water; in the last case the water was hot, and contained the sulphuric acid. The formalin and petroleum were mixed with water, though in the latter a complete mixing was impossible. All the above fluids were applied to the respective plots by a watering-can with a fine rose. The sulphur and lime were applied dry, and mixed into the surface soil.

A few days only after the treating of the soil the Seakale cuttings were planted.

During the summer little difference was noticeable throughout the bed, beyond the fact

that, owing to the very bad tilth brought about by the application of the petroleum, the growth not only of the crop, but also of weeds, was



FIG. 2.—PORTION OF TWO ROOTS OF THE PLANT SHOWN IN FIG. 1, MAGNIFIED, SHOWING THE GROUPS OF SCLEROTIA AMONG THE PURPLISH-VIOLET MYCELIUM.

greatly checked; in fact, areas here and there in this plot remained bare all through the summer.

On lifting the crop in the autumn a considerable difference was noticeable in the health of the crop in the various plots. Although the disease was not so virulent as it had been in 1906, it was sufficiently so in the control plots, and in some of the other plots also, to be the cause of considerable harm. The attack was not severe enough to cause the crowns to rot (as happened in 1906), yet it was present on some plots to an extent sufficient to make the crowns much weaker than they would otherwise have been. Also, in several of the plots the disease occurred plentifully on the roots; here the danger was that "cuttings" from such affected plants would introduce the disease into the soil of other portions of the garden. This constitutes a real danger, since, as mentioned below, the *Rhizoctonia* disease is able to attack a large number of cultivated plants. The treated plots gave the following results:—

Plot 1 (copper sulphate), Plot 2 (iron sulphate), Plot 3 (control).—Disease prevalent on crown and roots, and although in the case of Plot 1 there was perhaps a slight improvement, it did not appear that the use of either copper sulphate or iron sulphate applied in this way was of any practical use against the disease.

Plot 4 (corrosive sublimate).—Disease prevalent on the crown, but did not occur, as a rule, on the roots. While the treatment was productive, apparently, of some good, it was clear that the use of corrosive sublimate did not clear the soil of the disease.

Plot 5 (carbolic acid).—In this plot not only were all the plants practically free from the disease, but the crop was heavier and better in every way than on the other plots, the crowns being much larger and the roots stouter, and quite free from the disease. It certainly appeared as though the application of the carbolic acid had stimulated the growth of the plants.

Plot 6 (formalin), Plot 7 (formalin), Plot 8 (petroleum), Plot 9 (control).—No satisfactory results. There was as much, if not slightly more, disease in the formalin plots as in the control plot, and the plants were poor. In the petroleum plot the disease was as prevalent and as severe as anywhere; also, it appeared

that the application of the petroleum had affected adversely the growth of the plants. Their growth was noticeably checked in the spring, and the plants subsequently did not make so good a leaf growth as on the other plots, with the result that, on being dug, the crowns proved to be the poorest, and the roots the thinnest, in the whole of the plots.

Plot 10 (sulphur).—While the growth of the plants was good, the disease was prevalent on the crown and roots. There was as much disease here, in fact, as in Plot 11 (control), and it is doubtful if the treatment did any real good at all.

Plot 11 (control).—Disease prevalent on the crown and roots.

Plot 12 (lime).—For some reason the plants were rather poor, the roots being decidedly weaker than in the other plots. There was, however, an almost complete absence of disease on them. The effect of treating infected soils with various quantities of lime certainly requires to be tested further.

Although the positive results obtained in the above series of experiments on treating *Rhizoctonia*-infected soil with fungicides must be confirmed by further tests before absolute reliance can be placed upon them, the result obtained by the use of carbolic acid was so striking that I have thought it well to mention the fact now instead of waiting for the results of further experiments with soil fungicides in the hope that gardeners troubled with this disease on Seakale, or on other plants, will try the use of this simple and inexpensive remedy. Carbolic acid of 90 per cent. purity can be obtained at 8d. a pound, and a pound is sufficient to treat about 4 square feet. The apparently stimulated growth of Seakale in soil treated with carbolic acid is a point of interest.

If Seakale is attacked by the *Rhizoctonia* disease, there is every reason for the gardener to endeavour to get rid of the pest, not only on account of the damage it will inflict on this



FIG. 1.—PLANT OF SEAKALE AFFECTED WITH RHIZOCTONIA VIOLACEA.

Purplish-violet patches of mycelium occur on the crown and on the roots. Densely clustered groups of sclerotia have been formed here and there (as at x).



FIG. 3.—A "CUTTING" TAKEN FROM A DISEASED PLANT.

The purplish-violet mycelium of *Rhizoctonia* appears as dark patches on the roots (as at x).

crop, but because the fungus *Rhizoctonia* is able to attack numerous other cultivated plants. For instance, Asparagus beds may replace the Seakale bed, when the former plants will be liable to be attacked by the sclerotia remaining in the soil. In Belgium serious injury to Asparagus beds has been reported from this cause.

Among other plants liable to be attacked by Rhizoctonia are the Carrot, Parsnip, Turnip, Salsify, Beetroot, Fennel, Lucerne, Clover, Saffron, and a number of wild plants. In the United States it is reported as being a common cause of the "damping off" of seedling plants (including Lettuce, Cabbage, Radish, Bean, Cucumber). It has been known to attack Rhubarb, affecting the base of the petioles of the leaf; a stem rot of Carnations has also been attributed to the same cause.

Two cases occurred recently in the vegetable department at Wye College. In the first case the roots of several plants of Parsley (which had been planted along one side of the affected Seakale bed) became attacked, and were gradually more or less destroyed. It does not appear that Parsley has hitherto been recorded as a host-plant of Rhizoctonia. In the second case seedling plants of Lettuce were attacked and destroyed in much the same manner as when attacked by the true "damping-off" fungus.

Finally, it must be mentioned that a species of Rhizoctonia often attacks the Potato, forming small hard, blackish or brownish sclerotia on the surface of the tuber. The sclerotia are very firmly adherent to the skin of the tuber, so that scrubbing with a scrubbing brush often fails to remove them. In the autumn of 1907 this disease was noticed for the first time on the Potatoes in the vegetable department at the College. On microscopical examination it does not appear that the hyphæ of the mycelium break through the skin of the tuber, but, together with the sclerotia which are formed later, remain entirely superficial. Thus no harm, apparently, is done to the tubers, except that the appearance of the tubers when the attack is severe is ruined for show purposes. There is also the danger that by the use of Rhizoctonia-infected "seed" Potatoes a gardener may introduce the fungus into healthy soil, where it may extend and attack various crops. In the United States, Prof. Clinton, in 1905, described and figured *Corticium vagum* var. *Solani* as the fertile stage of Rhizoctonia. Further, a "rosette" disease of the Potato "haulm" (which causes an early dying of the "haulm" before the formation of many tubers, and also an excessive branching and "rosette" or clustered arrangement of the branches) has, in the United States, been traced to Rhizoctonia.

Experiments planned to ascertain whether the Rhizoctonia on Seakale is able to attack Potatoes, and also whether Potato tubers affected with Rhizoctonia can be "steeped" in a chemical sufficiently strong to kill the sclerotia, are already in hand. *E. S. Salmon, F.L.S., Mycologist to the South-Eastern Agricultural College, Wye, Kent*

NOTICES OF BOOKS.

* VEGETABLES FOR HOME AND EXHIBITION.

The author of this work upon that useful branch of gardening—the cultivation of vegetables—is one of the most successful cultivators of the plants about which he here descants, and he frequently secures the highest prizes at exhibitions for vegetables. As a book to be read with interest by every gardener who is responsible for the supply of culinary vegetables to a country house, it is extremely useful, and for the exhibitor indispensable.

In order to make the book easy of reference, the various vegetables are arranged in alphabetical order. Asparagus cultivation, as may be imagined from its foremost place as a vegetable, forms the subject of a long chapter. The author combats the erroneous idea among cultivators that, to grow good Asparagus, the necessary cost in materials, labour, and time is enormous. He describes the methods adopted

at Aldenham, which are by no means onerous or costly; and they are those that may be readily undertaken in any fairly good soils, especially in friable and sandy loams. In heavy clays there must be large additions of lightening materials incorporated with the staple—that is all. No other choice vegetables repays the outlay to a degree equal to this one, the only drawback being the three years of waiting until the first cutting takes place. The present writer knows some dozen beds in a north country garden that had borne good crops without a break for 50 years; but the best produce can only be obtained from moderately young plantations. Many an Asparagus bed has been ruined by too early and excessive cutting of the shoots. No shoots should be taken till the second year after planting, and then only a very few from the strongest stools. Inter-cropping, as is sometimes done, is to be deprecated as a general practice. Where every bit of garden soil must be cropped, the alleys between the beds may be cropped with Lettuces or Cauliflowers. Clay's fertiliser at the rate of 1 oz. per square yard is recommended for occasional employment. Seed sowing and forcing come in for appropriate remarks. In the same thorough manner French Beans and Runner Beans are treated upon, of which last several white-flowered varieties are promised, one being Jubilee and the other a seedling from Scarlet Emperor. There is a chapter on Beetroots, including the useful Seakale variety, whose mid-ribs may be pulled off in early autumn, and cooked and served in the manner of Seakale. Borecoles or Kales, and the Russian Labrador varieties when true, are specially praised for their hardness and abundant cropping. Similarly, Broccoli are comprehensively treated, and a number of fine varieties are indicated; but we note no mention is made of the Early Pencil, which comes into use in the early winter months, and is as delicious in flavour as a Cauliflower, with the curd of a pure white. Brussels Sprouts and Cabbages fill several pages of matter; of the former Dwarf Gem and Cambridge Champion are much appreciated; the Flower of Spring, for early cropping, and the old Winnigstadt are specially mentioned, the latter as a summer cropper. In regard to Cauliflowers, the author states that with the many splendid varieties now in cultivation, it is an easy matter, where glass accommodation exists, to provide a regular supply of Cauliflowers from April to Christmas. He still adheres to the old practice of sowing seeds in August and September, wintering the plants in handlights and frames, in preference to sowing early maturing varieties in heat, nursing the plants in heat, and planting out as early as the weather will permit. The reason he gives for his preference is that although this method gives more trouble, the heads are finer and firmer, an opinion with which we quite agree. A hint is given to exhibitors of Cauliflowers to make many small sowings, so that they may have good produce at the various shows. No other vegetable occupies a more important place in collections of from six to twelve dishes. For spring sowings Early Giant is a most desirable variety. The chapters on Onions and Peas are of considerable length, as might be expected from the importance of these vegetables from a culinary point of view; and the book contains a mine of practical information in regard to their cultivation. The excellent advice is given about sowing Onion seed—to sow in the open twice as thickly as it is intended the plants should remain, and to apply artificial manure during showery weather to assist growth. We have found earth-closet manure that has been six times through the closet (Moules' patent) a most efficient aid. The section on growing Onions for show purposes is most appropriate. The author has for some years been interested in raising new and improving existing varieties of Peas, his aim being to produce types that possess a good con-

stitution, are free-bearing, have a handsome appearance with the Peas of fine quality. Edwin Beckett was his first good variety, receiving an Award of Merit at the Chiswick trials. He has had nothing to excel it as a second early for home use or exhibition. His next introduction was Quite Content, the largest podded Pea in cultivation. There are numerous hints on sowing worthy of notice by exhibitors and gardeners in general. Stopping and thinning are noted, and the information on exhibiting is useful. Mr. Beckett is a believer in deep trenching and heavy manuring.

Potatoes and their cultivation are fully treated upon from the garden point of view, and a very good list of varieties is appended. For exhibition purposes spaces of 2 to 3½ feet are recommended between the rows, and 2 feet from set to set.

A sowing and planting table, and a chapter on exhibiting vegetables, and one on insect and animal pests and their destruction, are found at the end of the volume; likewise a compendious index to matter and illustrations.

NOTES ON IRISES.

IRIS TECTORUM ALBA.

This Iris, which is one of the most delicate and beautiful of all, may easily be raised from seed, and the resulting plants are all white flowered. Plants raised from seeds ripened in 1906 are now in flower here, having stood the winter well, though entirely unprotected. The white variety differs, as far as my observations go, from the type in having a stem that is only one-headed, the spathe usually containing two buds, while *I. tectorum* always has a considerably taller stem, which branches to form several heads. I should be glad to know whether anyone has found that the white variety produces similar branching stems.

IRIS OLBIIENSIS × KOROLKOWII.

This is an interesting hybrid of a claret-red form of *olbiensis*, often known as *Socrates*, crossed with a form of *I. Korolkowii*, the latter being the pollen parent, and it came into flower for the first time in May. The plant combines the characteristics of both parents in practically equal degrees. The foliage is that of *olbiensis* except that the bases of the shoots have the reddish-brown colouration of most varieties of *Korolkowii*. The flower is of *olbiensis* shape and colour, in so far as the groundwork is concerned, but both standards and falls are conspicuously overlaid with the black-brown veinings of *Korolkowii*, and they run together on the falls to form a black signal patch. The dingy yellowish beard is also the product of the combination of the bright yellow of the female parent with the black of the male.

IRIS VAGA.

I HAVE this year noticed an extraordinary variation in colour in the beard of this Iris. In 1907 I had about twenty plants in flower, some having bright yellow beards, while in others the colour was a bright vivid blue. The difference in the general appearance of the flowers was quite noticeable by even the most casual observer. I carefully labelled each plant and, when I lifted them, I separated them according to the colour of the beards and replanted them in different beds. This year I had over thirty spikes of flower on these two beds, but in no case was there a bright yellow beard. Every flower was of the blue beard variety, though in some cases there were a few dull yellow hairs far back beneath the style branches.

Iris vaga and *I. Leichtlinii* are usually supposed to differ chiefly in the colour of the beard, but if this colour is liable to variation from year to year, how can we tell whether a given flower is *I. vaga* or *I. Leichtlinii*? *W. R. Dykes, Charterhouse, Godalming.*

* By Edwin Beckett, V.M.H. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Price 5s.

THE ROSARY.

CULTURAL HINTS FOR JULY.

Rose plants generally are developing a healthy growth, and, assuming the foliage to be free from fungal and insect pests, it is nevertheless necessary to employ preventive measures in order to keep the leaves in this condition. This can be done by syringing the plants occasionally with solutions of soft soap, Quassia Extract, and tobacco water. The plants should be sprayed with these specifics during the evening, and be washed with clear water on the following morning.

Standard Briars will now be in the best condition for budding, provided all the superfluous growths were removed last month, and three of the best were retained near the top of the stock. The process of budding Roses has been so often explained that it is hardly necessary for me to do so just now, but I will emphasise the necessity of observing a few details. In the first place the bud should be inserted on well-

will be best done early in the morning, in the evening, or on dull days. If the weather is very hot and dry, loosen the surface soil and apply a good mulch and an abundance of water some time before budding and afterwards, or until the advent of rain.

The present is a suitable time to visit a Rose nursery to make a selection for autumn delivery, for the best varieties in all classes are now in flower.

The maiden buds can be examined, tied and staked for the last time, and any long shoots now taking the lead over others should be stopped. When the growths proceeding from these buds have flowered they may be pruned back a few "eyes" to cause fresh shoots to break and flower later. Old plants, after flowering, may also be pruned in a like manner. The hybrid Tea, China, and Bourbon Roses respond well to this treatment.

The pegged-down Roses referred to in previous notes will now be yielding a wealth of bloom and flower buds, if previous instructions have been carried out.

of the leaves. This comparative drought may be continued until September.

Plants with their roots in borders under glass require similar treatment, and all the ventilators should be left open day and night. An insecticide should be applied over the plants by means of the garden engine, but if the top lights could be removed altogether this would probably be the most effective method of keeping the plants clean.

Roses which were raised from grafts or cuttings and being still in pots 3 inches in diameter should be given a final shift into 5-inch pots, and be plunged in beds out of doors, where they will develop their summer and autumn growth. A cool and comparatively rich rooting medium with foliage exposed to the night dews will favour sturdy and vigorous growth by the end of the season. Stopping of the shoots should not be continued later than July.

Exhibitors should refer to the hints given in the article that appeared in the first issue for June, as many of the directions then given will now have to be put into operation. Liberal mulchings from spent hot-beds, if applied to the borders at this season, and copious waterings are subsequently given, will have very good effects; if the mulchings are considered to be unsightly, the material may be covered with a little fine soil. Remove faded and dead blossoms from all rose plants as soon as they are seen, and stir the surface soil with the hoe frequently. Cuttings which were inserted during autumn or winter may suffer from lack of moisture at the roots unless attention is paid to them. J. D. G.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM AMABILE FOWLERIANUM (see fig. 4).

(O. CRISPUM PUNCTATUM VIOACEUM × O. CRISPO-HARRYANUM.)

This is a superb hybrid with flowers 4 inches across, broad and well displayed in all its parts, and most exquisitely coloured, now flowering for the first time in the collection of J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis). The inner two-thirds of the sepals and petals are of a bright purplish-mauve colour, a few white spots appearing on the petals, and two or three irregular white lines on the sepals. The outer third of the sepals and petals is pale violet colour, the margins of all the segments being silver white. The broad labellum is white in front, red around the yellow crest, and beautifully marked with rose colour on the sides. It is a marked instance of the advantages to be gained by using fine varieties for hybridising.

DENDROBIUM AMENUM.

This fragrant species is flowering with Dr. Gordon Paterson, South Lodge, Ascot, who kindly sends flowers of it. It is a slender species, widely distributed in the Himalayas at a high altitude, and although tolerably plentiful in gardens many years ago, it is now seldom seen. Its slender stems bear fascicles of two or three flowers, all the segments of which are nearly equal, and generally white, with magenta tips, the colouring at the apex of the lip being darkest. The margin of the lip is undulate, the disc greenish-yellow, with a few narrow purple lines on each side. Frequently the flowers are tinged with rose, and an odour resembling that of Violets is very pronounced.

CATLEYA WARSEWICZII "FRAU MELANIE BEYRODT."

Of the many handsome Catleysas at present in flower in the collection of J. Gurney Fowler, Esq., this is the most beautiful, its large blooms being much finer than when it obtained

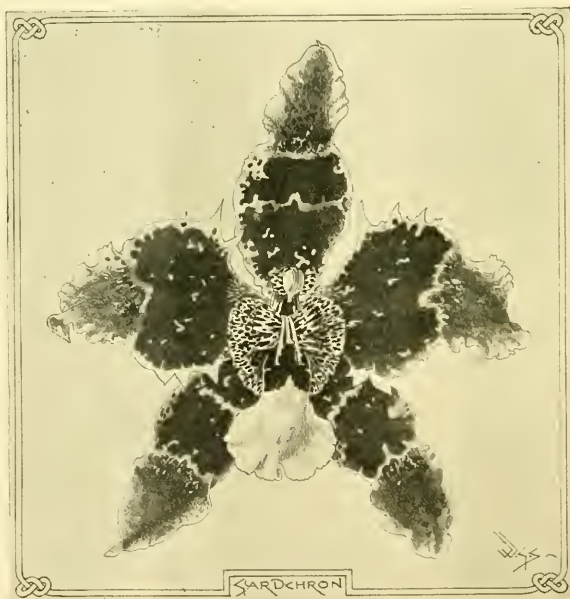


FIG. 4.—ODONTOGLOSSUM AMABILE FOWLERIANUM.

matured shoots only, and the scions must be well matured and obtained from the bottom "eyes" of a shoot. In the second place, the operation should only be carried out when the bark will open freely from the wood without any bruising. Be careful when removing the wood from the bark of the scion to leave the "eye" (a prominent one) intact. Insert the bud in the axil of the shoot and as near to the main stem as is possible. The raffia to be used for tying and closing in the bud should be first well soaked in water, and the end of the shoot which furnishes the scion should be kept in water also as the process of budding proceeds.

In the case of dwarf seedling Briars or Briars raised from cuttings, the surface soil should be removed a few inches deep, so that the bud may be inserted just above the root. This will, in a great measure, prevent suckers springing from the base. If only a limited number of stocks are to be budded, the work

All growing plants should be given plenty of liquid manures when the flower buds begin to show, but the soil should be moist at the time of its application, for then liquid manures are much more effective. These stimulants may be applied twice weekly, and one application of artificial manure may also be given each week. The manure water, if strong, must be diluted to one-half or one-third of its strength with clear water, for it is better to give it in a weak condition than to run the risk of causing injury to the roots. I have found soot to be a remarkably good fertiliser for Roses when applied with the manure water.

Do not permit overcrowding of weak and useless growths in established bushes, but thin them out as may be deemed necessary.

All forced Roses in pots require a good rest, and they should be kept as dry at their roots as is possible without causing absolute flagging

its First-Class Certificate at the Holland House Show in 1904. The sepals and petals are pure white, the tube of the lip white, with a pale sulphur-yellow disc, and some short purple lines on the upper margin. The front of the labellum is finely developed, and in colour is violet-tinted crimson with a clear white undulated margin. It is a very large specimen, furnished with many flower-bracts.

ODONTODIA CHARLESWORTHII.

This beautiful hybrid, obtained by Messrs. Charlesworth and Co. between *Odontoglossum Harryanum* and *Cochloda Noezliana*, and which was awarded a First-Class Certificate at the recent Temple Show and illustrated in the *Gardeners' Chronicle*, May 30, p. 353, is still in flower in the collection of J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), who purchased the plant, and it is interesting to note the changes in its colour since it first expanded its blooms. When first open the flowers were ruby-crimson, with a slight violet shade which passed off in a few days, after which the colour became brighter and less deep in tint, until at present they are of a blood-red colour with an orange tint around the yellow crest. There is a very fine collection of these richly-coloured *Odontodias* at Glebelands, but this is certainly the finest and most promising for hybridising purposes, a use to which it has already been put.

TEMPLE NEWSAM, NEAR LEEDS.

THE name of Temple Newsam seems to have a fruitful sound when mentioned in connection with horticulture, and fully fifty years ago, when the estate was owned by the Meynell Ingram family, Grapes, Peaches, and especially Pineapples were leading products of the gardens. The writer remembers hearing of Providence Pines grown at Temple Newsam weighing up to 12 lbs. each. At that time the gardener was a Mr. Taylor. The estate is now occupied by the Hon. E. L. Wood, a nephew of the late Hon. Mrs. Meynell Ingram. What may be termed the general produce garden is situated some distance from the mansion, and here are erected the glass structures. The soil is stiff and cool, such as is generally found in the carboniferous formation. The uncropped ground in the large kitchen garden is ridged fully 5 feet from centre to centre; Mr. Dawes, the gardener, informed me he has practised ridging for many years, and found it to be the only method of dealing satisfactorily with the stiff soil in order to obtain good summer, autumn, and winter crops of vegetables. Plenty of manure and well-rotted leaves are worked in when ridging, hence in fine weather in spring and early summer it is possible to procure a good tilth for the sowing or planting of the various crops, and these are as forward and as promising as if the natural conditions were quite favourable. On entering the glasshouses which are still largely used for fruit growing, evidences of high culture are at once apparent. Mr. Dawes was for some years foreman to the late Mr. Colman, of Eastnor Castle, when he was at the height of his fame as a fruit-grower and exhibitor. The first range I visited consisted of vineries. The building measured 100 feet in length, and was 28 feet in width, divided into two compartments. They were erected a few years ago by Messrs. Foster & Pearson, and replaced some old houses of about half their width. The old vines were left, and these now occupy the upper half of the roof surface, where they produce fine crops of fruit. In course of time some, if not all, of these vines will have to be removed to make room for young vines that have been planted in new borders near the front of theinery. These young vines are planted 4 feet apart, and as there is no need to hurry them to furnish the roof, they are forming stout bases and promise in due

time to develop exhibition bunches of Grapes. One division is mainly filled with vines of the Muscat family, and the rods are already carrying fine, well-set bunches. The other is a mixedinery containing Black Hamburg, Gros Colmar, Prince of Wales, very promising Barbaressa, Gros Maroc, and others. The variety Diamond Jubilee is to be discarded. At present the roots of these young vines are confined to inside borders.

Adjoining thisinery is a long range planted with Peaches and Nectarines in fine health and cropping heavily. The front is higher than usual, the trellis being carried up some 18 inches from the glass for two-thirds of the roof space, and then curved downwards, thus affording light to the trees on the back wall. At present a row of pot-grown trees of Apples, Pears, and Plums occupy the centre, a temporary stage being utilised to bring them nearer to the glass. In nearly every case the trees were furnished with a good set of fruit, the Apple trees in particular being well cropped. Gardeners who have had experience in cold northern districts, and who have to supply dessert fruits in the late autumn and early winter months, will know the value of pot-grown fruit trees. I am hoping later on to give you the names of those found to do the best at Temple Newsam. Alexander and Amsden June Peaches were mostly gathered. That splendid old Peach Abec does exceedingly well, although not ripe. There was promise of fine crops in both the early Muscat and Hamburg vineries, Madresfield Court being very promising in the former house. Like most exhibitors of fruits, Mr. Dawes knows the value of having a number of trees in a limited roof space, both with a view to getting them ripe at the right time and enabling them to have special feeding with stimulants. Wherever there was a fit sunlit space it was occupied with either a Peach, Nectarine or Fig tree, mostly as half standards in tubs or in boxes. It was almost a novelty to enter a low, flat-roofed house filled with Queen Pines at the stage of their second swelling. Melons in various stages were growing in similar structures. *Yorkshire Gardener.*

VEGETABLES.

A NEW KALE.

A new variety of Kale or Borecole known as Carter's Russian is valuable on account of its hardy nature and good culinary qualities. It is very distinct in habit and is valuable for furnishing a supply of vegetables in winter and early spring when good green vegetables are scarce. Carter's Russian Kale differs from the older form in its deep-cut or lacinated foliage and the abundance of useful sprouts which are produced on the stems. The variety is not a tall grower, which is a point in its favour, for it is thus less exposed to winds and is not so liable as taller kinds to be affected by severe weather. The variety has been tried at Wisley in comparison with other Kales, and it has received the high award of a First-Class Certificate from the Royal Horticultural Society. New varieties of green vegetables are not too common, especially those which are in season when most other kinds cannot be had. The culture of this vegetable is simple. For a late supply seeds should be sown in the early summer months on land that has been well prepared, and the seedlings should be thinned or transplanted 2 feet apart both ways. It is a rapid grower, and for an early winter supply I advise a spring sowing so as to enable the plants to be very early planted. But nothing is gained in sowing too early and leaving the plants in the seed beds to become drawn. I have sown the seeds very thinly in rows, dropping them at intervals, thinning out the seedlings when large enough, and thus avoiding transplanting. This system saves some amount of time, and the plants removed can be utilised for a successional crop.

Land on which all kinds of Kales are grown should be dug deeply, but the soil needs no manuring provided it was dressed for a previous shallow-rooting crop. The use of fresh manure is not advised. At the same time if the land is poor it should receive some manurial dressing, which should be placed at a good depth so that the roots can penetrate into it. In planting from seed beds it is best to select young plants and to perform the operation in dull, showery weather. It is also advisable to plant on land that has not recently grown a crop of the Brassica family, for when members of the Brassica tribe are planted in succession upon the same site there is a tendency for the land to become infested with the fungus causing clubbing, and this pest is difficult to eradicate. *Geo. Wythes.*

TREES AND SHRUBS.

RHODODENDRON (AZALEA) INDICUM VAR. KÄMPFERI.

WHEN Professor Sargent made his notable journey to Japan in the early nineties, the literary outcome of which was the delightful *Forest Flora of Japan*, he found and introduced to cultivation many interesting plants. Amongst these must be counted Kämpfer's variety of the Indian Azalea. In a letter regarding this shrub, Professor Sargent observes that he gathered the seeds from as high elevations and as far north in the mountains as he could find plants growing, "in order to obtain, if possible, a new race likely to be hardy in the New England climate." Some of the seedlings he sent to Kew. The plants, although they have not grown quickly, have proved to be hardy in exposed positions, and a goodly number of them are now in flower. The flowers are singularly variable in colour, some being purplish-rose, some rose-coloured, and some rose scarlet. The best of them are really attractive, and form a distinct acquisition. The leaves are similar to those of the greenhouse varieties of *Azalea indica*, being lanceolate or oblanceolate, dark dull green, and covered with bristly hairs; they are, however, considerably smaller. Although hardy enough to have withstood the winters during the last 15 years at Kew, the plants give one the impression that warmer conditions would be acceptable to them. They are of dwarf, compact habit, and plants raised in 1893 are only from 2 to 3 feet high. Given a warm, sheltered spot, and a light, peaty soil, this northern form of the old Indian Azalea is well worth growing in the gardens of the south and west of Britain.

PIERIS FORMOSA.

Two species of *Pieris*, *P. floribunda*, and *P. japonica*, are well known in gardens under the generic name of *Andromeda*. In places where they thrive few evergreens are more desirable. This third species, which comes from the Himalayas, is not so well known. In the *Gardeners' Chronicle* for April 30, 1881, there is a very characteristic picture of a flower raceme. Although not inferior in beauty to either of the better known species, it is not so hardy, and to see it at its best in this country, one has to go to the Cornish gardens, where, if I remember rightly, it grows 8 to 10 feet, perhaps more, in height. But that it will succeed in less favourable conditions is shown by a specimen at Kew, which was raised from seed in 1892, and grown to flowering state out-of-doors. The inflorescence is similar in contour and arrangement to that of *P. japonica*, but is much larger. The flowers, too, are larger and more cup-shaped, the whole forming a dense mass of pendent white blossoms. They are like those of the two commoner species but larger; they are broad, lanceolate, 4 to 6 inches long, of leathery texture, and dark green. The shrub is of handsome habit, growing broader than it is high in

open, favourable situations. The same species, or one very nearly allied to it, has been discovered by Mr. E. H. Wilson in Western Hupeh, China. *W. J. B.*

FINE TREES AT HACKWOOD PARK.

A FEW weeks ago Mr. H. J. Clayton referred in these columns to certain trees that were at Hackwood Park, Basingstoke, when he was gardener there in 1866. Of these trees he will regret to learn that the Weeping Turkey Oak has long since been dead. The Douglas Fir, then some 82 feet in height is still there, but, in common with so many of its noble compeers, has been sadly disfigured by hurricanes and snowstorms. It has also lost its leader, yet it is now about 100 feet in height, and the girth of its stem at 2 feet from the ground, which was then 9 feet 3 inches, is now 13 feet, as I found a few days ago when I was enabled to measure it. It is but one of thousands of very lofty Pines and deciduous trees in what are called the "Spring" Woods. The most noteworthy specimen tree in the park, however, is a giant and noble round-headed Beech, which, like a true woodland monarch, "stands in its pride alone" in one portion of the huge pasture area. This is probably at least a tricenarianian, and its stem at

first to introduce seeds into that county from New Zealand and to grow it permanently in the open, and it is owing to his generosity that it is now to be met with in almost every garden of note in Cornwall. At the late Temple Show three fine plants in tubs were exhibited by Mr. Enys, which attracted much attention and received a Silver Banksian Medal. With their large shining leaves and numerous blue flower-heads, although these were a little past their best, they formed a handsome group in the garden. There is no comparison between the comparatively weak growth exhibited by pot plants and the vigorous habits manifested by well-grown specimens in the open air, where the plants sometimes attain a height of 3 feet and carry leaves often as much as 2 feet in length and 18 inches in breadth, the foliage suggesting that of the Rhubarb in its noble form and being particularly attractive owing to its bright green tint and glossy surface (see fig. 5). These splendid specimens throw up dozens of branching inflorescences, the flower-heads being often 8 inches in diameter, while the individual blossoms are about half an inch across. There is considerable variation in the colour of the flowers. In the best variety they are of a uniform blue, but in others they are deep blue

wall is intense and the leaves will often flag badly. At Enys a plantation has been made beneath a north wall, and it was looking very promising this spring. When making growth the *Myosotidium* requires a copious water supply. It is fairly hardy, and in a Devon garden has stood 10° of frost unprotected without being harmed. It is generally at its best about the middle of May, and a large group in full bloom at that time presents a glorious picture. *S. W. Fitzherbert.*

FLOWERS OF SPENSER.

(Continued from p. 893.)

BAY.

1. To win a willow bough, whilst other wears the Bay. *F.Q., IV. i. 47.*
2. The Muses that were wont greene bayes to wear.
Shepherds Calender, November, 147.
3. Bay leaves betwene. . .
Bene they not Bay-branches which they doe beare?
Shepherds Calender, April, 104.
4. And by the bay, which I unto her gave,
Accomts myself her captive quite forlorne.
Amoretti, Son. 29.
5. Compar'd with Mirtle and the Bay.
An Elegy, I, 18.

The Bay is a South European plant, but was known to English writers from very early times. "Bay trees are comen in gardenes in the South parte of Englande" (Turner, 1578). But by nearly all the writers of the sixteenth century it is only spoken of as the crown of conquerors, and so it easily came to be spoken of as a synonym of victory. The English name is very ancient, but its descent from the Latin *bacca* (berry) is easily traced.

BEECH.

The warlike Beech. *F.Q., I. i. 9.*

The Beech is more or less native all over Europe and Western Asia. Its English name in the eighth century was *beoce*, which before long took its present form of Beech. I cannot explain the epithet "warlike."

BELLAMOURES.

Her snowy browes, like budded Bellamoures.
Amoretti, 64.

Spenser uses the same word in *F.Q., II. vi. 16.*

Loe! loe, how brave she decks her bounteous boure
Therein to shrowd her sumptuous Bellamoure,

but it is very doubtful whether he is speaking of the flower or Nature. The plant has not been identified, and I think it probable that Spenser meant no flower in particular, but more generally any favourite and beautiful flower.

BIRCH.

1. The Birch for shafts. *F.Q., I. i. 9.*

2. . . as a swarme
Of flies upon a birchen bough doth cluster.
F.Q., V. xi. 58.

Common throughout Europe, and bearing its present English name from the earliest times.

BOX.

And Box yet mindful of his olde offence.
Virgils Gnat, 55.

Though a British tree, the Box seems never to have had a true British name, but to have kept one derived from the Latin *Buxus*. I have never seen a satisfactory explanation of "his olde offence," but suppose it to refer to the legend that the Box was one of the woods from which the Cross was made.



FIG. 5.—*MYOSOTIDIUM NOBILE* FLOWERING IN MR. JOHN D. ENYS' GARDEN, CORNWALL.

3 feet from the ground has a girth of 25 feet: at 10 feet from the ground it throws out some seven or eight gigantic arms or branches. The diameter of the spread of the branches both north and south and east and west is 108 feet. A thousand persons could easily find seats beneath its ample branches. Close by is an aged but Common English Oak, which carries a good-sized cluster of Mistletoe. This parasite is not common on the Oak, and there seem to be but few specimens in the kingdom similarly infested. *A. D.*

MYOSOTIDIUM NOBILE.

This splendid plant, generally known as the New Zealand Forget-me-not, is a native of Chatham Island. It is only in the south-western counties that the *Myosotidium* can be successfully grown in the open air, glass-culture being indispensable in the colder districts. It was introduced into this country in 1838, and first described in the *Botanical Magazine* in 1839, but for many years was treated solely as a greenhouse plant. Mr. John D. Enys, of Enys, in Cornwall, was the

in the centre fading to white at the edge. At Enys a pure white form is also grown. In its native haunts the *Myosotidium* grows on the sea beach just above high water mark, in the sand forming the shore and close enough to the waves to receive many a scattering of wind-swept spray. At Enys there is a painting showing the *Myosotidium* growing in its native habitat at Chatham Island and margining the sea beach with a line of deep blue. Mr. Enys states that of late years it has suffered much from cattle, and is being rapidly exterminated in its island home. The fact that it there grows in sea sand has led to this being used extensively in its culture in this country. In some cases only a heavy mulch is given over a subsoil of porous compost, but at Menabilly, where it is certainly as well grown as in any other garden, a large hole is made in the ground, a cart is sent down to the beach and filled with sand and this is emptied into the hole, the *Myosotidium* being then planted in it. At Menabilly the plants are grown immediately in front of high walls facing in various directions, and apparently they like a full southern exposure least. In such a site, on scorching summer days, the radiation from the

BRAMBLE.

1. The bush my ted, the bramble was my howre.

Shepherd's Calendar, December, 65.

2. Of all the seede that in my youthe was sowne
Was none but brales and brambles to be mowne.

Ib. 113.

3. The Bramble bush, where byrdes of every kinde
To the waters fall their tunes attemper right.

Ib. June 7.

3. All in the shadowe of a bushye Breere.

Shepherd's Calendar, December 2.

The sweete-breare in the first passage is, of course, our common Sweet Briar; but in the second passage Spenser uses Briar; as all the early writers did, for any Rose-bush, keeping the word Rose for the flower. This was Shakespeare's use of the word, as "in colour like the red rose on triumphant Briar," "from off this Briar pluck a white Rose with me."

BULRUSHES.

To make fine cages for the nightingale
And Baskets of bulrushes was my wont.

Shepherd's Calendar, December, 79.

CALAMINT.

And the flowre . . . of calamint and dill.

F. Q., III. ii. 99.

The name is simply the Anglicised form of the Latin *calaminta*, which, again is the Latinised form of the Greek *καλαμίνθος*



FIG. 6.—MYOSOTIDIUM NOBILE: FLOWERS BLUE.

Spenser's Bramble is not our Blackberry only, but is the general word for all rough, wild, and especially prickly bushes.

PRIAR.

1. Yet both in flowres doe live, and love thee beare,
The one a Pounce, the other a sweete-breare.

F. Q., III. xi. 37.

2. Youngthes folke now flocken in every where
To gather May Baskets and smelling Breere.

Shepherd's Calendar, May.

BROOM.

1. The whyles their beasts there in the budded broomes
Beside them fed, and nipt the tender bloomes.

F. Q., VI. ix. 5.

2. Sweet is the Broome-flowre but yet sowre enough.

Anaorette, Son. XXVI.

Our beautiful Broom was a special favour. ite with all the poets who wrote about shepherds; but it needs no comment.

i.e., beautiful Mint. The name shows its high reputation among the Greeks and Romans, and it was as much valued by the old English herbalists. Parkinson said of it that it was so named because "the smell thereof is so excellent that it is fit for a king's house." It was supposed to be a certain remedy against snake bite, but it is now little thought of in comparison with its nearly the true Mint.

CAMOMILE.

Breathful Camomill.

Muopotmos, XXVI.

Though the plant has its old Greek name it is a true native, and no plant was more in favour with the old herbalists: "it delights the mind and brings health to the body," said Lawson; and the moralists were fond of using it as the emblem of the excellence of patience. "The more it is trodden on the faster it grows," said Falstaff.

(To be continued.)

The Week's Work.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to Lord Llangattock, The Hendre, Monmouthshire.

Mid-season Peaches.—In gardens where large houses have been planted with carefully-selected varieties to ripen in succession to each other, a supply of ripe fruits can be obtained over a very long period. Discontinue syringing a tree as soon as its fruits commence to ripen, and carefully examine ripening fruits every evening in order to gather those that are fit. If this is attended to by an experienced man, there will be no need for suspending nets beneath the trees to catch fallen fruits. Commence to syringe the trees again directly all the fruit has been gathered, applying the water with sufficient force to dislodge red spider and thoroughly cleanse the foliage from dust. Thin out the wood also, retaining those shoots best suited to furnish the trees and produce fruit next season. Thoroughly water out-door and in-door borders, and occasionally, until the leaves fall, apply some manurial stimulant to those trees that have yielded heavy crops of fruit.

Strawberries.—There should be no further delay in shifting young layered plants into the pots in which they will fruit. These may vary from 9½ inches to 7 inches in diameter, the smaller pots being convenient for the plants which will be forced earliest. The pots should be thoroughly cleansed, have a piece of fine wire gauze placed at the base of each to exclude earth worms, and a suitable quantity of drainage material added. A compost consisting of three barrowloads of tolerably heavy loam, one barrowload of dry and well-broken horse-droppings, and an 8-inch potful of soot will answer admirably, and it should be used in a moderately dry and fine condition. Ram the soil well round the roots with a wooden rammer, but not to such an extent that the water will be unable to percolate through it. When the process of potting is completed, place the pots closely together upon a bed of ashes in an exposed position for a week or two so that they may shade each other from powerful sunshine until the roots again become active, when they may be spaced out to prevent overcrowding. Spray the plants overhead in the morning and evening during fine weather, remove from them any runners as soon as they appear, and give frequent attention to watering.

Scalding of Grapes.—Even in the best-constructed houses some varieties of Grapes, including Lady Downe's Seedling, are liable to become scalded in the presence of strong sunshine; but in smaller, imperfectly-ventilated houses it is the more difficult to prevent this evil. The mischief usually takes place during the time the fruits are forming their stones, and means should be taken to prevent moisture from condensing on the berries. This may be done by keeping the water pipes well warmed, and the houses slightly ventilated at night, increasing the ventilation early in the morning, so that the atmosphere and the berries will become warm at the same time. In certain cases it may be necessary to afford slight shade by the use of such material as fish netting.

Fig trees in borders that have ripened their first crop of fruit may, provided they are healthy, and have during the time the first crop was maturing made firm wood, be allowed to develop a small second crop. Thin the fruits early, and thoroughly cleanse the trees as recommended for pot

Fig trees, but the preparation should not be used at so great a strength as is advised for trees that have finished fruiting. Clear away exhausted mulchings, and replace them with decayed manure. Keep the trees well supplied with diluted liquid manures, or artificial fertilisers, syringe the trees freely in the morning and again at closing time. Ventilate the house early in the day, and maintain a moist, warm atmosphere while the fruits are swelling. When the figs commence to ripen, expose them to full sunlight and ventilate the house more freely; keep the atmosphere dry, but warm.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holford, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cattleyas and Lælias.—There is not a month in the year in which the flowers of these most important and beautiful Orchids may not be enjoyed, and amongst the late-spring and early summer-flowering species and hybrids are some of the most gorgeous flowering kinds. Plants that have flowered, and have since enjoyed a period of rest, are now showing signs of fresh growth. The condition of these plants at the roots should be ascertained, and if any are in need of fresh rooting material the operation should be carried out ere the new roots and growths have greatly advanced, thus avoiding injury to the plants. Healthy plants should be repotted with as little root disturbance as is possible, but any having decaying material about their roots should have all the old compost shaken from them, cutting all dead roots away and removing old and useless pseudo-bulbs. Good and ample drainage material is essential for these Orchids, and in the case of large pots to accommodate strong rooting kinds, or extra large plants, a small pot should be inserted over the drainage hole, filling up to and around it with potsherds and lumps of charcoal. In repotting, keep the main growths as near to the centre of the receptacle as is possible, employing a similar compost to that previously advised for Cattleyas. Make the soil firm about the roots. For such robust-growing members as *Lælia purpurata*, *L. tenebrosa* and their progeny, use the rougher of the potting compost with a good admixture of broken crocks and charcoal. This admits of large quantities of water being given, for the plants will need much moisture during their period of active growth. The pseudo-bulbs should be firmly secured to stakes until the new roots form a natural support.

Late summer and autumn-flowering Cattleyas.—*Cattleya superba*, *C. Gaskelliana*, *C. gigas*, *C. aurea*, *C. labiata*, *C. Harrisoni* and their hybrids, *C. Lord Rothschild*, *C. mollis*, *C. Ashtoniana*, *C. Pittiana*, *C. Cleopatra*, *C. Macanensis*, *C. Fabia*, *C. Hardyana*, &c., are all now growing freely, and some are forming their pseudo-bulbs. From this stage the plants will enjoy a liberal treatment, and they should be given a position in the house where they may have the full benefit of light and air. The majority of the plants named produce their flower-spikes ere the season's growths are completed, therefore no stint of water at the roots must occur until the new pseudo-bulbs are fully matured.

Lælia Dighyana.—Plants of this distinct species are low flowering in the Cattleya house. Shortly after the flowers are removed, the last-formed pseudo-bulbs emit new roots from their bases, and before this takes place any necessary repotting should be done. As these plants are best grown suspended from the roof-rafters, pans are the most suitable receptacles. These should not be over-large, as the best results are attained when the roots are confined; the drainage must be ample, and the potting materials moderate in quantity. Newly-potted plants require careful watering, only just sufficient to keep the new materials in a moist condition being necessary. When re-established, treat them in the same manner as those plants which have not been disturbed at the roots, viz., suspend them together in the lightest position of the Cattleya house, and afford them a long period of rest, during which time water sufficient only to keep the pseudo-bulbs from shrivelling and the roots in a healthy state is needed.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Downage Lady, Nunburnholme, Water Priors, Yorkshire.

Watering and mulching.—The timely watering of borders in which Apricot, Peach, Pear, and other fruit trees are planted is of the highest importance, and the trouble is well repaid in the improved quality of the fruit, extra vigour in the foliage, and healthier conditions in the tree generally. In many parts of the country the rainfall has been inadequate for fruit trees, especially in the case of those growing in borders which are very freely drained. The timely mulching of the trees, as was recommended in the Calendar for May 30, will do much to conserve the moisture in the soil, but even when a layer of manure has been applied to the surface of the soil, attention must be given to watering, for on no account must the roots be allowed to become dry when the fruits are swelling and the stones of stone fruits forming. Apricot trees especially are affected by drought, and on no account should they lack moisture at this stage. Diluted liquid manure should be given to any trees that require a stimulant, and to such as are carrying heavy crops of fruit. The liquid manure should be given alternately with the ordinary watering. If liquid manure is not available, a small dressing of some artificial manure will form a good substitute. Avoid overcropping the trees, as nothing is gained thereby, and the trees are sure to suffer later if their energies are overtaxed. Newly-planted trees, and especially those that were planted late this spring, will require attention, particularly in affording moisture at their roots. Liquid manure should not be given in the case of young and newly-planted trees which are growing satisfactorily, as it will only tend to make them develop extra vigorous growths, and coarseness of wood is not conducive to fruitfulness. Stir the surface of the soil with a fork in all cases before applying a mulch or water to the roots.

Summer pruning.—Continue to secure and regulate the shoots of Peaches, Nectarines, Pears, &c., according to the system of training adopted. At the same time thin the fruits, leaving only the centre one in each cluster. Large culinary varieties of Apples, such as Bismarck, Bramley's Seedling, Gasconne's Scarlet Seedling, and Peasgood's Nonsuch should have their fruits thinned freely; in fact, all varieties of Apple are improved by judicious thinning when the fruits have set too thickly. On the evenings of fine, dry days, with the garden engine or hose, thoroughly wash all dirt and traces of insects from the shoots as soon as they have been regulated and tied. Occasionally an insecticide should be applied to the foliage. Summer pruning must be practised in the case of all fruit trees, not only those growing against walls and espaliers, but also pyramid, bush, and other trees, as the young, lateral growths not only rob them of nourishment, but also exclude light and air from the fruit buds on the spur shoots.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Weeds.—Every opportunity should be taken to clear the ground of weeds, which must never be allowed to develop their seeds. The garden fire should now be kept going regularly, for it is better to burn weeds and other rubbish than to allow it to remain about the garden. The ashes form a valuable material for dressing the soil.

Watering and hoeing.—Land that has been deeply worked and well enriched with manure will suffer little from drought, especially if mulchings have been applied, as previously advised. When watering is necessary it should be done thoroughly, and the work should be performed as far as practicable during the late afternoon or evening. The stirring of the soil by means of the hoe is a most valuable operation, not only as a means of destroying weeds, but also for conserving the moisture in the soil during seasons of drought. The Dutch or the draw hoe may be used, and they are alike valuable on both heavy and light soils at this season.

Cardi-flowers.—A supply of these vegetables is valued for as long a season as it is possible to get them, and fortunately there are so many good varieties that, with frequent sowings, this vegetable can now be had during eight or nine months of the year. Frequent small plantings of the variety Autumn Giant should now be made in various parts of the garden; the latest plants will be valuable for lifting and transplanting into cold frames, and these will furnish excellent heads at Christmas and well into the New Year. Autumn-sown plants are now rapidly becoming fit for use: the heads should be well covered, either by tying the leaves together or placing some spare leaves over them. The supply of this vegetable may be prolonged if the roots are kept cool by mulchings and abundant waterings. When any plants are developing their heads faster than required, lift them and place them in a cool room or cellar, where, if hung up by their roots and slightly damped occasionally, they will keep in good condition for many days together. Examine successional batches, and remove any which are "blind" or otherwise useless, and fill the vacancies with fresh plants, giving these latter a little fresh soil.

Endive may now be sown extensively, and without fear of the plants flowering prematurely. The ground for Endives should be well manured and deeply worked. The round-leaved Batavian variety is the one most generally planted, and this is valuable not only for cooking purposes, but also for use as a salad; small antipodes of the curled kind should also be sown.

Lettuce.—Continue to transplant the seedlings as soon as the second leaf is formed. Lettuces succeed at this season in positions of partial shade. Sow small quantities of seeds of both the Cos and Cabbage varieties at intervals of about ten days or a fortnight.

Parsley.—Two or three sowings of Parsley should be made during the next six weeks. Parsley is always required in the kitchen, and a good supply of this herb should be provided. The last sowing should be made in a cold frame.

Carrots.—Sow seeds of the stump-rooted varieties at intervals during the next few weeks in portable frames on old hotbeds. These young Carrots are generally preferred to large fully-matured roots.

Radishes.—Seeds should be sown at intervals of 10 days in small quantities in the most shaded parts of the garden. Protect the seeds from birds, and give plenty of water to induce a quick growth, which is essential if the roots are to be of good quality. Shallots and Garlic should be lifted and placed in the sun to become thoroughly dry before they are stored.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Carnations.—Seedlings of the Marguerite Carnation that were raised from seeds sown in gentle heat in the early spring will now be at their flowering stage, and the flower-spikes will be well supporting with neat stakes, as will also be those of older plants. Later-raised seedlings, if not already transplanted should now be placed in their flowering quarters. A sheltered bed or warm border forms a suitable spot for these flowers, and the soil should be enriched with some fresh loam and a sprinkling of soot. Disturb the roots as little as possible in the planting, which should be done firmly, and after they have been well watered place about them some leaf-soil to act as a mulching. These seedling Carnations flower as a rule so freely that it is difficult to procure suitable shoots for cuttings. If extra large flowers are desired reduce the number of flowers on each spike, while some of the inflorescences may be wholly removed where they are very plentiful. Some of the stronger growths may be layered at this time. These will soon form fine, strong plants.

Pinks.—Although these plants will continue flowering freely for several years, by far the best flowers are obtained from young plants. Fresh beds should, therefore, be made each year, and the old plants destroyed. The present is a suitable time for inserting the cuttings, which, as a rule, root freely in unheated frames under the shade of a wall. If a gentle bottom heat is

provided greater success in rooting is obtained. With a twist sever the cuttings from the old plants, trim them, and place them firmly in the soil 2 inches apart: they may be rooted either in pots, pans, boxes or in the frame itself. After they are inserted and suitably watered, the frames or handlights in which they are placed should be kept closed and shaded until the cuttings are rooted, after which an abundance of ventilation may be afforded them.

Budding Roses.—The bark of the more forward stocks will now run freely, and if the buds are sufficiently plump, these also will be in a suitable condition for inserting. Budding may be practised during the whole of July and August; it often happens that late-inserted buds are the most successful, because the buds remain dormant all the winter. If the buds are inserted during hot, dry weather, the stocks should first receive a good soaking of water at their roots, and the plants from which the buds will be taken should also be given moisture a few rights previous to the operation. The method of budding usually practised is known as T budding, because the stock is cut in this shape. The buds should have the wood removed at the back, and a portion of the leaf-stock should be left to form a handle for inserting the bud, which should be carefully, but not too tightly, bound with matting that should be wetted before it is used. In about one month, if the operation is successful, the buds will begin to swell. An almost sure sign of success is effected when the portion of the petiole below the bud drops after a week or so, on being lightly touched.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Roses in pots.—Plants intended for early forcing should now be placed out-of-doors in a position fully exposed to the sun, where they will ripen their shoots. As soon as they have ceased to make growth water should be very sparingly afforded, and later the pots should be replaced on their sides, so that the roots will receive no moisture for some time before the plants are repotted. About the middle of September the shoots should be pruned, and the plants removed from the pots, the old soil shaken from the roots, and afterwards repotted in rich loam, which, if very heavy in texture, should have mixed with it a quantity of sand or old lime rubble. Some finely-crushed bones should be mixed with the soil in any case. After potting, place the plants in an unheated frame. Water them once, and afterwards keep them almost dry at the roots until the time for forcing arrives, when they should be given a good soaking with tepid water on being placed in the forcing house.

Schizanthus.—Seedlings intended for flowering at the ordinary time, and which have been transplanted into small pots, will now be ready for shifting into 4 or 5-inch pots. Place them in an unheated frame close to the glass, which should be shaded during bright sunshine. The potting compost should consist of rich loam mixed with leaf-mould, wood ashes, and sufficient sand to keep the whole porous, if the loam is not of a rich nature, add a small quantity of bone-meal. The potting should be done moderately firmly.

Coleus thyrsoides.—Young plants that were rooted last month will now be ready for shifting into 6-inch pots. A similar compost as I have recommended for Schizanthus should be used, and the plants may be placed close to the glass in a frame, but no fire heat will be needed. Pinch out the growing points twice during the season, in order to promote a bushy habit. In the process of potting ram the soil moderately firm. A later batch of cuttings may now be inserted; they should be placed five in a pot. Pinching will not be necessary in these later-raised plants, for the flower-spikes will appear earlier than if they were stopped.

Salvia splendens.—Young plants, recently raised from cuttings, should now be potted into 6-inch pots, and placed on a bed of ashes in an unheated frame. The foliage should be well syringed with water and the ashes kept moist; otherwise red spider will be troublesome. A little soot may be mixed in the water used for syringing, as this will be helpful in preventing insect attacks, but such soot water should only be used in the evening.

Epacris.—Plants that have been repotted, and that are now growing freely, should be placed in a frame. They should be lightly shaded during the brightest part of the day, until the growths have become hardened, after which they may be fully exposed to sunshine. Syringe the plants, morning and evening, during bright weather, but exercise great care in affording moisture at the roots, and always use soft or rain-water, which is essential for all hard-wooded plants.

Heaths (Ericas).—Most kinds will now succeed better in the open garden than indoors. The pots should be stood on a base of ashes, and they should be examined three times daily during dry weather as to their requirements for water, for Ericas must never be allowed to become dry at the roots. They may be prevented from blowing over by placing three stakes at right angles around the sides of the pots.

THE APIARY.

By CHLORIS.

Bees and water.—If a sufficient supply of water is not at hand, it must be provided by the Apiarist, or breeding may be seriously retarded and the honey harvest suffer. If there is not a pure supply of water, bees are often to be seen in most undesirable places procuring the needful moisture. Only the other evening I was reminded of this fact when a cottager asked me to look at his pig, and near the sty where the drainage water was, there were hundreds of hive bees procuring their supply from this contaminated source, and such water cannot be conducive to the good health of any colony. The question naturally arises: How can such a defect be remedied? Take any ordinary earthen vessel and fill it with stones 8 or 4 inches in diameter, and each night, after the bees have completed the day's work, fill the vessel with water, and the bees having a good foothold will be able to follow the water down to the very bottom.

Excluding zinc.—Some bee-keepers make experiments with this, and if by omitting to use it one year the queen does not use the super for the purpose of brood rearing, then they rush to the erroneous conclusion that it may always be omitted with safety. A novice was told to omit the zinc under-sections, as the queen never used them. When the colony was examined there was not a section free from brood. The same result was found in the case of some shallow frames not separated from the brood chamber by queen excluding zinc. This ingenious device was invented expressly to prevent the occurrence of these catastrophes, and it should be used.

Queens and dwindling stocks.—A beginner, in his desire to obtain a good honey surplus, cuts out the queen cells to prevent swarms, perhaps two years or more in succession, and is then surprised that his stock dwindles, although there is a queen present and in a laying state. The cause of this is not far to seek. Under natural conditions, or in the hands of a skilled bee-keeper, this queen would have been superseded by another and younger queen, therefore the remedy is to re-queen after the second season.

Young queen being cast out.—This has caused considerable anxiety in some parts during the cold days in May and June, and many bee-keepers are at a loss to account for it. There can be little doubt that the young queens became chilled during the cold nights, when the cluster contracted, leaving the queen cells, which are generally at the lower part of the combs, uncovered, and as a result the bees were aborted in some way and cast out by the workers. With genial and more seasonable weather this will cease.

Foundation.—When full sheets of foundation are used, they must be secured by waxing them in with molten wax, and it is better to wire them. It is not wise to place too many quilts on the top bars; for 24 hours a slight covering only of one quilt is necessary during hot weather. In all cases where the foundation breaks down from the top bar, it must be at once removed and refixed in the manner indicated.

Wax moth.—All combs not in use, and hives, too, should be placed in a closed-up room, and then the formalin lamp lighted and the whole well fumigated for about 48 hours. This will kill all larvae of the wax moth.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JULY 4—
Soc. Franc. d'Hort. de Londres meet. German Gard. Soc. meet.

TUESDAY, JULY 7—
Roy. Hort. Soc. Summer Exh. at Holland Park (2 days).
Wolverhampton Floral Fête (3 days). Nat. Amateur Gard. Assoc. meet. Bath Rose Sh. (2 days).

WEDNESDAY, JULY 8—Croydon Flower Sh.

THURSDAY, JULY 9—
Newmarket Fl. Sh. Cambridge Fl. Sh.

SATURDAY, JULY 11—
Edgware and Little Stanmore Hort. Soc. Exhibition.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich.—1904.

ACTUAL TEMPERATURES:—
LONDON.—Wednesday, July 1 (6 P.M.): Max. 78°. Min. 54°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, July 2 (10 A.M.): Bar. 30.3; Temp. 78°; Weather—Bright sunshine

PROVINCES.—Wednesday, July 1 (6 P.M.): Max. 72° Chelmsford; Min. 61° Lancaster.

SALES FOR THE ENSUING WEEK.

WEDNESDAY—
The new *Dendrobium* regium just to hand, also a grand new free-growing and flowering Orchid, Established Orchids, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 2.

The Gardeners' Benevolent.

The need of this Charity for increased support was again forcibly pointed out at the sixty-ninth anniversary dinner that took place on the 24th ult. In his speech to the toast of "the Gardeners' Royal Benevolent Institution," Lord Aldenham, who occupied the chair on this occasion, stated that the annual expenditure necessary, for the maintenance of the 231 pensioners now on the funds is about £4,000, and that the assured income amounts only to £1,500, leaving therefore a balance of £2,500 to be raised by voluntary subscriptions. Most of our readers are already aware of these circumstances, but we make no apology for restating them, because it is imperative that their importance shall be thoroughly understood and appreciated. There are also other facts that must be considered with the figures already cited, and Mr. Harry J. Veitch who, as treasurer and chairman of the Executive Committee, has devoted enthusiastic work in aid of the Institution for so many years, very appropriately directed attention to them.

The sum of £4,000 is needed to support the pensioners who already obtain their means of subsistence from the Institution, but how much additional help is needed can be approximately estimated by the knowledge that at each annual election it is only possible to elect about one-half the number of deserving applicants. Thirty candidates failed in their appeal for support at the last election, and if it is found impossible to elect a larger number of new applicants each year in the future than at present, many of these may have to wait three years before they are successful. It is true that there is the Victoria Era Fund, which assisted 22 cases last year, and also the Good Samaritan Fund, which assisted in 33 cases last year—the former affording help to candidates awaiting election who have been subscribers to the Institution, whilst the latter assists applicants who have never themselves contributed. An infinite amount of good is done by these means, but, valuable as these funds are, they are incapable of affording the assistance to the candidates that would be forthcoming if the income of the Institution permitted of their election as pensioners without having to wait for so long a period.

Lord Aldenham reminded his hearers of some of the principal events in the history of the Institution, how it was established nearly seventy years ago, and how in 1879 our present King became President and remained in that office until his succession to the throne, when he was succeeded by the Prince of Wales. His Majesty himself became a generous patron. Every year some influential nobleman or gentleman has pleaded the claim of the Institution at the festival dinners, and the general management and administration of the funds have been so perfect as to commend the Charity to all who have taken any trouble to enquire into the details.

Last week there was instituted in the City of London an association of subscribers to charitable institutions, which has been rendered necessary by circumstances—such as overlapping, connected with the management of certain organisations. There is no overlapping in this case; the expenses of management are kept as low as possible, and they are more than covered by interests derived from invested funds.

Since its establishment a sum of nearly £122,000 has been distributed to necessitous gardeners or their widows, and how much suffering must this have prevented or mitigated!

Although maintaining its character as a benevolent institution, the rules so far encourage thrift that for every pound contributed to the funds a subscriber is given 100 votes in the event of his having to apply for relief. This has the effect of placing the subscriber in a much more favourable position than those who have failed to contribute; and, as a matter of fact, if he has paid subscriptions for a few years it makes his ultimate election certain.

Mr. Veitch referred to the unsectarian character of the Institution. No enquiries are made as to a candidate's religion, but strict investigation as to his moral character is insisted upon. An applicant must not have an assured income of more than £30 a year,

and, as Mr. Veitch said, many of the pensioners possess nothing at all beyond the assistance the Institution is able to afford them. The committee consists of thirty-six members, one-third of whom are always composed of practical gardeners, the remaining two-thirds being made up of amateurs and others connected in various ways with horticulture. At present there are three pensioners over 90 years of age, and 53 between 80 and 90 years. The oldest is a widow aged 95. She has been on the funds for a period of 22 years. Another widow is the person who has been a pensioner for the longest period, and she succeeded her husband, who during his life contributed about £20 to the Institution.

In addition to the contributions from annual subscribers, the Institution receives financial help from various sources, some of which were pointed out by Mr. Veitch, who particularly mentioned Mr. N. N. Sherwood, whose presence at this event everyone was pleased to note as indicating recovery from a very long period of indisposition. Thanks were accorded to Mary Countess of Ilchester for her kindness in throwing open the Holland House Gardens on the occasion of the annual exhibition in the park; also to Sir Frank Crisp and Lord Beauchamp for sums obtained from visitors to their gardens; to the George Monro Concert Committee and the local Auxiliaries. In this connection we cannot help thinking that very much more might be done to raise money at the competitive exhibitions that are held in every part of the country, and especially at some of the principal ones where considerable sums are made every year by means of horticultural exhibits, should the committees feel themselves in duty bound to subscribe to the gardening charities. Some of them recognise this duty in a liberal spirit, but in a case upon which we remarked on page 403, whilst a sum of £2,682 had been given to various charities by a gala committee, only £62 10s. was listed as contributed to the "Gardeners' Orphan Fund, &c." But it appears that the exact sum the Orphan Fund has received from that source is £5, whilst the Gardeners' Royal Benevolent Institution has received nothing!

We earnestly ask all to remember Mr. Veitch's words when speaking of losses the Institution sustains by death. Circumstances change very rapidly in these days, but the widow and the necessitous are always with us. Shall they appeal in vain? If the Gardeners' Royal Benevolent Institution should unfortunately fail in the work it is now doing, many gardeners and gardeners' widows would have to seek an asylum in the workhouse. We are perfectly sure that all who have horticultural sympathies will refuse to entertain such a possibility. To prevent this, everyone must do what in his power lies to increase the income of the Gardeners' Royal Benevolent Institution.

We were able to announce in our last issue the sum raised in connection with the dinner amounted to a little over £2,000. It only remains for us to remark that pleasant features of that meeting were the presence of several gentlemen from New Zealand and Australia, and a sympathetic and complimentary speech delivered by Mons. Vigier, President of the Société Nationale d'Horticulture de France.

Zanzibar Anime or Copal.

The researches of Sir John Kirk in Eastern tropical Africa, both during the time he was attached to the Livingstone expedition and during his official residence in Zanzibar, resulted in many discoveries proving the sources of some of the most important economic products of that part of the African Continent, and not the least among these was the clearing up of the doubts that had previously existed as to the source of Zanzibar Copal or Anime, not only by specimens of the plants themselves, but also by the careful collecting of a series of specimens of the fossil and recently-formed resins, many of which contained well-preserved examples of leaves and flowers of the tree producing them, the exuding resin having in its soft state enclosed the leaves and flowers, and finally, on hardening, preserved them in the most perfect condition. From these, and other sources of proof, it became clear that Zanzibar Anime or Copal was yielded by *Trachylobium Horremanianum*, and further that the best quality of the so-called gum was that which was found deposited in the ground where the trees themselves no longer existed, and where the resin had become semi-fossilized. Under the commercial name of Anime, this resin is the most valuable and most important of all the resins used in the making of varnish, the best of the hard varnishes, such as are used for carriage panels, being made from it, and often realising in its raw state as much as £400 per ton.

As an illustration of the extent to which all parts of the trees are charged with the resin, it may be stated that the fruits or pods are covered with numerous tubercles, which, in the dried specimens, are found to be composed of solid masses of resin. Hitherto no attention has been paid to these fruits as a source of Copal, but in an article recently published in Germany on the Copal trade in German East Africa it is stated that the fossil resin, which was formerly collected on a large scale by the native population, has, since the suppression of the slave trade, been entirely neglected, with the result that there is a scarcity of this kind of Copal. A patented process has, however, been established for extracting the Copal from the fruits, which is said to amount to 23 per cent. and to be of an exceedingly good quality for the manufacture of hard out-door varnish.

OUR SUPPLEMENTARY ILLUSTRATION shows

a tree of *Catalpa bignonioides* in flower in Lt.-Col. HOLFORD's garden at Westonbirt, Gloucestershire. This beautiful American tree is fairly common in favourable localities in this country, but it is not frequently seen in profuse flower, the blooming depending in a great measure upon the weather of the previous summer and autumn and the absence of severe spring frosts. Still less frequently is it seen in fruit, but the specimen under notice was laden with its seed pods after the flowers had fallen. *Catalpa bignonioides* was introduced into this country in 1728, and one of the oldest specimens was, and perhaps is still, to be found in the gardens of Gray's Inn, in the City of London. The tree is little affected by the smoke and other deleterious matter present in the atmosphere of large towns, and for this reason, as it is so handsome when in leaf, it is one of our best town trees, but its claims to recognition in

this respect have been neglected, for it is not nearly so often used for street planting as it might be. The tree is a beautiful object when in flower; we remember being greatly impressed with the specimen at the back of the Council Room in the old Chiswick Gardens on our first seeing it in bloom. For beauty the individual blossoms can rival a delicately tinted Orchid, but, then, all the flowers of the Bignoniaceae are handsome, although not many are hardy in this country. *Catalpa bignonioides* is found wild on the banks of the Ohio and Mississippi Rivers; its timber is valued in those regions on account of its durability in the soil, which renders it valuable for the making of posts and railway ties.

HOLLAND HOUSE SHOW.—The Royal Horticultural Society's summer exhibition will again be held this year in the beautiful grounds attached to Holland House, Kensington, by permission of MARY Countess of ILCHESTER. The exhibition will continue open for two days, viz., July 7 and 8, Tuesday and Wednesday. Amongst the prizes offered is the silver cup given by N. H. SHERWOOD, Esq., and this year offered for the best 24 bunches of Roses with their foliage, shown by an amateur. Although the summer exhibition of the R.H.S. does not rank in importance as equal to the Temple Flower Show, it is always a fine display, and the visitor can move about with comfort, for the space is ample. For this reason many persons may prefer to visit the Holland House shows rather than to endure the crowding and fatigue involved in a visit to the Temple.

FLOWERS IN SEASON.—Flowers of *Sarracenia purpurea* and spikes of the Cotton Grass (*Eriophorum angustifolium*) are sent us by Mr. W. A. COOK from Sir EDMUND LODGE's noted garden at Leonardslee, where the *Sarracenia* grows in large clumps in the open, and at this season flowers with freedom. The Cotton Sedge is a native species, its silken tassels, by means of which the fruits are dispersed, appearing like a tuft of cotton-wool; it forms a pretty combination with the crimson flowers of the *Sarracenias*. These latter plants flower regularly every season and ripen their seeds effectively and freely. The *Drosera* and the *Pinguicula* also grow freely around these beds. *Darlingtonias* are in flower; but these do not bloom with the same freedom as the *Sarracenias*, which have been established for a quarter of a century at Leonardslee, where many young plants have been raised and are flourishing. Hardy *Cypripediums* have flowered well, especially *C. acaule*.

THE NATIONAL SWEET PEA SOCIETY'S annual exhibition, of which the show this year will be the eighth, takes place on Friday, July 24, in the Royal Horticultural Hall, Westminster. The date is the only one on which the hall is available from July 3, and although fears were entertained that it might prove late, especially for southern growers, the backward season has regulated things so that there is every prospect of another beautiful display of this increasingly popular flower being seen. The schedule is arranged to suit all classes of growers; the prizes include many cups, in addition to medals and money, and these trophies are fairly distributed through the various sections into which the classes are divided. The hon. sec. is Mr. C. H. CURTIS, Adelaide Road, Brentford, Middlesex.

It was arranged that the members of this Society should visit Messrs. DOBBIE'S Seed Farm at Marks Tey as soon as the Sweet Peas were in good bloom. Mr. SHERWOOD, sen., of Messrs. HURST & SON, has expressed a wish that the members should also visit his grounds.

Arrangements have been made to visit both these establishments at the end of next week. Those desirous of joining the party, and who have not already communicated with the hon. sec., are requested to do so immediately.

RAILWAY STATIONS AND FLOWERS.—Travelers in Belgium must have been struck, during the last year or two, by the improvement introduced into the railway stations by the floral displays that meet the eye. It appears, according to a writer in *La Tribune Horticole*, that the change is due to the efforts of a highly placed official of the Belgian Railways, and the co-operation of a member of the staff of the Botanic Gardens of Brussels has resulted in the issue to the station-masters of a booklet containing precise information as to the selection and methods of culture of plants suitable for the purpose. The idea was first started in 1905, and this year about 600 station-masters are assisting in the efforts to brighten the stations with flowers. We in England have long been accustomed to see many of our country stations tastefully decorated with flower borders, and several of the railway companies give every encouragement to their employes in this connection. It is an excellent practice, and one which everyone would wish to see more widely adopted.

PRESERVATIVE EFFECT OF ROADSIDE TREES.—In the *American Florist* we read that in answer to enquiries from the United States Consul-General ROBERT P. SKINNER, of Marseilles, furnishes the following information relative to the effect of wayside trees on French roads: "It is proposed to plant trees along the roadsides of New York State in order to keep the moisture in the road and prevent travelling, and the question has been raised whether or not the roots of such trees may spread out underneath the road surface and eventually create great damage in a severe climate where there are extremes of heat and cold. While French roads are not always bordered with shade trees, they are so very frequently, and my information is that the trees are planted not only for furnishing shade, but in order to protect the roads themselves against the effects of excessive heat and drought. It is believed that the long dry summer season is much more inimical to roads than severe cold. The chief officer in charge of the public roads in Marseilles is of the opinion that, on the whole, New York roads would be benefited if bordered with trees, suggesting, however, that only such should be planted as have vertically descending roots." F. BIRCH, civil engineer and former conductor of the bureau of bridges and highways, expresses himself as follows on the subject: "In countries where the climate is damp, roadside trees are prejudicial to the maintenance of the highways, as they prevent the circulation of the air and the drying of the soil; in most of the southern French regions such plantations are, on the other hand, very useful in dry weather, as they maintain the roadbed in a state of freshness favourable to its conservation. In general, trees should be selected with high, spreading branches, such as the Poplar, the Elm, and the Ash, and they should be planted generally upon the outer edge of the road-box and at distances of 10 metres (32.80 feet). Each tree should be placed in a hole 1 metre (3.28 feet) deep and 1½ metres (4.92 feet) square, and should be trimmed to a height of 2½ metres (8.20 feet) above the surface. The earth about newly-planted trees should be loosened in March and November—in March only after the third year—and thereafter until their permanent growth appears assured; small trenches should be directed toward the foot of the tree, in order to secure the benefit of rains. Finally, the tree itself should be trimmed annually during the first 10 years."

THE NEILL MEDALIST.—The Neill prize, under the late Dr. PATRICK NEILL's will, is a reward in the gift of the Royal Caledonian Horticultural Society, awarded every second year to a distinguished Scottish botanist or cultivator, and this year it has been awarded to JOHN H. WILSON, D.Sc., F.R.S.E., Lecturer in Agriculture and Rural Economy at St. Andrews University. Dr. WILSON could scarcely help having a bent for horticulture and botany, since he was brought up from his earliest days amongst plants. The profession of horticulture had many attractions for him, and in it, as well as the pursuit of field and garden botany, he got as good a grounding as any son of an enthusiastic father could wish. On leaving home he spent a few years in the Royal Botanic Gardens, Edinburgh. Laying aside the tools, he entered the botany classes of the University of Edinburgh, and had the satisfaction of finding himself before long first prizeman in the theoretical and practical classes. He then returned to his native city, St. Andrews, entered on a course of study for a science degree, and in due time graduated B.Sc. Shortly after graduating, he gave a course of lectures on botany in St. Andrews University, and the following session he was appointed as the first University Lecturer on botany there. In order to widen his botanical knowledge, he accepted an invitation to take charge of the herbarium in the Royal Botanic Gardens, Edinburgh, and having spent some time there he again entered the University of Edinburgh, his object being to improve the agricultural side of his education. He was appointed Lecturer on Agriculture in the University of St. Andrews in 1900. Immediately after being appointed, he made a journey across the United States to California, returning by Canada with the view of observing the methods followed in the teaching of agriculture and allied subjects in America. On his return he set about instituting long-delayed experiments in hybridisation of farm plants, and this work has gone on continuously ever since.

CHINESE VITICULTURE.—Apart from being the centre of fruit culture in China, the province of Shantung produces large quantities of fine Grapes, and promises soon to become a very important wine-making district. In the neighbourhood of Tsingtan, mainly on the southern slopes of the Laushan Mountains, many Grapes are grown for the fruit only. Large quantities are now sent to Shanghai and other places annually, a variety closely resembling the Californian "tokay" predominating. White Grapes are also grown, a sort of "sweetwater," and a kind called "Marobrunner" being the most common, but blue and black Grapes are not found. Apparently no attempt to produce wine has been made here, but in North-Eastern Shantung, the industry has made some progress, according to the American Vice-Consul of Tsingtan. On the hills surrounding that city are many terraced vineyards, and an extensive wine-making establishment has been in operation for years. It is stated that white wines and red wines, and champagnes of many varieties are made, but none of the products have yet been placed on the market. Concerning the wine-making establishment at Chefoo, a wealthy Chinaman, about 10 years ago, conceived the idea of cultivating Grapes in China for the purpose of an extensive wine trade. Land was bought on the hills near Chefoo and planted with varieties of Grapes from all wine-producing countries, under the direction of a European expert, who is still in charge. More land is constantly being acquired in the immediate vicinity, and planted as soon as bought, but the price of suitable territory has gone up considerably. Phylloxera is stated to have attacked

some of the varieties, but never to a disastrous extent, most of the vines appearing to be immune. Each autumn the entire crop is taken to the wine-making establishment on the outskirts of the town, and after production the wine is stored in large casks, constructed in sections in Austria, shipped to Chefoo, and set up in the cellars. Every barrel is plainly marked with the variety of wine it contains, together with the year of its production. The cellars, started four years ago, took two years to complete, and are built below the level of the sea. They are lined with concrete, as it was found that they were otherwise being constantly flooded. There is now a large supply of wine on hand, but it is stated that the first sales are not to be made until the end of 1908 or in 1909. The market is to be exclusively the Chinese coast, but the leaders of the enterprise do not say what the prices will be, but considering the amount of the investment, a low price is not to be expected. *Journal of the Royal Society of Arts, June 12.*

ALPINE GARDENERS.—The third Congress of Alpine Gardeners, which should have taken place in 1908 at the Col du Lautaret, in Dauphiny, Hautes Alpes, has been postponed to a later date, owing to the death of Professor LACHMANN, director of the Alpine Gardens of Lautaret and Chamrousse. *Société Botanique de France.*

A NEW RUBBER TREE.—M. MARCEL DUBARD, writing in *Le Caoutchouc et la Gutta Percha*, announces the discovery of a new Rubber tree which exists in large quantities in the forests of Tonkin. The tree is a species of *Bleekrodia*, a member of the *Urticaceæ*, a family which furnishes many rubber-producing plants. The rubber from *Bleekrodia* is said to be of excellent quality and equal to the best Para.

HOT WATER AND EARLY FLOWERING.—Prof. HANS MOLISCH has recently been experimenting on the effect of hot water as a means of inducing forced plants to flower earlier than their normal period, and he has obtained some interesting and suggestive results. He finds that when the stems of Lilac, for example, are plunged for six hours in water heated to 30° to 40° C. (i.e., 86° to 104° F.) under appropriate conditions, that the plants push their buds some 10 days earlier than those not so treated. It seems that whilst the plants have to be experimented on during the resting season, it makes a difference whether this is done early or late in the winter. Very little effect is produced if the treatment is given just after the fall of the leaf in autumn, and, again, if it is delayed until February or March, when the season for the unfolding of the buds is approaching, retardation may be the result. MOLISCH obtained the best effects by treating the plants in December or January, and that different temperatures are required by different species. Thus for Lilac and Forsythia, 86° F. is the best, whilst about 100° F. is the optimum for Silver Birch and Chestnut. It is very remarkable that the effect of the treatment is strictly localised. Thus if a Lilac be taken, and certain branches only of the plant be immersed in the hot water, it is found when the plants are forced in the spring that these branches are the first to bear leaves and flowers. Of course, it has long been known to practical gardeners that the branch of a vine trained under glass shoots much earlier than the remainder of the vine if this be grown outside. Possibly, the two cases are analogous, though the results obtained by Prof. MOLISCH are more striking. The matter is obviously worth fully investigating, as it presents an interesting problem in vegetable physiology.

CRICKET AT EAST BURNHAM PARK.—Some 50 members of the various committees of the Royal Horticultural Society visited East Burnham Park, Bucks, the residence of Mr. and Mrs. HARRY VEITCH, on Friday, June 26. The weather was glorious; brakes met the bulk of the party at Slough in the morning, and upon arrival at East Burnham Park they inspected the gardens, which were gay with Roses and other flowers in abundance. After partaking of luncheon, sides of 10 each were formed for cricket, Messrs. W. HORNE and PAGE being the respective captains. Mr. HORNE won the toss, and elected to bat first, and his team was not dismissed until the large score of 111 runs had been made. Of these, Mr. BILNEY made no fewer than 56, his best supporter being Mr. McBEAN, who scored 26. On the other side taking the wicket, there were many short lives, the best scores being those of Mr. C. PEARSON (14), and Mr. F. READER (9). Mr. BILNEY caught or bowled no fewer than six of his opponents, whose total number of runs was 33. After tea, bowls were indulged in on the lawn.

SWANLEY HORTICULTURAL COLLEGE.—The Countess of BECTIVE will present the prizes at this college on Tuesday, July 14. The Hon. Sir JOHN COCKBURN, K.C.M.G., Chairman of the Governors, will take the chair at 4 p.m.

TWO LESSER-KNOWN VEGETABLES.—In this country we are apt to be very conservative in selecting the vegetables we consume. Although one occasionally sees the tubers of *Stachys tubifera* exposed for sale, the plant is not so generally grown as it deserves. It is of the easiest possible culture, and, indeed, spreads rapidly unless it is kept in check. It succeeds well in most soils, and with a little attention yields a crop of tubers that possess a characteristic and, to many people, a very agreeable flavour. *Oxalis crenulata*, a South American plant, also forms tuberous rhizomes, and is grown in France, where it succeeds best in a light rich soil. It is, however, a rather delicate subject, and is easily killed by frost. It requires protection when the tubers are first planted in March, until danger of frost is over, and as the young stems are formed they need to be earthed up at their base, leaving the ends uncovered. The tubers swell rather late in the season, and are dug up when the aerial parts have died off. A yellow and a red variety of the plant are cultivated, as well as an inferior sort with white tubers. When the tubers are first gathered they are apt to possess an acid flavour, which, however, disappears on exposing them for a few days to the sun.

A DENDROLOGICAL SOCIETY has been founded in Austria, under the patronage of the Archduke FRANZ FERDINAND, to encourage the spread of knowledge concerning trees and shrubs. It is under the presidency of Count SILVA TAROUCA, and all people who are interested in dendrological matters, whether as growers or amateurs, are invited to become members. It is hoped by the officers that there will be an important foreign membership. The subscription is 20 kr. (about 16s. 8d.) per annum, and the address of the society is Schaufergasse 6, Vienna.

Publications Received.—*The French Garden: A Diary and Manual of Intensive Cultivation*, by C. D. MCKAY, F.R.H.S. Published by the *Daily Mail*. Price 6d. nett.—*Der Friedhof und seine Kunst*, von George Hamig. Published by Gebrüder Borntraeger in Berlin SW11.—*New Gardens*, painted by T. Mower Martin, and described by A. R. Hope Moncrieff. Published by Adam & Charles Black. Price 6s.—*Country Sketches for City Dwellers*, by Mrs. Willingham Rawnsley, with sixteen full-page illustrations in colour. Published by Adam and Charles Black. Price 7s. 6d. nett.

HELICONIAS.

We extract the following instructive article by Mr. H. N. Ridley, M.A., F.R.S., from the *Agricultural Bulletin of the Straits and Federated Malay States* for April last. The Heliconias are now cultivated much more commonly than formerly, but our knowledge of them is very incomplete.

The beautiful plants known as Heliconias so commonly cultivated in tropical gardens belong to the large order of Scitamineae, and to the section Musaceae. The genus is largely represented in America, between thirty or forty kinds being known, but there are also several species, and those among the most popular in cultivation, which are indigenous to the Polynesian Islands as far west as Amboina. By some extraordinary error these, or most of these Asiatic species, have been considered by Schumann (in the *Pflanzenreich*, Musaceae, p. 36) as escaped forms of the utterly dissimilar *H. Bihai*, L. of the West Indies. Nicholson, in the supplement to *Dictionary of Gardening*, boldly says that *H. aureo-striata* and other species well known in cultivation are not Heliconias at all, but till now is known of them had better be left among the plants of this genus.

Nearly all the ornamental Asiatic and Polynesian species in cultivation have flowered in the Singapore Botanic Gardens, and prove to be utterly different from *H. Bihai*, L. and very distinct species. The whole genus may be said to be in a distinctly chaotic state, and the descriptions as published in the *Pflanzenreich* are too meagre for the most part for anyone to identify the species. A few species have been lowered in the *Kew Conservatories*, and are figured in the *Botanical Magazine*. These are chiefly Brazilian or West Indian species. Unfortunately, however, the whole of the literature on these plants is not accessible to me here, and many of the Asiatic species have been introduced without accurate localities being given, having been treated apparently always as forms of *H. Bihai* and simply all lumped together.

Heliconias have always been favourite plants or cultivation here, and used to form a very conspicuous feature of our horticultural exhibitions, the most popular being the beautiful *H. illustris*, Bull. (commonly known here as *H. rubro-striata*) and *H. aureo-striata*. The plants are readily propagated by breaking up the clump, and taking off shoots in the same way as is done for Bananas. Occasionally they produce ripe seed, but that is not very common. They are cultivated as pot plants, in good soil or in shady spots on lawns, where they often form magnificent clumps. They do not usually grow well if exposed to full sun. Like Bananas they require a rich soil, and do not succeed in stiff clay or poor soil, becoming dwarfed and shabby looking. They seem to be remarkably free from pests of any kind, even that troublesome Banana pest, the butterfly *Eriocranta thrax*, the caterpillars of which roll up and destroy the leaves of Bananas and Palms, does not attack them.

THE ASIATIC SPECIES.

In the case of most of the Heliconias from the Polynesian and Malay region, the plants having been introduced as cultivated plants, few or no actual localities have been recorded, so that at present we are ignorant of their place of origin. Mr. Baker in a paper on these plants in the *Annals of Botany* states that he has seen specimens from various localities such as New Caledonia, Solomon Islands, &c., but the unfortunate error which attributed all these distinct forms to cultivated forms of the Brazilian *H. Bihai* has prevented his localising or identifying the species he had at hand.

The following is a list of what I presume to be Asiatic species, but they can only be properly worked up and systematised in Europe where there are localised specimens, original drawings, and the literature of the species in different museums:—

ASIATIC SPECIES.

<i>Heliconia indica</i> , Lam. Loc. ...	uncertain
<i>H. buccinata</i> , Roxb. ...	Amboina
<i>Heliconiopsis Amboinensis</i> , Miq. ...	
<i>H. austro-caledonia</i> , Viciell. ...	New Caledonia
<i>H. aureo-striata</i> , Bull. ...	uncertain
<i>H. illustris</i> , Bull. ...	uncertain
<i>H. rubro-striata</i> , Hort. ...	
<i>H. triumphans</i> , Lind. ...	Sumatra
<i>H. spectabilis</i> , Lind. ...	South Seas
<i>H. Micholitzii</i> , Ridl. ...	New Ireland
<i>H. viridis</i> , Nicholson ...	Polynesia
Possibly also <i>H. striata</i> , Veitch.	

H. buccinata, Roxb., is described as an immense beautiful bush, leaves 2 to 4 feet long and 1-foot broad, petiole 3 to 6 feet long, inflorescence compound of 6 to 10 branches with 6 to 10 smooth bracts, flowers pale yellow, Amboina.

This plant was cultivated in the Calcutta Gardens in 1798, and is identified by Roxburgh with a plant described and figured by Rumph *Herb. Amboin V.*, 141, t. 62, fig. 2, under the name of *Folium buccinatum asperum*. Rumph describes three species in Amboina under the names of latifolium or rubrum, album and asperum he gives as an Amboinese name Rind. Ruin and Riin; latifolium being Rind Mera; album Rind Puteh; and asperum, Rind Laki. Of the red one he says the leaves and leafstalks become red when grown in the shade. This may be one of the red-leaved ones we cultivate, but the description is too incomplete.

H. AUREO-STRIATA, Bull.—A tufted plant, about 5 feet tall. Leaves elliptic acute, base oblique not decurrent, 2 feet to 2½ feet long by 8 to 10 inches wide, nerves 3-10 inch apart, when young green streaked transversely with yellow, adults plain light green dull, petiole 1½ to 2 feet long green. Inflorescence of three or four bracts on a short peduncle, all glabrous. Bracts long acuminate rather narrow the lowest one, 7 inches long including the rather narrow leaf-like portion, upper ones 6 inches, green. Flowers fairly numerous. Bracteole lanceolate acuminate pale green 3 inches long. Ovary narrowed into pedicel in flower 1 inch long with pedicel, orange. Perianth 1½ inch long curved orange at base passing into white sepals lanceolate acuminate acute. Stamens long. Anthers linear acuminate. Staminode ovate. Fruit ½ inch long, obconic 3 angled, orange. Native country not known.

H. ILLUSTRIS, Bull. (*H. rubro-striata*, Hort.).—A large tufted plant, with stems flattened 4 feet tall, 3 inches wide green, petiole 2 feet long and 1 inch thick, reddish to pink or plain green, blade 5 feet long 8 inches across oblong, narrowed at the base so as to be shortly decurrent on the petiole above dark green above with a coppery lustre beneath, midrib channelled on the upper surface pink, edge of blade red, nerves conspicuous ½ an inch apart elevated on the upper surface; young leaves elliptic rather abruptly rounded and only shortly decurrent, dark green with numerous and close rose-pink or often white streaks above midrib green almost disappearing before the tip, back of leaf bright rose-pink with green streaks. Inflorescence about 8 or 9 inches long, rachis green finely pubescent. Boat-shaped bracts 4 to 5, the lowest tipped with an ovate acute blade resembling the leaf in colour, the others with or without a small blade, green pubescent tipped red 7-6 inches long. Flowers numerous in each bract. Bracteole lanceolate acuminate acute 3 inches long. Flowers shortly pedicelled, pedicel thick white glabrous ½ of an inch long, ovary as long flattened on the inner side yellowish, red in the upper part. Sepal greenish to creamy yellow base and apex red, lanceolate acuminate acute 2 inches long. Petals narrower and shorter similarly coloured. Stamens white connate at the base. Staminode ½ an inch long lanceolate rather broad channelled. Fruit red ½ inch long.

H. SPECTABILIS, Lind. Ill. Hort., 1892, p. 156.—Whole plant about 12 feet tall. Leaves linear oblong acute, narrowed to base, margins undulate, nerves about 1 to 1½ inch apart conspicuous midrib thick coccary-red, beneath, deep purple above, occasionally turning green 4 feet 10 inches long 11 inches wide, petiole sheathing for nearly all its length long green or yellowish mottled and dotted with greyish-green. Inflorescence 8 inches long, rachis flexuous velvety pubescent. Bracts 6 lanceolate acuminate pubescent ribbed when dry, ochraceous passing into red 6 inches long 1 inch deep, distant from each other 1 inch. Flowers numerous, pedicels ½ inch long glabrous. Perianth 1½ inch long curved acuminate greenish and red. Sepals ½ inch wide. Filament of stamen rather stout, another linear, staminode oblong truncate ½ long. Introduced in 1891 by Linden from "Asia."

H. MICHOLITZII, n. sp.—A very large plant forming large tufts, stems 2 feet or more tall 3 inches across, pale green marbled with grey. Leaves plain green, blade about 3 feet long, 11 inches across. Inflorescence 12 inches long, peduncle hairy about 6 inches long. Bracts 4 or 5 green edged with pink glabrous 6 inches long 1 inch wide lanceolate acuminate. Rachis yellow dotted with green ½ inch through. Flowers 14 or more in each bract. Bracteoles long acuminate white. Pedicels long. Sepals and petals lanceolate acute fuscous brown; base of sepals pubescent, above glabrous. Stamens slender, anthers linear. Staminode ovate apiculate fuscous. Fruit pear-shaped bluntly 3 angled, apex truncate, orange ½ inch long, pedicel ½ inch long flattened.

NEW IRELAND.—Introduced by Micholitz (Distrib. number H. B. S. 7,274). I thought at first this might be *H. buccinata*, Roxb., of Amboina, but that has much longer bracted inflorescences, a hairy rachis, and if Rumph's description of his *Folium buccinatum asperum* is the same thing as Roxburgh states, it has the stems wrinkled and rough like a shark's skin; none of which characters the New Ireland plant possesses.

AMERICAN SPECIES IN CULTIVATION HERE.

H. BIHAI, L.—Is commonly cultivated here, and is very conspicuous from its large smooth scarlet bracts and greenish-white flowers. The typical plant is said to be about 18 feet tall, and *H. humilis*, Jacq., much smaller. There does not seem to be any other difference between the two species, and Mr. Baker suggests that *H. humilis* is only a variety of *H. Bihai*. The plant grown commonly in Singapore is about 6 feet tall, and would, therefore, belong to the variety *humilis*.

H. AURANTIACA, Ghiesb. (*H. brevispatha*, Hook.).—A dwarf species with rather narrow green leaves and orange-coloured flowers, has long been in cultivation here but seldom flowers. It is a native of Mexico.

H. METALLICA, Planch., *Bot. Mag.*, 5,315.—A species of Heliconia which has very long been in cultivation here is, I suppose, this plant. The leaves are dark shining green and purple beneath when young, leaves of older plants losing this purple tint. The flowers are borne on a long slender peduncle about 6 feet from the ground, and the rachis is zigzag, the bracts are narrow and pale green, the flowers scarlet-crimson with green tips. In the figure given of the plant in the *Botanical Magazine* the rachis is given quite straight and erect and the bracts dark green, otherwise the plant is quite similar. *H. metallica* was introduced from Sierra Nevada, Santha Martha, by Planchon and Linden in 1856.

There are a good many more species of Heliconias in South America which would be welcome additions to our gardens here, if they were procurable. *H. N. Ridley.*

FRUIT REGISTER.

STRAWBERRY LAXTON'S FILLBASKET.

This variety has been grown sufficiently long to test its cropping and other good qualities, but I would direct especial attention to its splendid flavour—an important point with all fruits, and especially with Strawberries. Fillbasket is well named, as it is an excellent cropper. The habit of growth is robust and compact, so that this variety rarely fails even in soils that are by no means the best. It has other good qualities that should not be overlooked, one is its freedom from mildew—at least, such is my experience in the

Sovereign. I recently saw some forced fruits of Fillbasket at Gunnersbury House, Acton, where it is regarded highly as a forcing variety, and as possessing splendid flavour. With regard to size, the fruits, when well grown, are large, and although not soft are very juicy. The fruit is glossy and of a bright scarlet colour. It travels well, and is, therefore, useful in cases where fruits have to be sent by rail. The plants do not need a great space between them, but I would advise planting them in deeply-dug soil. Runners planted early will furnish good fruits next season, and they will continue to furnish heavy crops of fruit for two or three years. G. Wythes.

NOTES FROM A "FRENCH" GARDEN.

We have finished planting the last of the Melons, and for a few days to come our principal work will consist of watering, cleansing and examining the plants under the lights and in the open garden.

The Cauliflowers intended to succeed the batch planted amongst the Carrots, which are now marketed, will require an abundant supply of water, for the curd is now in some cases already of a moderate size.

Young plants of Celery, Endive and Cauliflower, which are to be planted out in a few days, require attention, especially in the matter



[Photograph by F. Mason Good.]

FIG. 7.—ROSE "THE GARLAND": FLOWERS WHITE, FAWN-COLOURED IN THE BUD.

northern part of the country as well as in Middlesex. A Strawberry that is almost immune from mildew in a low-lying district is a gain, and, doubtless, in this respect it is greatly aided by the robust leathery leaves. The plant itself has a compact growth, throwing up a great number of flower-spikes. Its period of ripening may be classed as late mid-season. It is valuable as a successional variety, to follow the well-known Royal Sovereign, which was one of the parents of Fillbasket, Laxton's Latest of All being the other parent. Latest of All has a good deal of British Queen in its composition, and is noted for its splendid flavour, so that Fillbasket doubtless gets its Queen-like flavour from Latest of All. Fillbasket grown in pots crops equal to Royal

ROSE "THE GARLAND."

This beautiful old-fashioned climbing Rose is generally regarded as a hybrid between *R. multiflora* and *R. moschata*—the musk Rose. The flowers are produced in immense clusters, and are of a fawn-coloured shade in the bud state, but the older flowers lose this tint and are almost white. The growth is very vigorous, and a plant quickly furnishes a wall or pillar, the flowers hanging in profusion from the long arching shoots. The climbing Roses have lately become so popular in gardens, that it is difficult to believe them to have been so long neglected. It must be remembered that some of the older kinds such as Wallflower, The Garland, &c., are quite as beautiful as the newer kinds, and are much cheaper to purchase.

of watering. We prefer to have the plants of a medium size when transplanting, rather than larger, as at this season large plants wither much when they are disturbed.

The Melons will now require much water and an abundance of ventilation. If the weather remains favourable we shall allow the ventilators to remain open at night-time. The growth of these plants is splendid, the leaves being thick, large, and of a beautiful green colour. The stems are strong in proportion, and the fruits promise well, so that we expect to have a splendid crop. In the case of the plants planted at the end of March, we have allowed a second fruit to develop on each plant in cases where this was possible, and the first fruit on this batch is now at its full size. We cut our first Melon on June 22. Pruning has been rigorously practised, most

of the small shoots have been cut back, but we have not removed very many at one time, for this would unduly weaken the plant.

The Cucumbers planted at the end of April are now in bearing: the ventilators remain open at night-time.

The early batch of Endive has been harvested. The crop has proved fairly good, although some few plants seeded owing to the unsuitability of the ground and a shortage of water. To grow Endive successfully at this season of the year the ground must be well prepared, heavily manured, and frequently watered. We have sown Endive "La Ruffee" and Batavian Green Endive on old manure beds: this will be our last batch of Endive this season. The plants will be afterwards transplanted to an open part of the garden.

Now that all our spring crops have been cleared, we can estimate the results on the whole to have been very satisfactory. The plants have done well, although we have not had the amount of manure we required. The prices obtained for the produce have been well above our expectation. Indeed, the Cos Lettuces and the Passion Lettuces realised double the prices they did in the Paris market this year, but, curiously, the little "Black Gott" was 25 per cent. cheaper. *P. Aquatilis, Maryland, Essex. Juni 23.*

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

AMERICAN GOOSEBERRY-MILDEW.—As an appendix to the Board of Agriculture's instructions regarding the treatment of Gooseberry bushes infected with mildew, it may be pointed out that it is the easiest matter possible to destroy single bushes. And in this way: Saturate one or more newspapers in paraffin oil and dispose them in good-sized pieces about the bush to be destroyed, ignite one piece and in a few minutes the bush will be so far consumed that its own life, and that of any parasite attached to it, will be extinguished. A less rapid method would consist in severing the stem just above the ground, but I know from trial that the firing with paraffin is absolutely effective. *B.*

EFFECTS OF LOW TEMPERATURE IN S.E. SCOTLAND.—Sir Herbert Maxwell, having lately published in these pages a note on the effects of the April frosts on the south-west coast of Scotland, it may be of interest to put on record the results of the same low temperature on the south-east of Scotland. The elevation is 100 feet above the sea level. The sea is distant about three miles east as the crow flies. The temperature, as registered at the meteorological station kept here, was:—

Date.	Ground thermometer.	Protected thermometer 4 feet from ground.
April 23 14° (18° of frost)	27° (5° of frost)	
April 24 22° (10° of frost)	32° (6° of frost)	
April 25 12° (20° of frost)	19° (13° of frost)	

The following are some of the many plants grown here, not an exhaustive list, but sufficient to show the general effects of the low temperature:—*Injured*.—*Euonymus*, various (shoots killed back), *Aucubas*, various (badly damaged), *Hypericum patulum* and others (slightly browned), *Cneorum tricoccum* (some branches killed), *Pittosporum Mayi* (shed most of its leaves), *Abies Morinda* (tips browned), *Liquidambar styraciflua*, *Griselinia littoralis*, *Escallonia macrantha* (some), *Cotoneaster angustifolia* (young plants), *Aralia Sieboldii* (killed), *Gunnera scabra*, *Camellias* (leaves browned and mostly shed), *Aciphylla Lyallii* and *A. squarrosa* (slightly injured), *A. Munroii* (badly injured), *Rhododendrons* (leaves of a few touched), *Buddleia variabilis*, *B. Veitchii*, *B. Colvillei* (wall), *B. Hemsleyana*, various (in open tips killed, on walls untouched), *Jasminum primulinum* (tips killed, wall), *Stauntonia hexaphylla* (badly cut, wall), *Solanum jasminoides* (wall), *Photinia japonica* (wall), *Laurus Benzoin* (shoots cut back) *Enkianthus japonicus*, *Bambos* (where exposed, browned), *Cercidophyllum japonicum*

(all young shoots killed), *Nuttallia cerasiformis* (ditto), *Veronicas* (the thick-leaved, New Zealand species). In cases where details are given the damage was slight. *Untended* (on walls).—*Rosa levigata*, *R. Banksia*, *R. bracteata*, *Abelia rupestris*, *Carpenteria californica*, *Jasminum grandiflorum*, *Ceanothus Gloire de Versailles*, *C. dentatus*, *C. divaricatus*, *Cianthus puniceus*, *Solanum jasminoides*, *S. crispum*, *Schizophragma hydrangeoides*, *Escallonia Langleyensis*, *Coronilla Emerus*, *Halimodendrons*. *In the open*.—*Coronilla Emerus*, *Azara microphylla*, *Olearias* various, *Broom*, *Gerbera Jamesoni*. Among herbaceous and rock plants practically no damage was done, the drier climate here probably saved many plants that suffered on the west coast. *Archibald Buchan-Hepburn.*

NEW MELONS AND THE R.H.S.—Recent notes on this subject having appeared in your pages, not seeing that the very showing season is at hand, I think your readers, who may be prospective exhibitors, should understand the requirements of the council of the R.H.S. Last year, at the fortnightly meeting immediately preceding the great fruit show, I decided to place two Melons, one a scarlet-fleshed and the other a white-fleshed variety, before the Fruit Committee for an award. I think I am right in saying that an "A.M." was awarded in each case, and in one case it was practically unanimous. I went to the meeting during the afternoon, and, with a not unnatural desire to see how the fruits had fared, I tried to find them or their remains. All I could find, however, was one empty plate with the usual card with exhibitor's name, &c., and on another plate a very small portion of the scarlet-fleshed fruit and a very few seeds, also the exhibitor's card. I waited until quite late in the afternoon, but found that no visible trace of the committee's recommendation had appeared, so that any visitor curious to know would go away with the idea that the exhibits had been unworthy of any notice. Next morning I received from the secretary a letter as below:

"Dear Sir,—At the sitting of the Fruit Committee to-day an Award of Merit was proposed for a Melon sent by you, and the committee recommend the council to award it. The council wish me to explain to you that they cannot act on the recommendation of the committee, as they had already resolved that awards should only be given to Melons after they had been tried at Wisley. They hope, however, that you will send seed to Wisley and that the results of the fruits may be found such as to enable them to give you the award next year.—Faithfully yours, "W. WILKS."

By Order of the Council.

I am still in doubt as to which of the Melons I was desired to send seed of to Wisley, for, as will be seen by the above letter, no information was given to guide me. One is bound to ask why the Society calls together in committee the best experts it can find, and then ignores the recommendations. Again, if the council made such a resolution, it should have been published in the "Arrangements for the Year," or it should not be brought into force until another year had commenced. This would have been an act of grace that might have taken away the sting of the action, though, I think, with others, that such a resolution is unwise, on the face of it, if committees are necessary. I see that this year, Melons are included in the subjects that it will be necessary to send to Wisley for trial after having been submitted to committee at Vincent Square, but the rule is rendered indefinite by the addition of the words "and similar subjects." Last year the council apparently thought that Melons could be classed with Cucumbers. Before reporting this protest, I had hoped to see some of the society's *Journal* of the transactions at the meeting of which I write, but probably this would have been too late to be of service this year, as I see that the most recent issue of the *Journal* only brings us down to June, 1907, and I shall, evidently, have to wait another season before I learn officially which of the two Melons submitted, the council wished me to send seeds of to Wisley. *J. C. Tallack, F.R.H.S.*

PROSPECTS OF THE ROSE SEASON.—The weather which our Roses experienced in April, when they were beginning to grow, was not by any means favourable to their successful develop-

ment. On one memorable evening we had in south-western Scotland 20° of frost. While in my own garden the older and stronger varieties withstood this adverse experience nobly, and in many instances seem little the worse, Roses of recent origin and of somewhat more delicate nature, have, with a few notable exceptions, achieved almost nothing in the flowering direction. At the present moment the most promising among the newer varieties are Isabelle Milner and Mrs. Dudley Cross; W. E. Lippitt, a native of New-townards; Hiawatha, a "gen of purest ray serene," and the finely-foliaged and splendidly-flowered Lady Gay. Of the older varieties, those on which I chiefly rely this season are Captain Hayward, a beautiful and fragrant Rose that never fails to succeed; A. K. Williams, whose first flower-buds are frequently hard and abortive, but in autumn quite reliable; Horace Vernet, one of the finest of the dark crimson hybrid perpetuals; Margaret Dickson, Frau Karl Druschki (the grandest Rose of the last decade); Hugh Dickson and J. B. Clark (Irish rivals in renown though the former is much the finer Rose); Warrior, with lovely chocolate-coloured foliage, and blood-red flower-buds; Papa Gontier and Gloire Lyonnaise. *David R. Williamson.*

THE FLOWERS OF SPENSER.—It is a great pleasure to find Canon Ellacombe continuing his studies in plant lore, and, if one may be permitted to make a remark, it is that the gifted author may not carry the compression of his notes too far. In his allusions to flowers, Spenser is undoubtedly the most difficult of all our poets to understand, and he never hesitated to coin a name to suit himself. One such is *Astrophel*, which Canon Ellacombe, following Nares conjecturally, refers to *Aster Tripolium*. *Astrophel* was a pet name of Sir Philip Sydney, and the name of a plant designation was first employed in connection with that *Mirror of Courtship*. Its flowers were red, fading to blue, and had a "dew" filled star in the centre of each, so that another plant than the wild Aster must have been in the poet's mind. Then Canon Ellacombe must have overlooked several authorities, for the early cultivation of *Amaranthus* in English gardens—Turner, Hill, Mountain, Tusser, Lyte, Heriack, all mention it, its English names being Flower gem, Flower amour, and Purple Velvet-flower, which Aiton, and subsequently Mr. Britten, has identified with *Amaranthus tricolor*. No doubt Spenser would be well acquainted with it as a garden flower in the many gardens of which he would have the entry—Lord Gray's, at Wilton, Earl Essex's, in London, and that of the Sydneys. *R. P. Brotherton.*

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

JUNE 23.—Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Dr. A. Voelcker, Rev. W. Wilks, Sir J. T. D. Llewellyn, Messrs. E. M. Holmes, G. Gordon, H. T. Gussow, G. S. Saunders, H. Curtis, W. C. Worsdell, G. Massée, J. T. Bennett-Potts, and J. C. Tallack (secretary). Visitors: Prof. Hansen, of Dakota, U.S.A., and Mr. Scrase Dickinson.

Cherries eaten.—It was reported that the holes in the fruits of Cherry which were received from Sir Robert Harvey at the last meeting were due to the feeding of the larvae of the winter moth.

Malformed Odontoglossums.—Mr. WORSDELL reported that one of the flowers of *Odontoglossum crispum* received from G. Wilson, Esq., F.R.I.S., of Haywards Heath, had the three stamens of the outer whorl all developed, instead of only one. It was noted that the second flower had a normal column and normal sepals, but each of the three petals had become partly modified into stamens and bore anthers.

Dodder.—Mr. H. T. GESSOW showed photographs of *Cuscuta trifolia* attacking Clover and Kohl-rabi, and of *C. chilensis* growing upon Lucerne, Kohl-rabi, Rye grass, and red and white Clover. Dr. VOELCKER said that experiments had been tried with Chilian Clover seed containing Dodder, and it had been found that though the Dodder had germinated and grown

upon the Clover in the first year, in the second none had been found, as it had failed to form seed. Mr. GESSOW, however, thought that seed was, at least under certain circumstances, produced.

Lily hybrids.—Mr. SCRASE DICKINS showed seedlings of *L. croceum* × *L. elegans* and *L. van Houttei*. The plants showed extraordinary vigour, which the raiser attributed partly to the fact that they were seedlings, and partly to their hybrid origin. The hybrids do not set seed when pollinated with one another's pollen, but set seed freely when pollinated with pollen from *L. elegans*. The forms varied considerably among themselves, and forms of *L. daburicum* could be well matched among them. The *L. elegans* parentage was evident in many by the reflexing of the perianth pieces. Unfortunately the hybrids are not disease resisting. A hearty vote of thanks was accorded to Mr. DICKINS.

Effect of ammonium salts on flora.—Dr. VOELCKER showed a Fern which had developed under curious circumstances. A series of drain pipes were filled with soil and each was covered at the base with a perforated slate, below which a glass funnel had been fixed in order to catch the drainage water. Through a solution of ammonium sulphate had been passed, through others ammonium chloride, others nitrate of soda, and others were only afforded distilled water. The Ferns had grown through the perforation of the slate into the funnel, only in those cases where ammonium salts had been passed through the soil. This was apparently due to a difference in the reaction of the soil in the different cases.

Phlox leaves malformed.—Mr. WORSDELL drew attention to the peculiar form at times assumed by the leaves of *Phlox*. Sometimes the leaves appeared as ascidia, or as pockets, or merely as wings on the midrib. This condition, Mr. MASSEE pointed out, was due to the presence of the eelworm *Tylenchus devastatrix*, large numbers of which were present in the plants. This and other species of eelworm were responsible for many malformations in plants, as is seen in the Tulip-rooted Oat, the thickened neck of the Onion, malformed flowers in cereals and various wild grasses (in one of *Agrostis vulgaris*, a malformation due to an eelworm has been taken as a character upon which to found a variety), and warts and knobs upon roots.

Artemisa consanguineum.—Mr. MASSEE, on behalf of Mr. H. J. Elwes, showed plants of this new species.

Plant breeding.—Prof. HANSEN, of N. Dakota, who is passing through London on his way to Russia and Siberia on his fourth journey of exploration, received a hearty welcome from the committee. In the course of his remarks he alluded to the efforts which were being made to obtain fruit trees which would maintain their existence without coddling through the rigours of the American winter, and remarked upon the great measure of success which had already attended their efforts to obtain frost-resistant Plums, Raspberries, &c.

Fruits of *Lathraea clandestina*.—Mr. BOWLES showed capsules of this interesting and beautiful parasite to illustrate the explosive mechanism by which the seeds are flung out of the capsule when ripe. The two valves of the capsule suddenly roll inwards and fling the seeds out a very considerable distance.

Primula antiodora.—From Messrs. VEITCH, of Chelsea, came a pan of this beautiful *Primula*, which is closely allied to *P. Poissonii*, and bears several whorls of drooping, deep, clear purple flowers upon its rigid erect stems.

Miltonia vexillaria.—Baron SCHROEDER, V.M.H., sent a spike of *Miltonia vexillaria* with normal flowers, and another with partially double flowers, which was borne upon a plant divided from the former a few years ago. The parent had always (for over 20 years) borne normal flowers, while each year since its separation the effect had produced semi-double flowers.

Blue Sweet Pea.—"Zephyr."—From Mrs. R. H. BRYCE, of The Gables, Histon, came flowers of a Pea raised by crossing *Zoë* (a medium blue) with a Countess Spencer (Paradise) in 1905. Mrs. Biffen had obtained the same thing from a number of crosses made subsequently between flowers of a deep blue and others of a pink colour, in addition to others, of all shades of blue and of the "Spencer" form.

Cadinary Peas.—Mr. A. W. SUTTON showed the offspring of a Pea occurring spontaneously in Palestine, 12 miles from Jaffa, four years ago. Many hybrids have been raised from crosses between this wild form and the best of the cultivated ones, and in some the coloured flower is reproduced, in others the flowers are white; in some the serrated edges of the foliage, normal in the wild plant, are retained, but in others the margin of the leaf is practically entire.

RICHMOND HORTICULTURAL.

JUNE 24.—The 34th annual exhibition of the above Society was held in the Old Deer Park, Richmond, on this date. In the extent and variety of the exhibits, it was one of the largest and finest shows ever held by the Society, the members of which embrace Richmond, Twickenham, Isleworth, Mortlake, East Sheen, Ham, Barnes, and Roehampton. The weather was unusually fine, and the visitors attended in great numbers. Roses were, as usual, extensively shown by the trade growers, as well as by local gardeners, and they contributed immensely to the attractions of the exhibition, the blooms being more than usually fine in all sections. Displays of hardy flowers, tuberous-rooted Begonias, Carnations, Streptocarpus, Gloxinias, and hardy perennials from members of the trade were particularly noticeable.

GROUPS ARRANGED FOR EFFECT.

These groups were not to exceed 100 square feet. The 1st prize was awarded to Sir C. SWALEY, EADY, Oatlands Lodge, Weybridge (gr. Mr. J. Lock), who had a very gay group, with, out, however, possessing any decided feature, if we except three strong well-flowered plants of *Lilium auratum*. 2nd, Mr. W. VAUSE, nurseryman, Leamington, Warwickshire, who put up a group with simpler materials than the foregoing, but it was lacking in plants required to break the level monotony of the surface. Codiaums (Crotons) were freely used, but the colours of these plants suffered from the proximity of white-leaved Abutilons.

In the class for a smaller group measuring 60 square feet, the 1st prize was awarded to Lady WAECHTER, Terrace House, Richmond Hill (gr. Mr. H. Barfoot). In this group the main idea was to contrast the red colours of *Hippeastrums*, Carnations, Miss Willmott Verbena and *Celosia pyramidalis* with the white of *Lily bulbs* and of *Caladium foliage*. 2nd, C. M. BARTLETT, Esq., Uplands, East Sheen (gr. Mr. HICK). This group consisted of *Caladiums*, *Dracenas*, *Codiaums*, &c., arranged on groundwork of *Adiantum Ferns*, with plants of *Clerodendron fallax* and white-flowered *Lilies* as solitary plants, and an edging of *Caladium Wightii* and *Panicum variegatum*.

The winners in the class for six Palms were: 1st, Mr. W. VAUSE; 2nd, Lady WAECHTER.

Roses.—Cut blooms of great excellence were shown in triplets in the class for 48 varieties, distinct. Messrs. D. PRIOR & SON, Colchester, won the 1st prize; Messrs. R. HARKNESS & Co., Bedale, and Hitchin, the 2nd prize; and Messrs. FRANK CANT & Co., Colchester, the 3rd prize. There were five competitors in this class.

In the class for 24 Roses, distinct, three blooms of each, the winners were: Messrs. B. R. CANT & SONS, 1st; G. & W. H. BURCH, nurserymen, Peterborough, 2nd; and Messrs. D. PRIOR & SON, Colchester, 3rd. There were six competitors for 12 Roses of distinct varieties, arranged in triplets. The 1st prize winners were Messrs. HARKNESS; 2nd, Messrs. D. PRIOR & SON.

A class for 24 Roses, distinct, single blooms, open to amateur growers only, resulted in E. J. HOLLAND, Esq., Silverdale, Sutton, Surrey, taking the premier honour with a beautiful lot of blooms, the finer of which were Helen Keller, J. B. Clark, Florence Pemberton, Mrs. J. Laing, Her Majesty, and Gustave Pigneau. 2nd, Rev. J. PEMBERTON, Havering-atte-Bower. In the finest condition we may specify Etienne Levet, Helen Keller, Her Majesty, and J. B. Clark. 3rd, W. LEGETTE, Esq., Maldon Road, Colchester. In the above class competition was keen. For 12 blooms, distinct, E. J. HOLLAND, of Silverdale, Sutton, was the winner of the 1st prize, and his blooms of J. B. Clark, Mme. Jules Graveraux, Bessie Brown, Mrs. J. Laing, W. Shean, and Victor Hugo were very fine.

2nd, Rev. J. PEMBERTON, with very fine blooms of Caroline Testout, J. B. Clark, Florence Pemberton, and Dean Hole. 3rd, W. C. ROMANE, Esq. Special prizes were given by Lady RUGGER, Price for 12 H.T. Roses of distinct varieties. Messrs. HARKNESS & Co., Hitchin, were 1st with Dean Hole, Mildred Grant, Alice Lindell, J. B. Clark, and Lady Ashton as their best blooms. 2nd, Mr. J. BROWN, Peterborough, with fine examples of Bessie Brown, Queen of Spain, Caroline Testout, &c.

Garden Roses formed a class apart; the 1st prize in this section was awarded to an extensive exhibit from the gardens of L. WARDLE, Esq., Petersham House.

Sweet Peas formed a lovely feature of the show, there being many exhibitors of this flower. The winner of the 1st prize was the Earl of DYSART, Ham House (gr. Mr. T. F. Conway). We remarked the fine varieties Frank Dolby (light blue), Mrs. Hardcastle Sykes (pink), G. Herbert (crimson), Vera Jeffery (light rose), King Edward VII. (deep crimson), St. George (orange and scarlet), &c.; 2nd, W. H. OSLBY, Petersham Vicarage (gr. Mr. Gower); 3rd, E. MCACATA, Esq., Woburn Place, Addlestone (gr. Mr. Stevenson).

Sweet Peas in bunches were shown for Mr. Sydenham's special prizes, a competition in which Lord DYSART's gardener took the 1st prize.

MISCELLANEOUS PLANTS.—*Aspidistras* and Ferns formed a pleasing change from the exhibits of flowers; good plants of the former came from Mr. E. G. CATTLEY, 94, Sheen Road.

Begonias made a bright show, the 1st prize for twelve of these plants being won by W. J. EDWARDS, Esq., Bellari, Sidcup (gr. Mr. Rabbitt). The flowers were large and of double-flowered varieties.

A few plants of *Streptocarpus* were shown. G. ATKINS, Esq., East Sheen (gr. Mr. J. Hill) was given the 1st prize for these flowers, and Lady WAECHTER the 2nd prize. Mr. Hill also took a special 1st prize for Begonias.

Caladiums of moderate sizes were seen in a class for six plants, the 1st prize being awarded to Mr. J. Hutt, gardener at Manaton.

Table decorations formed an extensive feature, and showed a great improvement on the arrangement of past years. The prizes were open to lady exhibitors in or out of the Society's district, and the 1st fell to Miss N. H. COLE, The Vineyard, Feltham, for a decoration consisting of white and pink-flowered Carnations, Grasses, *Gypsophila* and *Asparagus plumosus*; Miss C. B. COLE secured the 3rd prize with yellow English Iris, *Doronicum* and *Asparagus*, &c. This last-named exhibitor took the 1st prize for a device consisting of three vases substituted as a dinner-table decoration.

A good-sized group of Orchids was contributed by H. LITTLE, Esq., Baronsholt, Twickenham (gr. Mr. A. Howard). A 1st prize was awarded to Cattleya Mendelii Princess Ida, white with a faint tinge of mauve, and a purplish labellum.

VEGETABLES AND COTTAGERS' EXHIBITS.

Some very superior vegetables and roots were shown in the two competitions for Messrs. Sutton & Sons, Messrs. Webb's and Messrs. J. S. Carter & Co.'s prizes for vegetables; and the cottagers' exhibits were beyond all praise.

Fruit.—Some excellent Grapes were shown by Sir H. GREENWELL, Marden Park, Caterham (gr. Mr. Lintott), who was 1st for three bunches of Foster's Seedling variety; 2nd, Mr. EASTCOTT, and Mr. G. WESTON, of Eastcote Park, Ashford, Kent; 3rd, Black Hamburg Grapes were very good, the bunches massive and large. Mr. WESTON was 1st for three bunches, and Mr. LINTOTT 2nd with heavily shouldered and large-berried examples.

Collection of six dishes of fruit.—The 1st prize in this class consisted, besides money, of Lady Waechter's Challenge cup. This prize was won by Mr. J. LOCK, Oatlands Lodge Gardens. He showed Foster's Seedling and Madresfield Court Grapes, all capital specimens; Dryden Nectarine, Duke of York Peaches, of extraordinary size for this variety; Hero of Lockinge Melon, and Black Bigarreau Cherries; 2nd, Mr. T. F. CONWAY: his exhibit consisting of Webb's Epicure Melon, Foster's Seedling and Black Hamburg Grapes, Brown Turkey Figs, Early Rivers Nectarine, and a dish of Peaches, unnamed.

NON-COMPETITIVE EXHIBITS.

These were numerous and meritorious. Messrs. J. VEITCH & SONS, LTD., King's Road, Chelsea, made an extensive show of Roses in pots, including Rambler varieties of large dimensions, and some *Lilium auratum* in fine flower. From Messrs. CURTISH & SON, Highgate and Barnet, came a number of Carnations, *Metrosideros horibunda*, Queen Alexandra Spiræas, Polyantha Rose Mrs. W. H. Cutbush, *Gloxinia cordata*, Begonias, &c. (Silver-Gilt Medal.) Messrs. PEEN & SON, of Morden and West Norwood, made a display of hardy herbaceous cut flowers, viz., Delphiniums of their raising, Carnations, the rare *Centauria dealbata* and *Baptisia australis*, with striking dark blue flowers; *Iris spuria* in variety, and a few Roses. Messrs. THOS. WARE & CO., Feltham, set up a large table of cut blooms of hardy herbaceous plants in great variety. Mr. W. THOMPSON, Sheen Nurseries, was awarded a Gold Medal for a large group of foliage and flowering plants that occupied the middle area of one of the large marquees. Mr. AUOS PERRY, Nurseryman, Enfield, showed, in his usual pretty style, Water Lilies, likewise Delphiniums, *Linaria dalmatica*, varieties of *Lilium*, &c. (Gold Medal.) Mr. RUSSELL, The Richmond Nurseries, Richmond, showed the new pink Spiræas, the new *Hedera dentata* variegata, a striking variety, with large, white-bellied leaves. He also filled a large corner with hardy shrubs and climbing plants, many of which had variegated foliage.

HORTICULTURAL SHOW AT THE FRANCO-BRITISH EXHIBITION.

(Continued from page 429.)

JUNE 24, 25, 26.—In our last issue, owing to exigencies of time and space, we were only enabled to refer briefly to this flower show. The Palace of Music, in which the exhibits were displayed, is a fine, well-lighted building, but it was oppressively close, and many flowers, especially Roses, flagged in the dry, hot atmosphere. Some of the exhibits were accommodated around the walls of the building outside, where the large eaves of the roof form a covered way.

The absence of French exhibitors was disappointing, for if we except the group of Orchids shown by MM. MARON ET FILS, Brunoy, the exhibits of French produce were insignificant. There was a collection of Strawberries from Messrs. MILLET & SON, Bourg-la-Reine, near Paris, and, even when allowance is made for the distance they had travelled, they must be regarded as far below our standard of quality in this fruit. The presence of sulphur on the berries did not mar their appearance. Some were not much larger than hazel nuts; there were white kinds, others long and narrow, and some almost divided in two by a deep suture. A collection of Nymphæas from Mons. LAGRANGE, Paris, would have proved interesting had the flowers opened.

When we turn to the British exhibits, something better may be said; indeed, there were one or two distinct features of merit. We enumerate a magnificent group of Cannas numbering 230 plants, all of the highest standard of quality, shown by Messrs. H. CANNELL & SONS, Swanley Kent; excellent exhibits of Ferns shown by Messrs. J. HILL & SON, Lower Edmonton, and Messrs. H. B. MAY & SONS, The Nurseries, Edmonton, respectively; pot fruit trees from Messrs. GEO. BUNYARD & CO., LTD., Maidstone, and Messrs. T. RIVERS & SONS, Sawbridgeworth; a noteworthy group of Orchids from the gardens of Sir JEREMIAH COLEMAN, Bart., Gipton Park, Reigate (gr. Mr. W. P. Bound); and, in an admirable collection of tuberous-rooting Begonias generally, shown by Messrs. T. S. WARE, LTD., Feltham, a superb specimen of the delicate pink-coloured variety named after Lady Cromer. The plant bore several magnificent blooms, the finest of which measured 10 by 8 inches: it is of the *Camellia* type of flower; the pink in the petals shades to white on the margins. This was the finest individual plant in the show. The schedule made provision for many competitive classes, but the majority of the exhibits were either honorary or trade displays. The jury was composed of seven English and a like number of French horticulturists, the president

being Colonel D. Pain, C.I.E., with Mons. Vigier, vice-president.

COMPETITIVE CLASSES.

In the class for a group of plants in or out of bloom, to occupy a space measuring 20 feet by 8 feet, the 1st prize was awarded to Messrs. CANNELL & SONS for their exhibit of Cannas.

LORD HOWARD DE WALDEN, Audley End, Saffron Walden (gr. Mr. James Vert), showed the best group of ornamental foliage plants and Ferns in an exhibit of *Codiaeum* (Crotons), *Peperomia*, *Polka*, *Peperomia*, *Peperomia*, &c., the group being awarded the 1st prize; the 2nd prize falling to Messrs. JOHN LAING & SONS, Forest Hill.

The best exhibit of Orchids in a class for a group of these plants was shown by Messrs. ARMSTRONG & BROWN, Tunbridge Wells, who had choice and rare examples, pleasingly displayed, the centre being elevated in the form of a mound. Amongst their finer subjects was a fine pan of *Cypripedium bellatulum*, containing 10 blooms; also *C. Godefroye leucoleichum*, *C. callosum* Sanderz, a fine spike of *Coleogyne pandurata*, and another of *Cattleya gigas*. We also noticed an excellent plant of *Cypripedium glaucophyllum*, *Odontoglossum perculatum* in fine form, *O. Adrianae* and *Lælio-Cattleya Blechleyensis* Orchidhurst variety. The 2nd prize was awarded to MM. MARON ET FILS, Brunoy, for a display consisting principally of showy *Cattleyas* and *Lælio-Cattleyas*.

Mr. GEO. MOUNT, Canterbury, met with no competitor in the class for Roses in pots, and he was awarded the 1st prize of a Gold Medal.

There was a class for 36 blooms of Roses, and the Gold, Silver-Gilt, and Silver Medals offered were won by Messrs. G. & H. BURCH, Peterborough; Messrs. D. PRIOR & SON, Colchester; and Mr. G. MOUNT, Canterbury, in the same order as their names. On the second day the Roses were so drooping as to be almost unrecognisable. Several other classes were allotted to Roses.

The fruit classes were poorly contested, and call for no special comment, save that some finely coloured Nectarines with remarkably strong growths—the fruits in most cases being attached to the shoots—came from Mons. OMER-DÉCAGIS, Rue Pierre Lescot, Paris.

In the vegetable classes Mr. Edwin Beckett, gardener to Hon. VICARY GIBBS, Aldenham House, Elstree, and Mr. Searle (gr. to the Marquis of NORTHAMPTON) had things all their own way, for although the SOCIÉTÉ DES MARAÎCHERS DE LA RÉGION PARISIENNE were placed higher than Mr. Beckett in one class, viz., for a collection in 18 distinct kinds, it was evident that this was done as a compliment.

NON-COMPETITIVE EXHIBITS.

The group of Orchids shown by Sir JEREMIAH COLEMAN, Bart. (gr. Mr. W. P. Bound), attracted great attention from the visitors, the majority of the sightseers being unused to flower shows, but who had read of the wonders of the Orchids and insectivorous plants in the lay Press. Although they did not find all they expected, there was a rich display of such fine things as *Lælio-Cattleya Epicastre*, *Gatton Park variety*, a many-flowered spike of *Oncidium macranthum*, *Spathoglottis Colmanii*, *Epidendrum prismatocarpum*, *Barkeria spectabilis*, *Masdevallia Harryana* *Gatton Park variety*, *Odontoglossum Phoebe splendens*, *Cirrhopetalum pulchrum*, *Brasso-Cattleya Mary*, *Lissocylus giganteus*, &c.

The group of Ferns shown by Messrs. H. B. MAY & SONS, The Nurseries, Edmonton, showed to advantage on the platform. There were 150 specimens in all, most of them large plants. *Nephrolepis superbiissima* and a finely-coloured batch of *Adiantum farleyense* attracted our special attention. On the opposite corner Messrs. J. HILL & SON, Edmonton, showed an equally effective group of Ferns, mostly specimen plants in big pots. They showed amongst others, well-coloured plants of *Adiantum Veitchianum*, *Gleichenias* in variety, *Asplenium nidus* (the Bird's Nest Fern), *Davallia retusa*, *Polydium lepidopteris sepiatum*, *Nephrolepis amabilis*, *N. ameripohii*, &c.

In Messrs. GEO. BUNYARD's exhibit of pot fruit trees were excellent Cherries of the Gover-

nor Wood, Elton Heart, and Bigarreau Napoleon varieties. Also Figs, Peaches, Strawberries, &c.

Messrs. T. RIVERS & SON, Sawbridgeworth, had also fruit trees in pots, their samples of Bigarreau de Schreken Cherry being very fine; a tree of Dryden Nectarine was laden with fruits.

A group that especially appealed to us as being well arranged was Messrs. ED. WEBB & SONS' exhibit of vegetables and Melons, for which a Gold Medal was awarded.

Well-grown Caladiums were staged by Mr. RICHARD HOFFMAN, Tower House, Streatham. Messrs. J. PEED & SON, Roupell Park, had a collection of Gloxinias. Sweet Peas were very freely staged; we noticed groups of these flowers from Messrs. DOBBIE & CO., Rothsay. This firm had many novelties, including the new reddish-orange variety *The King*. Some beautiful vases of Spanish Irises and many kinds of *Pansies* were also shown by Messrs. DOBBIE. Other exhibitors of Sweet Peas were Miss HEMUS, Holdfast Hall, Upton-on-Severn; Mr. C. W. BREADMORE; Messrs. JARMAN & CO., Chard; Messrs. G. & A. CLARK, LTD., Dover, who had in addition an assortment of garden flowers; Messrs. E. W. KING & CO., Coggeshall; Mr. W. J. UNWIN, Histon, Cambridge; and Messrs. CARTER, PAGE & CO., London Wall.

Exhibits of Roses were displayed by Mr. GEO. MOUNT, Canterbury, Mr. JOHN BARROW, Oadby, Leicester; Messrs. R. H. BATH, LTD., who also had a fine group of Carnations; Messrs. GEO. JACKMAN & CO., Chard; and Mon. HENRI KACZKA, 8, Rue Saint Martin, Paris. The other VICARY GIBBS, Aldenham, contributed sprays of ornamental trees and shrubs from the rich collection at Aldenham House Gardens. Some well-grown Begonias were staged by Messrs. JOHN LAING & SONS, Forest Hill, London. Messrs. BARR & SONS, King Street, Covent Garden, had a number of dwarfed trees in quaint receptacles. Messrs. SUTTON & SONS, Reading, showed varieties of Potatoes of their raising. Well-grown bunches of Grapes were shown by Mr. J. G. WESTON, Eastwell Park Gardens, Kent, the varieties being Gros Maroc, Black Hamboro', and Muscat of Alexandria. Messrs. FROMOW & SONS, Chiswick, had two fine groups of Japanese Maples. Mr. MORTIMER, Kewledge, Farnham, Surrey, displayed very large Cucumbers, some in the seedling stage; also a fine batch of Carnations. Other exhibits of Carnations were presented by Mr. C. F. WATERS, Balcombe; Mr. W. H. PAGE, Tangley Nurseries, Hampton; and Mons. PAGE, 85, Rue des Bois, Reims.

Exhibitors of hardy flowers included Messrs. R. WALLACE & CO., Colchester; Messrs. J. CHEAL & SONS, Crawley; Messrs. GEO. JACKMAN & CO., Chard; Messrs. KELWAY & SON, Langport, Somerset; the Misses E. & M. KIPPING, Hutton; Messrs. PAUL & SON, Chessington; Messrs. GEO. BUNYARD & CO., LTD., Maidstone; Messrs. BARR & SONS, King Street, Covent Garden; and Messrs. T. S. WARE, LTD., Feltham.

AWARDS.

GOLD MEDALS were awarded to Messrs. Hugh Low & CO., H. Cannell & Sons, Lord Howard de Walden, Armstrong & Brown, George Mount, T. S. WARE, LTD., G. & A. CLARK, LTD., G. & H. BURCH, Hon. Vicary Gibbs, H. B. MAY & SONS, Dobbies, Ltd., Geo. Bunyard & Son, Ltd., J. Hill & Son, T. Rivers & Son, Millet et Fils, E. Webb & Sons, W. Fromow & Sons, Mons. Debré, and Sir Jeremiah Coleman, Bart.

SILVER-GILT MEDALS to M. Truffaut, Messrs. John Laing & Sons, M. Maron, G. Bunyard & Co., LTD., D. Prior & Son, Société des Maraîchers, Marquis of Northampton, R. H. Bath, Ltd., W. H. Page, C. F. Waters, G. & A. Clark, Ltd., S. Mortimer, J. Cheal & Sons, G. Jackman & Sons, Barr & Sons, Paul & Son, R. Wallace & Co., G. Anderson, C. W. Breadmore, W. W. King & Co., and Mons. Omer-Décagis.

SILVER MEDALS to Messrs. S. Bide & Sons, T. Rivers & Son, M. Campant, A. Edwards, R. Hoffman, Misses Kipping, J. Williams, Hon. Vicary Gibbs, G. Mount, Carter, Page & Co., J. Peed & Sons, G. Jackman & Sons, Miss Hemus, A. J. Harwood, Kelway & Son, John Barrow, Government of South Australia, Jarmann & Co., M. Lagrange, Sutton & Sons, T. Sharpe, M. Page, M. Henri Kaczka, M. Pierre Ducher, and J. W. Unwin.

HORTICULTURAL CLUB.

JUNE 23.—On this date, at the Hotel Windsor, the Horticultural Club held the final monthly dinner of the season under the presidency of Sir John Llewellyn, Bart. Subsequently to the dinner, Mr. H. Hitchcock, of Victoria, Australia, gave an address rather than a lecture with reference to "The Development of Gardening in Victoria, Australia, During Recent Years," in which he endeavoured to bring home to his hearers some idea of the variation of climate which is found in the vast area of Australia, ranging from temperate to mid-tropic, and from "thousands of miles" of Fern gullies under the most favourable conditions of shade and humidity to arid deserts. Challenged as regards "thousands of miles" in this connection, Mr. Hitchcock adhered to the statement and justified it fully by explaining that these "gullies" or deeply-cut ravines or valleys consisted of innumerable forks and branches following the drainage of the watersheds involved, and in these gullies there were all but impenetrable forests of 50-foot tree Ferns and other Ferns and mosses and allied growths, so that if one progressed half a mile in an hour through the tangled wilderness of beautiful frondage he was fortunate. The Australian gardeners are very keen on acquiring new things from the Old Country, but their experience sometimes was disappointing, the acquisitions not adapting themselves to the climate, or, as the lecturer suggested, they were underestimated by the floral judges here. It was thought that awards should be held over for a year with some classes of flower. In the subsequent discussion this point was argued by some members of the Floral Committee present, who explained what pains were taken in this direction by relegating to Wisley for trial many plants which were subsequently judged *in situ* by the visiting committees, while, as regarded reputed novelties, comparison with similar forms was frequently insisted upon, before an award was given. The size of Australia was somewhat vividly brought to mind by the fact that a single land proprietor, Mr. J. Redman, owns forty-one million acres of land. In the discussion which followed the paper, and in which Sir J. Llewellyn, and M. M. Wilhelm Miller, Chas. Pearson, C. T. Drury, Rev. J. Jacob, Geo. Bonnyard and George Munro took part, Mr. Miller, editor of the *Garden Magazine* and horticultural editor of *Country Life in America*, alluded to the spoiling of the American climate, or, rather, as he put it, the five American climates, by the constant denudation of forest land.

CROYDON AND DISTRICT HORTICULTURAL.

JUNE 24.—On this date about 50 of the members of the Society paid a visit to the nurseries of Mr. C. F. Bause, Portland Road, South Norwood. Stove and temperate house plants are cultivated here solely, Mr. Bause growing for the trade only. Mr. Luther conducted the party through the glasshouses.

WINDSOR, ETON, AND DISTRICT ROSE.

JUNE 27.—The seventeenth exhibition was held on this date on The Slopes in the grounds of Windsor Castle, the weather being beautifully fine. The exhibits occupied five large marquees, and the exhibition was regarded as the finest held at Windsor. The King's Silver Challenge Cup, which was offered for the best collection of 48 single trusses of distinct varieties of Roses, was again won by Messrs. D. PRIOR & SONS, Colchester. Mr. E. B. LINDELL, Hitchin, won the Cup offered for 18 distinct trusses of Roses in the amateur classes.

BRITISH GARDENERS' ASSOCIATION.

The members of the London branch will assemble at the Main Gate, Kew Gardens, on July 4, at 4 p.m., whence the party will proceed to inspect the gardens.

As a large number of gardeners are expected, it will be necessary to divide the party into sections. Several well-known horticulturists have consented to act as guides.

All professional gardeners are invited to these outings.

IPSWICH AND EAST OF ENGLAND HORTICULTURAL.

JULY 1.—The summer exhibition of this East Anglian Society was held on the above date in the Upper Arboretum, Ipswich, which, with the adjoining Christchurch Park, forms the principal of the open space in this town. The exhibits were accommodated in three tents, the largest being of considerable size, and in shape similar to the large marquee employed at the Shrewsbury Show for the fruit exhibits.

Visitors from London remarked the parched condition of the agricultural crops, and even the grass land, as seen from the railway, and we were afterwards informed that no appreciable rain has fallen in the Ipswich district since April; one of the residents observed that the last "rain" they had was "snow".

The arrangements for the show were in the hands of Mr. Harold R. Smith, and were satisfactory.

ROSES.

This exhibition, being one of the earliest at which a good display of Roses is seen (following only a few days after Richmond and Windsor), it was interesting to observe the general quality of the blooms, and, allowing a little for the disadvantage of having to stage them in such extremely hot sunshine, the general quality was a further confirmation of the forecasts there have been made that the present Rose season will be one of the best for many years past.

The principal open class for 36 blooms, distinct, was won by Messrs. D. PRIOR & SONS, Myland Nurseries, Colchester, and this entitles the firm to hold for the year a Silver Challenge Cup. The collection contained a magnificent bloom of the new Rose William Shean, a Hybrid Tea variety of rich pink colour and extra fine petals, which appears capable of remaining fresh for a considerable time under adverse conditions. Cultivators should take a note of this variety. Other good blooms were Ulrich Brunner, Bessie Brown, Mme. Jules Gravereaux, Dean Hole, Star of Waltham and Dupuy Jarnai. 2nd, Messrs. B. R. CANT & SONS, who, however, obtained a R.I.S. medal for a bloom of Frau Karl Druschki, which was adjudged the best Rose shown in the open classes. 3rd, Messrs. FRANK CANT & CO., Colchester.

Messrs. D. PRIOR & SONS also won the 1st prize for twelve distinct trebles, being followed by Messrs. B. R. CANT & SONS. Messrs. FRANK CANT & CO. won the 1st prize for the best dozen blooms, distinct, of Tea and Noisette varieties.

The best variety in a class for six single blooms of a H.P. or H.T. Rose was Dean Hole, shown by Messrs. D. PRIOR & SONS, Mildred Grant, shown by Messrs. B. R. CANT & CO., being placed 2nd. The best Tea or Noisette variety was Mme. Jules Gravereaux, shown by Messrs. D. PRIOR & SONS.

There were several exhibits in a class for nine bunches of garden Roses, distinct, and Messrs. FRANK CANT & CO. were placed 1st. In this exhibit there was an excellent bunch of the white variety Trier, and good ones of Irish Glory, Rubens, Una, and Papillon; Mr. R. C. NOTCUTT, Ipswich and Woodbridge, won the 2nd prize, and included a very fine bunch of Mrs. F. W. Flight.

In the classes reserved for amateurs, the best exhibit in the principal class, that for 24 blooms, distinct, was one from W. LEGGETT, Esq., the Rev. J. H. PEMBERTON being placed 2nd. In Mr. PEMBERTON'S exhibit a very fine bloom of Horace Vernet was awarded a R.I.S. Medal as the best Rose shown in the amateur classes. W. LEGGETT, Esq., won also the 1st prizes for eight distinct trebles, for 12 blooms distinct, and for 12 Tea or Noisette blooms distinct. In the classes for half-dozen blooms in the different sections, the best H.P. or H.T. variety was Frau Karl Druschki, and the best Tea or Noisette variety White Maman Cochet.

SWEET PEAS

formed the subject of several keen competitions, and most of the flowers evinced excellent cultivation. The best exhibit of 12 bunches, distinct, was shown by C. K. NORMAN, Esq., whose collection included excellent flowers of the new Saint George and Sutton's Queen; 2nd, Messrs. THOMPSON & MORGAN, Ipswich. Mr. E. V.

COSTLING had the best collection of nine varieties, and Mr. W. H. BURROUGHS the best collection of six varieties. In another class in which prizes were offered by Mr. R. C. NOTCUTT, the 1st prize was won by the Hon. W. LOWTHER.

There were several classes for flowers of herbaceous plants, in which liberal prizes were awarded and good exhibits staged; also special classes for Delphiniums, Canterbury Bells, Iris, Gladioli, Antirrhinums, and Pelargoniums.

The best group of miscellaneous plants arranged for effect was shown by H. J. SOUTHGATE, Esq., and the 1st prize in a class for smaller groups was won by W. P. BURTON, Esq. (Mr. H. G. Strutt). Still smaller groups of the same class were arranged on a table, and in this class no plants could be used over 3 feet in height. W. PIPE, Esq. (Mr. J. S. Clarke) was awarded the 1st prize. Excellent "table" plants were shown in a class which called for six specimens. C. H. BERNERS, Esq., Woolverstone Park (Mr. W. Messenger), had the best, and W. F. PAUL, Esq. (Mr. W. E. Moores) was awarded the 2nd prize. Other classes for plants included Ferns, Begonias, Fuchsias, Hydrangeas, Verbenas, Gloxinias, and Schizanthus.

Some very pretty table decorations were contributed by ladies; the best in a keen competition was one from Miss A. F. HARWOOD, who employed pink Rambler Roses exclusively.

FRUIT AND VEGETABLES.

The 1st prize in a class for a decorated dessert table measuring 8 feet by 4 feet 6 inches was easily won by C. H. BERNERS, Esq., with an exhibit equal to those seen at the best shows. There were black and white Grapes, excellent Peaches and Nectarines, Figs, a Melon, and Strawberries. 2nd, the Hon. W. LOWTHER (gr. Mr. A. Andrews).

The principal prizes for vegetables were awarded as follows:—Hon. W. LOWTHER, 1st prize in Mr. R. C. NOTCUTT'S class, Messrs. Fred Smith and Co.'s class, and the Society's class; C. H. BERNERS, Esq., 1st prize in Messrs. Webb & Son's class; all for collections of six dishes.

NON-COMPETITIVE EXHIBITS

were contributed by Mr. R. C. NOTCUTT, Ipswich and Woodbridge; Messrs. E. ABBOTT & SONS, Ardleigh, Essex; THOMPSON & MORGAN, Ipswich; JOHN K. KING & SONS, Coggeshall; WALLACE & CO., Colchester; FRED SMITH & CO., Ipswich; Mr. C. H. BUCK, Ipswich; and Mr. AMOS PERRY, Winchmore Hill, London. Mr. PERRY exhibited a plant of *Stokesia carynea* alba, which was awarded a Certificate of Merit.

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending July 1.

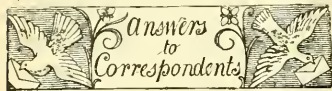
The warmest week as yet this year.—The past week proved, on the whole, very warm. On five days the highest reading in the thermometer screen rose to, or exceeded, 77°. The nights, on the other hand, were as a rule only moderately warm, and on one night the exposed thermometer fell to within 5° of the freezing point. On one day the heat during the sun was very great, the highest reading of the bright bulb thermometer in vacuo being 96°, while the black bulb thermometer in vacuo registered 140°. Both thermometers are mounted 4 feet above the lawn. These readings are very high even for a summer month. The ground has become lately much warmer, and is now warmer than 2 feet deep, and 8" warmer at 1 foot deep than is reasonable. No rain has now fallen for a fortnight. There has been no percolation at all through the gauge on which short grass is growing for over three weeks, but a few drops still come each day through the bare soil gauge. The sun shone on an average for nearly 100 hours a day, or for four hours a day longer than is usual at this season. On the brightest day of the week the record amounted to 134 hours. Light airs from some northerly point of the compass exclusively prevailed. The mean amount of moisture in the air at 3 o'clock in the afternoon fell short of a seasonal quantity for that hour by 9 per cent. E. M., *Beckhamstead, July 1, 1908.*

SCHEDULES RECEIVED.

Cambridgeshire Horticultural Society's summer show, to be held on Thursday, July 9, in St. John's College Grounds, Cambridge, and autumn show on November 11 and 12 in the Corn Exchange. Hon. Sec., Mr. Arthur Matthews, 20, Trinity Street, Cambridge.

Hereford and West of England Rose Society's forty-second annual exhibition, to be held at the City Hall, Hereford, on Wednesday, July 16, 1908. Hon. Secretary, Mr. F. A. Speer, The Burcott, Hereford.

THE HONEY GRUB.—Will any reader who has successfully combated the grub, so injurious to Hollies when making their new growth, give information as to the method employed? The pest is especially disgusting trees here this year. In the case of small Hollies; something may be done by hand picking the grubs, but this cannot be done in time to prevent the disfigurement, as the pests are so tightly rolled in the young leaves as to need more force to unroll them than the leaves will bear. Also, we have crushed as many as possible while in the larvæ stage, concealed between the tissues of the previous year's leaves, but the results of these precautions amount to very little in a season like this, and the work is impossible in the case of big specimens, of which there are many here. What is needed appears to be something in the way of a spray insecticide, together with instructions as to when it is best applied. Apparently egg-laying goes on during the greater part of the growing season, so that it would be necessary to persist in any remedy at short intervals throughout the summer. I am told that in certain districts this grub is unknown. Any information will be gratefully received. T.



ABNORMAL FLOWERS OF DIGITALIS. *F. C. E.* The flowers you send have become regular and present an instance of the condition known to botanists as peloria. This abnormality is common to plants of the Foxglove family, and is probably due to reversion. We often receive flowers similar to those you send.

APPLE BLOSSOM FALLING. *T. C.* This may be due to a variety of causes; it may follow as the result of imperfect fertilisation, injury by frost, constitutional weakness in the tree, &c.

ASTERS DISEASED. *A. J. & C. Bres.* The disease affecting your Asters is not understood, and no remedy is known. It is not caused by a fungus.

CORRECTION.—On p. 415 for *Spiraea primifolia* read *Spiraea prunifolia*.

CUCUMBER SPOT DISEASE. *E. P. Clevedon.* There are several preparations on the market for combating this disease; you can obtain particulars of them from the horticultural sundriesmen. Have you tried spraying the plants with potassium sulphide?

FIGS DISEASED. *G. H. B. & Anzous.* The disease is caused by a fungus (*Botrytis cinerea*). The pest is only able to exist in the presence of imperfect ventilation. From this cause there is too much contrast between the night and day temperature, and, as a result, moisture condenses at the end of the fruits and enables the fungus to gain a footing.

GRAPES DISEASED. *H. Alnbank.* The berries are affected with the spot disease (*Gloeosporium*). The diseased berries should be removed and burned as speedily as possible. The vines should be dusted with flowers of sulphur at intervals of ten days. On the second application put a little quicklime with the sulphur and increase the quantity of lime each time, but never have a greater amount of lime than sulphur. Next winter wash the vines with sulphate of iron in solution.

INSECTS ON CERASUS PADUS. *H. H. C.* The caterpillars attacking your trees of *Cerasus Padus* are those of a small moth—*Hypomeuta padi*—which belongs to the same genus and very much resembles the small ermine moth *H. padellus*. The best method of destroying them is to remove the nests, holding a cloth or something similar under the trees to catch any of the inmates which may fall out during the operation. Syringing the nests with a strong solution of paraffin should prove useful in destroying the pest, if sufficient force can be used to break the webs. Spraying the leaves with arsenate of lead wash or with Paris green (poison) will destroy the caterpillars.

LILACS ON THEIR OWN ROOTS. *Correspondent.* The plants are readily propagated from suckers, which spring in plenty from the roots. If you find a difficulty in obtaining sufficient suckers for your needs, layer some of the shoots nearest to the ground.

MAGGOTS AT THE ROOTS OF CABBAGES, &c. *C. W.* These are the larvae of one of the Cabbage-root flies, probably *Anthomyia radicum*, which is the commonest of the three known species. Dig up and destroy the infested plants. Give the land a dressing of gas-lime in the autumn; and change the crop. For cabbage and onion crops use artificial manure in the place of stable manure. Keep the soil firm and close over the roots of the plants, and in dry weather supply them with plenty of water, to which a little liquid from stable manure may be added. Stable manure often encourages the presence of these maggots, for they feed upon it, or any other kind of decaying vegetable matter.

MILDEW ON STRAWBERRIES. *W. H. Y.* Ventilate the house more freely, but at the same time guard the plants from direct cold draughts of air.

NAMES OF PLANTS: *J. W.* *Phacelia tanacetifolia*.—*C. H. P.* *Cerastium tomentosum*.—*Alpine*. 1. *Veronica Tenebrum* var. *dubia*; 2. *Helianthemum vulgare* var.; 3. *Polygonum affine*; 4. *Thymus Serpyllium* var. *polychellus*; 5. *Thymus Serpyllum*; 6. *Helianthemum vulgare* var. — *S. Taylor*. 1 and 2, what miserable specimens! they are too scrappy to identify; probably varieties of *Philadelphus*; 3, *Quercus ilex*; 4, probably *Spiraea Lindleyana*; 5, *Berberis stenophylla*.—*Vitis*. 1. *Clematis Jackmanni* var.; 2. *Sedum rupestre*; 3. *Stachys grandiflora*; 4. *Veronica caucasica*; 5. *Geranium* (too withered to identify the species); 6. *Cistus salicifolius*.—*G. H.* 1. *Phacelia stylota*; 2. *Genista sagittalis*; 3. *Ophrys apifera*.—*T. W. N.* 1, not recognised; 2. *Allium neapolitanum*; 3. *Anthericum Lilago*; 4. *Hesperis matronalis flore pleno*; 5. *Iris sibirica*; 6. *Campanula persicifolia* var. *Eagle*. *Tecoma jasminoides*.—*W. R.* 1. *Chelidonium majus*; 2. *Gillenia trifoliata*; 3. *Laurus nobilis* var. *angustifolius*; 4. *Echeveria* sp.; 5. *Helxine Soleirolii*.—*W. S. & Sons*. 1. *Eurya japonica latifolia variegata*; 2. *Euonymus japonicus latifolius aureus*.—*J. D.* *Eranthemum Andersonii*, figured in *Bot. Mag.*, t. 5771. Native of India.—*A. J. F.* 1. *Dendrobium bicameratum*; 2. *Dendrobium moschatum*; 3. *Cypripedium Chamberlainianum*; 4. *Aerides odoratum*.—*W. R. P.* 1. *Dieffenbachia eburnea*; 2. *Eranthemum atropurpureum*; 3. *Strobilanthes Dyerianus*; 4. *Fittonia argyrea*; 5. *Fittonia l'earlei*; 6. *Pellonia Daveauana*; 7. *Pellonia pulchra*.—*F. F.* *Campanula glomerata*, an old garden species.—*A. H.* *Dendrobium transparens*.—*Cymra*. 2, the grass is probably *Festuca arenaria*, but the specimen is very scrappy and no information is given as to the country or locality in which it was found.

NYMPHEA LEAVES INJURED. *B. L.* The foliage is not diseased, but has been eaten by some aquatic insect. You should empty the fountain and scrub the stonework with a solution of soft soap and paraffin, using one gill of the latter to each gallon of water. Wash the soil from the roots of the plants before they are returned to the water.

PEACH LEAVES WITH HOLES. *Eigob.* The holes are caused by the shot-hole fungus (*Cercospora circumscissata*). You should gather and burn all the affected foliage, as the disease spreads quickly, the spores being present on the portions of the leaves which have dropped out. Mr. Geo. Masee, in his book of *Plant Diseases*, recommends spraying with ammoniacal solution of copper carbonate, the first time when the leaves are expanding and repeating the spraying at intervals. Bordeaux mixture should not be used for spraying Peach or Almond, as the leaves, and even the young shoots are injured by dilute solutions of this insecticide.

PEA FOR NAME. *H. J. P.* The purple-podded Pea, a well-known variety of *Pisum sativum*.

PINUS PARVIFLORA ATTACKED BY FUNGUS. *J. J. & Son.* The fungus present on the shoot you send is *Peterdium pini*, and it will spread to other coniferous trees unless it is checked. If the trees are badly attacked they should be cut down and the diseased portions burned. The second form of the fungus grows on the leaves of various wild kinds of *Senecio* (*Groundsel*), &c., forming powdery orange patches. All weeds of *Compositae* should be destroyed, as the spores from these infect the *Conifers*, and the spores formed on the *Pines* infect the *Groundsel*, &c.

POPLAR LEAVES INJURED. *F. G.* The galls on the leaf stalks of the Poplar are produced by the aphid *Pemphigus bursarius*. This insect rarely occurs in sufficient numbers to cause serious injury to the trees, but in your case they seem to be unusually abundant. We doubt if spraying with quassia or any other form of insecticide would be of any use; collecting and destroying the galls early in the season would materially check their increase.

POTATO MOTH. *C. C. S.* We suspect you refer to the Death's Head Hawk Moth (*Acherontia atropos*). If you will send us a specimen we will endeavour to furnish you with the particulars you require.

POTATOS. *Puzzled One.* We cannot give an opinion in the absence of specimens.

PROLIFEROUS CARNATIONS. *W. A. W.* The blooms you send present the abnormal condition known as proliferation. Owing to some cause, the centre of the flower, instead of remaining arrested in its growth, has lengthened, and in your example is producing another flower. The cause is difficult to determine, but no doubt it is in a large measure due to excess of vigour in the plant.

SEEDING TOMATOES. *C. H. R.* By thinning out the bunches the fruits that remain will receive extra nourishment, and in consequence the seeds will be finer and give better results. Apply the basic slag in the autumn and, in the following spring, as the ground is deficient in lime, some mortar rubble, which will be better than using the more caustic quicklime. The other query involves a legal question. The meter having failed in its purpose, we should think it unreasonable to be required to pay for its hire. The contribution has been placed in the R.G.O.F. box.

SITUATION IN ENGLAND. *S. H. R.* You would probably find considerable difficulty in getting such a situation, but you may easily determine this by advertising. One hundred pounds a year, with the usual allowances of house, &c., would be a liberal wage for the position you describe.

STRAWBERRIES DISEASED. *E. W. & E. C.* The disease is Strawberry-mildew (*Sphaotheca castagnei*). It is too late to adopt any measures to save the present crop, but next spring, when the leaves are expanding, spray them with a solution of sulphide of potassium, one ounce in four gallons of water. Continue the spraying at intervals of ten days until the fruits are half-grown. Take care to spray the under surface of the leaves.

SWEET PEAS. *W. J. C.* Most varieties of Sweet Peas are more or less fragrant.

TOMATOES DISEASED. *A. I.* Your plants are affected with the leaf-spot disease. Spray the foliage every third day with a solution of potassium sulphide in the proportion of one ounce to three gallons of water. Destroy by burning the worst of the affected plants. When using the potassium sulphide, remember that this chemical substance turns paint black. *W. H.* Your fruits are attacked by the black spot disease (*Gladospodium lycopersici*). You will find an illustration of this disease and remedial measures given in the *Calendar of Garden Operations*, which may be obtained from our publishing department for 7d., which includes the postage. We extract the following:—"The spores of the fungus are supposed to gain entrance to the fruit through minute cracks or punctures in the skin; therefore, the use of green stable manure, and of anything likely to induce cracking in the fruits, should be avoided. Over-watering has this effect. As a preventive, ventilate freely, exercise vigilance, and spray the plants at frequent intervals with potassium sulphide prepared as follows: Dissolve one ounce of potassium sulphide (liver of sulphur) in a quart of hot water; then make up to two and a half gallons with cold water. Feed the plants with manure water."

TOMATO STAINS ON THE HANDS. *H. R.* Try the effect of methylated spirit, as chlorophyll, the green colouring matter of plants, is soluble in spirits of wine or methylated spirit. If this fails, place a small quantity of hydrochloric acid (spirits of salts) in the water in which the hands are washed, but be careful to use this very strong fluid with caution.

TREE CAUSING DAMAGE TO WALL. *G. K. Y.* From your account there seems to be no doubt but that you are responsible for the damage caused by the tree in falling on your neighbour's wall. As it involves a legal question, your best plan will be to consult a solicitor.

COMMUNICATIONS RECEIVED.—*H. R.*—*T. H.*—*P. T.*—*G. J. L.*—*Dickens & Co.*—*R. J.*—*G. Stevens* (Thanks for two shillings for R.G.O. Fund).—*F. H.*—*M.*—*W. E.*—*G.*—*W. J. M.*—*P. H.*—*H. R.* (Shall be pleased to receive short notes).—*P. M.*—*T. C.*—*L.*—*A. D.*—*P. A.*—*F. J.*—*J. S.*—*W. F.*—*C.*—*G.*—*C.*—*S.*—*E.*—*M.*—*M.*—*W. H.*—*Canada*—*S. A.*—*Canon E.*—*T. F.*—*D.*—*I.*—*T. H.*—*S. W.*—*F. G.*—*E.*—*D.*—*T. W.*—*H. J.*—*C. A.*—*F. H.*—*D.*—*D.*—*S.*—*J.*—*K.*—*M.*—*H.*—*A.*—*D.*—*F.*—*H.*—*P.*—*P.*—*Bros.*—*W. T.*—*R. W.*—*B.*—*T. O.*—*A.*—*B.*—*H.*



Photograph by E. T. Lamb.

CATALPA BIGNONIOIDES FLOWERING IN THE GARDENS AT WESTONHIRT, THE RESIDENCE OF

LT.-COL. HOLFORD, C.V.O., C.I.E.

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THE

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MIDSUMMER DAY IN THE
WISLEY GARDEN.

TWO years ago I tried to describe the spring glory of the garden. But the bright procession of the year moves rapidly—"Ver proterit Æstas"—the fresh youth of proud-pied April pales before the sumptuous maturity of June; and the visitor on Midsummer Day finds his earlier favourites supplanted by a more opulent, if not lovelier, flora.

Fortunate is the stranger whose walk round the garden is enlivened by the horticultural enthusiasm and practical knowledge of its superintendent, Mr. Wright. On the lovely afternoon of June 24 this great advantage was ours, and we were joined by an accomplished amateur whose unpretending garden carries off annually a majority of the prizes offered at a local flower show. We entered between wide borders, barren two years ago, filled now with Roses as yet of no great stature, but full of splendid bloom.

Among the finest over which we lingered were Mme. Abel Chatenay, Mrs. W. J. Grant, La Tosca, Lady Roberts, Mme. Vermorel, Souvenir de S. A. Prince, Edith Gifford, Mme. Capucine, with its exquisite yellow buds shaded by metallic-red, Bessie Brown, Lady Waterlow, and Caroline Testout.

We entered the herbaceous ground under a canopy of flowering shrubs, which, as we looked back from time to time, formed walls of harmonious colouring. Spiræa aruncus tossed its white foam everywhere; one grand bush, in contradiction to its water-loving habit, anchored on a dry rock, sucking moisture somehow out of unseen crevices and fissures. There were masses of Rubus odoratus, the blooms pink in the sun, in the shade a red almost deepening to native Canadian purple, mixed with the white variety distinguished formerly as Nuktanus. Next came Viburnum plicatum, succeeding and emulating its spring sister, the native Guelder Rose, and our guide told us that no plant drapes a north wall so successfully. Philadelphus, scented or scentless, dropped its fugacious petals on our heads; adjoining them are Lupins, white and yellow, with Spartium junceum, the mistranslated "Juniper tree" of our Bibles, under which the cove prophet, flying from the face of angry Jezabel, lay down to sleep. The ponds have only just ceased to show the Hawthorn Water Lily, Apogoneton distachyon, which on our former visit filled half the garden with scent; that is replaced by M. Marliac's beautiful pink Nymphaea ignea, with pale olive-green, rose-edged sepals, imbricated crimson petals growing in a whorl around stamens of a vivid orange-red, mingled with the large white Water Lily N. Gladstoniana. One pool shows the small round floating leaves of the fringed Buck-bean, Villarsia nymphaoides, under which a colony of Canadian bull-frogs have made their home, the amorous males from time to time uttering their raucous love-note, met by their responsive mates with croakings even less melodious; the yellow blooms, not yet showing, will, in a month's time, we are told, cover the surface of the water. The ponds are bordered on the higher side by Irises of every hue, some of great size, varieties raised by seed from I. Kämpferi. The steep further banks are hidden by the vast leaves of Gunnera manicata.

We pass from the waterside into the shade of trees. A rift in the ground, moistened by a slender stream, has the choicest hardy Ferns, which indeed range all around, from tall Osmonda to the dwarf Lonicitris. In a wet corner flourishes in unusual dimensions Primula japonica, its tall flower-stems covered with green berries. A Japanese gentleman who admired it here in flower was puzzled in this and other cases by the specific name, declaring that none of the plants so called were familiar to him at home. Here under the trees are established shade-loving plants. We notice Chrysogonum virginianum, whose flowers make an autumn show, springing from the axils of the leaves; the splendid Gentian, G. asclepiadea; Meconopsis Wallichii, a

triumph of horticultural love and care, growing already 5 feet high, its pale blue blossoms not yet open, but the characteristic bright bronze hairs already covering the stem; and near it the azure flowers of the Chinese M. racemosa. In a more open spot is a fine collection of Cyripediums; alone of our common English Orchids, O. maculata is everywhere seen. We walk between tall hedges of Camellia, which freely flower in their season; one Rhododendron, Duchess of Connaught, is showy still; a bed of seedlings from the Himalayas promise future splendour; Azalea occidentalis is full of bloom and fragrance. We note the beautiful ericaceous Zenobia speciosa, with white wax-like flowers closely resembling Lilies of the Valley, and the allied Pieris floribunda and mariana. We knew them formerly as Andromedas. One plant, A. polifolia, still happily commemorates the delicate fancy of Linnaeus. Hard by towers the grand Phormium tenax, 2 feet higher than we saw it here before. Mr. Wright tears a slender fibre from one of its leaves, and challenges our amateur—a powerful man—to break it. He fails, as Samson might have done; it is used in Egypt as a tow-rope for boats on the Nile. The pretty lemon-coloured flowers are not at present showing.

Of the garden trees three especially arrested us: Prunus Pissardi, with cherry-like fruits shining amid its rich brown foliage; Cut-leaved Alder, Alnus laciniata imperialis, uncommon in this country (a noble specimen grows in New College Gardens, Oxford); and Sciadopitys verticillata, pronounced to be the Umbrella Pine—a splendidly-grown Conifer, with scant resemblance to an umbrella, and certainly not the tree shown under that name to travellers on the Riviera. But the commoner trees have charms, for on them are disposed nesting-boxes, procreant cradles for fowls of the air, protected here no less reverently than Lilies of the field. We peeped into one from which a wryneck had just taken temporary flight, and saw six white eggs lying naked on the bottom; for the wryneck, building in mouldering tree-holes, does not need to line its nest with leaves or moss. The birds are absolutely tame; the sitting hen, of the thrush kind especially, will allow its head to be stroked by a human hand.

The rockery, thinly clad in 1906, hides its projecting stones to-day amid foliage and flowers. We paused to admire Digitalis ambigua, yellow and more stately than the better-known D. lutea; a remarkable Dianthus cross with a Sweet William and a Pink, known as Lady Douglas; the Australian Olearia or Daisy tree, valuable as a covering to dry banks, and the little known but easily reared Pentstemon atrorhynchum, with flowers of china-blue. Our conductor reserves to the last the most gorgeous of his shows—a bed of 500 Peony varieties not yet gone by, and a greenhouse filled with Cannas which bid the rash gazer wipe his eye. With grateful hearts and well-stored memories we pass out through the gate of Paradise, murmuring to ourselves Tom Moore's forgotten lines:—

"And oh! if there be an Elysium on earth,
It is this! it is this!"

—Corycius Senex.

NURSERY NOTES.

MESSRS. V. N. GAUNTLETT & CO.,
CHIDDINGFOLD, SURREY.

ABOUT two and a half years ago, Messrs. Gauntlett moved from their Redruth Nursery in Cornwall to Chiddingfold. They found Redruth much exposed to winds, and the soil there was poor in quality, so they looked about for a fresh site. They eventually settled on Chiddingfold, where the soil is a very heavy loam, with a subsoil of sandy clay, which retains moisture well, the top loam being very deep, in some places fully 5 feet. When they took possession, the ground was covered with heavy brushwood, but this was grubbed, and the soil double-trenched to a depth of 2 feet. The expense entailed in this operation was well repaid, for the plants flourished in the soil, even in seasons of exceptional drought. Soon after moving from Cornwall a period of 16 rainless weeks was experienced, but few plants succumbed, even after the long journey from Cornwall. The nursery is situated in a gentle hollow surrounded by well-wooded hills, and, along its lower limits, it is bounded by a stream, by the sides of which are planted Bamboos and other moisture-loving plants. Bamboos, of which the stock consists of more than 10,000 specimens, flourish as well as they do in Cornwall. *Arundinaria palmata* is represented by fully 1,000 plants. Twelve plants of this species that were planted out from 6-inch pots now form a clump 30 feet through. Of the Japanese Cherries, fully 10,000 are grown, and of *Pyrus Malus floribunda* Messrs. Gauntlett have sold 5,000 in one year. There is a fine collection of *Acers*, among these being *A. pseudo-platanus* brilliantissima, having leaves, when expanding, of a bright pink colour. *A. atropurpureum* variegatum, *A. colchicum rubrum* (with young leaves of a rich purple), *A. Leopoldii* variegatum (with handsome white and green foliage), and *A. Golden King* (with bright yellow leaves, which do not burn in the sun). At the time of my visit large masses of tree *Pæonies* were in full flower, and the herbaceous *Pæonies* were in the best of health. Many plants that are associated with Cornwall succeed also at Chiddingfold. *Gunnera manicata* has made splendid growth, and has already leaves 7 feet in diameter. *Phormiums* are doing well, and there is a walk edged with good specimens of *Palms*, and many species of *Yucca*. Some plant houses and frames are constructed of narrow strips of wood, with interstices of the same width as the laths between. These structures tend to mitigate the effect of frost, and in the summer they provide welcome shade and shelter from the sun's rays. In one of these houses tree Ferns and *Palms* were looking well. Two specimens of *Dicksonia antarctica* are, indeed, grown permanently in the open, their leaves being cut off in the autumn and their trunks wrapped in bracken. These never fail to push forth strong leaves in the spring. In one of the lath frames *Himalayan Rhododendrons* were growing vigorously, and in another *Vitis Henryana*, with most of the new vines. In the propagating house, which is fitted with eight rows of hot-water pipes, were *Mutisia decurrens*, *M. Clematis*, *Berberidopsis corallina*, *Aciphylla* *Lyallii*, *Lomatia ferruginea*, *Solanum aviculare*, *Plagianthus grandiflora* (with larger flowers than *P. Lyallii*), *Buddleia Colvillei*, *Tricuspidaria dependens*, *T. lanceolata*, *Vitis Thunbergii*, *Rhaphithamnus cyanocarpus*, the pretty, pale yellow *Rosa Hugonis*, *Distylium racemosum*, the Silver Tree (*Leucadendron argenteum*), *Gordonia lasiantha*, *Maytenus illiciifolia*, *Eleocharis sphaerophyllum* (which was sent out as *Guevina Avellana*), and a batch of young plants of *Pinus Montezumae*. In a cool house were growing *Bauera rubioides*, a shrub that would probably be hardy in Cornwall, with small pink flowers;

Cistus immaculatus, pure white, which appeared to be the white type of *C. Iadaniferus*, which is almost unknown in England; *Stranvaesia glaucescens*, with white flowers; the new *Viburnum rhytidophyllum*; *Akebia lobata*, quite distinct from the better-known *A. quinata*; the yellow-flowered *Genista germanica*, *G. monspesulanus*, *G. Hildebrandtii*, the yellow-blooming *Hermannia candelans* from Australia; *Viburnum hydrangeoides*, *Citharexylum quadrangularis*, *Carpenteria californica*, *Erica arceuthobium*, yellow; *Chionanthus retusus*, *Azalea Scillopembachii*, *A. Tebotan*, a number of small plants of *Embothrium coccineum*; *Himalayan Rhododendrons*, and *Pittosporums*. The rare *Olearia insignis*, *Edwardsia* (*Sophora*) *microphylla*, and a fine batch of the beautiful *Veronica Hulseana* were also noticed. A newly-constructed tank contained *Water Lilies* in tubs. In another lath frame were *Fabiana imbricata*, *Rubus australis*, and *Arbutus canariensis*. *Iris Kämpferi* is grown in large quantities, the stock last year numbering 30,000 plants, of which rather less than half that number were sold, leaving 16,000 this year. The many varieties of *I. sibirica*, including the beautiful *Snow Queen*, were also present in quantity. All the known species and varieties of *Spiraeas* and *Astilbes* are grown, and there is a large group of *Cortaderia* (*Arundo*) *conspicua*. In the damp ground by the stream are planted *Polygonum*, *Gaultheria Shallon*, *Primula sikkimensis*, *P. japonica*, and *P. rosea*. Among the hardier *Rhododendrons* a fine group of the lovely *Pink Pearl* was inspected. *Roses* grow luxuriantly. *Wichuraiana* varieties developing in one season grows 15 feet in length. Of *Weigela* (*syn. Diervilla*), *W. argentea-variegata*, with white, margined foliage, *W. Conquete*, with very large rose-coloured flowers; *W. Eva Rathke*, marooned, and *W. Mont Blanc*, the best white variety, were pointed out. Of the *Laburnums* the most noteworthy was that known as *Vossii*, with very long flower trusses, which are said sometimes to attain to a length of two feet. Several varieties of *Pyrus japonica* are grown, amongst which were *Aurora*, with large, salmon-pink flowers; *cardinalis*, rose; *coccinea*, scarlet; *navalis*, white; *Sargentii*, a dwarf variety from Japan, with bright red blossoms, and *superba*, a form with trailing habit and bearing large, waxy, scarlet blooms. Of *Magnolias* there were seen *M. glauca*, *M. hypoleuca*, *M. Kobus*, *M. Lennel*, *M. Osaka*, *M. parviflora*, *M. stellata*, *M. Soulangiana*, *M. S. nigra*, *M. tripetala*, *M. Campbellii*, *M. Watsonii*, *M. grandiflora*, and one labelled *M. compressa*, with small, evergreen foliage. Among other noteworthy plants, either in the open or under cover, were *Aralia Maximowiczii*, 8 feet in height; the New Zealand *Aristolida racemosa*; *Azalea Anthony Koster*, *A. Omurasaki*, *Andromeda arborea*, *Ceanothus rigidus*, which survived the winter in the open, as did some of the *Eucalypti*, *Cornus florida rubra*, *C. Kousa*, *C. Nuttallii*, *Corylopsis pauciflora*, the new *Davidia involucreata*, *Desfontainia spinosa*, *Casalpinia Gilliesii*, *Exochorda Albertii* *macrantha*, with larger flowers than the type; the new Chinese *Hamelis mollis*; *Hoheria populnea*, from New Zealand; the recently-introduced *Loniceria tragophylla*; *L. tatarica*, *Adenocarpus anagyris*, the lovely *Anopterus glandulosa*, *Camellia reticulata*, the rare *Crossosoma californica*; *Daphniphyllum glaucescens*, *Drimys aromatica*, *D. Winteri*, *Eleocarpus reticulatus*, the beautiful *Eucryphia pinnatifolia*, and the rarer *S. cordifolia*, *Feijoa Sellowiana*, a handsome flowering evergreen; *Fremontia californica*, *Grevilleas* of several species, *Halimodendron argenteum*, the Japanese *Idesia polycarpa*, *Illicium anisatum* and *I. floridanum*, the South African *Leonotis Leonurus*, *Loropetalum chinense*, the brilliant *Mitrasia coccinea*, the Australian *Myoporum laetum*, whose leaves are covered with innumerable transparent spots; *Neviusia alabamensis*, the Alabama snow-wreath; *Notospartium Carmichaeliae*, the

New Zealand pink Broom; *Osteomeles anthyllifolia*, *Philæa buxifolia*, *Pieris formosa*, *Rodgersia æsculifolia*, *Semele androgyna*, *Sencio chlorum*, *S. Wilsonii*, the new *Spiraea Aitchisonii*, *Viburnum Awafukii*, the rare *V. Sieboldii*, and *Xanthoceras sorbifolia*. The nursery is an extremely interesting one, and is within easy reach of London. *S. W. Fitzherbert*.

NOTES FROM A "FRENCH" GARDEN.

WE are now cutting Melon fruits from plants that were put out at the end of March. The weather was very trying in April, but we were able to preserve the plants in health by keeping the conditions about them very dry. There is not a stage in the growth of Melons when the cultivator can afford to relax the attention given to them. Now at the period of maturity he must carefully watch the plants, especially during the hot and sunny weather prevailing, and gather each fruit when it is sufficiently ripe. This is indicated when the base of the stalk is marked by a white line, and if the fruit were not gathered then the stalk would part from the fruit, which would thus lose in appearance. As soon as Melons are cut they are removed to a cellar, where they remain for two or three hours in order to get cool before being sent to market. The fruits are at their best on the following day. At the present time all the Melon plants require an abundant supply of water, with plenty of ventilation, and the plants are greatly benefited if the lights are left partially open at night. The first batch of Cauliflowers is exhausted, the second batch planted between the first lot of *Cos Lettuces*, the third batch planted amongst the *Passion Lettuces* in April, and the fourth batch, which was planted in the open ground, are all growing freely, and it is necessary to water them very frequently. We are now planting Cauliflowers among the first batch of Melons, putting four plants under each light. These Cauliflowers are planted two months after the setting of the Melons, excepting that it is not advisable to plant before the end of June, as it is not practicable before that date to apply the necessary amount of ventilation for the well-being of the Cauliflowers.

The beds which were occupied by the Carrots and Cauliflowers have been prepared for Endive and Celery. The beds were previously cleaned by hand. All the paths, Nos. 3, 5, 7, 9, 11, &c., are dug out and the soil and manure taken from them are thrown on the beds on either side. The beds are then dug in the usual way, the empty paths being made level with the soil from the beds. The beds are next trodden as evenly as possible, and mulched with well-broken manure. If Spinach and Radishes are required as catch crops they are sown when the beds have been trodden. The next work is to drill the beds. We set the line against the outside path from one end of the bed to the other. The workman, wearing a pair of clogs, passes along the line, his left foot against it; dragging both legs he drills two rows at a time, 18 inches apart. The second journey he used the second drill for a guide and so on, using the line only for the first row. The beds are watered once or twice as required before the planting of the Endive and Celery. When planting we stand on a board which is set across the bed. We plant the second, fourth, sixth, eighth, and tenth rows 9 inches from the board, the odd rows being set against the board without using a line. The plants always appear straight from whatever direction they are seen. If a considerable quantity of Endive be required, this is the time to sow the last batch; also a batch of Batavian Green, to be planted out in the field in August. *P. Aquatias, Mayland, Essex, June 29.*

CLIANTHUS PUNICEUS ALBUS.

THE *Clianthus* is generally regarded as a greenhouse climber in this country, but in favoured districts like the south-west of England the plant will flourish well in the open, the only protection necessary being a warm wall. The plant illustrated at fig. 8 is growing in such a situation and represents the albino form, which is a pleasing addition to the scarlet-flowered type. The name *Clianthus* means glory flower, in allusion to the beautiful colour and form of the blooms; it is popularly known as the Glory Pea. Cuttings root readily in sand, provided they are started with a gentle bottom

by Christmas Day, and from that time onward blossoms are borne in ever-increasing numbers, which reach their greatest profusion in May. Specimens of the scarlet *Clianthus* grown in bush form do well in the south-west, and flower with freedom. It is, however, certainly seen at its best on a wall, as it presents a larger expanse of colour than when grown as a shrub. Very large specimens are to be seen in the south-west, one having covered the side of a house to the eaves, a height of over 20 feet. In addition to Glory Flower, the plant is sometimes known by the names of Lobster Claw and Parrot's-bill, from the curious shape of its flowers. The white variety is not of a pure

has hardly been injured. Here, as soon as the flowers are faded they are all cut off, as otherwise thousands of seed-pods would be formed, and this would inevitably greatly weaken the plants. After the removal of the flowers the plants are heavily syringed every evening, this being continued through the entire growing season. The eaves projecting over the plants prevent the rain from falling on them, and if they were not syringed the foliage would soon suffer. When they become dry they are attacked by myriads of green fly, which so weaken them that but little new growth is made, but with copious syringing every evening these pests never make their appearance. When the growth is completed, the new shoots are laid in behind the vines, so that the wall is entirely covered with foliage and no glimpse of stone is to be seen. S. W. Fitcherbert.

MULCHING.

PEAS and Beans will be considerably benefited by having a mulching 4 inches thick of half-decayed manure as a means of conserving the moisture at the roots, as well as stimulating the growth. The mulching should be put on as soon as the rows of Peas and Beans are earthed up, and the former staked, after which, in the event of the weather being dry at the time, a good watering should be given. Fruit trees, such as Peaches, Cherries, Apricots, Plums, Figs, &c., planted at the foot of and trained up against walls having south, west, and east aspects, will also yield better results by having a layer of a few inches of manure placed on the surface of the soil immediately over the roots, 4 or 5 feet from the base of the individual trees, the soil having been previously slightly loosened on the top with a digging fork. Subsequent waterings will wash the substance of the manure down to the roots, to the advantage of the trees, and will help to develop heavier crops of finer fruits than would otherwise be obtained. Beds of Pelargoniums, Calceolarias, Stocks, and Asters may, by the application of a surface-dressing of short manure or leaf-soil, be furnished in a little more than half the time the plants would otherwise require to cover the surface of the beds with flowering shoots. A good mulching of short manure laid on between rows of Raspberries will also be productive of the most satisfactory results; more especially is this the case during a dry, hot season. H. W. W.

NOTES FROM LA MORTOLA.**SHRUBBY AND SOFT-WOODED COMPOSITE.**

LARGE shrubby, and soft-wooded Composite, such as Montanoas, form an important feature in our southern gardens. It is only in such places that they can be seen to full advantage. In houses they soon look shabby, and in many instances are not worth the space they occupy. Here with us it is quite different. We always welcome new shrubby Composite. The *Montanoa mollissima* (Brong.) was figured in *Botanical Magazine*, t. 8143, from a plant which came from this garden. *Montanoa pyramidata* (C. Koch) is exceedingly effective in December, when the Imperial Dahlia (*D. imperialis*) is over, a plant which of course cannot be surpassed for majestic beauty.

Another such shrub which flowers from November to January, but by no means as pretty as the plants just mentioned, is *Montanoa tomentosa* (Lallave), of which the form *cordifolia* (D.C., V., 664) has been distributed from the Villa Thuret through Prof. Poirault. It is a shrub about 2 metres high, about the size of *M. mollissima*. It has cordate and coarsely dentate leaves. The flower-heads stand in great axillary clusters at the top of the branches, the individual flower-head being but small, with five white ray florets. Nevertheless the plant as a



[Photograph by S. Wynham Fitcherbert.]

FIG. 8.—THE WHITE FLOWERED VARIETY OF *CLIANTHUS PUNICEUS*.

beat. The plants grow vigorously when established, and are suitable for covering the roof rafters of walls of the greenhouse or conservatory.

The white variety was introduced into commerce a few years ago, and is now to be met with in many gardens. The type was introduced into this country more than 70 years ago, and is common in Devon and Cornwall, where it makes a grand show in May, walls on which it is grown being a sheet of scarlet at that time. A few flowers of the type may generally be cut

snow-white, but is tinged with faint green, and where only one can be grown the scarlet type is to be preferred, as it is far more striking in appearance. However, when the two are grown on the same wall, as they are here, they make a pleasing contrast. The type is about 18 feet in height, and the white form, which has not been in many years, 7 feet, and both flower with equal freedom. The *Clianthus* may be considered perfectly hardy in Devon and Cornwall, for even in the last two winters, which have been unusually severe for that district, it

whole is a very pleasant sight whilst in flower. It is also a native of Mexico. It grows easily from cuttings, and deserves a place in every garden in the south, where winter-flowering plants are ever welcomed. Another Montanoa, in habit, somewhat intermediate between *M. mollissima* and *M. pyramidata*, flowered last January for the first time. I owe it to the kindness of the well-known Dr. Carl Werkle, in Costa Rica, who sent me seeds of this and of many other interesting plants from his rich country. This plant has not yet been determined. It has proved a quite hardy and decorative addition to our garden flora. I shall publish a full description of it later on. To the same gentleman I also owe the introduction of a plant, which was determined at Dahlem by Prof. Höffmann, the well-known authority on Compositae, as *Verbesina diversifolia* (D.C., V., 615). It is a large evergreen bush, about 3 metres high and nearly as broad. Its leaves are alternate along the stem. They measure, inclusive of the broad-winged petiole, about 40 centimetres, and are bipinnatifid and hispid. The wings of the petiole are decurrent along the stem. The flower-heads are small, not unlike some *Achillea*, but united in great quantities on long peduncles in broad and flat cymes of a pure white. The flowers appear just at Christmas, and last till February, and as the plant is of striking beauty it is well worth planting freely. Even when without flowers it forms an interesting object. I hope to be able later on to distribute cuttings and seeds of this new shrub among our correspondents. Unfortunately I have no opportunity to compare my plant with herbarium specimens of this species, which, according to de Candolle, is a native of Bahia, whilst my plant is a native of Costa Rica. Its native name is Toona. Perhaps it may finally prove to be a new species. In habit it somewhat resembles the figure 162 of *Verbesina pinnatifida* (Lav.) in Nicholson's *Dictionary of Gardening*. This, however, has opposite leaves and pale yellow ray flowers.

Another Mexican Composite of a similar habit to those already mentioned was received a few years ago from Dr. F. Franceschi from Santa Barbara, namely, *Titonia diversifolia* (A. Gray) or *Mirasolia diversifolia* (Hemsley). It forms a broad and roundish plant with spreading, robust branches and alternate leaves, somewhat resembling a *Helianthus*. The flower-heads are borne, about three in number, on short and thickened peduncles at the end of the branches. The individual flower-head is rather large, with rich golden-yellow ray florets, measuring about 9 to 10 centimetres across. It cannot be called a very attractive plant in spite of the beauty of the flower-heads on account of its rather unpleasant habit, although it is a very interesting thing and worthy to be grown here, especially as it flowers in the middle of winter, at the beginning of January. *Atwin Berger, La Mortola, Italy.*

ORCHID NOTES AND GLEANINGS.

SOBRALIA MACRANTHA ALBA.

A FINE specimen of this Orchid, bearing many large pure white blooms on the highest points of their tall reed-like stems, is in flower in the gardens of J. S. Bergheim, Esq., Belsize Court, Hampstead (gr. Mr. H. A. Page). The purity of its snow-white flowers contrast well with the deep rose-purple colour of the specimens of the typical variety which are arranged with it. This is a true albino, in which the colour of the type never appears; whereas, in some, such as *Cattleya Trianae* alba and C. Schröderae alba the plants may bear white blossoms one year and slightly rose-tinted the next. An interesting lot of *Catasetums* are coming into bloom, and many other rare and curious plants are also included in the Belsize Court collection. Fruit trees in pots and in fruit houses, and vineries have cropped heavily this season.

NOTICES OF BOOKS.

* COLOUR IN THE FLOWER GARDEN.

ANOTHER of Miss Gertrude Jekyll's charming books has just been brought out in the Country Life series by Messrs. George Newnes & Co. The book contains many suggestions as to methods of massing and grouping plants to produce striking and beautiful colour effects, a cult which is popular at the present time. We think it will occur to most of her readers that it is a matter of regret that a work which deals so largely with colour and colour effects should be devoid of any but black and white illustrations. Miss Jekyll is so well known as an expert in gardening from an artistic point of view that even those who differ from her in their ideals may well learn something from her book.

† THE NATURE BOOK.

THE first number of *The Nature Book* dealing with Nature study in many branches contains several articles and illustrations of a high order of merit. If one might choose a specially interesting illustration out of the many excellent ones in the book, the photograph of a sedge warbler feeding a young cuckoo commends itself to us as being a wonderful piece of work. Dr. Lockyer's account of the clouds will also form an attraction, as his article contains much that will be quite new to many of his readers. The book, as it is advertised to do, tells how to get a knowledge of the birds and animals of the fields and woods, the insects, the flowers, the trees, and other objects of the country.

PLANT NOTES.

THE BORONIAS.

AMONGST the few hard-wooded plants that are grown in large quantities for decorative purposes are the *Boronias*. There are several other species known, but only two or three are commonly in cultivation.

One of the best is *Boronia megastigma*, a slender-growing plant having delicately fragrant blossoms. The growths need to be stopped freely during the earlier stages of the plant, for this induces a neat bushy habit. The small drooping, bell-shaped flowers are in colour chocolate outside and yellowish within. In some specimens the flowers are unusually deep in colour, and this character is associated with plants of a compact habit of growth, but the deeper coloured flowers are not so fragrant as the paler tinted ones. *Boronia megastigma* is a native of South-west Australia, and was introduced in 1873.

Another species equally as popular as the preceding one, and far more showy when in bloom, is *Boronia heterophylla*, but the flowers lack the fragrance of those of *B. megastigma*. For the introduction of *B. heterophylla* we are indebted to the late Miss North, who sent the seeds to Kew, where the species first flowered in 1886. The plant is of rather upright growth, and when at its best condition every twig is densely packed with bright rosy-carmine bell-shaped blossoms. It is very necessary to shade the plants during the flowering period, otherwise the direct sunshine will cause the flowers to quickly fade.

A more vigorous grower than the two above-named is *Boronia elatior*, the shoots of which are freely clothed with rich green pinnate leaves. The partially drooping blossoms are urn-shaped and bright rosy-red in colour. It is largely cultivated in nurseries, and being later in blooming than either of the two described above, it forms a suitable subject for flowering in succession to them.

Another species now rarely seen, but which in the olden days used (with *Leschenaultia* and

a few similar plants) to be regarded as a good test of the cultivator's skill, is *B. serrulata*. This in general appearance is widely removed from the others. The shoots have a low-spreading habit of growth, and they are clothed with curious trapeziform-shaped leaves, amongst which the bright rose-coloured flowers are produced in considerable numbers. The other species of *Boronias* are rarely seen save in botanic gardens.

GRAFTING ARALIA VEITCHII.

IN the *Gardeners' Chronicle* for June 20, Mr. T. Lunt advises the cutting down of any plants of *Aralia Veitchii* that have become too tall, in order to form effective bushy specimens. To this advice no exception can possibly be taken, yet at the same time it may be as well to point out that the pieces which have been cut off afford a ready means of propagating this *Aralia*. As young plants are always appreciated for table decoration and similar purposes a few additional specimens are sure to be useful. *Aralia Veitchii* is so difficult to strike from cuttings that for practical purposes this mode of increase need not be taken into consideration, but as a set-off it readily unites with the plant so long grown in gardens as *Aralia reticulata*, though I believe its correct name is now regarded as *Meryta Denhamii*. At all events the two must be nearly allied, as a quick and lasting union is the result. *Aralia reticulata* (for as such it is generally known) strikes very readily from cuttings, and the young plants are most useful when established in small pots. For grafting purposes the stem should be from the thickness of a straw to that of a small pencil, and in carrying out the operation the plants, which in most cases are furnished with leaves nearly to the base, may be cut back to a point at about 4 or 5 inches from the pot. If the tops are put in as cuttings they will supply stocks for grafting another year.

The best scions are furnished by the points of the shoots, but where a quantity is needed any plants that have grown too tall may be cut up into single eyes, each eye with its attendant leaf and piece of stem below it, thus forming a separate scion. If these are too stout to fit the stock care must be taken that one side fits exactly. What is known as side or veneer grafting is very suitable for the increase of this *Aralia*. The grafting should be done as low down as possible, and when the scions are tied securely in their places they must be removed to a close propagating case in the stove, and be kept carefully shaded. If so treated no grafting wax is necessary, so that the process of union may be seen. When the union is quite complete and the scions begin to grow, the remaining portion of the stock may be cut away, and the plants gradually inured to the ordinary atmosphere of the stove. They will then soon be ready to shift into larger pots, in the process of which the ball of earth should be sunk somewhat deeper than before in order to cover the point of union. Spring and early summer is the best time for carrying out this operation, but rather than waste the scions it may also be performed later. W.

THE POTENTILLA.

THIS showy and hardy perennial is very useful for furnishing a supply of flowers during the months of May, June, July, and August. It may be readily increased by transplanting or potting divisions of the roots or side shoots in the spring just as growth has commenced. The plant is not particular as to the situation or soil in which it is planted in, but a position fully exposed to the sun and a rich loam are conditions calculated to produce the best possible results. The plants may also be propagated in August from seed sown in shallow boxes filled with light soil, covering the same lightly, giving water through a fine rose and placing the seed pans in a close frame. As soon as these are large enough to handle, prick the young plants

* By Miss Gertrude Jekyll. Published by George Newnes, Ltd., Southampton Street, W.C. Price 12s. 6d. net.
† Published by Cassell & Co., Ltd. Price 7d. net.

out 2 inches apart in boxes or in a warm border preparatory to being finally transplanted into their flowering positions. There are many fine named species and hybrids of the *Potentilla* in cultivation. Among the former may be mentioned the new and scarce *P. atrosanguinea*, which may be regarded as one of the very best and most beautiful of the numerous varieties in cultivation. The flowers are well formed, are of a fine brilliant scarlet colour, and are produced freely during the summer months. *P. cashmeriana alba*, *P. rosea grandiflora*, and *P. involucriata* are also excellent varieties for furnishing a supply of flowers. *H. W. W.*

weeks have reached the size of an egg, affording, in their colour and shape, a charming effect, and remaining on the plant till the end of September. During the period of growth weekly applications are needed of nitrate of soda or other nitrogenous manure. *F. M.*

CULTURAL MEMORANDA.

NERTERA DEPRESSA.

IN order to obtain pretty plants of *Nertera depressa* well furnished with berries, the

months, well ventilated and moderately moist; and in the month of February afford more air and water. From the middle of the month of March till the middle of April place the plants on a warm bed, and quite near to the lights. During the flowering period the plants must be afforded abundant ventilation, applying water in the morning hours, so that the leaves may get dry as soon as possible, and in the application of water avoid wetting the flowers, as the less they are wetted the better they will set their fruits. When *Nerteras* are maintained warm and close during the flowering, the leaves smother the flowers and fruits, and the latter,



[Photograph by A. E. Smith.]

FIG. 9.—ROSE LADY GODIVA, A SPORT FROM DOROTHY PERKINS: COLOUR OF FLOWERS FLESH PINK.
(See p. 31.)

CUCURBITA OVIFERA.

This climbing annual plant is very interesting by reason of the similarity of its fruit to a hen's egg, and very suitable for clothing sunny arbours, verandahs, walls and balconies. The plant, under good cultivation, makes rapid growth, developing male and female blossoms at the beginning of the month of July in Italy, and in this country a few weeks later. The fruits set one day after flowering, and in three

following method of cultivation should be adopted. From the beginning of the month of August till the middle of September old stock plants may be divided, and the divisions potted in very sandy soil in large 60-sized pots, standing these in a garden frame in partial shade, and keeping them in a moist condition. In the winter bring the plants into the greenhouse and place them on a hanging shelf, as near to the glass as possible. Keep them, during the winter

owing to lack of sunlight, fail to colour. The chief points in the culture of the plants at this stage are to afford moisture regularly, plenty of air, and tolerably thick shading when the sun's rays are bright, in which manner the plants will show their fruits well above the leaves of the plant. When a good set of berries is secured, afford shade when the sun is brightest in the middle of the day, and syringe the plants late in the afternoon of hot days. *F.*

FLOWERS OF SPENSER.

(Continued from p. 8.)

CAMPHOR.

Had gathered Rue, and Savine, and the
flower
Of Camphora. *F.Q., III. ii. 49.*

Camphor is obtained from a tree of the Laurel family growing in China, Japan and Corea. It is quite certain that Spenser knew nothing of the tree, or he would not have spoken of the flower as used by the "aged nurse" to revive "the faire damzell," for the drug is not derived from the flower but from the leaves and stems. But the drug was imported into England in the fourteenth century, and perhaps earlier.

CAPRIFOILE.

And Eglantine and Caprifole among.
F.Q., III. vi. 44.

Caprifole is the English form of the Latin *caprifolium*, i.e., the Honeysuckle.

CARNATIONS.

Bring Coronations and Sops in Wine.
Shepherds Calendar, April, 138.

There is no doubt that Spenser's "Coronations" are what we now call Carnations, and his spelling helps us to the true derivation of the name from the use of the flower in garlands (*Corona*). (See also *Gillflowers and Pinks*.)

CEDAR.

1. The Cedar proud and tall. *F.Q., I. i. 8.*
2. No tree, that is of count, in greenwood shape,
From lowest Juniper to Cedar tall.
F.Q., IV. x. 22.
3. Which, like incense of precious Cedar tree,
With halma odours fill'd the ayre farre and nie.
The Virgils of Bellay, XI.
4. High on a hill a goodly Cedar grewe,
Of wondrous length, and streight proportion,
That farre abroad her daintie odours threw;
Amongst all the daughters of proud Libanon,
Her match in beaute was not any one.
Worlds Vanitie, 7.
5. The Phoenix left sweet Arabie;
And, on a Caedar in this coast,
Built up her tombe of spicerie.
An Elegie, 7.

It is very certain that Spenser never saw a living Cedar of Lebanon. It was not introduced into England till seventy years after his death, and he did not travel beyond Great Britain. But travellers from the East had confirmed all that was said in the Bible of the grandeur of the tree, and it was not only the typical example of all that was grandest among trees, but also the accepted emblem of all that was noblest in man. Trevisa (in 1398) described it as "the cedre is most hightre, lady and quene of all tren."

CHERRIES.

Queene Apples, and red Cherries from the tree.
Mutabilitie, 43.

CHEVISAUNCE.

The pretie Pawnee,
And the Chevisaunce,
Shall match with the fayre flowre Delice.
Shepherds Calendar, April, 143.

Spenser uses this word with two or more meanings. In the *F.Q.* (III. xi. 24) he speaks of "a noble chevisaunce," meaning a chivalrous enterprise; in the *Shepherds Calendar* he speaks of a "wrong chevisaunce," meaning an undertaking or business; and in the passage quoted he evidently is speaking of a flower, which it is now impossible to identify. It is mentioned in 1620 by T. Robinson, but he was evidently copying from Spenser

CICUTA.

and Cicuta had,
With which th' unjest Athenians made to dy
Wise Socrates. *F.Q., II. vii. 52.*

Cicuta is the Hemlock, and there seems no reason why Spenser should have used the Latin instead of the English word which was in constant use; he was probably induced to do so because of the connection of the plant with Socrates.

CINNAMON.

The mouldie mosse, which thee accloyeth,
My sinamon smell too much annoyeth.
Shepherds Calendar, February.

The imported aromatic bark of the E. Indian *Cinnamomum Zeylanicum*, imported into England certainly early in the 15th century, and perhaps before that.

COCKLE.

Cockle for corn, and chaffe for barley, bare:
Shepherds Calendar, December, 124.

Cockle is the accepted opposite of good wheat, its greatest enemy when growing and when harvested.

COLEWORTS.

Fat Coleworts. *Muipotmos, XXV.*
The general name for all plants of the Cabbage family.

COLOQUINTIDA.

Cold Coloquintida. *F.Q., II. vii. 52.*

Coloquintid or Colocyth is the fruit of a gourd grown in the South of Europe, and Northern Egypt, and in many other dry, warm regions. It was the proverbial emblem of bitterness, and so Iago speaks of the food that was once luscious becoming "bitter as coloquintida." It was the "wild vine" or "wild gourd" that caused the alarm "There is death in the pot," in *II. Kings, iv. 39*, and so it is translated in the Douay version "the colocythides of the field," and in the Vulgate "*colocythides agri*." It was known in Great Britain in the eleventh century, and perhaps earlier.

COLUMBINE.

Bring hether the Pincke and purple Cullambine.
Shepherds Calendar, April, 135.

The name was applied to more than one flower in and before Spenser's time; but there is no doubt that in this passage he means the beautiful flower which we still so call. It is a true British plant, and is largely distributed throughout the Old World; and it has the peculiarity of bearing the names of two very different birds, the Eagle in *Aquilegia*, and the Dove in *Columbine*.

COLTWOOD.

All which she in an earthen Pot did poure,
And to the brim with Coltwode did it fill.
F.Q., III. ii. 49.

There is no known plant of the name of Coltwode; and it is probable that Spenser took the name from an earlier writer and copied it wrongly. Coltfoot naturally suggests itself, but it is not woody.

COSTMARY.

1. The purple Hyacinthe, and fresh Costmarye. *Virgils Gnat, 84.*
2. Fresh Costmarie, and breathfull Camomill. *Muipotmos, st. 25.*

In both these passages Spenser joins the Costmary with other sweet-scented plants, but what plant he means by the name it is almost impossible to say. The Greek *Kostos* and the Latin *costum* are named but not described by Theophrastus, Horace and Pliny, and it is the rich ointment and not the plant from which it is made that they speak of. The ointment was very early imported into England from the East, and as an oint-

ment Spenser may have known of it, but only as an ointment. The high repute of *Costos* as a drug or spice is shown by its being associated in many European languages with the Blessed Virgin. *Costus* is still imported as a spice, but *Costmary* as a plant-name has long been obsolete.

COWSLIP.

Strew me the groundes with Daffadown-dillies,
And Cowslips, and Kingcups, and loved Lillies.
Shepherds Calendar, April, 140.

The difference between Spenser and Shakespeare in the observation of our native flowers can scarcely be shown better than in their different accounts of the Cowslip. The flower must have been as well known to Spenser as to Shakespeare, yet this is the only place in which Spenser mentions it. Compare with this Shakespeare's description in *Henry V., The Tempest, Cymbeline*, and *A Midsummer Night's Dream*.

CUMMIN.

Ranke-smelling Roe, and Cummin good for eyes.
Muipotmos, st. 24.

Cummin is an annual North African herb, and the seed was imported from there into Europe from very early times. It was known for more than a thousand years, and has always retained its Greek name, which has doubtless been preserved from its Biblical associations. Isaiah, *xviii.*, 27, names the plant and says that "the fitches are beaten out with a staff, and the cummin with a rod," and this is the way the seed is still beaten out in Malta. In Matthew, *xxiii.*, it is named as one of the titheable plants of the Pharisees. The plant resembles fennel, and is largely grown in Morocco and Malta, and the seed is imported into England, chiefly as an ingredient of curry.

CYPRESS.

1. The Aspine good for staves, the Cypress funerall. *F.Q., I. i. 8.*
2. And aged limbs on Cypress stadle stout.
F.Q., I. vi. 14.
3. The great Earthes wombe they open to the sky,
And with sad Cypress sadly it embrace.
F.Q., II. i. 60.
4. There mournful Cypress grew in greatest store.
F.Q., II. vii. 52.
5. And the sweet Cypress, sign of deadly bale.
Virgils Gnat, 27.
6. The Water Nymphs
Now balefull boughs of Cypros doen advance.
Shepherds Calendar, November.
7. Sweet is the Cypress, but his rynd is tough.
Amoretti, Sonnet xxvi.
8. When as my hearse shall happen to your sightes,
Vouchsafe to deck the same with Cypressae.
Daphnida, 488.
9. Instead of gyrlonde, weare sad Cypres now.
Lay of Clorinda, 41.

The Cypress among all writers has been the emblem of all that is sad and "baleful." As specially connected with funerals it was the "*invisa cypressus*" of Horace, and its graceful shape and rich evergreen colour did not make it acceptable to any but the gardeners of formal gardens. Its original home is India, from which it spread by Persia and Western Asia into Europe. There it found a congenial home, especially in the Transalpine parts, and from there it probably came to England, where it was largely grown long before Spenser's time; so that Turner, writing of it in 1548, says: "Cypresses growe in great plentie in My Lorde graces gardine at Syon" near the Thames.

(To be continued.)

THE ROSARY.

NEW WICHURAIANA OR RAMBLER ROSES.

Less than twelve years ago Wichuraiana Roses were little known in gardens, but probably because of their being lately known as

introductions that the evergreen habit is most pronounced. There are at the present time at least 30 distinct varieties which have been introduced during the past six or seven years, and all of which are of vigorous growth and produce flowers varying in colour from pure white to the deepest crimson.

are produced freely in loose sprays of usually four. The flowers, in their bud state, resemble in shape those of the well-known Tea Rose Homer, and are of a rich carmine shade, sometimes almost crimson, changing to a delightful rosy-pink, with the absence of purple, when expanded, and shading to a delicate peach towards the centre. The inner row of petals is slightly flaked with white.

It has proved very hardy and equally as rampant in growth and as free in flowering as Crimson Rambler, which, in habit, it resembles. The foliage is of a deep glossy green, leather-like in substance and almost evergreen. The flowers are very persistent, a valuable feature, especially in Roses overhanging gravel walks, lawns, &c.

Stella is another valuable addition to the Rambler section. In this variety the flowers are single, and are produced in immense trusses of a distinct pyramidal form, arranged in a regular manner and well beyond the foliage. A plant under observation is carrying no fewer than 19 trusses; the largest one contains 114 individual flowers. This large quantity of bloom is produced from a plant of a single stem not more than 5 feet high and grown in an 8-inch pot. The colour of the flower is a pretty shade of reddish-carmine, with an occasional splash of white on one of the petals: these are much enhanced by a conspicuous bunch of golden stamens in the centre.

The novel feature of this new introduction is its unique upright and rigid habit of growth, and its tendency to flower quite low down the shoots. The foliage is of a rich shining green colour, and is practically evergreen. The whole plant is devoid of any coarseness.

Paradise is a charming Wichuraiana Rose of rampant growth. The fragrant single flowers are produced freely in long sprays and in clusters of 20 to 30. In colour they are a delightful soft pink on the outer edge, gradually shading to a beautiful delicate rose towards the centre. They average $2\frac{1}{2}$ inches in diameter, and are very distinct in form. The petals number five, and they have a peculiar curl. This variety embraces all the good qualities of a true Wichuraiana Rose, and when better known should become a general favourite.

Babette is a Wichuraiana Rose of free and sturdy growth: its habit is identical with that of Dorothy Perkins. The flowers are double, about $1\frac{1}{2}$ inch in diameter, and of a very deep rose colour. They have a serious fault in not wholly unfolding their petals, which causes the flowers to have a peculiar huddled or withered appearance.

Delight is a grand acquisition, and a true Wichuraiana Rose of the highest type. The habit is very free in flowering and very rampant in growth. Its charming clusters of large single flowers, which are of a pleasing shade of deep rose, are produced in abundance. The individual flowers average 2 inches in diameter; these are white at their base. The flowers, especially when young, are of considerable beauty. William Mallott.

ROSES THAT MAY BE FORCED TWO AND THREE YEARS IN SUCCESSION.

THERE are several varieties of Roses which, owing to their strong growth and recuperative powers, can be forced with satisfactory results for two and three years. These are Frau Karl Druschki, Mme. Caroline Testout, Capt. Christy, and Baronne de Rothschild. Certainly the blooms are smaller the second year than the first; still they are quite presentable. The plants need, after flowering, a good soil and good cultivation in the open ground in pots plunged to the rim with a rich mulch afforded in the years they are forced. Before the first forcing the shoots should be cut back to from five to eight eyes, and when flowering is past the shoots should be cut back to dormant eyes and the plants repotted. F. M.



[Photograph by A. E. Smith.

FIG. 10.—ROSE WHITE DOROTHY PERKINS.

(See p. 81.)

Evergreen Roses, they have become immensely popular during the last few years. This appellation was perhaps not thought of until extra vigorous growing kinds, such as "Dorothy Perkins," were introduced, and it is in these latest

Amongst the newer introductions, perhaps the most notable is Tausendschön (see Supplementary Illustration). This variety possesses very large semi-double flowers, often 3 inches in diameter when fully expanded. They

The Week's Work.

THE FLOWER GARDEN.

By W. FIFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Roses.—The plants now require daily attention in order to remove the old flowers and to combat insects, mildew and other pests. When mildew attacks Roses out-of-doors in dry weather, such as is being met at the present time, on its first appearance flowers of sulphur should be dusted over the foliage in sufficient quantities to be plainly seen, allowing it to remain upon the plants for at least two days, when it is usually effective in preventing the spread of the fungus, but if by the agencies of wind or rain the sulphur should be removed in a shorter time, it will be necessary to make another application.

Shrubberies.—There is hardly a vacant spot at this season of the year in the pleasure grounds that would not look the better for the presence of a group of Foxgloves, especially if varieties of the improved strains be selected. *Campanula medium* (Canterbury Bell) is very ornamental at the present time in many shades of colour. A good companion for the *Campanula* is the native *Valerian officinalis*, which flowers from June to August and has white flowers, also flowers of many shades of pink. The plant reproduces itself naturally from self-sown seeds from year to year.

***Spiraea arifolia*.**—This plant being intermixed with Delphiniums is very attractive, and, like most of the *Spiraeas* when given the space to properly develop, and a cool, moist, rooting medium, the plant succeeds well. Several other shrubby species of *Spiraea* flower during this month and August.

General work.—Give frequent attention to such operations as mowing, sweeping, rolling, watering, slipping the verges and hedges, pinching, pegging and training of shoots, stirring the surface soil with a hoe, and applying mulches where these are necessary.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LILANGATTECK, The Hendre, Monmouthshire.

Melons.—Plants with fruits that are nearing maturity should be given a little more heat in order to develop the best flavour possible, and a moderately dry and more or less circulating atmosphere should be maintained during the night as well as in the day time. Until the fruits actually commence to ripen, the plants may be sprayed with water and the roots should be liberally supplied with moisture, but afterwards these operations must be discontinued and a drier atmosphere maintained. Plants on which the fruits are now swelling should have their secondary lateral shoots removed as they appear, the roots should be given a good top-dressing with a layer of turfy compost, and be adequately supplied with tepid water enriched with liquid manure, or be top-dressed with a suitable artificial fertiliser of a soluble nature. Syringe the plants freely early in the morning, and again early in the afternoon when the house is closed for the day. Endeavour to maintain an atmospheric temperature throughout the night of 70° by closing the house early, but if this cannot be secured without the aid of artificial heat, it will be better to employ the minimum amount required. Continue to sow seeds for raising plants to fruit in the autumn, according to the demand that is likely to arise. If there are suitable structures for the purpose Melons of good quality may be obtained even during November.

Melons in frames.—The recent weather has been very favourable to these crops, and if there is a continuance of such weather the plants are not likely to be subject to canker. Should this disease, however, appear, let the affected parts be rubbed with dry lime and covered with powdered charcoal, which should never afterwards be moistened. In wet weather there is sometimes a difficulty in obtaining a good set of fruits upon Melons growing in unheated frames. This difficulty, in a measure, may be overcome by raising the flowering laterals by aid of wooden props towards the glass, thus keeping the blossoms and their pollen perfectly

dry. Thin out the laterals, and raise the fruits as soon as it is seen they have begun to swell, using small pieces of slate supported by flower pots. Slightly tilt the back of the lights early on sunny mornings and increase the amount of ventilation freely as the sun becomes stronger, but close the frames early enough in the afternoon to conserve plenty of sun heat, at the same time spraying the plants overhead with water.

Young Vines.—Plants which have been raised from eyes this year and were subsequently planted out will have made sufficient growth to have been stopped at about 6 feet in length. Keep the lateral growths beneath this point closely stopped after the first leaf, but the leading shoots should be allowed to extend and furnish the upper part of the trellis, as this will tend to encourage the roots to increase. Keep the borders properly mulched, and supply them with water as often as necessary, but no manual assistance will be required this season.

Vines in pots.—Plants intended for fruiting next season have made considerable progress since they were finally potted into 12-inch pots. They require some slight manual assistance, and should be supplied with tepid water when necessary. Stop the canes when they have reached a length of about 9 feet, and pinch the laterals and sub-laterals after the first leaf has been made. Keep the plants trained near to the glass, fully exposed to the sun, and syringe them freely at least twice each day. Entail the canes and stems very carefully to prevent the leaves from being scalded. As soon as the canes commence to mature, increase the amount of ventilation. Leave the ventilator slightly open all night, and maintain the atmosphere somewhat drier, thus gradually preparing the plants for their removal to a position out-of-doors.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NUNBURNHOLME, Warter Priory, Yorkshire.

Strawberries.—The work of raising young plants for the formation of fresh plantations should now be given attention. As soon as a sufficient number of good runners are procurable they should be layered, the best runners for this purpose being those upon young plants that have had their flower trusses removed. Runners taken early generally produce the finest and earliest crops of fruit. Fill a number of 3-inch pots with a moderately rich compost, placing a piece of rough loam at the bottom of each pot to act as material for drainage. Secure each runner in position in the pot by placing a stone over it. The young plants must not be allowed to suffer from lack of water at their roots. Land that has been deeply dug and heavily manured for early Peas, or early Potatoes, will be suitable for planting a few early Strawberry plants. If such ground is not available, it will be necessary to liberally manure and thoroughly dig some land for the purpose, as a complete change of ground is necessary for each fresh plantation. Good varieties of Strawberries are plentiful, for a main crop Royal Sovereign, Leader, and Givon's Late Prolific can be relied upon. New varieties should be obtained for trial, as perhaps some variety will be found to succeed far better than any other in a certain locality. Bedford Champion is proving a robust grower and crops freely with us.

Raspberries.—The crop of this fruit promises to be a heavy one, and the canes will need rich mulchings and frequent waterings of liquid manure. Remove any suckers that are not required for next season's fruiting, also prune out the weaker growths from autumn-fruiting varieties in order that light and air may circulate freely amongst the plants. Protect the fruits from birds by means of fish netting. Raspberries required for preserving should be gathered when dry.

The Loganberry and Blackberry.—Remove the weaker suckers from both these plants, retaining six or eight of the strongest growths for training to the trellis or poles according to the system of training adopted. Both the Loganberry and the Blackberry are gross feeders, and they should be well mulched and liberally supplied with liquid manure during the period when the fruits are swelling, and especially is feeding

necessary in the case of plants growing in shallow and light soils. Remove the old fruiting canes as soon as the berries have been gathered, and treat the plants generally as in the case of Raspberries.

General work.—See that all ripening fruits are protected from the birds. Make a note of any trees that require root-pruning or assistance in the autumn in the shape of a top-dressing of rich compost. A visit should be paid early to some good nursery for the purpose of selecting any trees that will be required in the planting season; the early purchaser is likely to get the best trees.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Mushrooms.—Probably there is no more difficult season than during the next six weeks or two months for the production of fresh Mushrooms unless one is fortunate enough to possess cool cellars or caves where the temperature generally remains in a condition suitable to their growth all the year through. The next best site for their cultivation is at the foot of a north wall, where, by affording the bed a slight covering of long litter and damping twice daily, good crops may be assured. Further beds should be made up at intervals, either in the open or in any cool sheds facing to the north. The Mushroom house proper is seldom a good place for making up beds at the present season, but as opportunity presents itself clear out the old material in this house and make everything in readiness for receiving the prepared manure later in the year. Probably there is no more valuable ingredient by way of manure and lighting material for ordinary soils than manure from spent Mushroom beds, and, therefore, every particle that is removed should be stored for use as required.

Autumn-sown Onions.—Immediately the bulbs have attained to a fair size, and before any signs of splitting can be observed, they should be lifted carefully and well harvested before placing them under cover. It is generally complained that these Onions will not keep well, but this is frequently because the crops are allowed to remain too long on the land before lifting. Such varieties as White Leviathan and White Emperor are generally cultivated for their good quality and earliness in maturing. These should be used first. The various forms of Rocca, however, although later, will keep quite sound and good till the spring-sown varieties are ready.

Maincrop Onions, which include all those sown at the commencement of the New Year, should be liberally watered both at the roots and overhead. If possible, this should be done in the evening. If the ground is well drained, one can hardly over-water the crops during such a spell of dry, hot weather as we are now experiencing, and it is quite impossible to cultivate such perfect Onions as are seen at the leading exhibitions, unless plenty of water be given. Well-diluted farmyard liquid should also be liberally applied.

Globe Artichokes.—The heads of these should be cut as soon as they have attained to a fair size. By placing the stalks in a little water, which should be changed occasionally, and standing the receptacles in a cellar or some similarly cool place, these will keep fresh and good for quite a fortnight. Keep the roots well supplied with moisture. An excellent stimulant is sewage water. If not already done, apply a mulch of long litter between the rows.

Cardoons.—These should be supported by placing a stout stake to each plant. Give a good mulching of short horse manure, and, if good specimens are expected, do not allow them to suffer for want of water.

Ridge Cucumbers.—So far the season has been an ideal one for these Cucumbers, and if the ground is well mulched, the growths keep clean from aphids, and plenty of water applied both to the roots and foliage, an abundant crop will result. Great care should be taken not to unduly tilt the plants by allowing the fruits to remain after they have reached a fair size. Examine the plants daily, and cut all the fruits that are ready, placing them in water.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Moisture in the atmosphere and at the roots.—There is no more important operation connected with the cultivation of Orchids than that of supplying the proper amount of moisture. Therefore such work should never be entrusted to inexperienced or careless assistants. Even the most experienced cultivator needs to take every care in the discharge of duties connected with this matter; especially is this the case if he has a house containing a mixed collection of Orchids. I am sometimes asked how often and what quantity of moisture should plants of some particular genus receive, but it is impossible to answer such a question in a satisfactory manner

and what quantity of water is needed by any Orchid at any particular season. At the same time Orchids do not, as a rule, exhibit the ill-effects of careless treatment so soon as many other plants. But, although they may not appear to suffer at the time, sooner or later they will cease to thrive, and when this tendency is exhibited it is sometimes too late to arrest the deterioration. Plants that are now actively growing if allowed to suffer from dryness at the roots or in the atmosphere may not show any ill-effects at present, but they suffer injury none the less. It is just the same with over-watering. If the roots are treated to an excess of moisture many of them will be found at potting time to be decayed. The experienced cultivator will consider the atmospheric conditions prevailing

Insect pests.—Keep a sharp look-out for red spider, which attacks the under side of the leaves of many warm Orchids. Spraying of the leaves or dipping in some safe insecticide is the best remedy. The most troublesome of all Orchid pests are the black and yellow thrips, for if once these are allowed to become numerous they are exceedingly difficult to eradicate. Fumigation by means of one of the many nicotine vapourising compounds should be practised on their first appearance. Choose a calm night for the operation, and, as a preparation for this, no watering or overhead spraying should be done in the house during the same day, but the ventilators should be closed early, and the walls, floors and stages thoroughly damped. For a few days following the operation rather more shade should be employed than usual, as the foliage is more susceptible to injury from strong sunshine after its subjection to fumigation, or even after it has been dipped into some insecticide.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Blair, Perthshire, N.B.

Chrysanthemums.—The plants cultivated for producing large blooms are making extraordinary growth during the present month. They need frequent attention in the matter of supporting the shoots against the wind, but whilst taking care to tie the shoots sufficiently close to the stakes, it will be necessary to see that every tie is left loose enough to allow for the expanding of the shoot. All varieties have made their last "break" shoots, and these are fast developing. No more than three should be allowed to remain on at present, and in the case of the weaker growing varieties the third shoot will need to be removed later. During the present month and August, if the weather is very hot, and the plants are growing in a position where the pots are fully exposed to the sun, a board or plank should be placed on edge and laid against the sides of the pots, so as to shade them. The roots being now all around the inner sides of the pot they are apt to become burned if the pots are allowed to get very hot. For the same reason it is a good practice to damp the sides of the pot and soak the ground round about them with water two or three times each day. The plants should be syringed early in the morning, and again in the evening, and a little soot may be put into the water, just sufficient to colour it.

Euphorbia (Poinsettia) pulcherrima.—Plants that have been hardened off in 3-inch pots should now be shifted into pots 6 inches in diameter. The potting compost should consist of fibrous loam, leaf-mould and sand, adding a very little bonemeal and some manure from a spent Mushroom bed. The potting of these plants requires to be done very carefully, as the roots are very easily damaged, nevertheless the soil should be made moderately firm about the roots. Perfect drainage is necessary, as it is very detrimental if the excess of water cannot run freely from the pot. After the plants have been potted place them near to the glass in an unheated frame where the lights should be kept closed for a few days and shaded from bright sunshine. Spray the plants overhead twice each day in bright weather. When the roots have again become active, ventilate the frame freely, but only from the top of the frame, thus avoiding exposing the plants to a draught. A very little air may be admitted to the frame during the night. No shading will be required, but the plants should be induced to make as sturdy and short-jointed growths as possible. Turn each plant partly round every week.

Primula x Kewensis.—Seedlings which have been raised this season are forming nice plants, and should be potted into 6-inch pots, these latter being the pots in which they will flower. The potting compost should consist of good, heavy loam three parts, and leaf-soil and sand one part, adding a few small bones to this mixture. Ram the soil moderately firm around the sides of the pot, and place the plants afterwards on a base of ashes in an unheated frame situated in a cool position. This *Primula* is very subject to attack from green fly, which must be combated at every opportunity. Spray the plants with water, and treat them similar to *Cinerarias* rather than *Primulas*.



[Photograph by A. E. Smith.]

FIG. 11.—ROSE ELAINE, A NEW HYBRID TEA VARIETY: THE FLOWERS ARE WHITE OR PALE LEMON, TIPPED WITH PINK AND ROSE.

(See p. 31.)

ner, for if two species of the same genus are in full growth, one may need frequent syringings overhead, whilst the other would suffer injury if subjected to the same treatment. One species may succeed best if suspended from the roof rafters in a well-ventilated and sunny position, but the other may need the most shady and moist corner the house can afford. Again, the size of pot, character and quality of the rooting medium, length of time the plant has been potted, nature of the roots, and the vigour of the particular plants are all important details that must be given consideration in determining the amount of moisture necessary. It is by daily observation and long experience that a correct knowledge can be acquired of how often

out-of-doors before he commences to damp the surfaces in the house, or even to apply root waterings. If the weather is likely to be dull or wet, or if the atmospheric temperature in the house is not what it ought to be, no more watering or damping should be done than is absolutely necessary. If, on the contrary, the atmosphere is clear and the sun bright care must be taken that the moisture applied to the roots and in the atmosphere is adequate to the needs of the plants. On such days a very early start should be made in the morning, both with regard to damping and overhead syringings, and the final damping for the day and the closing of the houses should be deferred for an hour or so later than usual.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JULY 11—
Edgware and Little Stanmore Hort. Soc. Exhibition.

MONDAY, JULY 13—
United Hort. Ben. and Prov. Soc. Com. meet.

WEDNESDAY, JULY 15—
Hereford and W. of England Rose Sh. Women's Agric. and Hort. International Union Exh. at Regent's Park, Woodbridge (Suffolk) Hort. Soc. Show.

SATURDAY, JULY 18—German Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last fifty Years at Greenwich.—63.9°.

ACTUAL TEMPERATURES:—

LONDON.—Wednesday, July 8 (6 P.M.): Max. 71°; Min. 58°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, July 9 (10 A.M.): Bar. 29.8; Temp. 65°; Weather—Overcast.

PROVINCES.—Wednesday, July 8 (6 P.M.): Max. 62° Chelmsford; Min. 54° Berwick.

SALES FOR THE ENSUING WEEK.

FRIDAY.—
Orchids in variety and specimen Japanese Dwarfed Trees and porcelain pots, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

The
Origin
of
Species.

We have referred elsewhere to the remarkable gathering of naturalists held on July 1 to celebrate the Jubilee of the meeting of the Linnean Society, at which the epoch-making communications by Charles Darwin and Alfred Russell Wallace dealing with the problem of the origin of new species, were presented to the Society.

It is difficult for anyone who does not remember those stirring times to realise the immense difference that has come over our whole habit of thought and manner of contemplating our relation to the world around us, since that memorable meeting 50 years ago. Many of us can still recall the bitter controversies—often as unphilosophical as they were unscientific—which were waged around the central question, but it requires a strong effort of the imagination to realise that the majority of educated persons at that time seriously regarded each species as specially created, and as having existed since the world began.

Nobody at the present time thinks of species as immutable special creations. The question which now urges itself on the curious is not whether species were gradually evolved, but what are the processes which have produced the change, and what are the conditions under which they operate. We are restlessly endeavouring to unlock the secret methods of evolution, and have long since accepted the fact of evolution itself almost as a self-evident proposition—as an axiom of thought.

Like most great discoveries, however, that

which is associated with the names of Darwin and Wallace really neither began nor ended with them. The great merit of these pioneers lay in their having clearly recognised causes which were evidently competent to produce the requisite changes in living organisms, and to show that the actual conditions of life were such as to render the continuous operation of the causes themselves inevitable. Other biologists before them, notably Lamarck, had regarded a transformation of species as possible, and he conceived of it as resulting from the continuous effect of use or disuse of the various parts of the organism, whereby the useless became eliminated, whilst the specially useful parts or organs were capable of direct modification, and so became the more specially serviceable to the species, and further that this was due to the mere effect of use itself. Naturally, Lamarck's views encountered strong opposition, for there are vast masses of facts which are not explained by, if indeed they are not actually at variance with, such a hypothesis. It will be noticed that the capacity to vary on the part of the organism was assumed; the environment, or the particular habits of the individuals, were supposed to determine directly the nature of the change. A second assumption was also involved, namely that the characters so acquired during the life of an animal or plant were also inheritable.

The great merit of the work of Wallace, and especially of Darwin, was to show that, as a matter of fact, variation did actually occur, and far more extensively than was at that time realised; that out of an enormously numerous progeny at each generation only very few survived, and these were supposed to be chosen as being in some way specially fitted beyond their fellows for their surroundings. This idea is embodied in the phrase "survival of the fittest," though the process might perhaps be more correctly described as the "elimination of the worst."

The details of the theory have proved, as is so often the case, not to be so simple as they once appeared, but this in no way detracts from the brilliance of the doctrine itself as advocated by the great English naturalists, nor does it lessen our admiration for the wonderful ability with which the available facts were marshalled, so as to carry conviction to the mind of almost everyone who was qualified to form an independent judgment on the matter.

Considerable divergence of opinion arose as to how far the alleged factors of use and disuse can rightly be held accountable for that kind of change in the organic world which is described by the term evolution. We have already alluded to the weight attached to them by Lamarck, and Darwin himself attributed greater importance to their effects in his later years than he did at first. But, on the whole, the weight of opinion has told against them as immediate causes of change. They have, moreover, become intimately bound up with the supposed inheritance of acquired characters, concerning which there exists a considerable literature—much of it based on a misapprehension as to what is really meant by writers who deny that such characters are transmissible. Perhaps the clearest exposition of the subject was given by Weismann, who analysed the

confused meanings that lurked in the term, and showed that the difficulties in the way of its adoption, when its meaning is properly understood, are well nigh insuperable from the point of view of facts, and no less so from that of theory.

Of course, no one denies that plants and animals may be, and often are, obviously affected by their environment, and this in a very definite manner; the whole history of cultivated plants proves it up to the hilt. But, in the first place, it must be remembered that cultivated plants are selected for cultivation just because they already possess the capacity of responding in a particular way to certain forms of treatment. And in the second place, we know, in many plants at any rate, the effects of cultivation are cumulative over several generations. The real question, however, as to the inheritance of acquired character goes a good deal more deeply than this, and, indeed, is not to be decided by such a criterion at all. It can only be settled by testing whether the modifications which have thus been produced are the expression of a genuine change in the organism itself, or whether they merely represent what we may term the somatic response, as opposed to a constitutional alteration. It is not a little remarkable that cultivated vegetables should have been appealed to for support by the protagonists on either side. Perhaps neither side is perfectly clear from reproach, for facts in untrained hands are apt to be as ineffective as are the most subtle speculations which fail to take cognisance of them. It is, perhaps, not always clearly recognised that the nutrition of the seed or the intramaterial development of an animal embryo, will materially influence its subsequent history, for it produces its effect at the most critical period of development.

It appears, however, that limits are soon reached, beyond which no further improvement is attainable by the direct action of the environment; or, at any rate, if any change should become apparent, its occurrence is so capricious that it is evident that some other factors, besides those of the environment, are really responsible for its manifestation.

And thus the way is further opened for experimental treatment of the problems. We are at present in the midst of the experimental stage, which had already been inaugurated by Mendel, in 1865; but the world was not then ready for his results, and they lay for many years unnoticed, till the fruitful field which Darwin had opened out had become more fully explored, its possibilities grasped and its limitations felt. Then, almost simultaneously, De Vries, Correns, and Tschermak, all working independently, found they were pursuing a line of investigation which had already been followed by Mendel with those remarkable results that are now within the knowledge of all who are interested in these problems.

The essential feature of this modern work consists in the carrying out of carefully-planned experiments in breeding, which will admit of analysis of the various factors which make up the final result. Already the principles which underlie cross-breeding are becoming elucidated, although much remains to be done in this direction. The recognition of the so-called "elementary species" of cereals.

and other plants, and the utilisation of this knowledge in connection with the scientific experience obtained from the study of hybrids and their descendants is already yielding results, the value of which can hardly be overestimated. But the whole of that important modern branch of science to which Professor Bateson has given the appropriate name Genetics forms the natural outcome of that conception of the origin of new species which we owe to the great founders of the modern doctrine of evolution.

OUR ROSE PICTURES.—Our Supplementary Illustration is from a sketch, by Mr. WORTHINGTON SMITH, of the beautiful Rose *Tausendschön*, that was exhibited in many groups at the National Rose Society's exhibition on Friday, 3rd inst. Since varieties such as Lady Gay, Dorothy Perkins, and Pink Pearl have given such popularity to climbing varieties of Roses, rosarians have devoted their attention largely to raising new pillar Roses, and the subject of our sketch may rank amongst the finest of these newer introductions. The variety is of German origin. The flowers are large for Roses of the multiflora section, that shown in our picture being natural size. The petals are a beautiful shade of pink, which develops a carmine tint as they expand. The trusses of blooms hang in large clusters. The shoots are almost thornless, and the foliage is large and handsome. This variety was given an Award of Merit by the Floral Committee of the Royal Horticultural Society at the recent Temple Flower Show, and on the same occasion this distinction was also granted to the varieties Elaine and White Dorothy Perkins. A description of these Roses is given in our report of the Temple Show, p. 358, in the last volume. Another pretty variety is seen in Mr. MASON GOOD'S photograph, where *Blush Rambler* (see fig. 14) has covered a rustic arch and is flowering in profusion. Dorothy Perkins Rose is a great favourite, and it has given rise to a sport in which the flowers are soft flesh-pink. It is known as Lady Godiva (see fig. 9), and a plant shown by Messrs. PAUL & SON, Cheshunt, attracted much attention at the recent Temple Show.

BOTANICAL MAGAZINE.—The issue for July contains figures and descriptions of the following plants:—

BEGONIA CATHAYANA, tab. 8202.—This plant is closely allied to *B. Bowringiana* (figured in *Gardeners' Chronicle*, vol. xxxiii, 1903) and *B. laciniata*, two plants that have been regarded by DE CANDOLLE and others as varieties of one species, though Mr. HEMSLEY looks on them as unquestionably distinct. *B. cathayana* was introduced into cultivation by Mr. A. K. BULLY by means of seed sent by Dr. HENRY. It is a handsome stove plant, and responds well to good treatment.

CELOGYNE PERAKENSIS, tab. 8203, has been confused with *C. sulphurea*, from which it differs in the larger pseudobulbs and the longer sheaths and bracts of the inflorescence.

DIDYMOCARPUS CYANEA, tab. 8204.—This species was collected in the Siamese part of the Malay Peninsula by Mr. C. CURTIS, late of the Penang Botanic Gardens. It is a decorative plant, flowering in the autumn in the tropical house, and it requires the same kind of treatment as does *Streptocarpus*.

OLEARIA RAMULOSA, var. *COMMUNIS*, tab. 8205.—This is one of the most beautiful of the *Olearias*, and, like the rest of the species of this genus, is entirely Australasian. It forms a shrub 3 to 6 feet high, with linear-lanceolate

leaves, and bears white, Aster-like flowers in spring. It succeeds in the open against a wall in favoured localities.

RHOODENDRON MARIESII, tab. 8206.—This *Rhododendron* was raised from seed received by Kew from Dr. HENRY, who collected it at Ichang. It is one of the, comparatively speaking, low-level species occurring below 4,000 feet in Central China. It forms a shrub 3 to 6 feet high, and is a handsome spring-flowering plant, which should succeed well in the warmer parts of the British Isles.

LARCH AS AN AVENUE TREE.—Rarely, if ever, has any species of Larch been employed for street planting in this country, but at Bad Landeck, in Silesia, there is such planting to be seen. The trees have a peculiar form, not erect and slender as is the case with *Conifers* in general, even when headed back, but with crowns like other species of trees. It was supposed that pruning had something to do with the peculiar forms of the trees, but experiments made with young Larches proved that that was not the case. It was thought that bending down of the branches under snowfalls was a cause, but experiments showed that this was not so. The trees date from the year 1750, and are worthy of all care in their preservation.

PROFESSOR DR. FRITZ NOLL.—This eminent plant physiologist, Director of the Botanical Institute at the University of Halle, died suddenly in his 50th year on June 20 last. Dr. NOLL was for many years professor at the Agricultural Academy, Poppelsdorf, and at the University of Bonn. It was only so recently as last year that he was called to Halle. He was well known as one of the joint authors of the *Bonn Textbook* of botany, which is deservedly well known in this country, and he has, also published a number of valuable original papers on botanical subjects.

FLOWER PICTURES AT THE PARIS SALON.—The flower pictures in the Salon are inferior in point of number to those exhibited at the spring show of the National Horticultural Society of France. The leading French Horticultural Society has for some time past allotted a certain amount of space to artistic productions, and at the recent spring show a gallery comprising 425 pictures in oil and water colours, mostly of fruit and flowers, formed one of the conspicuous attractions of the exhibition. Although this show is open for a week only, it is said that many artists who make a speciality of fruit and flowers prefer to send their pictures to the Horticultural Society's show for that brief period rather than send them to the Salon. At any rate there was a charming display of very beautiful works of art on view at the far end of the greenhouses, and a special catalogue had been prepared for the use of such of the visitors as were interested in them. The Grand Palais des Beaux Arts, where the Salon is held, contains about 100 pictures of floral interest, and one of the first to arrest our attention was a three-quarter length, life-sized portrait of M. ABEL CHATELAIN. Most of the others are representations of popular flowers and garden scenes.

"LA REVUE CHRYSANTHEMISTE."—This new publication has now reached its seventh number and appears regularly on the first of every month. It maintains its style in every respect, and contains much matter of interest to admirers of the Chrysanthemum. The issue for July contains articles on Chrysanthemum sports, advice to small amateurs, short notes, bibliographical notes on the varieties originally introduced into Europe, and culture for large blooms.

EXHIBITION AT TURIN.—An international industrial exhibition is being organised in Turin, and will be held there in 1911 to celebrate the fiftieth anniversary of the proclamation of the Kingdom of Italy. In connection with the exhibition three flower shows will be held. The first will take place in May, and will include garden decorative plants, greenhouse plants, cut flowers and floral compositions, market garden produce, fruit, and colonial plants and products. The second show will be held in September. Classes are provided for ornamental garden plants, greenhouse plants, and market garden produce. The third show, which will take place towards the end of October, will be for fruit, vegetables, and kitchen garden produce, flowering plants, ornamental plants for apartments, and cut flowers.

BOTANIC GARDEN FOR BRITISH HONDURAS.

—About eighteen months ago the site for a new botanic station in British Honduras was selected, and the work of clearing and laying out was at once started. The area of the new station is about 20 acres, and is conveniently situated near to Belize. The Government of the colony has now decided that the station shall be a permanent one, and lately voted the sum of \$2,980 for its upkeep during the present year. A further sum of \$1,400 was also voted for building quarters for the superintendent.

BERLIN.—We learn from MÖLLER'S *Deutsche Gärtner-Zeitung* that the great Palm-house in the old Botanical Garden has been pulled down, nothing remaining but the Museum of Botany in the Grünewald Str.

FEDERATION OF HORTICULTURAL SOCIETIES

IN HOLLAND.—At Utrecht, on May 14 last, a meeting was held at which all the principal horticultural societies of the Netherlands were represented, and the Netherlands Horticultural Federation was founded. Forty-nine societies, representing the different branches of horticulture, and embracing nearly 18,000 members, have already joined the federation. In future this federation will form the central representation of Dutch horticulture.

INTERNATIONAL RUBBER & ALLIED TRADES

EXHIBITION.—An exhibition of this nature will be held at Olympia in September next. Messrs. J. A. ALEXANDER and A. WHYTE, 75, Chancery Lane, London, inform us that they have undertaken to collect and arrange for the botanic section all the economic tropical plants, so that they may be grouped in their orders; also, more particularly, all lactic plants, whether the produce be of a commercial value or not. Groups of other tropical plants than the above specified will be accepted.

EFFECTS OF FROST IN FRANCE.—The frosts which occurred in April last have done considerable damage in the French orchards. According to M. CHANET, secretary to the Pomological Society of France, the Pears *Beurré Hardy*, *Duchesse d'Angoulême*, *Figure d'Alençon*, *Beurré Diel*, *Beurré Gris*, &c., have been badly hit, whilst *Beurré Clairgeau*, *Triomphe de Vienne*, and *Marguerite Marillat* have practically escaped, though growing alongside those that were injured. In spite of the frost, the blossoms appeared to be luxuriant; they failed, however, to set fruit, and examination showed that the stamens and styles were blackened, and thus rendered functionless.

Publications Received.—The Perfect Garden:

How to Keep it Beautiful and Fruitful, by Walter P. Wright. (London: Grant Richards, 7, Carlton Street, S.W.). Price 6s. net.—*Country Sketches for City Dwellers*, painted and described by Mrs. Willingham Rawnley. (London: A. & C. Black). Price 7s. 6d.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

ONOCYCCLUS IRISES AND COLD STORAGE.

—The note by Mr. W. R. Dykes, on p. 386, detailing the experiment he has in progress in submitting the rhizomes of these Irises to cold storage treatment in the hope of imitating the frozen condition under which some of the species are found in their native home is interesting. What I anticipate will happen is that a loss of stature will result in the flowers; while the shorter period of time between the planting and flowering seasons will be largely responsible for an enfeebled development of rhizome. A chief point of difference in the cold storage treatment and the frozen soil conditions of nature is that in the former state the plant's growing powers are held in check while the plant remains in the dry state, while in nature the plant has rooted probably to its fullest extent—especially as concerns its main or basal roots as opposed to the lateral or fibrous roots that appear in spring time usually—and is, therefore, in a far better condition to follow up the functions of leaf growth when the climatic conditions permit of this being done. I take it Mr. Dykes has been experimenting with the collected rhizomes of these Irises, and I hope, at some future time, he will further inform us as to the results and the names of the kinds he has submitted to such a test. My experience of the *Onocycclus* group does not fully bear out the statement by Mr. Dykes that "whether the rhizomes are in or out of the ground they begin to develop shoots in October." I have frequently recommended the planting of these Irises late in November or even in December, with the express object of keeping the shoots below the ground till the worst of our winter weather has gone. I would particularly like to know later on the effect of the cold storage on the development of the rhizome to carry on the flowering another year. *E. H. Jenkins, Hampton Hill.*

"THE WARLIKE BEECH."—Canon Ellacombe in his instructive notes on the "Flowers of Spenser," says he cannot explain this epithet. It probably refers to the smooth surface and steel-grey colour of the bark of the beech, which is like in appearance to plate armour. It is very noticeable in groves of trees not too advanced in age. Each "warlike" trunk—with a little imagination—appears to be clad in steel armour. *W. G. S.*

STRAWBERRIES.—This is the best Strawberry season at Lockinge during the past 16 years, the quantity and quality of the fruit easily surpassing anything during that time. This would not have been the case had it not been for the fall of snow in the middle of April, which protected the plants when we registered 14° of frost. With the exception of Royal Sovereign and the old variety Keen's Seedling, Strawberries refuse to grow freely in this immediate neighbourhood. There are, however, two additional varieties that are likely to suit this soil. The first is Bedford Champion, a great cropper, with fine, round fruits of deep scarlet colour and firm flesh, well suited for travelling. Latest of All is in flower when the others are ripe, and is well suited to this soil. *W. Fyfe, Lockinge Gardens, Wantage.*

THE WINTER MOTH CATERPILLAR.—Many and grievous are the reports heard of the depredations of this caterpillar amongst Apple orchards this season. It seems to matter not that the life history of this Apple tree pest is so well known, that methods of checking its depredations have been so widely published, and that destructive agencies are available: in respect to the largest Apple areas, we seem no farther advanced than we were 30 or 40 years ago. I well remember the terrible havoc wrought in those days in the Middlesex orchards, the trees being entirely denuded of leaves, whilst growers looked on hopelessly, evidently ignorant of any ameliorative agencies. Certainly no one need be ignorant now of the remedies available. Coming back by the London and South Western Railway from Windsor the other day, I passed a large orchard of fruit trees which have been planted some 12 to 14 years. Many of these bore evidence of the presence of the caterpillar, being largely defoliated. But the ground, which had been planted with bulbs or Wall-

flowers, was covered with grass and weeds, which offer cover to the larvæ, and render impossible any systematic effort to destroy the pest. I wonder how far the surface condition of that orchard compared with that of orchards in those parts of the country where the caterpillar has been most destructive, in spite of caustic soda and other solutions that have been sprayed over the trees in the winter. Do these solutions really destroy the eggs of the winter moth when once they have been deposited on the tree, branches and stems. That is a question which it may be worth while answering. Are these sprayings as efficacious to check the operations of the moth as are proper grease bandings to the stems, if these latter are applied early and given proper attention afterwards? Would not the sprayings be more effective if applied earlier in the winter, when the moths are presumably depositing their eggs on the trees. If the eggs are immune from the effects of spraying, are also the insects? Without doubt the moths are most active during genial weather in November and December, and it is just at that time when the surface soil should not only be clear of all vegetation, but be forked up to expose the larvæ to fowls and birds. Having regard to the value as protection of the grease bands, all trees should have clean, single stems fully 18 to 24 inches above the ground to enable these bands to be properly applied. When three or four stout branches stand close to the ground this form of protection is hardly available. *D.*

TRIALS AT WISLEY GARDENS.—There is being conducted some interesting experiments with edible Peas treated with the nitro-bacterial preparation and other solutions that will command the active attention of the Scientific Committee and Pea growers in general. There is also a trial of 96 assumed diverse Potato stocks, as also one of 17 lots of the variety Up-to-Date, the seed tubers coming from different sources. This should form an interesting growth trial. The growth of Potatoes on the whole looks first-rate. Then there is a trial of 47 diverse stocks of Peas, 36 lots of Parsley in twin rows; there are 114 rows of Beets, all doing well, and some 90 sorts in twin rows of spring town Cabbages. There are numerous stocks of Long Pod Beans and Runner Beans. Several varieties of Asparagus in rows are growing from seed. A big breadth of Brussels Sprouts has yet to be got out, and probably other things also. Of fruit, Strawberries have been largely extended, and a large number of layers are to be got into pots shortly for a pot forcing trial next spring. The Laxton was doing splendidly in the sandy soil. On the higher ground there is being conducted a singularly interesting trial of vines, to be ultimately trained horizontally against trellises. They have been planted in order to test the suitability of the Wisley soil and the climate to produce vine-making Grapes. Next there is a very extensive collection of Gooseberry bushes, each variety represented by two plants. Pyramid Pears are in great numbers, and all are healthy. In the span vineries there is indeed a surprise for the pessimistic critic who last autumn foretold bad breaking on the part of the new and very stout rods on the young vines. There has not been a bad break amongst the whole lot; indeed, a better development of lateral growths or promise of a finer crop of bunches could not be seen on any vines in the kingdom. A limited lot of Melons, being grown in a low-span house, but these do not constitute a perfect trial. Roses, especially the climbing varieties, are in luxuriant growth and in glorious bloom. Peonies have been a grand sight. Those who failed to see the Japanese Primulas a week or two since lost a very beautiful spectacle. *A. D.*

Obituary.

BENJAMIN GRAEVES.—This gardener died at Horsham on the 5th inst. The late Mr. Graves, a Yorkshireman by birth, was head gardener at Brooms Hall, Surrey, for 40 years—30 years as F. Pennington, Esq., M.P., and 10 years with Sir Alexander Brown, M.P. Many years ago Mr. Graves was one of the foremost gardeners of the district. He retired about four years ago.

ALEXANDER WALLACE.—We regret to learn of the death of Mr. Alexander Wallace, Editor of *The Florist's Exchange*, of New York and Chicago. Mr. Wallace was born in Lawrenceville, Kincardineshire, in 1819, and emigrated to America many years ago. His loss will be severely felt in horticultural circles in America.

CHARLES PENFORD.—On the 2nd inst., at his residence, Mr. Charles Penford passed away, after a long illness. Deceased was best known to Chrysanthemum growers, exhibitors, and raisers. As a raiser of seedling Chrysanthemums he obtained great success, and there are many of his excellent varieties still much appreciated. Such varieties as Mrs. Norman Davis, Sydney Penford, Leigh Park Wonder, and Joseph Stony may be mentioned as some of his latest achievements, while there are numerous others of earlier origin which still hold their own on the exhibition board, among which may be named the beautiful Duchess of Sutherland, Beauty of Leigh, and Florence Penford. Mr. Penford was for many years a successful exhibitor, especially at the time of the so-called "curved" varieties, which were more popularly esteemed than they are at present. For more than 30 years he held the position of head gardener at Leigh Park, Havant. Deceased was 74 years of age.

GEORGE SALTER.—The recent death of this old florist, from senile decay, has been recorded in *Jackson's Journal*. Deceased was a boot-maker, and had a shop in the lower part of St. Aldgate's Street. He was one of the enthusiastic florists who in the middle of last century cultivated and exhibited such flowers as Pansies, Pinks, Auriculas, and Polyanthus. He is stated to have been one of the founders of the National Chrysanthemum Society in 1863. Deceased leaves a son and two daughters.

THOMAS HOGG.—In the death of this gentleman, which took place at Crookston, near Paisley, on June 20, one of the ablest gardeners in the West of Scotland has passed away. As a young man he served under some of the best gardeners of the time. He was subsequently appointed head gardener to Mr. Todd (now of Eastwood Park, Giffnock, N.B.), at his residence at Partick, a site long since built over. At this place there was cultivated one of the finest collections of stove and greenhouse plants to be found in Western Scotland, and under the skillful care of Mr. Hogg these plants were always regarded as object lessons in cultivation. "After the lapse of some years he was appointed head-gardener to the late John Gordon, at Aikenhead, Cathcart, near Glasgow. From this place he exhibited very frequently at the competitive exhibitions, showing all sorts of plants from the regal *Palæargonium* to Orchids. Such excellent cultivation did these plants demonstrate that the name Hogg, of Aikenhead, became a household word in gardening circles throughout Scotland. Show Dahlias and vegetables also claimed his attention, and many a struggle took place between him and the late Mr. McBean, of Craiglands, with vegetables. These two gardeners were the foremost cultivators and exhibitors of vegetables in the district. At all the important exhibitions in Scotland Mr. Hogg's services as a judge were sought and appreciated. In August, 1889, he became gardener to A. Coates, Esq., Woodside, Paisley, where he remained until about two years ago, when failing health compelled him to sever practical connection with the profession he loved so well. In his later days deceased used to say that, were he again a youth, he should choose gardening as his profession, but would try to become a better exponent of the art. A student of classical and scientific literature, and a close observer of nature, his mind was well charged with knowledge, which he was ever ready to impart to others. Possessed of a somewhat brusque temperament, straightforward, and candid to a fault, he had a kindly disposition, and in his uprightness and professional zeal set an example to his pupils which cannot be easily effaced, this being especially true in my own case. Deceased leaves a widow and grown-up family, for whom every sympathy is felt. One son, named after his father, is well known in the Border counties and in Scotland as the representative of Messrs. A. Cross and Son, Glasgow. *J. F. McCleod.*

Royal Horticultural Society.

Summer Exhibition at Holland House.

JULY 7, 8.—On these dates the park at Holland House, Kensington, was once again placed at the disposal of the Royal Horticultural Society for the holding of the summer show, which has come to be regarded as an annual event.

Despite what has been said and written in regard to previous displays at Kensington, we have no hesitation in saying that the exhibition held during the present week was in most respects superior to any preceding show. Exhibitors have become more used to this fixture, and it is evident that they make preparations for it in much the same manner as for the Temple Show, the result being that, as was the case in the earlier history of the Temple displays, the shows at Holland House appear more and more to consist of carefully-selected exhibits, the difference in the general quality on Tuesday last, as compared with that observed at the first exhibition, being very marked.

In some respects the summer show was more interesting than that held in the Temple Gardens, for there was a better display of fruit (including a collection of Pineapples) and an excellent exhibit of vegetables.

There were fewer Orchids shown than was the case in May last, and this is natural on account of the season; especially was this the case in respect to exhibits from amateurs. Nevertheless, there were some excellent groups from members of the trade, and several novelties were selected for Awards by the ORCHID COMMITTEE.

There are always some magnificent group exhibits at this show, and on the most recent occasion those attained by Mr. AMOS PERRY and Messrs. WALLACE & Co. excited much admiration.

Mr. PERRY's water gardens and Nymphæas extended for the greater part of the length of one of the tents, and at either end were flanked by groups of choice Delphiniums that continued the exhibit to the boundary. Messrs. WALLACE's exhibit at the entrance to the largest tent was a small one, but it evidenced an appreciation of the artistic that was distinctly commendable. It was a reproduction of a scene in a Japanese garden, copied from a picture, and the groups of Japanese Irees were exceedingly effective. Further groups of miscellaneous plants and flowers from Messrs. R. & G. CUTHBERT, Messrs. JAMES VEITCH & SONS, LTD., Messrs. J. B. MAY & SONS, Messrs. FRANK CANT & CO., Mr. A. F. DUTTON, and the two firms of PAUL are worthy of high commendation.

Among the Awards of Merit granted by the FLORAL COMMITTEE, it is worthy of remark that four were given to new Roses of great merit exhibited by Messrs. ALEX. DICKSON & SONS. At 1 p.m. the Society's committees were entertained at luncheon, the President, Sir Trevor Lawrence, presiding. Speeches were made by the President, and by Sir Albert Rollit, and Messrs. W. Poupard, T. Challis, and J. Cheal. The opportunity was thus afforded of publicly thanking Mary Countess of Ilchester for her kindness in lending the ground.

The weather on the opening day was glorious, and there was a very satisfactory attendance, but on Wednesday the skies were dull, and rain fell during the greater part of the day.

The arrangements made by the secretaries and Society's officials were frequently the subject of appreciative remarks.

Floral Committee.

President: W. Marshall, Esq. (Chairman), and Messrs. Chas. Blick, W. Howe, C. R. Fielder, W. Bain, J. F. McLeod, Chas. Dixon, T. W. Turner, W. P. Thompson, James Douglas, W. J. James, W. G. Baker, Jno. Green, G. Reuthe, J. W. Barr, Herbert J. Cuthush, H. J. Jones, and R. Hooper Pearson.

GROUPS OF PLANTS.

Messrs. JAMES VEITCH & SONS, LTD., King's Road, Chelsea, showed one of their fine groups

of stove and greenhouse plants, it being difficult to know which most to appraise, the quality of the plants or the method of their staging. The foliage plants were at their best condition, and they included Anthurium crystallinum, Dracæna Doucettii de Groote, D. Goldiana, Croton Hawkeri, Caladiums in variety, and a host of other beautiful plants. On tall stands were Nepenthes, N. Amesian, and N. rubra having exceptionally fine pitchers. A few subjects in flower gave additional colour to the group.

Messrs. SANDER & SONS, St. Albans, showed a group of their new plants such as were shown at the Ghent Exhibition, several of which were illustrated in the issue containing the report of that show and the preceding number. Croton Fred Sander, Furcraea Watsoniana, Pereskia Godseffiana, Sansevieria Laurentii, Pycnostegia Siebertiana, and others upheld the good opinions which were bestowed upon them earlier in the season.

Messrs. W. BULL & SONS, King's Road, Chelsea, showed a group of foliage plants of stove and greenhouse species, perhaps a little too green in appearance for the best effect, but a choice specimen of Heliconia illustris, bright Dracænas, Codiaums (Crotons), and Caladiums made some amends in this respect. At either end of the exhibit were excellent plants of Dracæna Victoriana.

Mr. L. R. RUSSELL, Richmond Nurseries, Surrey, staged a handsome bank of exotic plants of ornamental-leaved species, well arranged in a corner of the largest tent. Dracænas Codiaums (Crotons), Caladiums, of which many handsome plants were seen; Aralias, and similar plants with Ferns, Palms, Bamboos, &c., made a very fine exhibit.

Messrs. H. CANNELL & SONS, Swanley, Kent, staged a semi-circular group of Cannas in a setting of Adiantum Ferns and edged with flowers of Lilium candidum and plants of Isolepis gracilis. The Cannas were of exceptionally fine quality; the selection was large, there being no fewer than 150 plants in about 100 distinct varieties. Amongst novelties may be mentioned Amelie Weibel (salmon-rose), Flossie Bonheur (very soft yellow), H. von Otrante (deep yellow with red lip), Venus, a variety having very broad petals; Gals-war of Baroda, the deepest spotted Canna, the markings being bright red, and A. Mayes, large flowers of richest gold colour. Messrs. CANNELL also showed in another tent plants of Fuchsia Henkel—a variety of the Corymbiflora type with sepals, petals and tube of an orange red tint—most floriferous. The variety of Fuchsia Mary has a similar habit of growth, but the flower is smaller, and of a brilliant scarlet tint; F. Perle is of a salmon-pink tint.

A striking group of flowering plants was put up by Messrs. R. & G. CUTHBERT, Southgate, Middlesex. A host of flowering subjects with Ferns and other foliage plants and tall pillar Roses, Humæa elegans and Lilium for relief, produced a fine effect. The groundwork was formed of Spiræas of the pink varieties, Pelargoniums, dwarf Roses, Callas, Statice Saworowii and Lilium longiflorum. The pillar Roses embraced such floriferous kinds as Lady Gay, Cant's Bush, Dorothy Perkins, Hiawatha, Madame Levassour and others.

Messrs. HUGH LAW & Co., Bush Hill Park, Enfield, showed Carnations, Roses, Hydrangeas, Ericas, the white Nerium Oleander, Bougainvillea spectabilis, with variegated foliage, also a group of foliage plants, sprays of ornamental trees and shrubs, fruiting Fig trees in pots, Metrosideros floribunda and other subjects. The exhibit of Carnations was especially fine, and included blooms of most of the types of this popular flower. Souvenir de la Malmaison varieties were especially good, the beautiful Princess of Wales variety being prominent in epergnes. At the back were great sheaves of such choice kinds as Britannia, Lady Bountiful, White Perfection, Mrs. H. Burnett. A new yellow variety of the Souvenir de la Malmaison type labelled C. P. Little is of much merit.

Messrs. H. B. MAY & SONS, The Nurseries, Edmonton, showed a group of Ferns, some of them very large specimens, the whole occupying an area of 500 square feet. In the centre was a fine plant of Nephrolepis exaltata superba; other notable specimens were Gymnogramma schizophylla superba, Nephrolepis exaltata Amerpholia (a handsome variety of this elegant Fern), Asplenium nidus madagascarense, Davallia solida superba, a great clump of Platycerium alcincore, Polypodium conjugatum, Drynaria quercifolia, Polypodium Mayii, P. iroides and a fine specimen of Nephrolepis elegantissima. Messrs. MAY also showed, in another marquee, a miscellaneous group of flowering plants, including Verbenas, Heliotropes, Ixoras, Zonal Pelargoniums, a pink-flowered Abutilon, and many species and varieties of Polystichum and Scolopendrium.

CALADIUMS.

Messrs. JOHN PEED & SON, West Norwood, London, S.E., exhibited a batch of Caladiums, not over large in size, but very brightly coloured. A fine plant of the variety John Peed having green leaves with reddish markings was a conspicuous object at the back. Other notable kinds were Sir Henry Irving (pale ground with red and green colouring), Oriflamme, Pallas, Alcibiades, Pantia Ralli, and Sir W. Broadbent.

Another handsome group of these plants was put up by Messrs. J. LAING & SONS, Forest Hill.

The arrangement adopted allowed each plant to be seen to advantage, Ferns being freely used between the specimens, with small Cocos Palms as foils. The front was pleasing, dwarf kinds such as Colonel John Hay, Argyrætes and Prince of Wales being arranged in a setting of Asparagus, Bertolonias, Saxifraga sarmentosa, Nertera depressa, &c.

ROSES.

Messrs. W. PAUL & SON, Waltham Cross, Herts, made a fine effect with Roses at the entrance to the largest tent. The exhibit was of large dimensions, the blooms being all of first-class quality and representative of most of the best kinds in season. The surface of the group was pleasingly broken by a number of tall plants of pillar Roses, and nearer the front a number of epergnes were filled with handsome blooms of such kinds as Hugo Roller, William Allen Richardson, and Earl of Warwick.

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, filled the corresponding end of the large tent with an equally beautiful exhibit of Roses as the last-mentioned. Roses of every description were to be found in this choice display, some being in baskets, others in epergnes and vases, whilst pot plants were disposed at points of vantage. Some of these pot plants were tall standards that overhung with a wealth of their pretty blossoms. We have no space to attempt a description of the many beautiful blooms staged, but we may mention as being especially fine, Celia, Hugh Dickson, Her Majesty, Queen Alexandra, Belle Siebrecht, and Hugo Roller.

Beautiful Roses in great variety were shown by Messrs. F. CANT & Co., Colchester. Along the front were exhibition boxes containing a wealth of varieties, each bloom being of exhibition quality, and at the back of these were vases, filled with garden varieties, and bunches of such beautiful varieties as White Maman Cochet, Countess of Gosford, Duchess of Portland, Dean Hole, Mrs. Ed. Maylew, Mildred Grant, Hugh Watson, and A. K. Williams. Messrs. ALEX. DICKSON & SONS, Newtownards, Co. Devon, showed an assortment of new Roses, the best of which were granted Awards of Merit. The following were also meritorious: Grace Molyneux, Eliza Barnes, Harry Kirk, John Cuff, Florence Smith, and Mita Weldon.

Messrs. S. BIDE & SONS, Farnham, amongst a selection of Roses, had their new Queen of Spain variety in good form. Exhibits of Roses came also from the gardens of Col. W. HESELTINE, Queen's Gate, S.W. (Mr. Butler).

HOBBIES, LTD., Dereham Nurseries, Norfolk, showed Roses, principally the popular pillar varieties such as *Stella*, *Hiawatha*, *Minnehaha*, and *Lady Gay*. These hung in festoons, and were trained over arches, whilst beneath were many choice blooms of *T.*, *H.T.*, and other large-flowering kinds. Some pillars crowned with Roses were entwined with *Vitis Henryana* and a pretty variegated Ivy.

MR. CHAS. TURNER, Slough; **MR. GEO. MOUNT, Canterbury;** **MESSRS. B. R. CANT & SONS, Colchester;** **MESSRS. R. H. BATH, LTD., Wisbech;** and **MESSRS. JARMAN & CO., Chard**, all had excellent exhibits of Roses, and other exhibitors.

GLOXINIAS AND BEGONIAS.

MESSRS. JOHN PEED & SON, West Norwood, again contributed Gloxinias in fine condition and in large numbers.

MESSRS. THOMAS WARE, LTD., Feltham, made a splendid exhibit with tuberos-rooted Begonias, the display of double-flowered varieties being exceptionally fine. The Honourable Mrs. Maurice Glyn, Capt. Lafone, and Mrs. A. T. Brandt are all new varieties.

MESSRS. J. LAING & SON, Forest Hill, showed tuberos-rooted Begonias, as a whole much behind the foregoing in every respect.

MR. A. LL. GWILLIM was awarded a Silver Flora Medal for an extremely fine lot of tuberos-rooting Begonias.

MESSRS. BLACKMORE & LANGDON, Twerton Hill, Bath, showed plants of tuberos-rooted Begonias, mostly of enormous sized blooms.

CARNATIONS.

A remarkably fine exhibit of Carnations was staged by **MR. A. F. DUTTON, Iwer, Bucks**, the blooms being of a high standard of quality. The group was very extensive, the blooms being staged in handsome glass vases, with trails of *Smilax* at their bases. There were most of the American or winter-flowering Carnations in the imposing group, also a fine selection of the older type. Room was found for two banks of a new Ivy-leaved *Perlagonium* named *Vincent Slade*, the colour being rather brighter than the well-known *Mme. Crousse variety*.

MR. W. H. PAGE, Tanglebury Nursery, Hampton, showed Carnations and Liliiums, both of which flowers lend themselves to attractive arrangement, and which was fully taken advantage of by this exhibitor. Especially fine were large epergnes filled with Carnations Governor Rose, by Mrs. T. W. Lawson, and Enchantress, relieved with foliage of *Pampas Grass*.

SIR GEO. FAUDEL-PHILLIPS, Bart., Balls Park, Hertford (gr. Mr. F. Fitch), staged pot plants of *Souvenir de la Malmaison* and other Carnations. The specimens were very large; some were in 12-inch pots, and they were well furnished with choice blooms. A plant of the variety *Churchwarden* had upwards of 50 fine flowers.

Another handsome bank of Carnations was shown by **MESSRS. BELL & SHELDON, Guernsey,** who showed *Enchantress*, *Lady Bountiful*, *Mrs. Lawson*, *Harlowarden*, *Mrs. H. Burnett*, The President, and other notable kinds in first-class style.

MR. H. BURNETT, Iwer, Bucks, had a charming display of Carnations in great assortment, arranged with artistic skill.

A group was staged by **SIR DANIEL GOOCH, Hylands, Chelmsford.** It was freely interspersed with small Palms and Ferns. At the back were large plants of *Carnation Duchess of Westminster*.

A small exhibit of Carnations was staged by **JOHN KER, Esq., Loudwater, Rickmansworth (gr. Mr. Avery),** and another batch of these flowers was shown by **MESSRS. JONES & SONS, Shrewsbury.**

GREENHOUSE PLANTS.

MESSRS. W. & J. BROWN, Peterborough, made a display with half-hardy flowering plants in great variety. That old garden plant *Trachelium coeruleum* was never seen in better flower; *Heliotrope Lord Roberts* was shown in beautiful bloom; several *Ageratum* of the "nana" section were noted, also plants of *Verbena Miss Willmott*, capitally bloomed, as were plants of *Hoya bella*. Roses were shown in good condition on boards and as large bouquets.

MESSRS. W. CUTBUSH & SON, Highgate, showed Ivy-leaved *Perlagonium* *James Atfield*, a pink-flowered variety, very free to flower; the new *Coleus Cordelia*, a quantity of *Verbenas*,

including *Princess of Wales* (deep blue), and *The King* (a bright crimson). A number of plants of *Erica Bothwelliana* (a rare variety nowadays in bloom); and *Begonia Phosphorescens*, a scarlet-flowered bedder, of dwarf habit, very bright in colour.

MESSRS. T. ROCHFORD & SONS, LTD., Broxbourne, showed the new pink-flowered *Spiræas* *Pinch Blossom* and *Queen Alexandra*.

MESSRS. RICHARD SMITH & CO., LTD., Worcester, showed a variety of greenhouse plants, and a number of large-flowered Clematis of the *Jackmanii* type. The flowering plants included *Carnations*, *Kalanchoe flammula*, *Liliums*, *Nymphaeas* and *Nerines*.

Zonal *Perlagonium* in variety were shown by **MR. VINCENT SLADE, Staplegrave Nurseries, Taunton.**

HARDY PLANTS.

Despite the fact that the displays of hardy plants at the Holland Park shows in previous years have reached a very high degree of excellence, never before have such imposing exhibits of these subjects been displayed. Very many of the subjects, some of which stand out more prominently than the rest and in this sense the splendid exhibits from **MR. AMOS PERRY, Enfield,** and **MESSRS. WALLACE & CO., Colchester,** call for special praise. Indeed, it would be well-nigh impossible, in the limits of an exhibition such as this, to show anything finer, more naturally disposed, or covering so wide a field in hardy plant gardening as the magnificent groups arranged by **MR. AMOS PERRY** in tent No. 3. Here were seen border subjects of most plants now in season. Lilies in profusion, a delightful piece of rockwork and a most pleasing, natural and picturesque water-garden. Extending the entire length of the tent and flanked at either extreme with bold groups of the choicest Larkspurs, the intervening space was occupied with plants of every description, from the more diminutive Alpines to the bolder Rushes and Sedges of the waterside and the giant Gunnera. The Water Lilies were a delightful feature, and played their part in a group which may be described as unique.

Somewhat less in extent, but admirably conceived and carried out, was the fine water garden and rockwork group arranged by **MESSRS. R. W. WALLACE & CO., Colchester.** The group was arranged near to the entrance of the largest tent. By means of a stone pathway, in the midst of Japanese Irises, a water pool with stepping-stones led to a rock garden beyond, and from this point of view the effect was in every way excellent. Bold masses of *Spiræa*, *Aspidex*, *Bulbifera*, *Butomus*, *Eulalia*, and other things adorned the margins of the water, and within the shelter of some of the settings some beautiful hardy Ferns were arranged. Apart from this portion of the exhibit, many choice Lilies, Early Gladioli, *Calochortis*, *Eremurus*, and other flowers in great variety were staged in capital form.

Another important and well-arranged group was that from **MR. M. PRICHARD, Christchurch, Hants.** Here, too, were to be seen a great variety of subjects such as Lilies, *Iris laevigata*, *Alstroemerias*, *Eremurus*, *Bungei*, lovely masses of *Spiræa palmata* and *S. aruncus*, *Iris aurea*, *I. gigantea sulphurea*, a pale-coloured variety, and several good forms of the Day Lily, notably *Hemerocallis Baronii*, with long narrow petals of a pale primrose hue. The dark flower-buds, prior to expanding, render this a very distinct and attractive subject. **MR. PRICHARD** also exhibited a very fine example of *Spigelia marilandica*.

MESSRS. BARR & SONS, Covent Garden, had a capital display of hardy flowers, which included choice *Delphiniums*, *Iris laevigata*, Water Lilies, English Irises, *I. aurea*, *I. Monnierii*, select species of *Lilium*, *Cornflowers*, &c. **MESSRS. BARR** also showed a number of pigmy trees.

MESSRS. PAUL & SONS, The Old Nurseries, Cheshunt, had many garden flowers, together with a superb and well-flowered batch of *Lilium giganteum*, whose long, drooping, trumpet-shaped white blossoms, stained internally with red, made a very striking display.

The **MISSES HOPKINS, Sheperpton,** arranged a pretty rockwork exhibit judiciously with Alpine and allied things, the work being carried out in a very pleasing and artistic manner.

MR. R. C. NOTCUTT, Woodbridge, had a capital group of hardy plants, amongst which Roses, flowering shrubs, and other subjects were interspersed freely.

MESSRS. G. MALLET & CO., Cheddar, also displayed a mixed group of hardy flowers, such things as Early Gladioli, *Lilium auratum* platyphyllum, and a capital lot of the *Madonna Lily* being noted.

MESSRS. KELWAY & SON, Langport, had choice *Delphiniums* and *Gaillardias* both in great variety and staged as usual in a first-class manner.

MESSRS. B. LADHAMS & CO., LTD., Shirley, Southampton, had an admirable group of hardy flowers, particularly fine being masses of perpetual flowering Pinks, the pure white *Campanula persicifolia* alba coronata, and a rich display of *Gaillardias*, the latter containing many good and distinct varieties.

MESSRS. LILLEY & CO., Guernsey, staged early-flowering Gladioli, *Iris laevigata*, and similar plants in abundance, together with a fine bank of *Alstroemerias*.

MR. A. J. UPTON, Hardy Plant Nurseries, Guildford, had many interesting things, such as *Sedum Middendorffianum*, *Lithospermum intermedium*, with blue cylindrical-shaped flowers; *Andropogon liliifolius*, *Cistus algarvensis*, the petals being yellow with a dark base; *Campanulas*, *Sempervivums* in variety, and *Pentstemon tubiflorus*, a white-flowered species, which is both graceful and free in its flowering.

The **MISSES KIPPING, Hutton, Essex,** had a small though prettily-arranged group of Alpine and herbaceous plants.

MR. H. C. PULHAM, Elsenham, Kent, arranged a rockwork exhibit and planted it with Alpines in diverse varieties. The same exhibit contributed a considerable variety of cut herbaceous flowers.

MR. GEO. REUTHE, Keston, Kent, had an interesting variety of Alpines, rock-shrubs, and flowering herbaceous plants. Lilies, *Eremurus*, *Isias*, *Calochortis*, a fine mass of *Morina longifolia*, some excellent examples of *Desfontainia spinosa*, together with *Sarracenias* and other choice and good plants.

MESSRS. WM. AKTINDALE & SON, Sheffield, had a mixed group of Alpine, herbaceous and flowering shrubs, also a fine collection of *Pansies* and *Violas*, the flowers remaining perfectly fresh and good throughout the show.

MESSRS. GEO. JACKMAN & SONS, Woking, had many good hardy flowers in a nicely-arranged group. We noticed *Iris laevigata* as grown in the open and in quite dry soil, *Scabiosa caucasica*, *Larkspurs* in variety, English and other Irises, and many other species.

A comprehensive group of cut garden flowers came from **MESSRS. GEO. BUNYARD & CO.'S** nursery, Maidstone. The collection included Larkspurs in variety, *Alstroemerias*, *Phloxes*, *Petential Marguerites*, English Irises, also *I. aurea*, *I. Monnierii*, many fine *Campanulas* and a host of other good and seasonable subjects.

MESSRS. GUNN & SONS, Olton, near Birmingham, had an admirable display of herbaceous *Phloxes*, of which *Etna*, *Aurora Borealis*, *Coccolicot*, and *Tapis Blanc* were notable examples.

MESSRS. G. & A. CLARK, LTD., Dover, contributed a fine group embracing Alpines, Sweet Peas, herbaceous plants, rock-flowering shrubs, aquatics and allied things. A group of *Gilia coronopifolia* and a fine spike of the *Lizard Orchis*, *O. hircinica*, collected near Dover attracted much attention.

MR. HOWARD H. CRANE, Woodview Terrace, Highgate, London, N., had a very pretty display of *Violas* arranged in shallow pans. Several dozen of these pans, each containing a distinct variety, were staged, and there was also a delightful gathering of the more miniature *Violettas*, both as cut flowers and as growing plants in pans to demonstrate their dwarfness and freedom of flowering.

MESSRS. T. S. WARE, LTD., Feltham, had a large and varied exhibit of seasonable hardy herbaceous and other flowers.

SWEET PEAS.

Rarely have Sweet Peas been exhibited in greater numbers than on this occasion, the quality of the exhibits being very fine. At the entrance to tent No. 4 **MESSRS. JAMES CARTER & CO., High Holborn,** staged a large number of varieties in vases and suspended from arches, the exhibit being a most effective one. *Gloxinias* were arranged in the centre of this pretty display.

MR. C. W. BREADMORE, Winchester, had an admirable display of Sweet Peas skilfully

arranged with their own foliage. Notable varieties were St. George, Queen of Spain, Henry Eckford, King Edward VII., and The King.

Messrs. G. STARK & SON, Great Ryburgh, Suffolk, in a very comprehensive group, displayed many excellent varieties, noteworthy sorts being St. George, George Stark, a new variety with flowers of a reddish-scarlet hue; Olive Russell, a very delightful shade of pink; and Helen Pierce, blue.

Mr. W. R. CHAPLIN, Joyneys Nurseries, Waltham Cross, also exhibited these flowers freely and in many choice varieties.

Messrs. E. W. KING & CO., Coggeshall, Essex, had a delightful stand of Sweet Peas, including some of the newer and more distinct sorts, such as Mrs. Wm. King (rosy carmine), Anglian Blue, White Spencer, Evelyn Hemus, and Blush Seeding.

Messrs. JONES & SONS, Shrewsbury, also displayed these flowers in large numbers and in variety, the collection including the leading novelties as well as the best of the older kinds.

Messrs. SUTTON & SONS, Reading, staged a very complete collection in excellent condition. There were probably not fewer than 200 varieties, the centre being occupied with a bold arrangement of Sutton's Queen, a lovely variety of pink and cream colours.

Other exhibitors of Sweet Peas included Messrs. S. BIDE & SONS, Farnham; Mr. H. HEMUS, Upton-on-Severn; Messrs. J. KING & SONS, Coggeshall, Essex; and FRANCIS WELLESLEY, Esq., J.P., Woking.

GROUPS OF PLANTS EXHIBITED OUT-OF-DOORS.

Mr. JOHN FORBES, Hawick, N.B., made a large display with Phlox decussata in considerable variety, Violas, Pansies, Delphiniums, &c. Of the first-named plants, the varieties Esperance (of a lilac colour, having a white star in the middle), Croisade (pale blue and white), Joseph Chamberlain (mauve and purple), Josephine Gerbaud (white, with a pink eye), John Lamont (reddish lilac), and W. P. Wright (bright purple) are choice garden kinds. Delphiniums with long spikes, densely clothed with blooms, the colours being especially pleasing in the varieties Bertram, Albert Edward, Life Guardsman, and Norah Green. Violas and Pansies were extensively shown. Among the latter several remarkable or bold markings were noted.

Messrs. JAMES VEITCH & SONS, LTD., Royal Edinb. Nursery, Chelsea, exhibited a group of small plants of hardy Fuchsias, consisting of species and hybrids, viz., triphylla, Thomsonii myrtifolia, gracilis variegata, coccinea Floriana, Riccartonii Drama, &c.

Messrs. THOS. CRIPPS & SON, LTD., Nurserymen, Tunbridge Wells, showed hardy trees, many of them Japanese Acers in variety, grown as standards so as to show nice effects; new Chinese Vitis of species, Thujas, Clematis, Retinospora obtusa Crippsii, a pretty golden yellow variety, and other variegated plants in considerable numbers, and all of them hardy in this country.

Mr. L. R. RUSSELL, The Richmond Nurseries, Richmond, exhibited tree Ivies of a golden-leaved variety as standards and bushes. The taller plants were wonderfully effective. This exhibitor had likewise a large group of silver and gold variegated trees and shrubs, and capital specimens of Aralia Mandshurica argenteo-variegata, Hydrangea Hortensia, Aucuba, Acer, Vitis, &c. The arrangements of this group and that of the others were more lightsome and diversified than we have observed in former years.

Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, constructed a pergola with Larch poles, clothing the supports with Clematis and Rambler Roses; whilst at the back and ends plants in pots were employed to enclose the whole. We noticed well-bloomed plants of Philadelphus latifolius, a neat specimen of Abies pungens glauca, a pretty group of pot plants of Rose Mme. Levassieur in full bloom, Lilium auratum, &c.

Messrs. M. FROMOW & SONS, Sutton Court Nursery, Chiswick, set up a large group consisting of such hardy subjects as Japanese Acers, variegated Fries and Bamboos ranging from 10 feet to 2 feet in height.

Messrs. H. LANE & SON, The Nurseries, Great Berkhampstead, showed Buxus japonica aurea, Taxus elegantissima, golden tinted in the new growth; Retinospora pisifera aurea, Cupres-

sus Lawsoniana, C. Lambertiana lutea, and other variegated Cupresses.

Messrs. GUNN & SOXS, Olton, Warwickshire, showed their new Phlox "Tapis blanc," the plants being about 2 feet in height, robust, with big flower-heads, of smooth-edged, circular blooms $\frac{1}{4}$ inch in diameter.

Mr. W. PINGO HORTON, of the Stafford Road and Sunnyside Market Nursery Co., Craven-hurst, Seaford, Sussex, showed a novel arrangement in a sloping frame fitted with wooden stages having a front of virgin cork, filled with a number of rare and choice plants. We noted a new seedling, Gerbera Jamesonii, of a rich scarlet colour, one of many that he has raised; a cross between a Sweet William and Carnation Uriah Pipe, a sky-blue Nemesis looking like a blue Lobelia, a double-flowered Meconopsis cambrica, Pentstemon coruleus, Osmunda palustris, &c.

Mr. G. REUTHE, The Fox Hills Nursery, Keston, showed a small group of plants consisting of Irises, Campanulas, Saxifrage, Water Lilies, &c.

AWARDS.

AWARDS OF MERIT.

Begonia Duchess of Cornwall.—This variety has fine, double flowers of rich crimson, the form being similar to a well-developed Camellia. Shown by Messrs. BLACKMORE & LANGDON.

Begonia Filled Queen.—Of the many frilled Begonias exhibited in recent years, this one may be described as the most remarkable. The flowers are single, and the frill is developed in an unusual degree. The rich shade of pink is pleasing. Shown by Messrs. BLACKMORE & LANGDON.

Delphinium "Progression."—This is a white variety, except for a very little yellow in the centre. It is distinct from any we have observed. Shown by Messrs. WALLACE & CO.

Delphinium "Statuoir Rude."—This is a magnificent variety, with very large, semi-double flowers of a pale mauve colour. The inflorescence is long and bold, and the novelty may be recommended as distinct and of great merit, however much one may be disposed to question the appropriateness of the appellation. Shown by Messrs. BLACKMORE & LANGDON.

Rose George C. Waud.—This Hybrid Tea variety is remarkable for its brilliant colour, being a shade of cerise red as it appeared to us, but it has been described by the raisers as orange-vermilion. The flowers are large, of excellent form, and the petals wide and good. This variety should prove an excellent one for market supply, and we are glad to note that it possesses perfume. It has been shown previously under the name Sir Henry Irving, but this has been altered because a Rose has already been distributed in America under the name of Henry Irving. Shown by the raisers, Messrs. ALEX. DICKSON & SONS.

Rose Mrs. David Jardine.—Of the four varieties which obtained Awards on Tuesday last, this one commended itself most to us. It is a Hybrid Tea, and the flowers are of the very best form, having high, well-developed centres. In colour it is a most pleasing shade of shell-pink. The habit of the plant appears to be erect and vigorous, and the variety is said to have proved first-rate for forcing. We have no hesitation in commending this novelty as being one of the prettiest and most desirable of its type, which is that of the Catherine Mermet section. Shown by the raisers, Messrs. ALEX. DICKSON & SONS.

Rose Molly Sharmen Crawford.—This is a pure Tea variety, with large, well-formed flowers possessing good centres. The petals are very fine, and reflex prettily from the centre of the flower, which is white or very pale lemon. Shown by the raisers, Messrs. ALEX. DICKSON & SONS.

Rose Florence Edith Coulthwaite.—A Hybrid Tea variety of a shadings pink shade, varying considerably in the different flowers. As shown, the blooms were scarcely so attractive as the varieties already mentioned, but it is described by the raisers as one of their best novelties. Shown by Messrs. ALEX. DICKSON & SONS, who are also the raisers.

Viola Ernest Needham.—A very large, slightly-rayed Viola of perfectly circular form. The colour is purple on the margins, and the rest

white, except for a little yellow in the centre. Shown by Messrs. WM. ARTINDALE & SOX, Sheffield.

Tunica Saxifraga fl. pl.—A pretty, double-flowered form of this Caryophyllaceous plant. The blossoms measure nearly half an inch in width, are semi-double, and of a pink shade, deeper than in the type. In other respects it is identical with the older form, and will be found of much service for trailing over rocks or boulders, or for planting in old walls and ruins. Shown by Mr. G. REUTHE.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair), and Messrs. Jas. O'Brien (hon. sec.), H. Little, H. J. Chapman, H. A. Tracy, H. G. Alexander, F. Sander, J. Charlesworth, W. Boxall, F. M. Ogilvie, G. F. Moore, de B. Crawshaw, Gurney Wilson, Walter Cobb, Sir Jeremiah Colman, W. Bolton, J. Forster Alcock, A. Dye, R. G. Thwaites, W. H. White, F. J. Hanbury, Stuart Low, and C. H. Curtis.

In the large tent, the central staging in which was devoted to Orchids, Messrs. CHARLES WORTH & CO., Heaton, Bradford, staged a magnificent group, equal in quality and in good arrangement to any which has yet been staged at Holland House. With a background of graceful Palms, the salient feature throughout was made by the many splendid forms of Lælio-Cattleya Fascinator, L.-C. Aphrodite, L.-C. Canhamiana, L.-C. callistoglossa, &c., raised at Heaton. Very remarkable among these were two fine specimens of the deep coloured L.-C. Canhamiana Fire King, and several L.-C. alba, the rich orange-crimson L.-C. Golden Oriole, and a very dark-coloured L.-C. Berthe Fournier. Among the Cattleyas were a fine set of white forms, a grand specimen of C. Mossie Wageneri, having a dozen pure-white blooms; two plants of the rare snow-white C. Warneri alba; C. Mendeli Queen of Spain, with many white flowers, having a golden disc with slight rose marking in front; and various other pretty forms. Odontoglossums were also finely shown, and in these the Heaton-raised forms were conspicuous, varieties of O. ardentissimum including both the deep purple-spotted and the clear-white variety xanthodes. O. Othello, O. Rolfeae, and O. crispum were also good, the heavily-blotched O. crispum The Khedive being of great beauty. Of specially rare and good things were Odontodia Charlesworthii, with fine red flowers; O. Lutetia (C. Noeziana $\times$ O. luteo-purpureum), marked with a peculiar yellowish-red colour; Odontoglossum hibernicum, and other new hybrids. Of interesting species there were a good display.

Messrs. SANDER & SONS, St. Albans and Bruges, staged a very fine group, or series of groups combined, the two end sections being composed of their new foliage plants, many of which were recently illustrated in the *Gardeners' Chronicle*. The central and taller portion of the main groups of Orchids had tall, graceful Palms at the back, from which arched forward the fine white sprays of Phalaenopsis amabilis Rimestadina, in front of which was a very handsome selection of varieties of Lælio-Cattleya Martineiti, the rich, Indian-red petalled varieties, with deep reddish-purple labellums, predominating, and the best of these were named The Prince Regent, and The Duke of Devon. The curves had for a background the feather-fronded Polypodium Knightii, the side groups having elegant Palms at the back. Very fine in the body of the group were the varieties of Odontoglossum Harryano-crispum Brugense, raised at Bruges; the varied and beautiful forms of O. ardentissimum, including the beautiful varieties Rosy Morn, Kalliston, and others. Among the forms of O. crispum were several very fine blotched varieties. The Cattleyas were represented by the very fine set of C. Warscewiczii Sanderiana, good C. Mossie, including the pure white C. M. Wageneri, C. M. Reineckiana, and several other white forms. Three specimens of Odontodia Lairessee bore fine branching sprays of their white and rose-coloured flowers, and other good hybrids were included. In one pretty group were a fine set of Cypripedium bellatulum, beside them being the still larger and more beautiful C. Codefroya leucocolum "The President," a noble and richly-marked flower, the finest Cypripedium in the show; and behind them the handsome Cypripedium Orion (Selligerum majus $\times$ Rothschildianum), its large

ivory-white, purple-striped dorsal sepal being broader than long. Species of Orchids were many and various.

Messrs. MOORE, LTD., Rawdon, Leeds, had a very interesting and tastefully-arranged group, the backing of which was of plumose Cocos Palms. Three stands with virgin-cork pockets, in which to arrange the plants, were carried up, the central one having fine varieties of Cattleyas, some of the *C. Warscewiczii* being very beautiful. In front was an elegant plant of *Oncidium cornigerum*, with its gold and brown flowers gracefully drooping, beside it being the pretty *Epidendrum nemorale*, the pure white *Cattleya Gaskelliana alba*, *Brassia verrucosa*, the finely-blotched *Odontoglossum eximium*, *O. amabile*, and other *Odontoglossums*. Two well-flowered plants of the large rose-purple *Disa Luna* were very effective; the rare *Cirrhopetalum biflorum*, with five spikes each of two pretty rose-coloured flowers, the feather-lipped *B. barbigatum* were interesting objects, and among others noted were the carmine-crimson *Broughtonia sanguinea*, the rare *Vanda Bensonii* an-

Claptonense, and the elegant rose-purple *Cirrhopetalum Cumingii* were noted, and in another arrangement several *Sophras*, *Laelias*, *Physophion Loddigesii*, *Epidendrum pentoties*, *Oncidium raniferum*, and other species.

Messrs. STANLEY & Co., Southgate, staged a group in which *Cattleya Warneri* was well represented, the variety *magnifica* being very fine. Among the forms of *Cattleya Mossiae*, the variety *Silver Queen* was a good white, and the forms of *C. Mendelii*, *Oncidium sarcodes*, *O. macranthum*, &c., were well displayed.

Mons. FLORENT CLAES, Etterbeek, Brussels, showed several very fine forms of *Cattleya Mendelii* and *C. Mossiae*, the best of which was *C. Mendelii*, *Clas*'s variety, a model white flower, with carmine crimson front to the lip.

Mons. A. A. PETERS, Brussels, showed *Cattleya Bowringiana-Schilleriana*, with deep purplish-claret flowers; *C. Du Preana* (*Warneri* × *Warscewiczii*), larger than *C. Warscewiczii* and similarly coloured; and *C. Carducea* (*Schofieldiana* × *Gaskelliana*).

ing deep rose lines on the lip; and the large white *M.v. Queen Alexandra*.

W. THOMPSON, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent *Odontodia Charlesworthii*, with deep red flowers with yellow crest.

AWARDS.

FIRST-CLASS CERTIFICATE.

Laelio-Cattleya Clive magnifica (L. præstans × L.-C. Dowiana aurea), from Lt.-Col. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander). A superb dwarf *Laelio-Cattleya*, with large flowers, having the sepals and petals deep rose colour, the lip purplish-claret, with gold-coloured lines from the base.

Odontoglossum illustre "King of England," from H. S. GOODSON, Esq., West Hill, Putney (gr. Mr. G. E. Day). One of the most beautiful hybrid *Odontoglossums*. Flowers large, all the segments broad, the sepals and petals heavily blotched with bright violet, the lip chocolate-purple, with white margin, and strongly indicating *O. Vuylstekei* as one of the parents.

AWARD OF MERIT.

Odontoglossum Eleanor. Westonbirt variety (*cirrhosum* × *Uro-Skinneri*), from Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O. (gr. Mr. Alexander). A charming hybrid, with sap-green sepals and petals spotted with chocolate colour and broadly ovate-acuminate white lip marked with violet-purple.

CULTURAL COMMENDATION.

To Mr. H. G. Alexander, Orchid grower to Lt.-Col. G. L. HOLFORD, for a magnificent plant of *Odontoglossum Othello, Westonbirt variety*, with two very stout spikes of large and handsome flowers.

10. Mons. CHAS. VUYLSTEKE, Loochristi, Ghent, for the original plant of *Odontodia Vuylstekei*, very finely flowered, with a large branched spike of white and reddish-rose flowers, in which cultivation has developed more of the fine size and white ground colour than in the specimen when originally exhibited.

Fruit and Vegetable Committee.

Present: G. Bunyard, Esq. (Chairman), and Messrs. W. Bates, W. Poupard, H. Parr, W. H. Divers, G. Woodward, J. Davis, Thos. Coomber, E. Beckett, J. Willard, W. Fyfe, G. Kelf, C. Walter, J. Cheal, P. C. M. Veitch, A. R. Allan, W. Pope, R. Lye, G. Wythes, C. Foster, J. Basham, and A. Dean.

Although a meeting of this Committee was held, very few subjects were presented for adjudication.

W. H. P. STURGIS, Esq., Givons Grove, Leatherhead (gr. Mr. Peters), sent several seedling Strawberries in dishes, also plants in fruit of the varieties William Peters and Marmaduke. All the varieties were tasted, but none met with the approval of the Committee.

Messrs. HUGH LOW & Co., sent a hybrid Blackberry, the product of crossing the Loganberry with a British Blackberry. (See figs. 12 and 13.)

Although the customary fine collection of pot fruit trees from Sawbridgeworth was lacking, there was much of interest in the fruit exhibits. Notably fine was a collection of some 80 representative fruit trees staged by Messrs. JAS. VEITCH & SONS, King's Road, Chelsea, prominent amongst which were Standard trees of Red Currants in good fruit on 6-foot stems; also some tall Gooseberries. Figs were in good form, such varieties as Black Ischia, Negro Largo, Early Victor, Bourjassotte Grise, Violette de Bordeaux and Early Violette being well fruited. At the back of the collection on either side were Madresse Court and Black Hamburgh Grapes, and on the other side Royal Muscadine and Foster's Seedling. These were flat-trained and heavily fruited. Apple Coronation was in good fruit, as also were Peaches Dymond, Stirling Castle, Peregrine, and Duchess of Cornwall, and Nectarines Pine Apple, Humboldt, Cardinal, and Dryden.

Messrs. G. BUNYARD & Co., LTD., Maidstone, had a collection of some 30 pot trees, including Peaches Duchess of Cornwall and Duke of



FIG. 12.—THE NEW HYBRID BERRY SHOWN BY MESSRS. HUGH LOW AND CO., AT THE HOLLAND PARK SHOW. (See p. 37.)

chorifera, *Zygopetalum rostratum*, *Bulbophyllum Godeffianum*, some specially good *Miltonia vexillaria*, and a singular variegated form of the yellow *Lycaste macrobulbon*. *Odontoglossum Rolfeae magnificum* was a grand form, large in size and equally broad in all its parts; white, prettily marked with purple, and one of the most perfectly formed of hybrid *Odontoglossums*.

Messrs. HUGH LOW & Co., Enfield, had a fine group of *Cattleya Mendelii* and *C. Mossiae* of their well-known excellent type. One specimen of *C. Mendelii* bore about 30 flowers, and all were exceptionally well bloomed. Among the white varieties of *Cattleya Mossiae*, specially interesting was the large and beautiful *C. Mossiae Arnoldiana Smea*'s variety, which the firm originally sold to the late Dr. Smea nearly 25 years ago, and which is still one of the best. A batch of the white *Cypripedium niveum*, a pretty selection made up of varieties of *Bulbophyllum Lobbian*, *B. Siamese*, the beautiful *B.*

H. S. GOODSON, Esq., Putney (gr. Mr. G. E. Day), showed *Odontoglossum Pescatorei* *Sidneyanum*, a very large white flower, with the lip handsomely marked with violet; a good *Cattleya F. W. Wigan*; and *Odontoglossum illustre* "King of England." (See Awards.)

Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent *Sophras*, *Laelio-Cattleya Danae* (S.-L. *laeta* *Orpetiana* × *C. Harrisoniae*), a very pretty hybrid, with purplish-rose sepals and petals, and lip formed like *C. Harrisoniae*, yellowish, with rose tip; and three others. (See Awards.)

WALTER COBB, Esq., Rusper (gr. Mr. C. J. Salter), showed *Odontoglossum formosum*, Cobb's variety, white, heavily blotched with violet, and formed like *O. Pescatorei*.

F. M. OGILVIE, Esq., The Shrubbery, Oxford, showed *Miltonia vexillaria*, The Shrubbery variety, a large rose-pink variety, with radiat-

York; Plums heavily fruited; Apples Hitchin Pippin and Peasgood's Nonsuch; Cherries Monstreuse de Mezel, Kent Bigarreau, Geant de Heffelingen, and others. The firm also exhibited in plates various well-kept Apples, including Tibbett's Pearmain, Smart's Prince Albert, and Calville des Femmes, and in small boxes a collection of Strawberries showing excellent fruits of The Bedford, Progress, British Queen, Eleanor, Laxton's Latest, Waterloo, Louis Gauthier, and others.

From S. HEILBUT, Esq., Maidenhead (gr. Mr. J. Camp), came a dozen fine trees, chief amongst which were some superbly-fruited Cherries. Specially heavily fruited were trees of the varieties Bigarreau Napoleon, Emperor Francis, and Bohemian Black; several Peaches and Nectarines, the names of which were not visible; and Brown Turkey and Black Naples Figs were also shown by Mr. HEILBUT.

Gathered fruit was represented by a collection of 19 fine Queen Pineapples from Lord LLANGATTOCK's garden, The Hendre, Monmouth (gr. Mr. Coomber). The fruits were presented in the best condition, for which Mr.

Mr. S. MORTIMER, Rowledge, Farnham, had a collection of superb Melons, 60 fruits in all, those of Hero of Lockinge being exceptionally fine. Other varieties were Sutton's Royal Favourite, Windsor Castle, and Blenheim Orange. There were very handsome samples of Cucumbers Evergreen and Faultless; also boxes of Up-to-Date, Sunrise, and Hanwell Victory Tomatos.

Messrs. ADAM PARKEE & Co., Waltham Cross, had two baskets and three dishes of unnamed Tomatos.

VEGETABLES.

Practically the only collection—and that a remarkably fine one—came from Aldenham House Gardens, Mr. E. Beckett (gr. to VICARY GIBBS, Esq.) being the exhibitor. It comprised 102 separate dishes, and was probably one of the finest displays ever shown by Mr. Beckett at this season of the year. There were some 50 very perfect heads of Cauliflower, including Purity, Magnum Broom, White Queen, and Early Giant. Intermingled with these were Allan's Early, Little Gem, and Tender and True

length, deep black in colour, and pleasing to the palate. Shown by Messrs. HUGH LOW & Co.

Awards made by the Council.

GOLD MEDALS.

The Rt. Hon. Lord Llangatock, The Hendre, Monmouth; The Hon. Vicary Gibbs, Aldenham House, Farnham; Frank Cant & Co., Colchester; Charlesworth & Co., Heaton, Bradford; A. F. Dutton, Iwer, Bucks; Hobbies, Ltd., Dereham; H. B. May & Sons, Edmonton; Paul & Son, Chess-hunt; William Paul & Son, Waltham Cross; Amos Perry, Enfield; J. Veitch & Sons, Ltd., Chelsea; and R. Wallace & Co., Colchester.

SILVER CUPS.

C. W. Broadmore, Cumbush, James Carter & Co., High Holborn; Wm. Cuthbert & Son, Highgate; R. & G. Cuthbert, Southgate; L. R. Russell, Richmond; G. Bunyard & Co., Maldstone; G. & A. Clark, Dover; Sander & Sons, St. Albans; Hugh Low & Co., Bush Hill Park, Enfield; M. Pritchard, Christchurch, Hants; H. Cannell & Sons, Swanley; T. Cripps & Sons, Tunbridge Wells; Blackmore & Langdon, Twerton Hill Nursery, Bath; W. Artundale & Son, Nether Green Nurseries, Sheffield; W. H. Page, Hampton, Middlesex; S. Heilbut, Esq., Holsport, Maidenhead; A. Dutton & Sons, Newdown, Bath; The Old Rose Garden, Colchester; Bell & Sheldon, Castel Nursery, Guernsey; W. J. Moore, Ltd., Rawdon, Leeds; T. Green & Son, Ltd., New Surrey Works, Southwark Street, S.E.; and W. Bull & Sons, Chelsea.

SILVER-GILT FLORA MEDALS.

T. S. Ware, Feltham; Barr & Sons, Covent Garden; Jackman & Son, Woking; Feed & Son, West Norwood; W. R. Chaplin, Waltham Cross; W. Bull & Sons, Chelsea; G. Mount, Canterbury; Cheal & Son, Crawley; and Wood & Son, Wood Green.

SILVER-GILT KNIGHTIAN MEDAL.

Laxton Bros., Bedford.

SILVER-GILT BANKSIAN MEDALS.

Misses Hopkins, Shepperton; G. Reuthe, Keston; R. H. Bath, Ltd., Wisbech; C. Turner, Slough; E. W. King & Co., Coggeshall; and R. Burnett, Guernsey.

SILVER FLORA MEDALS.

Sir G. Faudel-Phillips, Hertford; R. C. Notcutt, Woodbridge; Laing & Sons, Forest Hill; F. Lilley, Guernsey; Gunn & Sons, Olton; A. Ll. Gwillin, New Eltham; Bide & Sons, Farnham; Stark & Sons, Great Ryburgh; J. C. Fulham, Epsom; Jones & Son, Shrewsbury; John Forbes, Hawick; Lane & Son, Berkhamstead; Merryweather & Son, Southwell; E. Ladhams, Ltd., Southampton; King's Acre Nurseries, Hereford; W. Fromow & Sons, Chiswick; Sutton & Sons, Reading; Stanley & Co., Southgate; G. W. Riley, Herne Hill; Scott & Sons, South Norwood; Imams & Co., Stretdorf; Potter's Art Guild, Compton; and Fulham & Son, Newman Street, W.

SILVER KNIGHTIAN MEDALS.

S. Mortimer, Farnham, Surrey; Swanley Horticultural College (gr. Mr. Lawson); R. Jackson & Co., Piccadilly; and Miss C. E. Martin, New York, U.S.A.

SILVER BANKSIAN MEDALS.

R. Smith & Co., Worcester; G. Mallett & Co., Cheddar; Kelway & Son, Langport; H. P. Burrell, Esq., Horton; Dr. Freeland; E. E. Grimsom, Esq., Sutton, Surrey; Col. Heselbine, 106, Queen's Gate; J. K. King & Sons, Coggeshall; E. & M. Kipping, Hutton, Essex; V. Slade, Taunton; A. R. Upton, Guildford; F. Wellesley, Esq., Woking; W. & J. Brown, Stamford; Patent Ladder Co., Peterborough; Castle Shipbreaking Co., Millbank; de Lucy Fries, Canberwell; A. Hamilton, 11, Conduit Street, W.; Liberty & Co., Warwick Street; Ransomes, Sims & Jefferies, Ipswich; F. Westmacott, Leadenhall Street; and Lloyd, Lawrence & Co., Worship Street.

BRONZE BANKSIAN MEDALS.

Headley & Edwards, Cambridge; James George, Putney; Dowell & Son, Hammersmith; Fenlon & Son, Tudor Street, E.C.; W. Herbert & Co., Hop Exchange, E.C.; Syer & Co., Wilson Street, Finsbury; and A. Shanks & Son, Bush Lane House, E.C.

TRIAL OF EDIBLE PEAS.

A deputation from the Fruit and Vegetable Committee, with Mr. J. Cheal as chairman, inspected early Peas in the Society's gardens, Wisley, on June 20. Of some 47 stocks, previous awards to Quite Content, Duke of Albany, and Stratagem, from Messrs. Jas. Carter & Co. were confirmed. It was resolved to recommend for Awards of Merit at the meeting of the Committee on July 21 several seedlings if then duly named, also the dwarf varieties Delicatessen and Daffodil, all being fine croppers. A few Long Pod Beans were seen, the best stocked being White Leviathan, which seemed to be identical with Seedling Long Pod.

BATTERSEA AND WANDSWORTH CHRYSANTHEMUM.

JULY 4.—Through the kindness of Sir Jeremiah Colman, a party of members and friends, numbering 70, paid a visit to Gatton Park, Reigate, on the above date. The head gardener, Mr. W. P. Bound, conducted the party through the glass-houses and grounds, pointing out everything of interest. The famous "Marble Hall" was much admired; other interesting features were the quaint old Town Hall, surrounded by trees, and the old church.



FIG. 13.—HYBRID BERRY "LOW JUNIOR" (BLACKBERRY × LOGANBERRY).
(See Awards at Holland House show.)

Coomber is noted. He had also a collection of 16 varieties of Strawberries set up in shallow boxes. These included of scarlet hue, Trafalgar, Royal Sovereign, Fillbasket, and The Bedford; white, Louis Gauthier; and of deeper colours, Sir Joseph Paxton, Givon's Late Prolific, Bedford Champion, Leader, Reward, Sir C. Napier, President Lubet, Laxton's Latest, Guntton Park, and Waterloo.

From the HORTICULTURAL COLLEGE, Swanley, Kent, was sent a collection of Melons and other fruits. There were 15 Melons, all fine clean fruits, and apparently of the variety Miss Wilkinson, so named after the Lady Principal. There were also bunches of Black Hamburg Grapes, Dymond Peaches, Superlative Raspberries, Beauty of Bath Apples (very fine), Red Currants, and several dishes of good red and yellow Tomatos.

Messrs. LAXTON BROS., Bedford, put up a collection of 40 baskets of Strawberries, the fruits generally being exceptionally fine. Specially noticeable were Laxton's Latest (fruits large and dark in colour), Reliance, Waterloo, Progress, The Bedford, and Givon's Late Prolific. The varieties were generally late ripeners. Some good fruits of Peaches Duke of York and Alexander, and Nectarine Lord Napier, were also shown well by this firm.

Cabbages, various Cabbage Lettuces, white Seakale, Beet, Marrows, Carrots, Rhubarb, and other culinary products. Fronting these were Peerless, Matchless, and Delicacy Cucumbers; Perfection, Eclipse, Sunbeam, and Golden Perfection Tomatos; Ringleader, Duke of York, Windsor Castle, and other Potatos; Mammoth Long Pod Beans; Early Giant, Duke of Albany, and Centenary Peas; various short Carrots; wax-podded and green Dwarf Beans; Mustard and Cress, and many other vegetables.

Messrs. JAS. CARTER & Co., Holborn, surrounded their pretty exhibit of flowers with some 66 dishes of edible Peas, including many evidently fine samples from crosses of well-known varieties, but the seedlings were shown under numbers. Of named varieties, capital samples were staged of Quite Content, Telephone, Gladstone, Early Morn, Alderman, Edwin Beckett, Stratagem, Standard, and others.

AWARD OF MERIT.

Low Junior Blackberry × *Loganberry* (see figs. 12 and 13).—This fruit was obtained by crossing the native Blackberry with the Loganberry. The fruits, which had been ripened under glass, were about 1 or 1½ inches in

NATIONAL ROSE.

JULY 3.—Everything tended to ensure success for the Metropolitan exhibition of the National Rose Society, which was held on the foregoing date in the Royal Botanic Society's Gardens, Regent's Park. The weather was glorious, the arrangements were perfect, and the season has on the whole proved a good one for the flowers. The attendance of the public was probably a record for these shows. The patrons of the Society are increasing in number, and the membership is now second only to that of the Royal Horticultural Society. Amongst the visitors were Her Majesty the Queen and Princess Victoria, and they were conducted through the tents by Miss Willmott, the hon. secretary (Mr. Ed. Mawley), and other officials.

The general quality of the flowers was good but not exceptional, and it was noticeable that some of the older favourites, such as Ulrich Brunner, Mrs. John Laing, and Maman Cochet, were exceptionally fine this season, but the beautiful Frau Karl Druschki was not equal to the blooms of previous years. Two new varieties received Gold Medals, but neither appeared to be up to the highest standard, and we doubt if they will rank amongst the best varieties in the future.

As the day wore on the blooms lost much of their beauty, for the intense heat caused them to droop and to lose their colour. A thermometer in the open registered 112° at 1.30 p.m., and we were informed that inside the tents the thermometer rose to 75°. In order to make the tents more comfortable, a stream of cold water was directed on to the canvas outside and the sides were opened to permit of ventilation. The number of entries eclipsed all records and necessitated an extra tent, which was used exclusively to accommodate the decorated tables and other devices of the florists' art. The thanks of all are due to the hon. secretary (Mr. Ed. Mawley) and his assistants; also Mr. Hawes and others of the staff of the Botanic Society for the admirable arrangements. The catering in the refreshment department was inadequate and caused considerable dissatisfaction.

NURSERYMEN'S CLASSES.

CUT BLOOMS.

The first class in the schedule is also the first in importance and the one that causes the greatest amount of interest. No fewer than 72 blooms of distinct varieties are required in the Nurserymen's Champion class, and it attracted five of the premier Rose firms. The winners of the 1st prize were Messrs. D. PRIOR & SON, Myland Nursery, Colchester. *Back Row:* Oberhofgärtner Tercks, a magnificent bloom; Ulrich Brunner, Mildred Grant (both these varieties were universally good throughout the show); Suzanne, Marie Rodocanachi, Papa Lambert, Horace Vernet, Frau Karl Druschki, Duke of Edinburgh, Lohengrin, A. K. Williams, Alice Lindsell, François Michelon (silvery-rose), Hugh Watson (the petals are rose with a peculiar orange sheen, a pleasing tint), Helen Keller, Mrs. Sharman Crawford, Etienne Levett, Marchioness of Dufferin, Marchioness of Londonderry, Dupuy Jamin (carmine), Aimée Cochet, Florence Pemberton, and William Shean. *Middle Row:* Liberty, Miss Marie Corelli, Maman Cochet, John Stuart Mill, White Maman Cochet (a choice flower), Marie Baumann, Robert Scott, Duke of Teck, Mrs. John Laing, Duke of Connaught, Maréchal Niel, M. L. Poivet, Bessie Brown, Chas. J. Grahame, Dean Hole (a fine representative of this beautiful variety), Muriel Grahame, Gladys Harkness, Mme. Delville, Mme. Jules Graveureux, David Harum, Mrs. Theodore Roosevelt, J. B. Clark (a well-warmed bloom, richly coloured), Caroline Testout, and Killarney. *Front Row:* Duchesse de Mormy, Oscar Cordel, Countess of Caledon, Bob Davison, Mrs. David McKee, Doctor Sewell, Princess Marie Merchertsky, Ben Cant, Marchioness of Devonshire, Victor Hugo, Mrs. W. J. Grant, Tom Wood, Mamie, Countess of Gosford, Innocente Pirola, Star of Waltham, Lady Ashtown, Alfred Colomb, Mrs. Cocker, Chas. Darwin, Ulster, Hugh Dickson, Souvenir du 2nd prize, and Mrs. John Bateman. The 2nd prize, which was awarded to MESSRS. R. HARKNESS & CO., Hitchin, 3rd, to MESSRS. BEN. R. CANT & SONS, Colchester.

Forty distinct varieties, in triplets.—There being three blooms of each variety, each competitor had to furnish 120 blooms, so that the exhibits, which numbered four, occupied a considerable space and presented a very fine display. The best of the four exhibits was put up by MESSRS. BEN. R. CANT & SONS, Colchester, the varieties including Mildred Grant (three fine exalts), Alfred Colomb, Mme. Jules Graveureux, Her Majesty (fine blooms, rather much blown), Golden Gate, Edward Andre, White Maman Cochet, Caroline Testout, and Bessie Brown. 2nd, MESSRS. ALEX. DICKSON & SONS, Newtownards, Ireland, whose best examples were Walter Speed (new, of pale yellow colour), Dean Hole, Ulster, Hugh Dickson, Mrs. Myles Kennedy (of magnificent form and best shape of petal), and William Shean. 3rd, MESSRS. D. PRIOR & SON, Myland Nursery, Colchester.

Forty-eight blooms, distinct.—This proved a good class, the blooms generally being of first-class quality, especially those in the 1st prize exhibit, which was shown by MESSRS. J. BURRELL & CO., Howe House Nursery, Cambridge, whose choicer blooms were those following: J. B. Clark, Florence Pemberton, Gladys Harkness, Bessie Brown, Oberhofgärtner Tercks, Ulrich Brunner, Mildred Grant, Lady Ashtown (a finely formed bloom), Maman Cochet, A. K. Williams, Mrs. E. Mawley, Mme. Philippe Rivoire, Frau Karl Druschki, Mrs. T. Roosevelt, Muriel Grahame, Gustav Grünwald, &c. 2nd, MESSRS. G. & W. BURELL, Peterborough, who had Princess M. Merchertsky (a big flower with a fine centre), Her Majesty (a grand bloom), Mildred Grant, Duke of Spain, Tom Wood (excellent), Duke of Fife, &c. 3rd, Mr. G. MONTY, Canterbury, whose example of A. K. Williams won the Silver Medal offered for the best Rose other than H.T., Tea, or Noisette in the nurserymen's section.

Sixteen varieties, shown in triplets.—This proved an interesting class, and many beautiful blooms of well-known kinds were seen. The premier exhibit was displayed by Mr. H. DREW, Longworth, Faringdon, who had Bessie Brown, Mildred Grant, G. Harkness, Comtesse de Nadailac (a remarkably choice bloom), Hugh Dickson, G. Harkness, Dean Hole, and White Lady as his best flowers. The 2nd prize was awarded to Mr. C. TURNER, Slough.

Sixteen distinct varieties, three blooms of each.—This class for triplets proved a good one, for no fewer than seven exhibits were staged. Some first-class blooms were seen, especially in the 1st and 2nd prize groups, the former being staged by MESSRS. G. & W. BURELL, Peterborough, and in which were seen notable examples of Caroline Testout, Mildred Grant, Ulrich Brunner, Papa Lambert, Gustave Piganeau, Mme. Jules Graveureux (especially good), Her Majesty, &c. 2nd, MESSRS. J. BURRELL & CO., Howe House Nursery, Cambridge, with smaller blooms. There was a magnificent trio of Dean Hole in this collection. 3rd, MESSRS. J. JEFFERIES & SON, Royal Nurseries, Cirencester.

TEA AND NOISSETTE ROSES.

The chief class in this section was for 24 blooms of distinct varieties. There were four contestants, the 1st prize being won by Mr. A. E. PRINCE, Longworth, Faringdon, who was not far ahead of the 2nd prize winners, MESSRS. B. R. CANT & SONS, Colchester. In Mr. PRINCE'S group we may enumerate Comtesse de Nadailac, Innocente Pirola, Maman Cochet, Mme. Jules Graveureux, Muriel Grahame, Mme. Cusin, Mrs. Ed. Mawley, Mme. J. Dupuy, and Souvenir de Pierre Notting as being especially fine. 3rd, MESSRS. F. CANT & CO., Colchester.

Two blooms, distinct varieties.—Mr. J. R. MATTOCK, Headington, Oxford, was an easy 1st prize winner, his collection being especially good. He showed in grand style such fine varieties as Mme. J. Graveureux, Maman Cochet, Mme. Constant Soupet, White Maman Cochet, Empress of Russia, Innocente Pirola, Catherine Mermet, Medea, Boadicea (a splendid bloom), Cleopatra, Bridesmaid, and Muriel Grahame. 2nd, MESSRS. PAUL & SON, Cheshunt. 3rd, MESSRS. J. BURRELL & CO.

Fourteen distinct varieties, shown in triplets and staged in vases.—There was a marked contrast in the various groups, of which there were seven, some being poor and others remarkably

good. The finest collection was staged by MESSRS. B. R. CANT & SONS, The Old Rose Gardens, Colchester, who put up a choice lot—Mme. Jules Graveureux, White Maman Cochet, Mrs. Ed. Mawley, Innocente Pirola, Mme. de Watteville, &c. 2nd, Mr. HENRY DREW, Longworth, Berks., with Mrs. Pierpont Morgan (a flower resembling the one named after Mme. Cusin), Maman Cochet, Medea, &c.

GROUPS OF ROSES.

This year the most important class was represented by two firms only, MESSRS. HOBBS, LTD., Dereham, Norfolk, and MESSRS. PAUL & SON, Cheshunt, Herts., who won in the order of their names. MESSRS. HOBBS, LTD., had a pleasing group, principally of tall Rambling varieties, all well furnished with flowers. The best were Delight, Tauesendshön, Hiawatha, and Dorothy Perkins. The group was semi-circular in shape, and around the foreground were several pretty baskets of Roses on stands. The edging was formed of Ferns, *Isoetes gracilis*, &c. MESSRS. PAUL & SON had greater variety in their group, and the blooms were very choice, but it had not quite so striking an effect as the one just described.

The class for a representative group of cut Roses occupying an area of 100 square feet, the blooms to be shown in glasses, vases, baskets, &c., but not in boxes, was of great importance, for most of the noted Rose firms entered. The class enabled groups such as are staged at some shows as non-competitive (but which here are not allowed) to be displayed, and they required a very large amount of room for their staging. Mr. GEO. MONTY, Canterbury, won the 1st prize with one of his characteristic displays, in which he forms large banks each of a few choice varieties, such as Fran Karl Druschki, Rev. Joseph Low, Liberty, Mrs. John Laing, &c., with an assortment of specimen blooms along the front. 2nd, Mr. F. M. BRADLEY, Church Street, Peterborough; and 3rd, MESSRS. W. & G. BROWN, Peterborough.

ROSES IN VASES.

The class for twelve distinct varieties, not more than half the number to consist of Tea or Noisette Roses, was a notable class. Seven blooms of each variety were required, and the space was limited to 6 feet by 3 feet. Great praise must be accorded to MESSRS. ALEX. DICKSON & SONS, Newtownards, Dublin, for their fine exhibit which won the 1st prize. They showed some magnificent blooms, on stout big stems and with foliage. Mildred Grant was shown superbly, also Bessie Brown, Dean Hole, Lord Derby, Ulster, Lady Ashtown, and Florence Pemberton. The adjoining exhibit, shown by MESSRS. D. PRIOR & SON, was also of great merit, and it was given the 2nd prize. 3rd, MESSRS. F. CANT & CO.

Another class for nine distinct varieties of Tea and Noisette Roses, also seven blooms in a vase, was contested by four growers. The premier award went to Mr. HENRY DREW, Faringdon, Berks., for small but highly refined blooms of Maman Cochet, Mme. Cusin (very choice), Muriel Grahame, White Maman Cochet, Souvenir d'un Ami, The Queen, Mrs. Stephen Treseder, &c. 2nd, Mr. JOHN MATTOCK, Oxford, for smaller blooms.

DECORATIVE ROSES IN VASES.

There were three classes for these Roses, and as each exhibit was staged on a separate table, they almost filled one of the tents. Almost universally there were three tiers, draped by some dark cloth material, and in every case they were arranged in vases. The schedule required foliage and shoots to show the habit of growth; exhibition Roses were excluded. Most of the blooms were drooping, and many faded from the extreme heat. The chief class was for 36 distinct varieties, not more than three nor more than seven trusses of each variety being allowed. There were only two exhibitors, viz., Mr. J. MATTOCK and MESSRS. PAUL & SON, who were awarded the 1st and 2nd prizes respectively. Mr. MATTOCK had Irish Glory (a beautiful single variety of a shade of red), Belle Fleur, Hebe's Lip (the pretty white blooms with golden centres remained fresh throughout the day), Mons. Paul Lede, Papillon, Gustave Regis, Bardou Job, Leuchstern, &c.

Eighteen distinct varieties.—The blooms presented a sorry spectacle—most of them hung

withered over their receptacles. The 1st prize was given to Messrs. W. SPOONER & SON, Arthur's Bridge Nursery, Woking. Rubins, a Rambler variety after Crimson Rambler, was fine in this and several other groups; Helen, Gustave Regis (a big semi-double variety, creamy-white), Mrs. F. W. Flight, Leuchstern, and Tea Rambler are the more notable kinds shown. 2nd, Mr. C. TURNER, Slough, whose group could not have been more than a point or two below the 1st prize exhibit. 3rd, Mr. J. BARROW.

In another class, in which several types of Roses permitted in the other classes were excluded, the 1st prize was won by Mr. GEO. PRINCE, Oxford, and the 2nd by Messrs. G. COOLING & SONS, Bath.

quality, and, until the afternoon, were in the best condition. E. B. LINDSELL, Esq., Bearton, Hitchin, was 1st with exquisitely beautiful blooms of the largest size. Four of them were Irish Roses, viz.: Florence Pemberton, Alice Lindell, Dean Hole, and Earl of Dufferin, together with Queen of Spain, Mme. J. Graveraux, Horace Vernet, Souvenir d'Elise, Countess of Oxford, Mrs. Mawley, Cleopatra, Beauty of Waltham, Mrs. Jno. Bateman, Marie Baumann, Maman Cochet, and the white variety of this Rose, Fisher Holmes, Mme. Delville (a neat bloom of a deep pink tint), Souvenir de Pierre Notting, Her Majesty, Mrs. J. Laing, Alfred Colomb, and Oberhofgärtner Tercks. The 2nd prize was awarded to the Rev. J. H. PEM-

The next important class was that for 24 distinct varieties, open to all amateurs irrespective of the number of plants they grow. A. TATE, Esq., Downside, Leatherhead, Surrey, won the 1st prize, his finest blooms being W. Shean, Mrs. T. Roosevelt, Florence Pemberton, Robert Scott, Ulster, Countess of Derby; 2nd, E. B. LINDSELL, Esq., with good blooms, but conspicuous for irregularity in size. The examples of Horace Vernet, Mildred Grant, and Bessie Brown were the finer.

The next class was for 12 blooms of distinct varieties in triplets, in which E. B. LINDSELL, Esq., took the 1st prize with a boxful of very fine blooms, among which we observed Dean Hole, Mildred Grant, Duches of Portland, White Maman Cochet, Bessie Brown, Florence Pemberton, &c.; 2nd, E. J. HOLLAND, Esq., Sutton, Surrey, with fine, large blooms of Tea and Hybrid Tea varieties. Excellent were Mildred Grant, Mr. T. Roosevelt, Mrs. J. Laing, Dean Hole, Florence Pemberton, and the bright pink variety Mrs. W. J. Grant.

Nine blooms of any Rose, except Teas or Noisettes, to be shown in three vases.—1st, F. DENNISON, Esq., with very large and perfect examples of Mildred Grant; 2nd, Dean Hole, as exhibited by G. A. HAMMOND, Esq., Cambrian House, Burgess Hill.

A class was provided for growers of fewer than 2,000 plants of varieties found in the lists of exhibition Roses in the Society's book of arrangements. The 1st prize for 24 blooms of distinct varieties was won by W. O. TIMES, Esq., Hitchin. We observed nothing of exceptional merit beyond the examples of Oberhofgärtner Tercks, Ulrich Brunner, Mme. Jules Graveraux, and Mrs. J. Bateman; 2nd, T. B. GABRIELLE, Esq., Hart Hill, Woking.

Eighteen blooms of distinct varieties.—1st, G. SPEIGHT, Esq., Market Harborough, for fresh-looking blooms, even in size, the finer ones being Caroline Testout, J. B. Clark, W. Shean, Her Majesty, and Souvenir de Pierre Notting; 2nd, E. MAWLEY, Esq., Rosebank, Berkhamstead, who showed chiefly red and crimson varieties, such as Gustave Piganeau, J. B. Clark, Suzanne Marie Rodocanachi, Chas. Lefebvre, Alfred Colomb and Ulrich Brunner.

Eight distinct varieties, in triplets.—The 1st prize fell to G. SPEIGHT, Esq., for good blooms of practically the same varieties as he showed in the preceding competition; 2nd, Mrs. FORTESCUE, Dropmore, Maidenhead, with excellent blooms of Bessie Brown, Dean Hole, Lady Ash-town, and Her Majesty.

The Grahame Memorial Prize was awarded to Dr. C. LAMPLOUGH, Kirkstall, Alverstoke, Hants, for 12 blooms of distinct varieties.

Several classes were open only to growers of fewer than 750 plants of exhibition varieties.

The best 12 varieties, distinct, were shown by W. UFTON, Esq., 16, Claremont Street, Leicester, who secured the Benjamin Cant Memorial Prize. He had good examples of Countess of Caledon, White Maman Cochet, J. B. Clark, Bessie Brown, &c.; 2nd, H. ROBINS, Esq., Margaretting, Ingatestone. Competition in this class was keen.

For the 12 best blooms, distinct, in a competition for the President's Prize, the competition was even keener than in the foregoing class, and the quality of the blooms extremely good in some instances. C. H. LESLIE, Esq., Epcombe, Hertingfordbury, Herts, won the 1st prize. He showed excellent blooms of Florence Pemberton, Mildred Grant, Lady M. Beauclerc, Mme. J. Graveraux, and Maman Cochet; 2nd, Rev. H. S. ARKWRIGHT, Binfield Rectory, Bracknell, with notable examples of François Michelin, Comtesse de Nadaillac, H. Vernet, and Dean Hole.

In a class for six blooms, distinct, open to growers of fewer than 200 plants, the 1st prize was awarded to C. G. BARON, Esq., Charmwood, The Avenue, Hitchin.

W. BENTLEY, Esq., 21, Lombard Street, E.C., was 1st in a class for six blooms in not fewer than four varieties; 2nd, H. F. MATTHEWS, Esq., Berkley House, Stevenage.

A. E. CLARK, The Hurst, Mottingham, Eltham, was the winner of the 1st prize in a class confined to suburban growers with White Maman Cochet, Frau Karl Druschki, Mrs. J. Laing, Killarney, &c.

A class was set apart for amateurs who have not won a champion challenge trophy or the 1st prize in the extra class for amateurs. This was



Gardchron

[Photograph by F. Mason Good.]

FIG 14.—ROSE BLUSH RAMBLER TRAINED OVER A RUSTIC ARCH: COLOUR OF FLOWERS BLUSH PINK, PALER IN THE CENTRES. (See p. 31.)

MEDALS FOR PREMIER BLOOMS.

The best Hybrid Perpetual Rose was adjudged to be the bloom of A. K. Williams, shown by Mr. GEO. MOUNT; the best Hybrid Tea, William Shean, shown by Messrs. ALEX. DICKSON & SONS; and the best Tea Rose, Mrs. Miles Kennedy, shown by Messrs. G. COOLING & SONS.

AMATEUR CLASSES.

The blooms shown in the premier class for 36 Roses, distinct varieties, were of very fine

BERTON, Havering-atte-Bower, Essex, for a beautiful lot of blooms, a trifle lacking in size. We observed in the back row blooms of Mrs. Theo. Roosevelt, Lohengrin, Ulrich Brunner, all of them of noteworthy size; others were Mildred Grant, Charles Lefebvre, A. K. Williams, Marie Baumann, Caroline Testout, and Alice Lindsell. 3rd, F. DENNISON, Esq., Rosecroft, Kenilworth, his boxes containing among others fine blooms of Bessie Brown, Gustave Piganeau, Ulster, Ulrich Brunner, Helen Keller, J. B. Clark, Dean Hole. Competition was in this class very close.

a competition in which 24 blooms of distinct varieties were required. MAHLON WHITTLE, Esq., was the successful exhibitor, the prize including a piece of plate.

In a class for 12 blooms of distinct varieties, open to all amateurs, E. J. HOLLAND, Esq., Sutton, was awarded the 1st prize, and E. B. LINDELL, Esq., the 2nd prize.

In the Tea and Noisette trophy class for 18 blooms, distinct, the 1st prize and trophy was taken by ALEXANDER HILL GRAY, Esq., who had chosen blooms of Mme. C. Soupert, Comtesse de Nadailac and Souvenir de Pierre Notting.

MEDALS FOR SPECIMEN BLOOMS.

The best Hybrid Perpetual Rose was a bloom of Her Majesty shown by Mr. E. J. HOLLAND; the best Hybrid Tea Dean Hole shown by Mr. E. B. LINDELL; and the best Tea, a specimen of White Maman Cochet, in Mr. CONWAY JONES' exhibit.

GOLD MEDAL NOVELTIES.

Gold medals were awarded to the two new varieties described below.

Mrs. J. Campbell Hall.—A medium-sized bloom of the Tea section, having creamy petals tinged with rose. Shown by Dr. J. C. HALL, Rowantree, Monaghan.

Mita Weidon.—This variety is also of the Tea section, and is creamy-white with just a suspicion of rose. Shown by MESSRS. ALEX. DICKSON & SONS.

LINNEAN SOCIETY.

DARWIN-WALLACE CELEBRATION.

JULY 1.—On this date the Linnean Society celebrated the 50th anniversary of the reading of the joint essay by Charles Robert Darwin and Alfred Russell Wallace, entitled, "On the Tendency of Species to form Varieties; and on the Perpetuation of Varieties and Species by Natural Means of Selection," which preceded by 16 months the issue of the classical "Origin of Species."

In the afternoon a special meeting was held at the Institution of Civil Engineers, by permission of the Council of that institution, when a gold copy of a specially-struck medal, bearing the portrait of Darwin on one side and that of Wallace on the other, was presented to the surviving author, Dr. Wallace, who spoke of his share as due to a "flash of insight." His preliminary paper was written and sent home within a week, whilst Darwin had been patiently accumulating facts for 20 years in support of the same theory, conceived so many years back. Sir Joseph Hooker, O.M., G.C.S.I., was also present, and, on receiving a silver copy of the medal, read an account of the actual events which preceded the reading of the essay in greater fulness than has hitherto been published. The following eminent biologists also received silver medals (the gold copy being bestowed upon the surviving co-author).—Professors Haeckel and Weismann, which were received for them by the Secretary of the German Embassy; Herr von Bethmann-Hollweg, Professor Strasburger, Dr. Francis Galton, and Professor Sir Ray Lankester, who brought the series of replies to a brilliant close by an admirable address, in which he said: "Several able observers and experimenters have set themselves the task of improving, if possible, the theoretical structure raised by Darwin and Wallace. One of the earliest of these was Dr. George Romanes, whose views on physiological selection and on instinct were communicated by him to this Society, but have not successfully held the field. Later we have had the doctrine of mutation advocated on a somewhat unsatisfactory basis of fact by Professor De Vries, and the resurrection and development of the observations and conclusions of the Abbé Mendel on prepotency. These have all been the outcome of earnest and serious work, and have led, and are leading, to more complete knowledge of the facts of heredity and variation. But I venture to express the opinion that they have none of them resulted in any serious modification of the great doctrine submitted to the Linnean Society on July 1st, 1859."

Next followed the presentation and addresses from universities and societies, with the Royal Academy of Science, Stockholm, specially invited; these had as spokesmen Dr. Francis Darwin, Sir W. T. Thiselton-Dyer, Professor Linn-

berg, and Sir Archibald Geikie. The last speaker was Lord Avebury, who gave an account of his long acquaintance with Darwin, from 1842 to his death.

The Fellows gave a dinner at Prince's Restaurant to the medalists and foreign guests, those present being Professor Strasburger, Dr. Galton, and Sir Ray Lankester as medalists; and Professors Hübner, Warming, Jørgensen, and Linnberg as foreign guests.

A reception in the rooms of the society followed, amongst the objects shown being natural and artificial hybrids of *Odontoglossum*, and an extensive display of Lepidoptera from the Hope collection, Oxford, to show mimicry, several variations, and protective resemblances.

SOUTHAMPTON HORTICULTURAL.

JUNE 30, JULY 1.—The summer show of the above Society was held, as usual, on the County Cricket Ground on the foregoing dates, and in point of quality the exhibition was equal in merit to the average of previous shows.

The principal class for Roses was for 48 distinct blooms, and this brought six entries. MESSRS. FRANK CANT & CO., Braiswick Nurseries, Colchester, won the 1st prize with fresh, shapely examples, although rather small, of J. B. Clark, Florence Pemberton, Mme. J. Gravereaux, Dean Hole, Mildred Grant, Lady Ashton, Victor Hugo, Hugh Dickson, and Lady M. Beaulieu, &c. MESSRS. B. R. CANT & SONS, Colchester, won the 2nd prize.

In the Tea or Noisette class for 12 distinct varieties, there were many fine blooms staged by five exhibitors. MESSRS. B. CANT & SONS won with typical examples of Cleopatra, The Bride, Boadicea, Mrs. M. Kennedy, Mrs. E. Manley, Ernest Metz, and Mme. J. Gravereaux; 2nd, Mr. DREW.

MESSRS. B. CANT & SONS won the President's Cup with a total of six points in the three classes. The best six blooms of a dark variety were shown by MESSRS. D. PRIOR & SONS, Colchester, who had J. B. Clark in fair condition. MESSRS. F. CANT & CO. secured a similar position for any light variety with Mildred Grant.

The premier bloom in the show was one of Mildred Grant staged by Mr. DREW, the premier Tea was Mme. J. Gravereaux, belonging to MESSRS. B. CANT & SONS.

Mr. R. Neville, gardener to F. W. FLIGHT, Esq., Cornistiles, Twyford, Winchester, was 1st for 18 distinct varieties. Dr. CHARLES LAMLOGH, Kirkstall, Alverstoke, was a good 2nd. The last-named exhibitor was 1st for six triplets.

Sweet Peas were a notable feature of the show, so numerous were they displayed. No fewer than 20 growers staged in the class for six bunches, the prizes being given by MESSRS. TOOGOOD & SONS, Southampton.

Hardy border flowers were finely staged. MESSRS. LADHAMS, The Nurseries, Shirley, Southampton, won the premier prize in the class for 12 bunches.

Fruit was poorly represented. Mr. Foskett, gardener to Mrs. UNDELL, New Milton, had the best black Grapes, but vegetables were numerous and good. Mr. BECKETT, Aldenham House, Elstree, won easily MESSRS. Sutton & Sons' 1st prize for six dishes with examples of high-class produce.

Mr. G. Ellwood, gardener to W. H. MYERS, Esq., Swanmore House, Bishop's Waltham, won with very fine examples the premier prize in the classes provided by MESSRS. Toogood and Sons, Webb and Sons, and Carter and Co.

NON-COMPETITIVE EXHIBITS.

A Gold Medal was awarded to MESSRS. TOOGOOD & SONS for a magnificent collection of Sweet Peas. A similar award was given Mr. E. WILLS, The Nurseries, Winchester Road, Southampton, for plants, cut flowers, and floral work, including a fine display of early-flowering *Gladiolus*. MESSRS. ROGERS & SON, Southampton, had a pleasing exhibit of Roses in pots, mainly of the Wichuraiana type. MESSRS. LADHAMS had Finks in great variety, *Caillardi*, and a considerable assortment of hardy cut flowers. Mr. GODFREY, Exmouth Nurseries, had a fine batch of *Solanum Wendlandii* freely flowered in pots; these, with *Pelargoniums*, *Poppies*, &c., made a pleasing exhibit. Mr. C. W. BREADMORE, Winchester, had Sweet Peas.

ANSWERS TO CORRESPONDENTS.

AGARIC: E. S. S. Possibly *Flammula gymnopoda*, Fr., but too old and decayed for accurate determination.

APPLES INFESTED WITH GRUBS: R. W. B. The damage has been caused by the grub of the Codlin moth (*Carpocapsa pomonella*).

BEGONIA RUST: W. H. The trouble is caused by a mite, and the best remedy is dipping the foliage in tobacco water. If the plants are very badly affected, destroy them by burning and start again with clean stock.

GRAPES DISEASED: F. W. M. The berries are affected with the spot disease. See reply to H. Alboné in the last issue, p. 20.

GUMMING IN PLUMS: J. H. Gummosis of stone fruit is due, according to recent researches, to a variety of causes. Bacteria, fungi, and cultural conditions contribute to cause gumming. It is impossible to say from the few Plums received to what cause the trouble is due in your case. We find no fungi or bacteria, but from your description we gather that the trees start gumming about this time of year. We advise you to give the trees a good watering during dry weather, and apply a liberal dressing of lime. Transplant the trees in autumn into a newly-prepared border. Severe pruning frequently causes gummosis.

NAMES OF PLANTS: T. O. 1, *Crataegus dipelliana*. This tree will probably flower if you prune its roots lightly in autumn; 2, *Crataegus Crus-galli* var. *prunifolia*—John Kinmont; *Vicia villosa*—W. T. N. 7, *Lychnis chalcedonica*; 8, *Alströméria hemantha*; 9, *Lilium Martagon album*; 10, *Anchusa italica*; 11, *Dictamnus albus* var. *purpureus*; 12, *Nerium Oleander roseum plenum*.—D. D. S. Probably *Lychnis dioica* var. *flor. pleno*.—A. H. D. *Helianthemum vulgare* var. *ochroleucum*.—A. B. H. 1, *Allium sphaerocephalum*; 2, *Wahlenbergia tenuifolia*; 3, *Iberis Tenoreana*; 4, *Solidago virgaurea*; 5, *Fatima rupestris*.—M. J. Bennett. Appears to be a double variety of *Ranunculus asiaticus*, but it is difficult to identify such a specimen.—L. G. P. *Gilia coronopifolia*.—T. H. *Dendrobium aduncum*.—F. M. 1, *Lastrea dilatata*; 2, *Allosorus crispus*; 3, *Asplenium trichomanes*; 4, *Asplenium viride*.—Foreman. 1, *Odontoglossum Lindleyanum*; 2, *Odontoglossum blandum*; 3, *Oncidium barbatum*.

NECTARINES: P. B. The fruits are rotted by *Botrytis cinerea*, a mould disastrous to pulpy fruits. Collect and burn the diseased fruits as soon as the disease appears, and spray the rest with the Bordeaux mixture as a preventive.

ONION SETS RUNNING TO SEED: R. M. Your enquiry does not make it clear whether you refer to sets of Potato or Underground Onions, which, like Shallots, are increased by planting in the spring the smaller bulbs which have been saved from the clusters of bulbs grown in the previous year. If these are meant, it is not common for them to bolt to flower, but if the largest bulbs are so planted, they will sometimes do so. If you refer to small bulbs raised from seeds sown in the summer, such bulbs being of some large growing variety, but having ripened off whilst quite small, and been stored for the winter and planted in the spring to develop into large bulbs, they may during the summer they may often bolt to flower. In order to secure very fine bulbs, sow seeds of Ailsa Craig in August, which will give green plants to stand the winter, and plant out thinly in good soil in April, or seeds of the same variety may be sown in a shallow pan or box under glass in February to plant out in May.

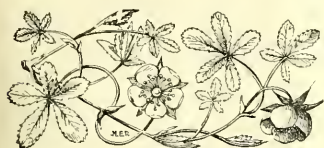
PEA FOR NAMING: G. T. The variety is known as the Mummy or Crown Pea. See fig. 45, p. 120, in the issue for August 10, 1907.

TOMATO LEAVES: F. H. P. The only mould found on your Tomato leaves is the common *Aspergillus glaucus*, growing on dead spots. There is not the slightest trace of the ordinary Tomato rust.

COMMUNICATIONS RECEIVED.—A. C. W.—A. J. R.—H. J. C.—E. H. M.—G. T. S.—R. H. Knighton—W. E. G.—G. K.—Hobart—A. B. C.—W. J. M.—F. A.—T. L.—O. B.—H. L. & Co.—E. W. and Son—H. S. T.—F. C.—Prof. F. S.—J. R.—Edwards Hort.—So.—A. F.—F. M.—T. W.—R. E. M.—W. R.—F. J.—H. R.—A. A.—J. H.—D. R.—G. T.—S. H.—E. H.—F. H.—J. E.—M. T.—R. T. L.



ROSE TAUSENDSCHÖN, A VARIETY OF THE MULTIFLORA TYPE; PETALS SOFT PINK SHADING TO ROSE.



THE

Gardeners' Chronicle

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HUNGARIAN AGRICULTURE AND HORTICULTURE.

THESE twin industries, the greater including the lesser, of that great country forming the major portion of the Austrian dominions of the present day, are illustrated in a remarkable manner by the exhibition now being held at Earl's Court. It may be interesting to Englishmen who have, in general, very little knowledge of the country and its people, and little acquaintance with its history beyond the names of F. Kossuth and other Hungarian patriots of '48. Hungary lies off the general route of travellers, and as a consequence its various peoples, their manners and customs, as well as the conditions of life, the status of the nation in the arts of farming and gardening are but superficially known to most foreigners. Again, the language offers considerable difficulty to the traveller, although it is one which is being gradually altered for the better, every boy and girl in the better class schools being obliged to learn a second language, and usually this on the

west side of the country is German, Italian or French, and south and east Turkish, Polish, Russian, or some other Slavonic language. This all helps the visitor coming from over the frontier, enabling him to get about in country districts with the minimum of trouble.

Under the patriotic Magyar influence much has been done in advancing farming in all its branches by means of research stations, both royal and provincial, established in many of the more important committats (counties), and improvements are being carried out in stock breeding, sheep farming, horse breeding, and poultry raising, dairying, including that carried on by associated villages; also the manufacture of sheep's milk cheese, a favourite food with the people. The cultivation of Wheat is perhaps the most important branch of farming, and it may be said that Hungarian wheaten flour is held in high esteem in our own country for making the finer kinds of bread and pastry; and it is almost indispensable for these purposes. Unlike the Germans and Austrians, who consume large quantities of Rye flour, the Hungarians of all classes, even the poorest, will eat only wheaten flour of some kind, the cheaper being ground together very finely with the bran. This is a fact that deserves to be brought home to our own people, the entire product being more nutritious than the most perfectly white flour that we consume. Fruit growing is an extensive industry; Apples, Pears, Plums and Grapes being the chief crops in all parts of the country, excepting, perhaps, in the south bordering on Slavonia, and in the north and east.

One of the most useful fruits is the Plum; and much of this fleeting crop which, from its nature, cannot be stored, is dried Prune fashion, or bottled for compotes, or it is made into a conserve or jam without sugar being added, and is then called *bovidal*, forming an article of universal consumption by the peasantry. By a long course of boiling it is converted into a dark coloured mass of very close consistency, that will keep for years without deterioration.

The Apples mostly grown are of English, French, or German origin, the only Hungarian varieties of note being Szerosika, much grown in Southern Hungary, and Faros, a large fruit capable of keeping from December to March. Pears are almost entirely French or English in origin, and the best fruit nurseries have most of the finer varieties on sale. Standards of the Apple fetch 1s. to 1s. 6d. per tree, dwarfs and pyramids 8d. to 10d.

Plums include all the best French and English varieties, and the nursery prices are a little higher than those for Apples. A great favourite is Berzenzo (Muskataly szilva), a very excellent Plum from Upper Hungary. Cherries are largely cultivated in certain counties, and nearly all are of foreign origin. Apricots and Peaches find a place among the vines, needing no protection, excepting in the north, where the frosts are usually very severe. The Orozvari is a very fine Apricot, ripening in August. The varieties of the Peach are mostly French or English, and in the best gardens very fine fruits are obtained.

The same remarks hold good for Nectarines. Grapes for wine manufacture and consumption, in my list of the varieties grown in the nursery of Graf Henkel von Donnersmark at Carlburg, near Pressburg (Pozony), number 241, and the chief of these are German, French, Italian or Spanish and a few of English origin. The true Hungarian varieties are the Fekete, Chasselas of Hungary, with Parsley-like leaves, white and gold—all are excellent; Kecskecsesfcher (*feher* meaning white); Nagy szemű szolo, a berry of great size; and Tokai, large, early and black. As compared with our prices for vines, they are sold at very cheap rates.

It is now appropriate to turn to the objects relating to gardening and farming disclosed in the Dual Hall at the exhibition. An exhibit near the entrance to the hall consists of vines and wines from Tokai, a hill celebrated for its wines all over the world, which, however, are said to be bought up annually by the rulers of all European countries; less important individuals having to be contented with wine under the name of Tokai, which may be the produce of the neighbouring vineyards. I saw only the labelled bottles of famous brands, such as Rajnai Riesling, Boughadivores (black), Tokai borovidik, Carbinet, Sashegy, and a so-called Burgundy, in one, two and three litre bottles, the latter too much, as I should suppose, for the "one-bottle" man at a sitting. There alongside the wine exhibit there were observed specimens of methods of pruning the vine (1) with three long shoots left, which were drawn together so as to form two circles, the loose ends being fastened to a stake; (2) the short-spur method, leaving two shoots, the future shoots from these spurs being bound to a stake as they extend their growth. The palmate form of training vines was illustrated by neat little models, with vines trained over the trellises horizontally and obliquely. This seemed a very practical method both for vines and for several other kinds of fruit.

Examples of Grapes imitated in wax, red, black, amber, and white, were noted, these being modelled from vineyard fruits. There are shown packing boxes for the transmission of Grapes to a distance, these being 9 inches square and 4 inches deep, fastened with a certain kind of coloured string as used by postal or railway direction; and peeled willow baskets, very light, clean looking, and easily handled and packed. Models of various diseases of Grapes, not unknown to cultivators in our own country, are exhibited in airtight cylinders of glass, the bunches hung back to back on strips of cardboard. A map of a vineyard at the vine dressers' school at Pressburg illustrates the manner of planting plots of varieties of Grape vines. Another map shows school vineyards at Tarcal, and at Eger. An interesting coloured map of the whole country was noted, showing the districts in which the climate permits of the cultivation of the Grape vine out-of-doors.

There is a pretty collection of models of training the vine, such as circles within a circle, vases, arbours, globe on globe, double

erect cordons, and cordons in quadrangular fashion, oblique cordons trained with four shoots proceeding from each vine, and vines in cylinder shape attached to four squared stakes.

There are photographic views of various Hungarian parks, showing much bold planting, large stretches of lawn, and well-kept paths. The chief difficulties that have to be overcome in Hungary are the maintenance of a good sward under the prevailing conditions of the hot summers, involving the saturation of the soil twice or thrice a week, when probably water is scarce, or lacking in the neighbourhood; and the heavy snowfall in some parts which lies from November till late in March kills many of the grasses.

Coloured diagrams of fruits and nuts grown in the country, showing their areas of distribution throughout the provinces, are exhibited. These illustrations show the fruit inside a circle, and, being coloured, enable one at a glance to see whether green, purple, rose coloured and white. Grapes are those chiefly cultivated. In the case of other fruits, the illustrations are equally helpful. For example, one observes at a glance that the Plum is largely grown at Nytra and Bars in the west, and in the east at Ugoosa, Marmaros, Hunyad and Szilagy. Apples and Pears grow everywhere, as do Walnuts. The eastern Comitatus (counties) are almost destitute of Cherries, but I was not enabled to obtain the reason for this.

Another coloured map shows in what districts to look for the chief kinds of vegetables. Silk culture is being greatly fostered in Hungary, and illustrations of many silk-weaving mills are to be seen; as likewise thousands of cocoons of the silkworm, presumably containing the killed insect, and a boxful of skeins of spun silk of a beautiful golden tint.

Tobacco cultivation is shown as carried on at Debreczin, in the Royal Experimental Station at that important town. Methods of sorting, bundling, drying and curing are displayed, and are illustrated by numerous photographs. Tobacco cultivation is pretty widely spread in the country, and an agreeable kind of "weed" is produced; moreover, it costs less than 8d. per pound, a consideration certainly when a properly filled pipe holds nearly one ounce.

The production of milk is well looked after by the authorities, both local and governmental, as is evident from a large scale map, from which it appears that the village milk federations are chiefly concentrated in the N.W., W., S.W., and S. of the country. Samples of milk and milk products are shown in bottles and jars hermetically sealed. The exports of milk, and products obtained from milk, seemed to have reached their apogee in 1906, sheep's milk cheese being highest in that year, that of ordinary cheese in 1903, and superior cheese in 1904. Hungary possesses, at the least, one Royal Seed Testing Station. Here, for example, they take 3 kilograms from each sack of samples to test for Dodder.

An instrument is shown which determines the degree of moisture present in samples of seeds. There is exhibited a kind of lead seal for fixing on sacks of seeds, invented by Stephen Junkunze; also a tool for affixing them, a patent (Gallauner's).

The Government Bee Farm at Gödöllő is

shown in a photograph. The honey production in 1886 had a value of 300,000 kronen, but in 1899 it amounted to several times this sum and the value of beeswax has increased proportionately with the honey.

There are wooden hives and straw bee skeps, and a bee shed, as well as samples of run honey, and of wax, in square lumps, as sold at the shops. The various implements used in the apiary should be of great interest to the beekeeper, and appear to be far more extensive than with us.

The agricultural seed department is well worth inspection, consisting, as it does, of the more important grains and other field crops and seeds of noxious weeds. These are shown in glass cylinders, with the names of the plants attached, making inspection an easy matter for the farmer and student.

An easily understood map of the entire country was noted. On this each Comitatus con-

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM "QUEEN ALEXANDRA" VAR. CRAWSHAYANUM.

This beautiful hybrid *Odontoglossum* (see fig. 15) was raised by de B. Crawshay, Esq., from *O. triumphans* × *O. Harryanum*. In every point, including shape, size, substance and colouring, the flower possesses great merit, and the plant was granted a First-Class Certificate by the Orchid Committee of the Royal Horticultural Society when brought before them on June 9 last. The sepals and petals are yellow, but this is heavily blotched with deep purple-brown markings, so that the ground colour is almost obscured. The front of the lip is white, the remaining part being prettily marked with rose-purple.

DENDROBIFUM HERCOGLOSSUM.

SPRAYS of this pretty species are sent from the collection of G. W. Jessop, Esq., Cliffe Cottage, Rawdon, Leeds (gr. Mr. Wilkinson), who calls



FIG. 15.—ODONTOGLOSSUM "QUEEN ALEXANDRA" VAR. CRAWSHAYANUM: COLOUR PURPLE-BROWN ON A YELLOW GROUND, LIP MARKED WITH ROSE-PURPLE.

tains a circle, within which are indicated by differently coloured segments the areas under meadow, forest, arable and gardens, vineyards, willow plantations, reeds and sterile land. The largest area is under the plough, then comes forest land, then meadow, and lastly that devoted to vineyards. Of Hops there were observed about 50 different samples from many parts of the country, in colour and size equal to the best Kent productions. The maps of temperatures for the whole country at four different seasons afford an interesting study. The illustrations of diseases affecting fruit trees, grain plants, Beans, &c., are doubtless of much use to cultivators in general, and also in teaching the older school children to recognise these pests. I noticed examples of *Ustilago* on Wheat, of *Puccinia graminis* on Berberis, *Claviceps purpurea* and several other fungal pests. F. Moore.

attention to the plant's floriferous habit. The racemes, which are about an inch long, bear three to five flowers, each three-quarters of an inch across. They are white tinged with rose, all the segments being furnished with short, hook-like tips; the rounded labellum is white with an acute beaked apex, and the anther-cap is purple. The flowers are freely produced and are very attractive. The species formed an interesting feature in the remarkable collection of rare botanical Orchids shown by Sir Trevor Lawrence, Bart. (gr. Mr. W. H. White), at the Temple Flower Show, 1900, when a Botanical Certificate was awarded to it.

BARTHOLOMA PECTINATA.

THE well-flowered plant of this pretty South African terrestrial Orchid, shown in their group at Holland House on July 8 by Messrs. Charlesworth & Co., Heaton, Bradford, seems to indicate that the species is not so difficult to cultivate as some growers who have had less pleasant experience with it might imagine. Those who have

failed to grow it satisfactorily have commonly done so through keeping it in a too moist and too warm temperature. There is a large class of small-growing South African terrestrial Orchids, including several species of *Holothrix*, *Disa*, *Satyrion*, &c., which, although they are sometimes seen in great beauty, as in the present instance, are generally regarded as very difficult subjects to manage. The grassy-leaved and many other *Disas*, the *Satyrions*, *Bartholinas*, and others which do not generally thrive in the Orchid house, when seen in good condition, have invariably been grown as cold greenhouse or frame plants, and potted in sandy peat or other gritty soil, and not in the material usually used for Orchids. The *Bartholina* shown by Messrs. Charlesworth had, with others, been grown on a narrow shelf near the glass of the roof in a cold house, and nearly every little tuber had produced its curious fleshy leaf and hairy scape, each with a white flower prettily tinted with blue, the labellum being comb-like in form. After the flowers fade, this species and others of a similar nature require to be dried off and kept very cool until springtime comes again, when they must be repotted and started into growth afresh. It should be remembered that the dwarfier the stature of the species the greater the necessity for keeping it well up to the glass of the roof of the greenhouse or frame in which it is housed. J. O'B.

VANDA PUMILA.

At fig. 16 we reproduce a flower of this interesting and rare species, a native of the Sikkim Hills, where it occurs at an altitude of about 2,000 feet. As may be suspected from the picture of the flower, which is reproduced at a natural size, the plant is very dwarf and generally small in its parts, resembling in appearance *V. alpina* and *V. cristata*. The flowers, which are produced in pairs, are cream-white with purple lines on the upper side of the ridged labellum, which differs from that of *V. cristata* in the absence of diverging horns at the apex. The plant has no great value as a decorative subject, but it is interesting from a botanical point of view, and was awarded a Botanical Certificate by the Orchid Committee of the Royal Horticultural Society when exhibited by Messrs. Moore, Ltd., Rawdon, at the meeting held on June 23 last.

NOTES FROM RYDE.

THOSE readers of the *Gardeners' Chronicle* who in the past have visited the garden of the late Rev. H. Ewbank, at the Old Parsonage, Ryde, will doubtless recall some of the many plants then grown in that interesting collection. The fine example of *Poinciana* (Cæsalpina, *Gillessii*) which in its best days was a small tree some 18 feet through, is now in a rapid decline, while a large plant of *P. (C.) japonica*, with its elegant, fern-like foliage, would easily reach to 30 feet across did space permit, but I do not think it has flowered as yet. On the walls, or near them, such things as *Indigofera*, *Fabiana imbricata*, several feet high, the branches clothed with dense masses of the pure white, tubular-shaped blossoms; *Lonicera Hildebrandiana*, not so large or so healthy as in the past, but still capable of flowering well; *Rosa gigantea*, cramped for room at present, and yielding but a few flowers each year, full of vigour and making splendid growth; a large example of *Melanthus major*, *Rosa bracteata*; and *Cistuses* in handsome bushes afford much beauty. Among interesting and beautiful species flowering early in June were the *Tamarix*, the bushes of which were laden with pale-pink blossoms forming graceful sprays, and the curious, green-brown flowers of *Coriaria japonica*, to be later succeeded by amber-yellow fruits. A fine specimen of this was more than 5 feet high. A pair of well-flowered evergreen shrubs were to be seen

in *Pittosporum Tobira*, and *Raphiolepis ovata*, both of which are quite hardy in this garden. The *Pittosporum* has pure white flowers in clustered umbels, and smooth, obovate, coriaceous leaves, the blossoms as strongly fragrant as the *Gardenia*, while the *Raphiolepis* is a sturdy bush of 2½ feet high, and has clusters of white, elegantly-formed blossoms, not unlike those of *Kalmia* in form. A set of distinct species of *Rubus* include *R. deliciosus* of 6 feet high and through, *R. nutkanus*, herbaceous in its habit of growth, and *R. australis*, a most distinct species of miniature bramble-like habit with leaves not unlike those of the true *Smilax*, but longer and more pointed.

The pride of the garden, however, to my mind, was the handsome trees of *Abutilon vitifolium*, with hundreds of expanded blossoms and thousands of buds to maintain a succession for weeks to come. Of this glorious species there are apparently two varieties here, the one having blossoms of the palest sky-blue suffused with white, the other having blossoms coloured a pale mauve of most exquisite tone, the plants growing 12 feet high, with an expanse of flowering branches extending to a score of feet, bearing handsome, saucer-shaped blossoms of 3 inches across in their countless numbers constituted a floral feast such as is rarely seen. The *Abutilons* are grown without the least protection.

Another notable subject is a very handsome plant of *Tricuspidaria lanceolata*, a well-grown specimen, some 10 feet or so high, and not less than 15 feet in diameter. At



FIG. 16.—VANDA PUMILA: FLOWERS WHITE WITH PURPLE MARKINGS ON THE LABELLUM.

the present time this handsome bush—reputed to be one of the finest in the island—was ornamented by many thousands of the hanging, crimson-scarlet flower buds. Not only is this fine example in perfect health, but it carries each year a huge crop of blossoms, ripens seeds, and, continuing to grow faster than ever before, demonstrates the fact that it is perfectly content with its lot. It is growing in a somewhat sheltered corner of this exposed garden, and each year in winter a canvas screen is rolled over it during severe weather.

Encryphia, *Edwardsia*, *Carpenteria*, *Romneya*, *Camellia*, *Hedychium*, *Agapanthus*, and the like are all to be found in the open garden, and the giant clumps of *Cinnu* *Powellii* are things to admire. *Gerbera Jamesonii* is a perfectly reliable perennial without protection, and thrives well in a bed of very sandy soil, the brilliant vermilion crimson of flower heads, borne by the score, rendering it a conspicuous feature when in bloom. *Yucca baccata*, a somewhat rare species, was promising a spike of its flowers, and the same clump flowered last year. A large bush of *Diospyros Kaki* grows apace, but has not, I believe, as yet borne fruit, while in a state of rapid decline is a *Paulownia imperialis* 30 feet high and wide.

The large collection of *Irises* includes many good kinds; an almost complete set of the *Regelia cyclus* hybrids, and a few of the *onocyclycus* group, for the cultivation of which latter group this garden was once famous. Such things as *Iris tingitana*, *Belladonna Lilies*, *Sternbergias*, and *Tropæolum polyphyllum* grow with freedom, and while *Anemone palmata* alba and *Gladiolus Saundersii* are comparative

weeds. Of the smaller-growing plants there is a large number, while the Misses Ewbank are using their best endeavours to keep the memory of their late father green by continuing to grow and care for the plants he loved so well. E. H. Jenkins.

THE FIGHT AGAINST WEEDS.

ALL cultivators, whether of gardens or of more extensive farms and plantations, have to wage war against plants which, appearing in places where they are not desired, are commonly termed weeds. A weed may be a plant of great beauty or even utility in its proper sphere, but when it persists in flourishing in places where it is not wanted it becomes, from the grower's point of view, a weed. An excellent example is the handsome Water Hyacinth (*Eichornia crassipes*), often cultivated with great care in our greenhouses for the sake of its beautiful blue flowers, but in parts of Australia, Java, and Florida it has become a veritable pest, blocking waterways and impeding navigation. Similarly in Ceylon, open spaces along the sides of roads, abandoned estates, and other areas have been over-run by the *Lantana*, also a valued hothouse plant in this country for the sake of its *Verbena-like* heads of orange-red flowers. The *Lantana*, although so successful in competing with some of the Ceylon native plants, is in its turn having to give way before the showy *Tithonia diversifolia*, a plant with flowers closely resembling some of the *Sunflowers*. Both the *Lantana* and the *Tithonia* are South American plants, and the secret of their success seems to have been that they were better adapted for colonising and holding open ground than the native woodland plants, and consequently where cleared areas were left after the destruction of the forest, they were easy winners in the race for possession. The successful colonisation of alien plants is even more marked in New Zealand, where in some parts of the country the dominant plants are not natives at all, but introductions which have actually succeeded in ousting the former possessors. Mr. Cheeseman, the Government botanist, in his comparatively recent work on the New Zealand flora, estimates that no fewer than 600 plants, aliens mostly of European origin, are naturalised in the country, and in some localities the native flora has been almost entirely supplanted.

Whether these introduced plants are mainly restricted to waste land, or are succeeding in establishing a position for themselves amongst the wild plants of the country, the matter presents a problem of great botanical interest for anyone on the spot to determine, if possible, exactly to what characteristics they owe their success. If, however, the aliens find a congenial home amongst cultivated crops, and cause the trouble and expense which, as is well known, so many weeds do, then the matter becomes more than an interesting biological study, and steps have to be taken to wage war on the pests and to prevent them from overpowering the more valuable plants which are less adapted often to hold their own in the struggle for existence. This aspect of the case is well recognised in Great Britain, where recently the Board of Agriculture has issued in its admirable leaflet series several publications dealing with weeds, giving useful advice for their extermination. To those unfamiliar with these leaflets we might add that they can be obtained free on application to the Secretary of the Board at Whitehall. In Canada the conditions are very favourable to the introduction of new weeds. Some, doubtless, are introduced by immigrants; others, already in the country, become transported to new areas with crops and other farm produce, or are distributed by normal natural agencies such as wind, running water, and animals. Incalculable losses are sustained by farmers on account of this prevalence of noxious weeds, and so serious

has the matter become, that the departments of agriculture are taking active steps and incurring considerable expenditure in their efforts to aid the cultivator. The Dominion Department of Agriculture maintains a special Seed Branch, which has recently produced a large quarto publication entitled *The Farm Weeds of Canada*. This contains some 60 beautifully-coloured life-size plates of the chief weeds of the Dominion and their seeds. Copies of this handsome volume are distributed free to all applicants. Coloured drawings are also supplied free to rural schools, so that every opportunity is given for Canadian farmers and their families to become familiar with the appearance of their foes, many of which are of European origin. In addition, the letterpress gives full particulars as to the best means of exterminating each weed. The same department has the duty of enforcing the Seed Control Act, which fixes a standard in respect to purity and vitality of seed, and affords to cultivators protection against the introduction of noxious weeds on their land.

Official activities are not limited to prevention. To take an example in Canada, the great province of Alberta is divided up into some 50 districts, to each of which a weed inspector is allocated who, amongst his duties, inspects farms, and, if necessary, has power to order the destruction of crops if badly infested with noxious weeds. Unoccupied farms are similarly cleared of weeds at the owner's expense. These thorough-going measures to exterminate weeds are worthy of every success, because in many countries it is the regrettable absence of co-operation which makes the fight against the invaders so hopeless. It is of little use for one man to spend time and trouble in ridding his land of thistles, for instance, if on his neighbour's fields they are allowed to seed freely. The Canadian example should serve as an object-lesson which many older countries would do well to lay to heart. W. G. F.

THE DESTRUCTION OF WASPS.

In some years it cannot be said that the wasp plague is unbearable, but there are occasions when it spreads over the country like a pestilence, and in every season there are districts where wasps are so numerous that the amount of damage they commit must run into hundreds of pounds in the course of a few weeks. Last year, for example, wasps' nests were by no means universally common, and yet in one or two parishes of southern England they were to be counted by scores. On one small estate in Sussex a gardener destroyed a hundred nests in the course of a month, while in an adjoining parish thirty nests were found in a single field! In a Hampshire parish over three hundred nests were found and taken during August and September, and these figures could doubtless have been doubled had every estate owner in the parish lent his assistance to the movement. Half-hearted measures are of little use when wasps are plentiful, for although a number of nests may be destroyed, those that are left will go on increasing in numbers and will provide enough wasps to devastate every orchard in the district. Wholesale destruction of nests is, however, by no means an impossible thing if begun in time, and the advantages of an organised campaign are undeniable. Two years ago the writer destroyed twenty-five nests in the neighbourhood of a single dwelling, with the result that hardly a wasp was to be seen after the end of August, and very little damage was done to the fruit on the estate.

The best way of dealing with wasps is to destroy as many queens as possible in the spring, but this is by no means an easy matter. Many may be caught by suspending bottles,

half-filled with beer and sugar, in sunny places on walls and in other conspicuous positions, and others may be killed by anyone who cares, armed with an old tennis racquet, to take a walk round the garden during the morning in the neighbourhood of fruit trees and flowering shrubs. On bright days during March, April, and May many queen wasps may be thus encountered and knocked down. School children, for the sake of a small reward, will always find a good many queen wasps in the spring months by looking for them in outbuildings and attics, where they are in the habit of hibernating; and even in the winter some may be discovered hiding under old sacks or anything of the kind that will give them protection from the weather. A small sum of money expended in this way is well spent, for although every queen wasp does not necessarily mean a colony, it is probable that a large percentage of them, if left untouched, live to rear a family.

The bulk of the work of wasp destruction must, however, be deferred until the workers make their appearance at any time from the middle of July onwards. The nests, which are generally, but not always, placed on the most

Various means are employed for destroying wasps' nests, but those who wish to get rid of them once for all, and with the least possible trouble, will eschew all such things as soap-suds, paraffin, squibs, boiling water, and tar. None of them is infallible, and the usual result, except in the matter of stings, is disappointing. A good plan is to take the shot out of an ordinary cartridge and fire the latter from a shot-gun, the muzzle being held close to and pointing into the mouth of the hole, so that the fumes will be forced into the nest and the occupants suffocated or temporarily stupefied. A big bucket of scalding water must be at hand, and the whole nest must be immediately dug out and placed in it bodily in order to destroy the grubs and any wasps that remain alive. This must be done after it is pitch dark, as wasps go to bed very late, and as a lantern is necessary it is not a very easy task when the hole is a difficult one to get at or the nest troublesome to dig out. A far better, and always successful, plan is to place a teaspoonful of granular cyanide of potassium (a deadly poison) down the mouth of the hole as far as one can get it, placing a sod of turf over the entrance to keep



FIG. 17.—THE ROCK-GARDEN AT KEW AS IT APPEARED ON APRIL 24. [Photograph by W. Irving.]

sunny side of a bank by the roadside or on the boundary of a field, are not difficult to find, but the search will be greatly aided by keeping a careful look-out for wasps on the wing. The observer should stand for a few minutes by a gateway or a gap in the hedge and watch for the insects as they fly backwards and forwards. If several wasps pass by in the course of a couple of minutes one may be sure that a nest is near at hand, and the nest is almost certain to be in the direction in which most wasps are flying. Those hurrying homewards also fly straighter and more rapidly than those going away from the nest. Another good place for observation is an old railing made of unstripped natural wood, such as Beech or Birch, the bark of which the wasps collect for making the "paper" of which their nests and comb are formed. Watched through a good pair of glasses this is a very interesting process, and the study of it is useful, since the wasps fly straight home directly they have collected sufficient bark to form a pellet.

In the fumes. In the morning the nest may be safely dug out (for every wasp will be dead) and the grubs in the comb destroyed. The cost of this is not more than 1½d. a nest—a cheap price to pay, surely, to be rid of several thousands of the enemy at one operation. *East Sussex.*

A SNOW-COVERED ROCKERY IN APRIL.

ALTHOUGH not so heavy as in many other parts of the country, the fall of snow experienced at Kew on April 24 last was sufficient to transform the landscape, which afterwards presented a remarkable feature at so late a period of the year. The photograph of the rock garden (reproduced at fig. 17) was taken between 8 and 9 o'clock in the morning before the snow had melted. Many bulbous plants and others were in flower at the time of the fall, but as the snow was light they were not much injured, and they completely resumed their normal appearance when the snow had disappeared. W. T.

FLOWERS OF SPENSER.

(Continued from p. 26.)

DAFFODILS.

1. She played
Amongst her watry sisters by a Pond,
Gathering sweete Daffadillyes, to have made
Gay girlonds from the Sun their foreheades
fayr to shade. *F.Q., III. iv. 20.*
2. Her in daffadillyes sleeping made
From scorching heat her daintie limbs to
shade. *F.Q., III. xi. 22.*
3. With Roses dight and Goolds and Daffa-
dillyes. *Colin Clout, 339.*
4. Upon her head a Cremosia coronet,
With Damaske Roses and Daffadillyes set.
Shepherds Calendar, April, 59.
5. Strowe me the ground with Daffiadown-
dillyes. *Shepherds Calendar, April, 40.*
6. Whilome thy fresh spring fowrd, and after
hasted
Thy sommer proude with Daffadillyes dight.
Shepherds Calendar, January, 21.

Many of the beautiful South European Daffodils had been introduced into English gardens before Spenser's time, but there is no doubt that in these passages he was speaking of our wild English Daffodils. See Narcissus.

DAISES.

1. The grassie Grounde with daintie Daysies
dight. *Shepherds Calendar, June, 6.*
 2. Sweet Marjoram and Daysies decking
Prime. *Muipolmos, 21.*
- Spenser's Daisies need no comment.

DAMSONS.

- And, if you come hether
When Damsines I gether,
I will part them all you among.
Shepherds Calendar, April, 152.

We have one native Plum in England, the Sloe, of little value on account of its sourness, but the Damson, or Damascene, Plum was very early introduced into Southern Europe from the East, and spread rapidly. There is no record of its introduction into England, but its first mention in English literature is about 1400.

DILL.

1. Camphora, and Calamint and Dill.
F.Q., III. ii. 49.
2. Veyne-healing Verven, and hed-purg-
ing Dill. *Muipolmos, xxv.*

Dill is an umbelliferous, South European plant (*Peucedanum graveolens*) of high repute among the old herbalists, still largely used in India, but very little in Europe; it is grown for its seeds.

EBONY.

- And, for the bed of Love forlorne,
The black and doleful Ebonie.
An Elegie, 21.

Spenser could only have known the Ebony as an imported wood. It comes from an Eastern tree, but was used in England in very early times.

EGLANTINE.

1. There was a pleasant arbor . . .
With wanton yvie twine entrayled athwart,
And Eglantine and Caprifole emong.
F.Q., III. vi. 44.
2. In thy sweet Eglantine of Meriflure.
Colin Clout, 389.
3. With Hawthorne buds and sweete Eglantine.
Shepherds Calendar, May, 13.
4. But as your worke is woven all about
With woodynd flowers and fragrant Eglan-
tine. *Amoretti, 71.*
5. Sweet is the Eglantine, but pricketh sore.
Amoretti, 20.

The Eglantine of Spenser and of all the poets before and after him, except Milton in one passage, is the Sweet Briar.

ELDER.

1. The Muses, that were wont greene bayes to
weare,
Now bringen bitter Eldre branches seare.
Shepherds Calendar, November, 146.
2. In stead of gyrlond, weare sad Cypres
nowe,
And bitter Elder, broken from the bowe.
Clorinda, 41.

To Spenser, as to most writers of his day, the Elder was the type of bitterness and sorrow.

ELM.

1. The vine-propp Elme. *F.Q., I. i. 3.*
Though not named, the Elm is probably the tree meant in:
2. The tree that coffins doth adorne
With stately height threatening the skie.
An Elegie, 19.

The Elm with which Spenser would be familiar was not our common Elm (*U. campestris*), which is an Italian importation and not common till after Spenser's time, but the Wych Elm (*U. montana*). His epithet of "Vine-propp" is from Ovid's *Amictæ vitibus ulmi*; it was never so used in England.

FILBERT.

- And Phyllis philbert there away'
Compared with Mirtle and the Bay.
An Elegie, 17.

The writers of Spenser's day were fond of connecting the Filbert with Phyllis. Gower gives the reason:—

- Phyllis in the same throws
Was shape into a nutte-tre,
That alle men it might se,
And after Phyllis philiberd
This tre was cleped in the yerd.
Conf., B. IV.

But this connection was probably only an effort to account for the word, which is an old English word used long before Gower. In the Latin legend Phyllis was turned into an Almond tree; and in France the word is connected with S. Philibert, whose festival falls in the nutting season.

FIR AND FIRBLOOM.

1. Sweet is the Firbloom but her braunches
rough. *Amoretti, xxvi.*
2. The Firre that weepeth still.
F.Q., I. i. 9.

I suppose that, by the weeping of the Fir, Spenser alluded to the exuding of the pitch, chiefly from the cones; but I cannot guess what he meant by the Firbloom.

FLAX.

- Like sparks of fire which fall in sclender
flax. *F.Q., III. i. 47.*

The Flax is not a true British plant, but it readily escapes from Flax fields, and was known and cultivated in England long before Spenser's time.

FLEUR DE LIS.

1. The Lily, Lady of the flowering field,
The Flowre-deluce her lovely Paramoure.
F.Q., II. vi. 16.
2. Now of late
As fresh and fragrant as the Flowre-deluce.
F.Q., IV. i. 31.
3. Adorned all with gemmes of endlesse price,
And all embost with Lyons and with Flour-
deluce. *F.Q., V. ix. 27.*
4. The prettie Pawnee
And the Chevisaunce
Shall match with the fayre flowre Deluce.
Shepherds Calendar, April, 139.

The Fleur de Lis of all writers of the sixteenth and seventeenth century was the Iris.

GILLIFLOWERS.

1. Bring hether the Pink and purple Cullam-
bine,
With Gelliflowers.
Shepherds Calendar, April, 130.
2. Her lips did smell lyke unto Gillyflowers.
Amoretti, 62.

Spelt in many ways, but originally connected with the French Girofle, a Clove, the name was applied to almost any Clove-scented flower, but in Spenser's time it was for the most part confined to the many different varieties of Pinks and Carnations.

GOOLDS.

- With Roses dight and Goolds and Daffa-
dillyes. *Colin Clout, 339.*

Goold is one of the old names of the Marigold.

GOURD.

- Whose caerne streame, rombling in Peble
stone,
Crept under mosse as greene as any goord.
Virgils Gnat, 21.

In Spenser's time the name was applied to almost any plant of the Cucumber tribe.

HAWTHORN.

1. Seest thou not thilke same Hawthorne
studdle,
How bragly it begins to budde,
And utter his treth head?
Shepherds Calendar, March, 13.

2. To dight
All the Kirke-pillours eare day light,
With Hawthorne buds and sweete Eglan-
tine. *Shepherds Calendar, May, 11.*

So far as I know, this is the only passage that tells us of the decking of churches with May flowers on May Day.

HAZEL.

- Which he so sternly shooke,
That like an hazel wand it quivered and
quooke. *F.Q., VI. vii. 24.*
- See also Filbert.

HEBEN.

1. A gentle youth, his dearly loved Squire,
His speare of Heben wood behind him
bare. *F.Q., I. vii. 37.*
2. And trees of bitter gall, and Heben sad,
F.Q., II. vii. 52.
3. That stranger Knight,
Whom all men term'd Knight of the Heben
Speare. *F.Q., IV. v. 8.*
4. The Knight
That bore the Hebene speare. *F.Q., IV. v. 20.*
5. But knowne by fame and by an Hebene
speare. *F.Q., IV. vi. 6.*
6. At sea a tall ship did appeare,
Made all of Heben, and white Yvorie.
Visions of Petrarch, 2.
7. Soone after this I saw on th' other side
A curious coffer made of Heben wood.
Ruins of Time, 3.
8. Lay now thy deadly Heben bow apart.
Intr. F.Q.

It is now generally accepted that Shakespeare's "dendly Hebenon," with which Hamlet's father was poisoned, was the Yew, and I should think it almost certain that, in all these passages, the Yew was the wood meant and not the Ebony. Of course I recognise the poet's right to equip the Elfin Knight with the costliest and most outlandish materials, but where the more common and every-day material will serve the purpose as well or better, there is no reason to look further. Certainly, in the last quotation, the Yew is the material of the bow, and I think that, to a great extent, explains all the others. *H. N. Ellacombe.*

(To be continued.)

KEW NOTES.

THE ALPINE HOUSE.

THE small plant house at Kew (see fig. 18, in which the Alpines are exhibited when in flower, is one of the least pretentious, but at the same time one of the most interesting glass houses in the gardens. In late winter and through spring onwards the choicest gems of the Alpine garden may be found in flower, some in the bud and others passing out of bloom, according to their season. The house is not intended for the culture of the plants; they are removed when their flowering is over to give place to others that are about to bloom. With the glass protection the blooms are saved from damage by heavy rains, and, in consequence, they last longer in a fresh condition than flowers of similar species that develop in the open. With bulbous plants the house is kept bright and interesting from the middle of December onward to the end of May. The first to bloom are the

and Erodiums. The Kew Alpine house was built in 1887, and was enlarged in 1891. It is 40 feet long, 9 feet wide, and 8 feet 6 inches high at the apex. It is an unheated structure, and in the winter the soil in the pots is often frozen. *W. I.*

COLONIAL NOTE.

FRUIT CROP IN THE NIAGARA DISTRICT OF CANADA.

THE fruit prospects in this and surrounding districts of St. Catharine's, Fonthill, and Welland County are excellent. If the weather continues favourable it will be the best fruit crop we have had for the past ten years. Peach, Cherry, Plum, Apple, and Pear trees are loaded with fruits. Apples Mackintosh, Red Fameuse (Snow Apple), Baldwins, Baxters, Wealthy, Twenty Ounce, Newtown Pippin, and King of Tompkins County are abundant croppers in these districts. The only market variety that is

Strawberries are also plentiful, but the price of Strawberries will be dearer this year owing to the scarcity last season. The price was fixed in the early spring this year by the canning factories, namely, \$1.50 per crate of 30 lbs. (6s. 3d.). This price has never been equalled in this part of Canada. Strawberry growers will therefore reap a benefit. Young men coming out to Canada next spring will succeed if they select this part. The residents are chiefly English and Scotch. *W. H., Fonthill Nurseries, Canada, June, 1908.*

BARBADOS.

IN December, 1905, it was decided to carry out experiments with the object of improving the Cotton grown in Barbados by seed selection as outlined in the *West Indian Bulletin*, Vol. iv., p. 208, and arrangements were made for the work of selection to be carried out on seven estates. From one of these estates—Stirling—15 plants were obtained, and from these 15 three plants were finally selected, viz., Nos. 300, 301, and 303 (*West Indian Bulletin*, Vol. vii., p. 159).



FIG. 18.—THE ALPINE HOUSE AT KEW IN MAY.

(Photograph by W. Irving.)

winter-flowering Colchicums, such as *C. De-caisnei* and *C. hydrophilum*, and Crocuses of various kinds, which are in flower in December; these are followed closely by bulbous Irises, including *I. alata*, *I. stenophylla*, *I. Vartani* and numerous others. Crocuses, Scillas, Chionodoxas, Snowdrops, and Anemones are other beautiful things that carry on the succession of bloom in conjunction with such Alpine plants as *Androsaces*, *Primulas*, *Shortias* and *Saxifragas*, to the end of May.

The plants required for furnishing this Alpine house are grown in shallow pots or pans plunged to the rim in ashes in cold frames. Bulbs for the purpose are potted up in autumn and are plunged outside in ashes till they flower.

The illustration is from a photograph taken at the end of the season in May, the chief plants then in flower being late-flowering species of *Saxifraga*—*S. longifolia*, *S. Cotyledon*, &c., *Dianthus alpinus* and other species, *Cypripedium*, *Meconopsis*, *Wahlenbergias*, *Ramondias*,

not an average crop this year is Northern Spy, but there was a good crop of it last year. Pears will be abundant, especially "Bartlett's" (Williams' Bon Chretien), Kieffer's Hybrid, and Dempsey's.

All varieties of Plums, including the Japanese varieties, viz., Abundance, Burbank, Red June, and Manyards, are very heavy croppers, and there is also a good crop of Pond's Seedling. Peach trees are a far better crop this year owing to the soft breezes that prevailed at the time they were in bloom; the pollen was nicely distributed, and there were no frost or east winds just then. I have visited most of the largest Peach growers in these districts and found very little Peach blister, and only one instance of that dread pest, the San Jose scale, and the grower was having all the trees in the orchard rooted up and burned. The remedy used in these districts is sulphur and hot lime in the winter and early spring before growth commences.

Recently Dr. C. E. Gooding, the proprietor, shipped, under the mark "Stirling S," seven bales of cotton from plants grown from the seed obtained from the plant No. 303, and Messrs. Wolstenholme and Holland, in reporting on this cotton, write:—"We have formed a very high opinion of this latter lot ('Stirling S'), as it is the most serviceable class of cotton we have seen produced in the West Indies, and if it gives a better yield per acre than the finer descriptions—as it probably will—we think it is more suitable for extensive cultivation."

This cotton, as Messrs. Wolstenholme and Holland correctly surmise, has for the last four plantings given heavier yields in the experiment fields at Stirling than any of the other varieties grown.

The opinion expressed by Messrs. Wolstenholme and Holland is very encouraging, and shows the desirability of systematically and regularly carrying out the selection of the best seed for planting purposes.

* THE FRENCH SYSTEM OF MARKET GARDENING.

THE culture of Lettuces in France has become a fine art, because they are grown by market gardeners who have devoted the greatest and most careful attention possible to them, and have thus accumulated a considerable body of experience on the subject.

The method of cultivation used in France was not always so perfect as it is to-day. They obtained fewer crops per year. Lettuces were first cultivated in 1780, white Asparagus in 1792, Cauliflowers in 1811, Cos Lettuce in 1812, Carrot in 1826.

There are now 3,000 acres under cultivation in the environs of Paris, held at a rental of £20 to £40 per acre.

A garden of 400 lights and 3,000 cloches costs £120 per annum for manure. The frames were originated by M. Fournier in the year 1780, and from that time to this they have been improving their method of growing these early Lettuces.

The success of their form of cultivation depends on the beds. By constantly using manure the soil becomes very rich, as the beds are renewed at least three times a year.

The method used is shortly as follows:—They make hot-beds—not what you would call hot-beds—but what they call "soft couches," or softly-heated beds.

The manure is collected during the summer and piled in stacks. They begin to collect in June, and continue collecting until Christmas. This manure naturally gets exhausted by losing its heat during the time it is in stack, but they get fresh manure in December, and they mix half and half with the old manure which has been standing.

When a quantity of frames or cloches are used, the manure is spread evenly all over the ground 9 inches deep.

The frames are then placed on the pressed-down manure, about 12 or 18 inches being left between the rows of frames, just giving room to walk between. Three or six inches of the very best soil, preferably mixed with one-year rotten manure used for the frames during the preceding season, should be placed in each frame and well pressed down and raked. The frames are then ready to receive the Lettuces in January, and, as there is no great demand for early Lettuces during the extreme winter months, it is not worth while starting the frames earlier, since they would not pay for the extra care and attention required.

Lettuces being the principal crop, I have not yet referred to the other varieties of early vegetables that should be grown on the same bed.

The French, in their careful, methodical, and practical way, make use of every inch of room, and instead of getting one crop out of the beds they get four.

As soon as the beds are ready for the Lettuces in January, sow some Radishes thinly, at the same time sowing some of the very early Carrot (early frame), also very thinly in the same frame or frames; or, instead of Radish, sow some Half-long White Turnip.

This being done, the frame is now ready for the small robust Lettuces which have been growing on under the bell glasses, and towards the end of December they should be as large as five shilling pieces.

WINTER CABBAGE LETTUCE—EARLY FRENCH.

SOW IN OCTOBER.

This variety is small, having very small hearts. It grows very well indeed under frames or bell glasses during the winter, but it is of no use except for this purpose. One can have Lettuces all through the winter by using the following method.

At the beginning of October sow the seed under bell glasses, and as soon as the second leaves after the cotyledons appear prick them out under other bell glasses, 20 to 25 to each glass. In November dress round with old manure from the exhausted beds. Protect the glasses well from frost and very heavy rains by covering them with litter and mats, which are taken off during the middle of the day if the

weather permits, but without giving air. This lot of plants is ready to plant out in the frames in January.

Each light should contain 21 plants, and the bed must be high enough in the frame for the plants to be not more than 4 inches from the glass.

The Radishes will come along very quickly, and should be ready for pulling in March, or in about six weeks from the time they are sown.

This will give more room for the development of the Lettuce, which will grow quickly now, and should be ready for cutting by the beginning of March.

After the Lettuces are cut and sent to market, plant out four plants of Early Frame Cauliflower in each frame.

CAULIFLOWER.

From the beginning of September until the end of the month, sow seeds of Early Frame Cauliflower in the open ground in an old hot-bed or in a piece of open ground; they will be up in eight days, and fifteen to twenty days after the coming up of the seed, transplant them into frames so that they may be covered with lights, or under cloches if these be used. Cover a piece of ground a yard wide with 1½ inch of old rotten manure from the exhausted beds. Then transplant them at the rate of twenty to twenty-five plants per bell glass, the lesser number being the better. If the season is very open and the plants grow too quickly, it is necessary to pull them up and replant them immediately in the same place. Let them have air every day when it is fine, this hardens the plants and helps them to withstand the frost and cold. The Cauliflowers will be ready to plant out in the frames when the Lettuces have been cut in February and March.

To obtain a crop of Cauliflowers in April and May, sow from August 25 until September 5, and winter the plants preferably in frames; plant them out 3 or 4 inches apart.

About the middle of February make a bed of half exhausted manure, and half new manure 15 inches deep, ten or twelve days afterwards plant these Cauliflowers out at a distance of about 8 inches, putting a cloche over each; these are, of course, in addition to those planted under the lights. Four Cabbage Lettuces can also be planted under each cloche. Fill up between the cloches with dry litter, to the top when necessary, covering the whole with double straw mats. The Cauliflower should be ready to cut in April. After those in the frames are well established, the lights and frames can be lifted off and utilised for Cucumbers or Melons, the plants of which have been got ready in a small hot-bed.

EARLY CUCUMBERS AND MELONS.

In the early days of February sow seeds of both Melons and Cucumbers. There are several varieties of each, the Cantaloup being one of the best for frames, as it is the earliest, the fruit being very fine, of good size and superior flavour. The best variety is Little Prescot.

To raise Cucumbers and Melons now, make a small hot-bed of fresh stable manure in which to raise the plants for transplanting into larger hot-beds next month to remain to fruit; a small bed for a one or two light frame may be sufficient, and about two or three good cart-loads of fresh hot manure will be enough for making a bed of proper dimensions for a frame of three lights.

The Carrots which have been growing in the frames must be carefully thinned to allow them to develop more quickly, and this is really one of the most profitable crops. An enormous number of these Carrots, which of late years have been fetching 6d. per bunch of twelve Carrots, can be pulled from one frame.

The particular Cabbage Lettuce that Frenchmen grow is one that has never been used in this country except in the few French gardens now existing. It is totally different to any Lettuce we are in the habit of growing here. If this Lettuce is planted in spring it will immediately run to seed.

There are 2,160,000 of these cloches used in the immediate neighbourhood of Paris, and there are 1,000,000 frames or lights.

The vegetable produce from these lights fetches the enormous sum of £500,000. Now I want to know why market gardeners, such as

yourselves, cannot grow some of this produce here?

The cry in the past has always been that our climate is not the slightest good for growing these vegetables, and that in France they have neither frost, fog, nor snow; that they have nothing to contend with, and that the Frenchman has no difficulty or trouble in rearing his plants.

Let me tell you that this is not the case. The Frenchman who I obtained for the French garden at Evesham told me that the climate there (Evesham) was greatly to be desired, and that Lettuce did not fog off there as they did in Paris.

Now in this very pleasant town of Cheltenham you are warm, and on the sandfields and Alston Road I am sure there are ideal spots which might be used for this kind of gardening.

There is nothing to prevent each of you investing in 30 to 40 lights, which would cost you, roughly, £20, packing included, and then you would want a small quantity of cloches, anywhere between 50 and 100, which would cost, roughly, between £3 to £5 10s. per 100.

These would never be a loss to you, as if you could not use them for this kind of work, they are admirably adapted for work with some other of your crops.

(To be continued.)

The Week's Work.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STERLING, Esq., Kirt, Perthshire, N.B.

Pandanus Veitchii.—Old plants should be kept for the purpose of increasing the stock. They should be placed in a position exposed to full light, and the bottom leaves should be stripped for a considerable way up the stem, in order that the suckers also may be exposed to the light. Select the thin, small suckers from the base of the plant, in preference to the thicker and stronger ones. These suckers should be placed singly in small thumb pots filled with a compost consisting of loam and peat in equal proportions, with enough silver sand added to keep it porous. Make the soil in the pots as the suckers, and plunge the pots in a hot bed. Following the application of the first watering, the soil should be kept on the dry side, otherwise the suckers will be liable to decay. In repotting *Pandanus Veitchii*, the soil should always be made very firm, and if the leaves show too much green colour, apply an artificial manure to the roots, selecting a manure that contains a good proportion of iron.

Ixora.—Plants that are coming into flower must be examined in order that it may be ascertained that there is no mealy bug amongst the buds; otherwise the flowers will not open kindly. Slightly spraying with some safe insecticide will destroy the bug and inflict no harm upon the flowers. Make frequent applications of liquid manure to the roots at this season. Regulate and tie the flowering shoots evenly over the plant, screening the stakes from view as much as possible.

Codiaeum (Croton).—Examine the plants of *Codiaeum* very frequently for mealy bug. Tie the shoots into the shape and form desired. Make frequent applications of manure to the roots, taking care always that the doses are not made too strong. Damp the surfaces in the house frequently, and syringe the plants at least twice each day when the weather is bright.

Palms.—Plants that have filled their pots with roots, but which it is not intended to repot into larger pots will be benefited if a thick layer of sphagnum moss be placed on the surface of the soil and frequent applications of diluted manure water are given. Rambos, if grown in pots, are greatly helped if treated similarly.

Zonal Pelargoniums.—Plants raised from cuttings last spring should now be potted into 6-inch pots, and in these they may be allowed to flower during winter. A compost of rich loam, leaf-mould, and a little bonemeal is suitable. Pot firmly, and place the pots on a bed of ashes in a position exposed to the sun. Keep all the flowers picked off until it is desirable to allow the plants to bloom.

* Being a paper recently read at Cheltenham by Mr. C. D. Kelly, of Messrs. Watkins & Simpson.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Oncidium.—The members of this extensive genus are all evergreen plants with flowers of great beauty; some are large growing and gross feeders, whilst others are small, delicate, close-growing members. The majority possess pseudo-bulbs, but in one section these swollen stems are absent, their place being taken by large, showy leaves growing from a thick, hard rhizome. With plants varying so much in habit, the mode of culture naturally varies. In the case of species not possessing pseudo-bulbs, as represented by *O. luridum*, *O. Lanceanum*, *O. tetrapetalum*, *O. variegatum*, *O. carthagenense*, &c., all of which flower during the late spring and summer months, the plants should be placed in the warmest division of the house in a position where they may enjoy plenty of light, without actual sunshine. They may be grown in pots or pans on the stage. Plenty of material for drainage should be afforded, as they enjoy copious supplies of water during their growing season, and overhead syringing may be practised on bright days. The plants are best potted above the rim of the receptacle, and they must be fixed firmly in the compost. This section of *Oncidium* is not the easiest to manage during their resting season in

about the roots. This species is not one of the easiest to maintain in a healthy condition for many years. I find they succeed fairly well when hung up in a light position in the warmest house and frequently syringed during the growing season.

Oncidium papilio and *O. Kramerianum*.—These species may be bracketed together as far as their treatment is concerned. Both thrive best in a shady corner of the intermediate house, and require very little compost about their roots. Plenty of moisture at the roots is needed when the plants are making fresh growths, and the foliage should be kept well syringed on fine days. The wiry peduncles rise from the base of the pseudo-bulbs, and bear one flower at a time at intervals all through the summer and early autumn months. The frequent flowering ultimately weakens the spikes, as shown by the smaller flowers produced, and when this is observed the old inflorescences should be cut off, when fresh vigorous ones will soon form.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

The weather.—The welcome rains that have fallen recently have done much to improve the

for the purpose, and should be planted in soil that is not excessively rich, it being easy afterwards to supply the necessary stimulants. Be careful to allow plenty of room between each plant.

Vegetable Marrows.—The later plants should be afforded a liberal mulch with long stable litter. Regulate the growths, apply frequent root waterings, and syringe the foliage occasionally. Those in full bearing will need manure water, and should not be allowed to support any fruits after they are ready for cutting. Examine the plants two or three times each week.

Courds and Pumpkins.—In whatever position these are grown it is necessary they should complete their growth as soon as possible and set a good crop of fruits, in order that these latter may have sufficient time to mature perfectly. Most of the edible varieties make excellent food during the winter, but they cannot be preserved until that period unless they have first been properly ripened. As soon as sufficient fruits are swelling on a particular plant expose the fruits as much as possible, and apply manure water liberally to the roots.

Tomatos.—See that Tomatos have a liberal mulch of long litter over their roots. Remove superfluous growths and stop the leading shoots as soon as a good crop of fruits has been



FIG. 19.—A GROUP OF RHODODENDRON "PINK PEARL" AS EXHIBITED BY MESSRS. DICKSONS AND CO., CRAIGMILLAR, AT THE RECENT SCOTTISH NATIONAL EXHIBITION, EDINBURGH.

winter, when naturally much less water at the roots suffice, but the plants must never be allowed to suffer from drought, as they have no pseudo-bulbs like their congeners to support them.

Oncidium ampliatum majus is a magnificent species, the flowers of which are produced in spring. This plant should also be accommodated in the warmest division of the plant house, as it delights in a high temperature, exposure to sunlight early in the afternoon, and a moderately moist atmosphere during its season of growth. It is best grown on rafts, or in shallow baskets suspended from the roof rafters. A thin layer of rooting material only is required, and this should be placed on a good layer of drainage materials. If the plants are treated liberally during the growing season they seldom fail to produce good pseudo-bulbs, with foliage of a thick and leathery texture.

Oncidium Jonesianum.—This is a charming autumn-flowering species, the plants having small pseudo-bulbs that are scarcely to be distinguished from the leaves, to which they form a thickened base. These succeed best when placed on rafts with the foliage hanging downwards. A little material should be packed between the bars to help conserve the moisture

general appearance of the crops, and so far as can be seen at present most of them, especially the root crops, are likely to produce a good yield.

Runner Beans.—These plants appear very promising; the pods are setting freely and the plants are vigorous. Regulate the shoots in order to get them to cover their supports regularly but thinly, cutting out such lateral growths as is necessary to prevent overcrowding, and stopping the leading shoots after they have reached the top of the stakes. Plants in full bearing may be given an abundance of water, and drainings from the farmyard if sufficiently diluted have a very beneficial effect. In wet weather one of the artificial manures especially recommended for vegetable crops may be applied in place of the liquid, but the quantity should in no case exceed that given in the directions. Gather the pods as soon as they are ready, excepting any that are required for seed purposes. When once a good strain has been obtained, take every care to maintain it, selecting the very best pods only each season for continuing the stock.

French Beans.—Make two or three sowings of these in unbeaten frames during the next four weeks. Canadian Wonder is a capital variety

assured. Should dull weather occur, shorten the leaves, expose the fruits as much as possible to the sun's rays, and do not overfeed the plants.

Winter Greens.—Continue to plant all kinds of Greens as the ground becomes available. If these have to be planted between the row of Potatoes the Potato haulms should be carefully laid down, which will not harm the Potato crop but allow the Greens more light.

Turnips.—Turnips have been the least satisfactory crop in this district, except such Turnips as have been cultivated in frames. Coverings should be made at intervals of ten days in shallow drills drawn at 12 inches apart on finely prepared ground. Jersey Lily and Snowball are excellent varieties for the present purpose.

Peas.—Thin out both the plants and side shoots of late plants as they require it, staking and tying in the growths. If extra good pods are needed, the plants must be grown very thinly and the pods themselves must be thinned out. To prevent attacks of mildew, apply a mulch and give an abundant watering to the roots.

Asparagus.—Support the strong growths with stakes to prevent them being blown down by winds before they have matured.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Borders of mixed flowers.—Examine the borders frequently and remove the decayed flowers. In some instances the foliage also decays early, and in such cases suitable plants should be introduced from the reserve garden to fill the vacant places and maintain a succession of flowers.

Plants for flowering in spring.—Many of the spring flowering plants recently removed to the reserve garden will have their blooms removed, and for cuttings or division of the roots some will need to be propagated for raising stock to flower next spring. A border that faces to the north is a suitable site for such propagation to be carried out, but care should be taken to see that the soil is made sufficiently sandy and that it be kept loosened at frequent intervals. We are now planting out seedling Aubrietias in variety, and Wallflowers. Alyssum, Verbascum, Arabis, and similar plants, if divided now will make fine tufts for autumn planting. Seeds of the following species are now being sown:—Myosotis (Forget-me-nots), Silene pendula compacta. Papaver nudicaule, Campanula (Canterbury Bell), perennial Lupins in variety, Sweet Williams, Heuchera sanguinea, and others.

Carnations.—What are known as the tree or perpetual-flowering Carnations, and which are usually grown under glass for flowering during winter in pots, flower very well with us during the summer months out-of-doors. They are planted very early in summer. Each plant is provided with stakes, and the stems are neatly tied to the stakes so that they cannot be blown about by the winds, otherwise the blooms would be worthless.

Carnation layers.—As soon as the flowers have been gathered and have faded on the Carnation plants, the work of layering should be commenced. Clear the layers of old flower-stalks and remove the weeds from the ground. Prick over the surface soil and add sufficient sand or gravel to keep the soil exceedingly porous. Afterwards prepare mounds of finely-sifted soil containing a good proportion of leaf-mould and sharp sand. The mounds should be made of good size and fairly flat in shape, so that the water will not be thrown off. The shoots selected for layering should be the healthiest and strongest obtainable. At the point it is intended to make the incision remove the leaves and make a slanting cut in an upward direction to the middle of the stem and about 2 inches in length, with about 4 inches of upper growth beyond the cut to form the young plant. It is important to fix the layer firmly into the mound by means of a peg, and in such a position that the portion that will form the young plant will stand perfectly erect. Wire pegs are most serviceable, but it is necessary to use them of sufficient length that they will remain fast in the soil. When the layers have been planted, apply a good watering through a fine rose can. Spray the plants overhead with water in the evening during dry weather. After the lapse of six weeks the layers may be severed from the stem of the parent plant, and removed for planting into previously prepared beds.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATOCK, The Hendre, Monmouthshire.

Early vines.—In order to induce early-fruiting vines to thoroughly mature their shoots and develop prominent buds at the base of the laterals, promote a free circulation of warm air by night as well as by day, and prevent attacks from insect pests, so that the leaves may remain healthy for as long a period as possible. On no account allow the roots to suffer from lack of sufficient moisture. In cases where the roots of the vine are in an unsatisfactory condition, and it is intended later to lift the roots or to replenish the borders with fresh compost, the necessary amount of turfy loam, crushed bones, mortar rubble, and wood ashes should be prepared at the present time, that it may be in a state of readiness for use when the leaves are seen to be changing their colour and therefore nearing maturity, this being the best time for carrying out the operation, because the roots will be enabled to take a hold of the fresh soil before losing their activity for the winter.

Mid-season vines.—Madresfield Court is one of the best mid-season Grapes. Its liability to the crack, however, when commencing to colour necessitates special treatment. During the growing and ripening seasons of this particular Grape the roots, as in the case of other vines, must never be allowed to suffer from lack of moisture, and when the fruits commence to colour the house should be moderately well ventilated both by night and day, and the atmosphere kept fairly dry. The lateral growths of the vine should be allowed to extend to a reasonable extent. After Black Hamburg has ripened its fruit, the berries are liable to lose colour in the presence of hot weather, and the fruit of Muscat of Alexandria is equally liable to shrivel. To guard against these defects I must repeat that the borders should be kept moist, but, in addition, the fruit may need to be screened from the sun's rays by the interposition of a fair amount of foliage. This is not intended to mean that the foliage should be allowed to become crowded. Rather than this, it will be better to supply a slight shading over the glass by the use of fish netting. Maintain the atmosphere of the house cool and apply ventilation freely.

Late vines.—The hot and dry weather has caused more than ordinary attention to be paid to late vines. Transpiration from the leaves during such weather is very great, and therefore it is the more necessary to apply water to the borders and to promote moisture in the atmosphere. Surface waterings are useless, it being necessary to apply sufficient to thoroughly wet the whole depth of the border. It is also important at this season, when the crops are developing, that the vines should be sufficiently supplied with quickly available manures. Neglect in this matter is likely to injure the crops next year just as it is certain to prejudice the crops already upon the vines. Stop the lateral growths at regular times, and sponge the leaves directly upon the first appearance of red spider, using soapy water. As soon as the fruits have become of sufficient size to be less liable to scalding, it will be safe to force the crops a little until the berries commence to colour by closing the houses in the afternoon when the atmospheric temperature is 60°, the atmosphere at the same time being well laden with moisture and charged with ammonia, promoted either by sprinkling the inside borders with guano or by replenishing the mulchings with fresh horse-droppings.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NUBURNHOLME, Watter Ptery, Yorkshire.

Morello Cherries.—Shoots required for fruiting next season or for furnishing or extending the trees should now be trained into their proper positions. In most private gardens Morello Cherries are cultivated as fan-shaped specimens against walls facing to the north, but they may also be grown very successfully as bushes in the open garden, and if pruned but moderately will produce good crops of fruit in average seasons. Even such trees as are growing against the walls will be benefited at this season by a good watering of liquid manure or by a light dressing of some artificial manure, in the latter case applying a good watering immediately afterwards. Do not train in the young wood very thickly. Encourage those shoots nearest the base of the tree to extend and eventually replace the oldest branches as the latter become unfruitful. Morello Cherry trees produce fruit on spurs and on the young wood. Those shoots which are not required for furnishing the trees should be pinched back to three or four buds from the base, and they will form spurs. Thoroughly cleanse the trees from insect pests before the nets are fixed into position to protect the fruit from the birds.

Sweet Cherries.—Examine the trees as soon as the fruits have been gathered, and syringe them with some insecticide if black fly, red spider, or some other insect pest is discovered. In any case give the trees a good washing with water applied from the hose-pipe or garden engine.

Mulching and watering.—Readers are referred to my remarks in the issue for July 4 on this subject. If the weather should be very dry the cultivators' best means of assisting the crops is

to apply fresh mulchings and water liberally directly afterwards. Trees that are swelling heavy crops of fruit and have their roots in light soils, also trees that were planted late in the spring, are among those which first feel the effects of long continued drought. Any kind of non-conducting material may be used in such a season as the present for retaining moisture to the soil and protecting the finest roots near the surface. Do not syringe the trees overhead on bright hot days, but rather defer the operation and apply a good syringing directly the sun has fallen below the horizon.

THE APIARY.

Honey in California.—In his report on the trade and commerce of the States of California, Nevada, and Utah, and the territory of Arizona, just issued (Annual Series, No. 3,998), Mr. Consul-General Hearn has some interesting references to the honey yield of California. It was predicted during last summer that the output of the year would be very small, but, in fact, it was almost double that of 1906, the total being estimated at 8,700,000 lbs. The beekeepers in the State consider 100 to 300 hives sufficient for any one farm. The honey gathering is usually from April to September, depending upon the weather and the length of the blooming period of the bee forage. The extracting season commences in May or June and is usually about six or eight weeks in duration. In a good season California produces about 4,500 tons of honey. Much of this is the famous mountain sage honey, which is water-white, and is said to be the mildest flavoured honey in the world. In the northern part of California bees gather their stores from the bloom of the Carpet Grass and the Eucalyptus; in the central countries from Alfalfa and Orange blooms, white, black and purple Sage, Roses, Sumac, and wild Buckwheat. The last two give a poor grade of sweet, which is usually extracted to be used for winter feeding, and these later stores are left to the hives, if the blooming season comes when the combs are full.

The method of honey extracting, as described by Mr. Consul-General Hearn, is interesting. Details vary in different apiaries, but in one called the Model Apiary, the process is as follows:—With a hand-car, or small truck, the apiarist stops beside a laden hive; this hive is of two stories, sometimes three. With a thin-bladed knife he loosens one edge of the lid, and thrusts the mouth of the smoker beneath it. With quick pressure of the bellows he sends the smoke into the chamber, and the bees hurry below to avoid suffocation. He lifts the combs, and brushes away the stupefied bees. If the honey is capped over, or partially so, he puts the comb into wooden-handled baskets made for the purpose, and when he has a load the car is pushed to the extracting house, to which it runs on a miniature railway, which runs its cars through every street of the bee city.

Well-filled comb-hives weigh 8 to 12 lbs., according to thickness of the comb, and specific gravity of the honey. Inside the extracting house is a deep, tin-lined, uncapping box occupying nearly the whole side of the room, and in this box the frames are suspended until wanted. Uncapping is largely done by women. The frame, containing the comb, is balanced on one edge of the uncapping box, and a long knife dexterously slices off a thin sheet of wax, thus destroying the cell seals. As the combs are uncapped they are placed in the baskets of the contractor, which are reversible, and the honey is thrown out by centrifugal force. From the bottom of the extractor runs a 3-inch pipe on a gentle incline to a tank outside the extracting house. This tank holds several thousand pounds. Across the opening of the pipe where it leaves the extractor is fastened a section of wire netting with rather coarse meshes to keep pieces of comb or refuse from passing into it.

In the top of the receiving-tank is suspended a white flannel bag, 2 feet in length, in the upper part of which is run an iron hoop some 1 foot 3 inches in diameter, which first fits the opening in the tank; this further strains the honey. The honey is then drawn into tin cans, holding from 12 to 60 lbs. each. *Journal of the Society of Arts, June 26.*

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JULY 18—German Gard. Soc. meet.

TUESDAY, JULY 22—
Roy. Hort. Soc. Coms. meet. British Gard. Assoc. Ex. Council meet. National Rose Sh. at Manchester. Highland Agric. Soc. Sh. at Aberdeen (4 days).

WEDNESDAY, JULY 23—
Nat. Carnation and Exotic Soc. Exh. at Hort. Hall, Westminster. Cardiff Fl. Sh. (2 days).

THURSDAY, JULY 23—Roehampton Fl. Sh.

FRIDAY, JULY 24—
Nat. Sweet Pea Soc. Exh. at Roy. Hort. Hall, Westminster.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last fifty years at Greenwich—63°.

ACTUAL TEMPERATURES:—
LONDON.—Wednesday, July 15 (6 P.M.): Max. 70°; Min. 54°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, July 14 (10 A.M.): Bar. 29.3; Temp. 61°; Weather—Overcast.

Provinces.—Wednesday, July 15 (6 P.M.): Max. 63° Chelmsford; Min. 54° Scotland N.E.

The Art of Forcing.

Every gardener knows what an important part the art of forcing occupies in the ordinary work of the year. But in the earliest days of gardening practice people were doubtless more easily satisfied, being for the most part content to cultivate their crops during the natural growing season of the year, and store or preserve such kinds as were possible for consumption during the winter months. This has so far altered that we are in danger of despising fruits and vegetables when they are in season, reserving our appreciation only for the more or less unnatural products that are cultivated by excessively artificial means. Although it may be possible to carry this craving for the unnatural to an unjustifiable extent, and notwithstanding that, as a rule, most kinds of fruits and vegetables may be seen in best condition when they mature at their natural season, it is none the less true that our food supply is largely increased by the present-day systems of forcing, and the extra variety of vegetable food thus made available during the winter and spring months is healthful and agreeable. Increased attention has been directed to the art of forcing by recent descriptions in the Press of the French system of forcing vegetables. This system is that adopted in the environs of Paris by the market gardeners, or *marachiers*, as they are called in France. The methods consist of employing hotbeds formed of stable manure for generating heat, covering these hotbeds with a layer of soil for the cultivation of vegetables and salads, and protecting the crops by means of bell-shaped glasses or cloches and flat frames with movable lights, which are covered at night time by mats made of rushes. An enormous

amount of stable manure is used in these nurseries, and though the quantity that is necessary becomes rather less after a few years, it must remain a large item so long as the manure alone is depended upon to provide the requisite warmth. There is no doubt whatever that this hotbed and frame system has so far proved exceedingly productive in the Paris nurseries, and that the early produce has sold for remunerative prices in the Paris and other important markets. First-class Lettuces in December and January, Radishes, young Turnips, and Carrots all through the winter months, and Potatoes, Peas, Vegetable Marrows, Asparagus, Strawberries, and Cauliflowers long before their natural season of maturing are so much appreciated by most people that the prices obtained for them are out of all proportion to those they can command later in the season.

We have on our table three books which have just been published on the subject, a sufficient testimony to the interest this form of gardening has awakened in this country. The first is *The French Garden*, by Mr. C. D. McKay. Mr. McKay, it may be remembered, was instrumental in taking to Paris a party of English market gardeners in 1905 for the express purpose of studying the hotbed and cloches system of forcing. One result of that visit was that Mr. Idienn determined to introduce the system to Evesham. He started in a small way and engaged a French *marachier* to come and supervise the undertaking. Experience proved that what is possible in Paris is just as easy of achievement here, and under the management of the present owner, Mr. Harvey, the nursery commenced by Mr. Idienn has been greatly extended, there being now as many as 2,000 lights and 4,000 bell glasses in use. Mr. McKay's book is full of practical information and free from such exaggerated statements as have been recently current in regard to the profits to be derived from such cultivation.

Following the substitution in the first half of the last century of the present system of heating plant-houses with hot water for the earlier and less convenient system of flues, there has been, to some extent at any rate, a tendency to employ hotbeds less frequently. In the old days gardeners had not the conveniences of a well-equipped modern garden, and the improvised frame and hotbed were very frequently brought into use and for a great variety of purposes.

In *The New Market Gardening* the author draws attention to this fact, and states that the present efforts to popularise the French system of forcing vegetables will result in the introduction of a method that was practised by Abercrombie and other noted gardeners in the eighteenth century, but it was certainly carried out on a far smaller scale than at present is the case in the Paris nurseries.

So far as commercial horticulture is concerned, there are doubtless many places near to large towns where at present the cost of providing heat by means of a hotbed of stable manure is much less than would be necessary to heat the frame with hot water, and it is well known also that the heat generated by decomposing organic sub-

* *The French Garden*, by C. D. McKay. Published by the Daily Mail, price 6d.

† *The New Market Gardening*, by W. Wicherley. Published by the Cable Printing and Publishing Co., London. Price 6d.

stances is in a general way more suitable to plant life than that arising from heated water pipes. The manure thus employed serves a double purpose, because after the first year most of it is distributed on the soil and fresh manure obtained for forming new hotbeds. In this way the soil is enriched to a very great extent each season, and thus it has been described as "golden" soil by some writers.

Indeed, the soil becomes so charged with organic plant food, only part of which becomes utilisable in any one year, that it is said it would grow crops well enough for a considerable number of years without any further applications of manure being necessary.

But if stable manure, being plentiful now, is a cheap means of providing heat, the balance is likely to be much disturbed after the lapse of a few years; for the substitution of motor for horse-drawn vehicles is likely to continue, and in this case the supply of such manure will be seriously curtailed. In *Gold Producing Soil* the author discusses this phase of the subject, and states that in some of the Paris nurseries, where the soil has been cultivated for many years and is consequently of unusual richness, the hot water system of heating has been again adopted, use being made of what are termed "Thermosiphons."

This only goes to show that no system of heating can be cheapest or best under all circumstances, but must remain dependent upon the situation of the nursery and many other conditions that may be expected to change from year to year.

The discussion which has recently arisen has been chiefly concerned with the question of employing the methods of the *marachier* in the market nurseries, and in these columns we would suggest to head gardeners in private establishments that they also may find advantages to be derived from the cloches and hotbeds, especially for the purpose of cultivating winter Lettuces, Radishes, Turnips, and Endive. Several private gardeners have tried the cloches, and the winter Lettuces so raised have been greatly appreciated.

We may add that by the courtesy of Mr. McKay we are enabled to print the substance of a paper on French gardening recently delivered by him at Cheltenham. The first instalment appears in our present issue.

OUR SUPPLEMENTARY ILLUSTRATION shows a sketch by Mr. WORTHINGTON SMITH of *Pæonia arborea lutea superba*, from material kindly supplied by Mr. GUMBLETON. This variety is a selected seedling by M. V. LEMOINE, of Nancy, from the original stock received by him from the Jardin des Plantes, Paris. The flower is larger than that of the type, and has also a distinct carmine base to the petals, which greatly adds to the beauty of the plant. This, however, does not develop itself in young specimens, and Mr. GUMBLETON states that he had to wait quite two years after receiving the plant before he saw the flower in its full beauty. The leaves are deeply cut, and with their fine bronze tint are very ornamental objects. The plant is perfectly hardy at Belgrove, Queenstown, Ireland, but in less favoured districts it should be given the protection of a cool greenhouse.

* *Gold Producing Soil*, by T. Newsome. Published by Freil, Steele & Co., Ltd., Craven House, Kingsway, London. Price 1s.

NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).—The annual exhibition will be held in the hall of the Royal Horticultural Society, Vincent Square, Westminster, on Wednesday, July 22. The hon. secretary and treasurer is Mr. T. E. HENWOOD, 16, Hamilton Road, Reading.

FLOWERS IN SEASON.—From Messrs. C. S. DANIELS & SON, Wymondham, Norfolk, we have received blooms of their strain of Auricula-eyed Sweet William. Some of the markings on the flowers are very fine.

CLUB OF R.H.S. GARDEN EMPLOYEES.—The first annual general meeting of this newly-formed club was held on the evening of the 8th inst., in the Chas. Dickens' room at Carr's Restaurant, Strand, W.C. The chair was occupied by Mr. F. J. CHITTENDEN, the Director of the Laboratory at Wisley Gardens, and the following persons were also present:—Messrs. E. M. BEAR, A. DU T. BOTTOMLEY, THOS. BEVAN, A. P. CALDWELL, G. S. DANSELL, J. FRASER, T. FRAZER, W. J. JENNINGS, J. T. LEDGER, E. MILLER, N. A. PHILLIPS, G. PYMAN, W. K. REED, H. V. RICHARDSON, H. F. ROBSON, H. L. ROBSON, H. E. SEATON, G. E. SERV, H. SPOONER, R. J. WALLIS, B. WYNNE, and G. S. YEOMAN. Students, journeymen, foremen, &c., were thus represented from the time of Mr. WYNNE, who entered the gardens as a student in 1866. After supper was partaken, the rules of the club were drawn up and approved, and the officers for the ensuing twelve months elected. It was decided to publish at an early date a list of past and present members of the R.H.S. staff, and in order to make this as complete as possible, all who have any remembrances of old Chiswick men are requested to communicate with the hon. sec., Mr. R. J. WALLIS, R.H.S. Gardens, Wisley, Ripley. It was decided that the name of the association shall be the R.H.S. Gardens Club, and that a club journal shall be published annually at Michaelmas, and shall include a list of members with their addresses.

BOTANY LECTURES AT ABERDEEN.—At a special meeting of the Sub-Teaching and Staff Committee of the Aberdeen and North of Scotland College of Agriculture it was resolved that the teaching of botany and zoology given to the regular students of the college should also be extended to the members of the central classes. It was also decided that the teaching be done by the members of the staff of Aberdeen University. Dr. Bruce pointed out that there was in the employment of the college a member of the staff with all the necessary qualifications, and whose services were available for the teaching of the subjects under review. It was indicated that if the University scheme was not adopted there was a danger of the Agricultural College being compelled to leave the Aberdeen University building.

EXHIBITION OF HOME-BOTTLED AND PRESERVED FRUITS AND VEGETABLES.—On November 26 and 27 next the Royal Horticultural Society will hold their annual exhibition of home-bottled and preserved fruits and vegetables at the hall of the Society in Vincent Square, Westminster, and now that the fruit-preserving season is again with us, it may give added zeal to the lovers of this skilled domestic art to prepare fruits for awards at this exhibition. Dried or bottled fruits of any kind may be shown, subject to the conditions of: (a) there being no chemical preservative, or (b) artificial colouring matter used, (c) of their being tasted by the judges, and (d) provided they have been grown in the British islands. The schedule contains classes for bottled fruits, home-dried or evaporated fruits, preserved vegetables, jams, fruit jellies and cheeses, foreign jams, and mis-

cellaneous appliances, preserving bottles, &c. The exhibits will be judged by the most competent authorities, and the medals of the Society and prizes of money awarded accordingly. One class is specially attractive, and, it is believed, quite original. It invites for exhibition three bottles of British-grown fruit (of which one must be Raspberries), bottled and shown by amateurs. These will be examined by the judges and left in the care of the Society until November, 1909, and a silver cup and other awards given. A complete schedule and further information may be obtained from the secretary, Royal Horticultural Society, Vincent Square, Westminster, S.W.

CYANIDE OF POTASSIUM AND WASPS' NESTS.

—On another page a contributor deals with the methods of extermination of wasps. Sometimes it happens that it is very desirable to take a nest as quickly as possible as, for instance, when one is found in a cornfield at harvest time. For this purpose, about a teaspoonful of potassium cyanide is dissolved in half a pint of warm water in a bottle. Approach the nest gently and pour about half the quantity into the hole. Probably no wasp will be able to fly out, and there need be no fear of being stung if the operation be done quietly. The home-ward-flying wasps will be killed as they enter the hole, and it often happens that the entrance becomes choked with dead insects, whilst others continually push their way in, only to suffer the same fate. After an hour or two it is generally safe to dig the nest out, but the unused surplus of the poisonous liquid should be handy in case the wasps continue to return in too great numbers. We have repeatedly adopted this practice ourselves, and can therefore vouch for its reliability, but the nest must be dug out, as the pupæ of the wasps are often not killed by the vapour. An advantage of using the cyanide in this way is that it rapidly becomes altered in the soil, and ceases to be poisonous.

NEW ENGLAND DAHLIA SOCIETY.—This active Society, recently founded at Boston, U.S.A., has decided to hold its first annual show in the Tremont Temple, Boston, on September 17, 18, and 19 next. The schedule comprises 123 classes, in many of which entrance fees are charged. Some of them have four prizes varying from £1 to £8; other classes, according to the requirements, have three or two, as the case may be. The headings under which the various classes are grouped are general collections of Dahlias, large vases of Dahlias, Dahlias grown in pots or tubs, Cactus, decorative, plain show, fancy show, pompon show, pompon Cactus, Peony-flowered, single Dahlias, giant single Dahlias, collarette single Dahlias, and Anemone-flowered. Special classes for non-commercial growers include 14 classes for one bloom in a vase, collections of Dahlias according to colour, Dahlias for size, long-stemmed Dahlias, seedlings, and a long list of special prizes are offered for exhibits of certain named varieties, &c. We observe among the donors of special prizes in Europe are Messrs. JAS. STREDWICK & SON, Messrs. J. BURRELL & CO., the GERMAN DAHLIA SOCIETY, M. ANDRÉ CHAMET, and Messrs. DOBBIE & CO. The third number of Vol. II. of the *Dahlia News*, published by the Society, is just to hand, and is the only periodical publication dealing exclusively with the Dahlia.

A MANUAL OF INJURIOUS INSECTS.—Mr. WALTER E. COLLINGE, M.Sc., F.E.S., writes us as follows: The need of a concise, but authoritative work on British economic entomology, has been long felt by economic entomologists, teachers, agriculturists, foresters, horticulturists, and others. For some time past the author has had such a work in preparation, and has received valuable assistance from the leading workers both at home and abroad. In order to facilitate the work he now appeals to all in-

terested for assistance. It is proposed to issue the work in a series of parts (probably six or seven), each of from 100 to 150 pages, fully illustrated. A special feature will be made of the illustrations, of which a large series are already in active preparation. Any assistance in the form of:—1. Information *re* life-histories, or bionomics. 2. Photographs or drawings of injurious or beneficial insects (ova, larvæ, pupæ or the perfect insects). 3. Photographs of plants, animals, &c., injured, or of examples of insect depredations, &c. 4. Photographs of celebrated economic entomologists, &c., will be gratefully and fully acknowledged. 5. Electros of author's illustrations of insects, &c., previously used, are greatly desired, with permission to use the same. Full acknowledgment of the lender or artist, and original source, will in all cases be made. The first part will contain a general introduction to economic entomology, and treat of the Collembola (springtails), Thysanura (bristletails), and Orthoptera (cockroaches, earwigs, grasshoppers, &c.). Communications should be addressed to WALTER E. COLLINGE, Uffington, Berkhamsted.

FRUIT TREE INSPECTION IN UTAH.—Our contemporary *Gardening* (Chicago), quoting the monthly report of a horticultural inspector made on May 1, states that in the month of April 74,246 trees were fumigated and inspected for planting, besides 200,000 which were already fumigated, inspected and stored away in the frost-proof houses or heeled in the ground for future delivery. Fifty-five boxes and bundles, containing about 15,700 trees, were imported, and 2,974 were condemned and burned for being diseased. The deputy inspectors, except one, who had nursery as well as orchard work to attend, have been on half-time this month, making a total of 87½ days' work, and have filed the following report: Orchards cleaned this spring, 539; orchards pruned, 468; orchards winter sprayed, 60; old trees cut down, 860; Pear trees cut out for blight, 3,220; young trees planted, 23,513; orchards visited, 616. In one district south-west of Jordan six large California spray pumps, costing over \$60 apiece, have been bought and started to work, and many farmers intend to take hold of fruit raising in a manner calculated to produce results. Our worst plague in the older districts is the old pest-breeding orchards, good for nothing, and still not bad enough to be lawfully condemned.

MANURE SPREADERS.—The large crops that are annually taken from the land used by vegetable growers, make it necessary to fertilise the soil in a thorough manner. Many of the growers living in the vicinity of large cities haul manure from the city and spread it over their land. Until recently this work was done with a fork. The great success that general farmers have had with manure spreaders has led vegetable growers to experiment with them. They have proven a success, doing the work in a thorough and economic manner. One of the best spreaders now in use by the vegetable growers is the "Success," which is manufactured by the Paris Plough Co., of Paris, Ont. This spreader is equipped with an adjustable spring pulverising rack, which makes the manure fine or coarse, as desired. All the manure is thrown against the rack, and is thoroughly torn to shreds and pulverised. The tension spring allows sticks, stones, and other hard substance to pass through without injuring the machine in the slightest. The harpoon teeth effectually protect the ends of the beater. These teeth cut the long pieces of straw and grass and do not allow them to wind around the beater or choke it up, which would cause it to run hard, as is the case with many of the other makes of spreaders. Vegetable or fruit growers who are interested in the proper fertilising of their lands should write to this company for their free illustrated catalogue, which will describe this spreader in detail. *Canadian Horticulturist.*

BRACHYLOTTIS REPANDA.

THIS handsome shrub was introduced from New Zealand in 1896, and has been known at different times under the names of *Senecio Fosteri*, *S. Georgii*, and *Cineraria repanda*. It is well worth growing in the warmer portions of these islands on account of its noble foliage. A full description, from a botanical point of view, is given on p. 163 of Sir J. D. Hooker's *Flora of New Zealand*. As a foliage plant it is very ornamental. The leaves, which uncurl when they are about an inch in length, are at first of a warm ivory tint, a hue they retain until they are nearly 3 inches long, when the upper surface becomes pale green. This colour deepens with age to a dark, glossy green, handsomely clouded with purple-maroon. The ovate leaves, which sometimes attain a length of 12 inches and a breadth of 8 inches, are carried on foot-stalks from 4 inches to 6 inches in length and have deeply crenate margins with purple midribs and pale green veins. The underside of the leaves is coated with a silvery-white tomentum, which, as many of them display the reverse, forms a pleasing contrast to the prevailing dark green of the foliage. The specimen here illustrated has been in its present position for over eight years, and is 7 feet 6 inches in height and 7 feet through. For many years it never showed a sign of flowering, and much larger examples in Cornwall have not borne bloom. About three years ago, while visiting a Devon nursery, I saw a plant in a large pot that was bearing about 20 flower-spikes, and determined to see what root restriction would do for my shrub. A trench was therefore dug around it, at a distance of about 3 feet from the main stem, to a depth of 3 feet 6 inches, and this was filled with stones to the ground level. In the winter of 1906 about a dozen flower-spikes were formed, but the frost eventually killed them all. Last winter the bud-clusters were much later in forming, and were not far enough advanced to be injured by the frost at the commencement of the year, and later on developed well. The whole bush was absolutely covered with large flower-spikes, 268 having been counted, though there were probably more. The spike figured was 12 inches in height and 16 inches across at the base, and there were others even larger. Each cluster was composed of countless, minute flowers of a greenish-white tint, and the effect when the spikes were at their best was decidedly attractive. The specimen illustrated at fig 20 is by no means an unexampled specimen, as there was a plant at Ludgvan Rectory, which has since been destroyed by a gale, that must have been fully 12 feet high and as much through. There are also fine shrubs in the gardens of Lord Annesley, at Castlewellsan, in the north-west of Ireland, and a large plant is growing in the temperate house at Kew. The *BrachyloTTis* stands shade well, and is an excellent subject for planting under trees in the warmer portions of the kingdom. Grown in pots of light soil it is an effective plant for the conservatory if the tips of the shoots are pinched frequently to secure a good shape, and it generally flowers well when pot-bound. In New Zealand it forms a small tree 25 feet or so in height, with a trunk 12 inches or more in diameter and a spreading top. *S. W. Fitzherbert, South Devon.*

NURSERY NOTES.**MESSRS. LAXTON BROS., BEDFORD.**

THIS nursery is noted for the large area devoted to Strawberry culture and for the raising of new varieties of this and other fruits. The land is especially suited to the Strawberry, but there is also much space devoted to fruit trees, Roses, and herbaceous plants. At the time of my visit, in the early part of the present month, the land was in a very dry condition, but it was sur-

prising to note the splendid condition of the crops generally. At all times much attention is given to hoeing the surface soil, and by so doing the plants and trees do not feel the effects of drought so badly as in the case of soil that is caked on the top. For many years Messrs. Laxton have been so reputed for their Strawberries that the good work done in vegetables (mostly Peas) has not attracted the attention it deserves. The late Mr. Thos. Laxton paid much attention to improving culinary Peas, and succeeded in getting a new type of Marrow Pea, with dwarfness of habit and earliness of fruiting combined. This was a great gain to growers, and Gradus, one of the best early dwarf Marrow Peas and a fine variety for forcing, was one of Mr Laxton's raising. Since then such varieties as Thomas Laxton and the newer Laxtonian—the latter a splendid variety, as early as Wm. Hurst, with the size of Alderman and of the same good

the harrows to be used between the rows, and being grown in a strong, loamy soil the plants are remarkably sturdy and healthy. The importance of new stock in an old cropped garden should not be overlooked, as plants grown continuously in the same soil become weakened in constitution. For many years I had the care of a garden with a poor, thin soil resting on gravel, and the stock plants were almost worthless at the end of three years, but by having new stock every three years and growing a large number of plants as yearlings I was enabled to produce fine fruit. The best of the new seedlings of this year have been named Pineapple (see fig. 22), Epicure, and Connoisseur, and in testing their merits we had British Queen as the standard. I was much impressed with these, as they are selected for their flavour, size being a secondary consideration. The one named Pineapple has a distinct Pine flavour; it is not so sweet as some



FIG. 20.—*BRACHYLOTTIS REPANDA* FLOWERING AT KINGSWEAR, DEVON.

quality—have been raised at Bedford. At the present time considerable space is devoted to seedling Peas, some of which are most promising. At the end of the rows the older types are grown in limited number, but all under the same culture and sown on the same date. Great importance is paid to the habit of growth of the plant, the colour of the Peas and the free cropping qualities of the plants. Deep-green Peas find more favour than white ones, and a free-branching, sturdy haulm that bears a continuous crop with pods mostly in pairs is desirable.

Some 20 acres of land are devoted to Strawberry culture, no fewer than eight being planted for trial seedlings. Considerable space is devoted to the production of yearling plants for runners, no less than 20 acres being planted annually for this purpose. The plants are allowed ample space, which enables

kinds, and on this account will be preferred by some persons; it is of the Queen type and a mid-season variety. The fruits are medium in size, conical in shape, and of a bright scarlet colour; the flesh is firm. Of the three, I preferred Epicure, which is a delicious fruit, having a true Queen flavour and with the productiveness of Fillbasket. The parents were British Queen and Fillbasket. It is a fine grower; the fruits are medium in size, bluntly conical in shape, and they colour well even to the points. Connoisseur is the result of crossing Fillbasket with Scarlet Queen, and is the earliest of the three. The colour of the berry is a bright vermilion-scarlet, in which respect it much resembles Scarlet Queen, having also a bright pink-coloured flesh, which is very pleasant to the palate. The plant is a free grower and setter, so that it should prove valuable

for forcing. Laxton's Profit is the result of crossing that old favourite, Sir J. Paxton, with Countess. It should prove a fine market Strawberry for mid-season supplies to follow Royal Sovereign. It is a firm, large fruit of a deep red tint throughout; the berries vary in shape, but they are mostly wedge-shaped. Messrs. Laxton consider this the best of the new maincrop varieties they have raised.

Amongst varieties already in commerce the Cropper stands out prominently and is described as an improved Fillbasket. It is a very fine fruit, and a great cropper as its name suggests. It was sent out in 1907, and Messrs. Laxton report that this season it has been very fine. Rehaime was sent out in the same year. This

grounds. There are some most interesting crosses with varieties of the perpetual fruiting type. One which has been proved is the Laxton Perpetual. This should be classed as an improved St. Joseph, and is a true perpetual blooming and fruiting Strawberry; it bears from June to November good-sized fruits, having deeply tinted red flesh. The plant has a dwarf, compact habit. Other crosses of these varieties seen will be of great value, as they will prolong the season when Strawberries are available.

Among other new fruits is one of the Loganberry type, called the Laxton Berry. This is the result of crossing the Loganberry with the Superlative Raspberry, and the result is a large berry with the Raspberry flavour. The

a special feature. The Superlative Raspberry is grown in large quantities, and there were large numbers of Pear, Plum, Peach, Nectarine, Cherry, and Apple trees in various forms, the bush trees being very fine. Large quantities of herbaceous plants are grown, and much land is devoted to Roses. *G. Wythes.*

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

THE CORNELIAN CHERRY (CORNUS MAS).—In many old-fashioned gardens good examples of this beautiful flowering tree may be met with, but since the well-merited popularity of the Asiatic Witch Hazels (*Hamamelis*), this *Cornus* is not so frequently planted as in former years. The *Cornus* flowers as a rule towards the latter part of February and early in March, by which time the Witch Hazels are generally past their best. Though it attains the dimensions of a small tree, and is quite tree-like in habit, the Cornelian Cherry flowers freely when not more than 6 feet in height. The flowers, borne in small clusters on the still leafless branches, are yellow, a tint largely represented among the limited number of shrubs that flower during the winter and early spring months. When at its best this *Cornus* is so freely laden with blossoms that in the sunshine the whole specimen glows with a golden hue. It belongs to the same section of *Cornus* as the Flowering Dogwood (*C. florida*), but the bracts of the involucre, which surround the flowers, are small and insignificant, whereas in the case of *C. florida* they are large, petal-like, and white in colour. *Cornus mas* possesses a deep-coloured bark which serves to intensify the yellow of the flowers, and against a dark evergreen background, such as the Holly, the plant in flower appears to advantage. The popular name of Cornelian Cherry is derived from the colour of its fruits, and though they are freely borne in some parts of this country, in many places the fruits are seldom seen. Plants may be purchased cheaply from the nurserymen, and thrive in any ordinary garden soil. After having reached a height of from 8 to 10 feet, the plant is of slow growth, for which reason it is adapted for small gardens. *Cornus mas* is a native of a considerable portion of central and southern Europe, and was introduced to Britain more than three centuries ago. There are several varieties, some of them remarkable for the colour of the fruits, but the most popular is that known as *C. m. var. aurea elegantissima*, in which the leaves are heavily margined with gold, and in summer flushed with red. *W.*

MAGGOTS IN CHERRIES.—The following extract from the *Times* speaks for itself. I met with the same thing in bought Cherries on June 15, 1907. In both cases (from the fact that English Cherries would not then be in the market) they would be imported fruit. I am not aware that such maggots have been found in English Cherries, but there is obviously a serious probability of their introduction. In Gistel's *Mythologie der europ. Insectenwelt*, 1856, the larva of *Trypana cerasi* (Lin.), Schrk., is said to inhabit the flesh of Cherries. "Mr. P. Ramsey-Kent, writing under date June 29 from 38, Northcote Avenue, The Mall, Ealing, W., says:—'My wife and daughters bought to-day 2 lbs. of the best white Cherries, which were externally perfect in appearance. By chance a Cherry was opened, and their surprise was great to find a white maggot inside. Others were consequently opened, and each one with the same result. Eventually dozens were cut open, and each contained a maggot. Before being opened many were examined under a magnifying glass to see if there was any indication of a maggot having entered from the outside, but there was no such indication. When no maggot was seen at first, the fruit was squeezed, and one oozed from the body of the Cherry. Perhaps in the interests of your readers you may be glad to publish the information. It seems to me that the facts cannot be too generally known. As the Cherries were perfect in appearance, perhaps some of your scientific readers may afford an explanation. A. O. W.



FIG. 21.—FLOWERING SPRAY OF BRACHYGLOTTIS REPANDA.

is quite different to the others noted, having many points in common with the Vicomtesse Héricart de Thury. Progress is an offspring of Latest of All and British Queen. It is very free in growing and is a late fruiting kind. Bedford Champion is an earlier seedling (1905), but of great merit. The berries are remarkable for their great size and peculiar but pleasant musky flavour. Reward, which was sent out in 1904, is a great favourite with me; it resulted from crossing Royal Sovereign with British Queen. It is a grand maincrop variety, producing huge wedge-shaped fruits. Laxton's Latest, one of the most popular of new Strawberries, was noticeable in the trial

fruits of this new berry more resemble the Raspberry and easily part from the fruit stalk. Its season is the same and the new plant grows as freely as the Loganberry. A new Red Currant was noticed. This is named Laxton's Perfection. It was grown by the side of Fay's Prolific, but it was double the size, both in bunch and berry, than the older kind, and the robust growth was very marked. The berries of the ripe fruits are as large as those of Comet.

In the fruit quarters I noted some splendid breadths of the Loganberry, there being upwards of 12,000 plants. I also noticed very large quantities of trained fruit trees of all kinds, cordons of Gooseberry and Currant being

FLOWERS OF SPENSER.—In Canon Ellacombe's notes on the *Flowers of Spenser* (p. 26), he remarks that the Columbine "has the peculiarity of bearing the names of two very different birds, the eagle in Aquilegia and the dove in Columbine." The English name Columbine, of course, refers to the remarkable resemblance of this flower to a group of doves, but it is one of the mistaken etymologies, so common in plant names, to derive aquilegia from aquila, an eagle. It leaves too large a part of the word, viz., the letters egia, unaccounted for, as there is no instance in Latin of their occurrence as a mere termination. It is certain that legia is a second root-component of the word, which is derived from aqua-lego, and means "water-gatherer." Anyone who will go into his garden and look at his Columbine plants after rain or a heavy dew will see how apt the epithet is. The form and disposition of the leaves, more than in any other of our common plants, retain the water in a multitude of shining globules, so that the Columbine, independently of its flowers, is a remarkably beautiful object at such times. My late friend, Mr. C. Wolley-Dod, who had a European reputation in knowledge of the history of plant names, proved conclusively that this is the true derivation. G. H. Engelhardt.

OVERHEARD IN A LAW COURT.—It was an arbitration case, in which a nursery collection of plants was the bone of contention. Counsel was anxious to make it quite clear what the various plants were. There was mention of Gypsophila and Physalis. "They are herbaceous perennials, sir," said the expert. "Herbaceous perennials are plants with annual tops and everlasting bottoms" was then offered as a definition, and, as far as it went, it wasn't bad. Daisies, Pansies, and Sweet Williams were called annuals. Rhododendrons were hit off all right as shrubs, but there was some trouble in placing Roses. Then came Strawberries, and the whole court stuck. But our expert was ready. "Strawberries are trees because they bear fruit," says he. Clearly it wouldn't have done to call them annuals, and their "everlasting tops" kept them out of perennials; they wouldn't go with Rhododendrons and Roses, nor would the witness have them included with vegetables. And so they were written down trees, although the terms of the lease forbade the planting of fruit trees. I wonder what Strawberries really are? *Boy.*

COLOUR MUTATIONS IN LEPTOSPERMUM SCOPARIUM.—In the issue of the *Gardeners' Chronicle* for June 20 last, Captain Dorrien Smith gave an interesting account of the independent discovery of two coloured varieties of *Leptospermum scoparium* in the South Island of New Zealand. As the occurrence of these wild mutations is, in the light of De Vries' work, of considerable importance, I would like to put on record another instance of the same large and sudden variation. In the year 1886, in company with Mr. Walter Ainsley, of Auckland, I discovered a single plant of the rose-coloured variety of *L. scoparium* in the North Island. Varieties having some pink in the flowers are, as Captain Dorrien-Smith notes, common enough, but the single plant I saw was quite distinct from these, all the flowers being uniformly coloured a deep, bright rose—from the description given, probably similar to *L. Chapmanii* (which I have not seen), or, perhaps, rather more deeply coloured. I do not remember any difference in the colouring of the leaves. The plant was some years old, about 6 feet high, and, as far as I recollect, of the same habit as the others. It was evidently a true mutation, for all the surrounding bushes were the usual white-flowering typical variety. The contrast was so striking that it made a very strong impression on me, and I can recall the time and the place very clearly. It was about five miles north of the Puhai River (which promontory is, I think, the southern point of the entrance to the Mahurangi Gulf). Intending to set up a triangulation station on the ridge, I crossed the mouth of the Ateamuri Creek at low tide, and struck up through the scrub a little higher up, where the slope was more practicable. Near to the top, perhaps about three-quarters of the way up, we came upon this single plant of the rose-coloured variety of *L. scoparium*.

As the situation is not very suitable for cultivation, the plant is very likely there still, and if any of your New Zealand readers were interested they might find it without difficulty, as Waiwera is only two hours by boat from Auckland. Another question of scientific interest which naturally arises is the frequent occurrence of these wild sports or mutations. A surveyor has exceptional opportunities of seeing the wild flowers of a country. Wherever possible, comparatively elevated stations are chosen for observation, and standing behind the instrument while the lines are being cut or chained, one generally has some leisure to look around over the surrounding scrub, and though one would not see every plant in the area surveyed where the boundary lines were far apart, such a marked variety as *L. Chapmanii* would at once arrest one's attention, even at a considerable distance. Taking into account how widely spread *L. scoparium* is (it is the "Tea-tree" of the colonists), and allowing that only one-third of the area traversed in surveying was more or less covered with it, I have made a calculation. I think it is a reasonable, if not a low, estimate to say that in the course of the six years I was in New Zealand I must have had under my observation three hundred million plants of *L. scoparium* in flower, and only came across one conspicuous mutation. A. J. Bliss.



FIG. 22.—NEW STRAWBERRY "PINEAPPLE."
(For text see p. 52.)

SOCIETIES.

ROYAL HORTICULTURAL

(HOLLAND HOUSE SHOW.)

(Concluded from page 37.)

HORTICULTURAL SUNDRIES.

MESSRS. THOS. GREEN & SON, LTD., Leeds and London, showed examples of their newest horse-drawn lawn mowers, and others electrically propelled; also garden rollers, lawn tennis ground marker, wheel-barrows, &c.

MESSRS. HEADLEY & EDWARDS, LTD., Cambridge, showed tents, garden seats with awnings, garden arches and chairs in iron and wood.

MESSRS. W. DUNCAN, TUCKER & SONS, LTD., Horticultural Builders, Tottenham, London, N., exhibited examples of small greenhouses, a tool shed, garden frames and seats, and plant tubs. In addition to these minor affairs, this firm had erected a conservatory nine paces long by about half that width. It was a good specimen of a glasshouse in which the best results could be obtained with plants.

MESSRS. C. & W. BUSWELL, Victoria Works, Torquay, showed their patent collapsible square tents requiring no guy ropes; hammocks, &c.

Summer houses in peeled woods were shown by Messrs. INMANS & CO., Royal Rustic Works, Stretdorf, Manchester. These were decorated with roughly-carved chunks of hard wood and varnished.

Mr. G. W. RILEY, Herne Hill, showed a pretty garden shelter, approached by two steps, thatched with heather, and lined with match-board; besides showing various other

models of summer houses, he had garden seats, rustic arbours, &c.

Mr. ALEX. HAMILTON, II, Conduit Street, London, W., showed ornamental tubs for plants.

MESSRS. T. SYKER & CO., 45, Wilson Street, London, E.C., showed step-ladders, deck chairs, hand lawn mowers, &c.

MESSRS. SHANKS & CO., LTD., Abroath, N.B., were the exhibitors of lawn mowers, hand, pony and electrically propelled, all of which exhibited the perfection of manufacture.

MESSRS. W. WALTERS & CO., 16, Water Lane, Great Tower Street, London, E.C., showed samples of pillars of open work, arches and screens in open woodwork, and comfortable garden seats.

MESSRS. SCOTT & SONS, Woodside, London, S.E., were the exhibitors of summer houses in deal and peeled oak, garden seats and plant tubs, tables, wheel-barrows and trucks. They exhibited their paraffin oil and other insecticides, garden nets, tongs, weedkiller, and a number of other sundries.

THE THAMES BANK IRON CO., London, S.E., showed three types of boilers for heating glass-houses.

THE POTTERS' ARTS GUILD, Compton, Guildford (Mrs. G. F. Watts' Village Industries), showed garden pottery, vases, seats, also sundial pedestals in red and in grey terracotta.

MESSRS. C. TOFFE & SON, Stepney Square, Stepney, showed a model of a greenhouse fitted with their patent fog-purifying, self-ventilating system.

MESSRS. D. DOWEL & SON, Hammersmith, exhibited garden pottery of all sorts, and numerous articles required by the gardener and exhibitor.

MESSRS. H. PATTISON & CO., 4, Greyhound Lane, Streatham, S.W., were exhibitors of pony and horse boots, and a steel turf renovator.

Mr. J. PINCHES, 3, Crown Buildings, Crown Street, Camberwell, showed metal plant labels, shades for flowers in shape like pierrots' hats.

MESSRS. W. WOOD & SON, LTD., Wood Green, London, exhibited flower and fruit packing boxes in wood and cardboard; wood wool in various colours, hampers, wooden tongs, and sundries in infinite variety.

MESSRS. W. HERBERT & CO., 7, Hop Exchange Warehouse, Southwark Street, London, S.E., showed the "Little Gripper" garden tool, for weeding without stooping; Bamboo as flower sticks and stakes, and a great assortment of sundries and soils.

MESSRS. FENTON & SON, Tudor Street, London, E.C., showed the "Triad" hot-water circulating boiler in cast-iron and galvanized iron plate.

MESSRS. RANSOME, SIMS & JEFFERIES, LTD., Orwell Works, Ipswich, showed horse-driven and manual lawn mowers.

Devices for exhibiting blooms of Sweet Peas and other plants were shown by Mr. J. WILLIAMS, 4, Oxford Road, Ealing, London, W.

Bottled and tinned fruits were shown from the Cape Colony by Messrs. R. JACKSON & CO., 172, Piccadilly, many of them being as yet novelties in this country.

Mr. J. GEORGE, 14, Redgrave Road, Putney, exhibited fumigators, Mushroom spawn, vine manure, pot clips, Orchid peat, &c.

MESSRS. WESTMACOTTE, 150, Leadenhall Street, London, E.C., showed wines, tobacco, tinned fruits, and liqueurs from the Cape Colony.

Miss MARTIN, Auburn, New York, U.S.A., showed methods of fruit preserving in bottles with glass caps, &c.

MESSRS. W. VOSS & CO., LTD., Millwall, London, showed nitro-bacteria for inoculating leguminous crops, a number of insecticides, manures for fruit-growers, &c.

MESSRS. DE LUTZ FRÈRES, Camberwell, showed a variety of sprayers, a novelty in this line being the so-called bottle sprayers; there were likewise the National sprayer of the knapsack kind, glass bottle sprayers, bellows sprayers, &c.

MESSRS. WAKELEY BROS. & CO., LTD., Hordas Wharf, Barking, London, S.E., exhibited their Hop manure, also specimens of Peach trees carrying many good fruits, which had been grown by the aid of their Hop manure, and lent for exhibition by Messrs. T. Rivers & SON. The basis of the manure is Hops, prepared by special process.

OHLENDORFF'S, 15, Leadenhall Street, London, E.C., showed manures for the farmer and gardener.

Messrs. PULHAM & SON, Broxbourne, Herts., and 71, Newman Street, London, W., showed a number of vases, figures, sundials, terminals, plant tubs, &c., in a durable sort of cement.

Messrs. LIBERTY & CO., Regent Street, London, exhibited a large design constructed in their garden pottery; the vases, ornamental tubs, pots, &c., being filled with various plants.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JUNE 25.—*Committee present:* Messrs. Ashworth, Thorp, Cypher, Ball, Ashton, Shill, Ward, Upjohn, Keeling, Stevens, Warburton, Cowan, Holmes, Parker, and Weathers (hon. sec.).

H. J. BROMILOW, Esq., Rainhill (gr. Mr. Morgan), exhibited a choice variety of *Laelio-*

white form, and *Cypripedium Godefroyae* exquisitum.

MAX ISAAC, Esq., Blondellsands (gr. Mr. Driver), exhibited a small collection of *Cypripediums*.

E. ROGERSON, Esq., Didsbury (gr. Mr. Price), was awarded a First-Class Certificate for *Cypripedium Godefroyae* var. *Rogersonii*, a distinct and beautiful variety.

CHARLES PARKER, Esq., Preston, staged a small group of Orchids, for which a Bronze Medal was awarded. Two plants in this group were given Awards of Merit, viz., *Cattleya Mendelii* "Payne's var." and a hybrid *Odontoglossum* (unnamed).

Dr. HODGKINSON, Wilmslow (gr. Mr. Woore), was given Awards of Merit for *Odontoglossum crispum* var. *Woorei*, *Cypripedium Godefroyae* var. *Noel xanthochilum*, and *C. Godefroyae* var. *Noel*.

Mr. J. ROBSON, Altrincham, exhibited *Odontoglossum crispum* var. *lilacina*.

NEWCASTLE-ON-TYNE HORTICULTURAL.

JULY 1, 2, & 3.—The summer show of this Society was held in connection with the Royal Agricultural Society's exhibition on the Town Moor, Newcastle-on-Tyne, in glorious summer weather. Trade groups were extensively exhibited, and these rendered the show one of the most attractive that the Society has ever held, but the competitive classes, with the exception of one or two instances, were very poorly contested. The local and amateur classes were practically deleted from the schedule, and this was cause for complaint by those who have so loyally supported the Society both as members and as exhibitors for many years.

The Royal Horticultural Society sent a deputation, and conferred several medals on exhibitors.

In the competitive class for a group of miscellaneous foliage or flowering plants occupying a space of 300 square feet, Mr. JOSEPH SHARP,



FIG. 23.—A PORTION OF MR. AMOS PERRY'S EXHIBIT OF ROCK-GARDEN AND WATER PLANTS EXHIBITED AT HOLLAND HOUSE SHOW.

(See p. 84 ante.)

Cattleya × *Phoebe* labelled "Rann Lea var.," to which was voted an Award of Merit.

W. THOMPSON, Esq., Stone (gr. Mr. Stevens), exhibited a few interesting plants, the best of which was *Masdevallia Harryana* var. *albena*. This plant, which is new to northern Orchidists, has all the characteristics of the type, but is in colour a pale shade of chrome, and the varietal name "albena" is somewhat a misnomer. The plant received an Award of Merit.

J. MCCARTNEY, Esq., Bolton (gr. Mr. Holmes), received an Award of Merit for *Cattleya Mossiae* var. *Mrs. J. McCartney*, an albino form of considerable merit. *Cattleya Mossiae* var. *Arnoldiana* was shown from the same collection.

S. GRATRIX, Esq., Whalley Range (gr. Mr. Shill), gained Awards of Merit for *Cattleya* × *Pittiana* var. *magnifica*, *C. × mollis*, *Odontoglossum crispum* var. "Lady White," a fine

Mr. J. BIRCHENALL, Alderley Edge, gained an Award of Merit for *Cattleya Mendelii* var. *Rosita*, a very pretty pale coloured form.

Messrs. CHARLESWORTH & CO., Heaton, Bradford, exhibited a charming set of plants, principally hybrids. (Silver Medal.)

A. WARBURTON, Esq., Haslingden (gr. Mr. Dalgleish), in competition gained a Silver-Gilt Medal for a general display of Orchids. He was granted a Silver Medal for *Odontoglossum* and a Silver Medal for *Cattleyas* and *Laelias*.

J. MCCARTNEY, Esq., obtained a Silver Medal for a group of Orchids.

Messrs. A. J. KEELING & SONS obtained a Bronze Medal for an interesting exhibit, in which several good *Masdevallias* were noted.

Messrs. HUGH LOW & CO., Enfield, also exhibited Orchids in variety. *P. W.*

Huddersfield, won the 1st prize. Finely-flowed Roses and well-coloured *Codiaeums* (Crutons) were the principal features of this effectively-arranged group. The R.H.S. Gold Medal was awarded to this group. 2nd, A. E. BAMBRIDGE, Esq., Lynwood, Jesmond (gr. Mr. T. Bell), with a beautifully-arranged group, in which Orchids were a prominent feature. The prize included the Silver-Gilt Flora Medal of the R.H.S. 3rd, Messrs. ORR BROS., North Shields.

The best collection of Orchids in bloom was shown by Mr. H. A. INNIS, Croft Spa, Yorkshire; 2nd, Mr. W. LAWRENSEN, Newcastle and Yarm, with a group consisting principally of *Odontoglossums*.

A class for a competitive exhibit of Carnations brought keen competition. Mr. C. F. WATERS, Balcombe, Sussex, was 1st, with a

comprehensive and finely-arranged group of good quality flowers. 2nd, Mr. W. LAWRENSEN.

Messrs. BLACKMORE & LANGDON, Bath, won the 1st prize for tuberous Begonias, Messrs. ORD BROS. being placed 2nd.

The class for a collection of cut Roses was contested by one exhibitor only, Mr. F. M. BRADLEY, Peterborough, and he was awarded the 1st prize, also the R.H.S. Gold Medal.

Mr. R. BOLTON, Warton, Carnforth, had the best collection of Sweet Peas, with a magnificent display. 2nd, Mr. C. W. BRADMORE, Winchester; 3rd, Messrs. G. & A. CLARK, Dover.

For the best collection of herbaceous and hardy perennials, Messrs. HARKNESS & SONS, Bedale, was 1st, with an attractive and well-arranged group of cut flowers; 2nd, Messrs. GIBSON & Co., Bedale.

In the class for a collection of hardy foliage plants, Mr. W. LAWRENSEN won the 1st prize.

The best dining table arranged with flowers and fruit was shown by Mr. J. Tullett (gr. to Lord BARNARD, Raby Castle). In the class for a rock-garden furnished with Alpine plants and a water-garden, Messrs. J. BACKHOUSE & SONS, York, were 1st with a very effective display that created much attraction. The background was of ornamental trees and shrubs. In front were dwarf flowering plants. The Alpines being effectively disposed, the R.H.S. Gold Medal was awarded in addition to the 1st prize.

FRUIT AND VEGETABLES.

For a collection of six dishes of fruits, Mr. J. C. McPherson (gr. to Lord LONDSEBROUGH, Market Weighton) was placed 1st. He showed good bunches of Black Hamburg and Muscat of Alexandria Grapes, Hale's Early Peach, Queen Pine, Lord Napier Nectarine, and Strawberry Royal Sovereign. The collection was of excellent quality. The R.H.S. Silver-Gilt Knightian Medal was awarded it. 2nd, Mr. J. TULLETT.

Special prizes were offered for a collection of six distinct kinds of vegetables. Mr. T. H. BOLTON, Powderham Castle, Devon, was given the 1st prize, Mr. J. HENDERSON, Christon Bank, the 2nd, and Mr. E. KEITH, Wallington, Cambo, the 3rd.

NON-COMPETITIVE EXHIBITS.

Messrs. R. SMITH & Co., Worcester, were awarded the R.H.S. Gold Medal for a remarkable group of well-grown, beautifully-coloured, ornamental hardy trees and shrubs, staged in the open. Messrs. HUGH LOW & Co., Bush Hill Park, Enfield, staged a group of Orchids, Carnations, and a miscellaneous collection of flowering and foliage plants. Messrs. W. CURRUSH & SON, Highgate, N., showed a fine group of Carnations, Spirea Queen Alexandra, Verbenas, and dwarf Begonias. Messrs. C. & A. CLARK, LTD., Dover, had a display of Sweet Peas and cut spikes of Delphiniums. Messrs. R. H. BATH, LTD., Wisbech, sent miscellaneous garden flowers. Messrs. W. H. HARDY, LTD., Gosforth, had an extensive group of tree Carnations and miscellaneous flowering and foliage plants. Messrs. LITTLE & BALLANTYNE, Carlisle, had a fine collection of stove and greenhouse flowering and foliage plants, also in the open well-grown ornamental trees and shrubs in pots. Mr. A. EDWARDS, Arnold, Notts, showed rustic arrangements with Sweet Peas. Messrs. DOBBIE & Co., Rothesay, had their usual tastefully-arranged stand of Violas. Pansies, and fine bunches of Sweet Peas. Messrs. JARMAN & Co., Chard, showed Roses. Messrs. LAING & MATHER, Kelso, had a display of well-grown ornamental trees and shrubs in pots. Messrs. DIXON'S, Chester, sent a large exhibit of cut hardy flowers. Messrs. BACKHOUSE & SONS, York, had a large group of Carnations and stove and greenhouse plants. Mr. F. EDMONDSON, Newcastle, showed floral devices. Messrs. ORD BROS. staged a group of stove and greenhouse Ferns. Mr. W. LAWRENSEN had a large group of stove Ferns and foliage plants. Messrs. W. & J. BROWN, Peterborough, exhibited Roses, also greenhouse and hardy flowering plants. Messrs. KENT & BRYDON, Darlington, arranged in the open clipped plants in tubs and hardy ornamental trees and shrubs. Messrs. LAXTON BROS., Bedford, had a very fine display of Strawberries in variety, for which the R.H.S. Silver-Gilt Knightian Medal was awarded.

In the agricultural section, Messrs. R. SMITH & Co., LTD., had an exhibit of culinary Peas and miscellaneous vegetables. Messrs. MACK

& MILN, Darlington, displayed foliage and flowering plants in variety, including Roses. Messrs. KENT & BRYDON, Darlington, had a fine display of well-grown vegetables, a fine group of "Malmaison" Carnations, Liliums in variety, and numerous stove and greenhouse plants. Messrs. DICKSON'S, Chester, showed Carnations, Spirea "Queen Alexandra," and foliage plants. Messrs. WEBB & SONS, Stourbridge, showed fruit and vegetables, a fine collection of Gloxinias, Sweet Peas, and greenhouse flowering plants. Messrs. J. CARTER & Co., London, displayed vegetables, retarded Liliums, Gloxinias, greenhouse flowering plants, &c. Messrs. SUTTON & SONS, Reading, had a noteworthy exhibit of annuals, Gloxinias, Schizanthus, Liliums, Sweet Peas, &c. Messrs. DIXON, BROWN & TATE, Manchester, showed dwarf Roses, Spirea, and Lily of the Valley. Messrs. LITTLE & BALLANTYNE, Carlisle, showed miscellaneous stove and greenhouse plants and a collection of Sweet Peas. Messrs. DICKSON & ROBINSON, Manchester, staged Sweet Peas, Irises, and Carnations. Messrs. W. FELL & Co., Hexham, showed hardy flowers, pot Roses, and Gloxinias. Messrs. FENNEY showed Sweet Peas, Carnations, and Lily of the Valley.

SCOTTISH HORTICULTURAL.

JULY 7.—The monthly meeting of this association was held at 5, St. Andrew Square, Edinburgh, on this date. Mr. Whytock, the president, occupied the chair, and there was a good attendance of the members. Mr. Daniel Kidd, gardener to Lord Elphinstone, Carberry Tower, Musselburgh, read a paper on the "Strawberry." Mr. Kidd dealt with the propagation and cultivation of the plant. The lecturer stated that for forcing, where a large, good flavoured early fruit was required, he did not know of a better variety than Royal Sovereign. In the open he preferred to make plantations at the end of the summer rather than in spring, and if the runners were pegged down into square pieces of turf inserted between the rows they could be planted out in August. When the ground was not ready for planting in summer it was a good plan to lift the runners when well rooted and plant them at from 4 to 6 inches apart each way in 4-foot beds, and transfer them to their permanent quarters about the middle of March. He condemned digging between the rows with the spade, but advocated mulching the plants as soon as they have made new leaves, instead of deferring the operation until they are in flower. The three best varieties for furnishing fruits for preserving are Black Prince, Grove End Scarlet, and Vicomtesse H. de Thury. Mr. Kidd, in conclusion, made a brief reference to the Alpine varieties, which he said might be termed perpetual fruiterers, for fruit could be had from the parent plant in July, and a succession from the young growths in October. They grow well in a light soil, but require an ample supply of manure. The paper for the next monthly meeting on August 4 will be by Mr. C. Comfort, Broomfield, on "Modern Garden Appliances." Two new members were elected.

SOUTHEND-ON-SEA HORTICULTURAL.

JULY 7, 8.—This Society held its annual summer exhibition of Roses, Sweet Peas, fruits, vegetables, &c., on these dates in the spacious rooms and winter garden of the Palace Hotel. The show as regards quality of exhibits and number of entries was a decided improvement upon last year's exhibition. Roses were an especial feature. Messrs. B. R. CANT & SONS, FRANK CANT & Co., and D. PRIOR & SON all contributing excellent displays of these flowers. In the six classes open to nurserymen and others for Roses, the firms indicated secured all the prizes, staging magnificent blooms of leading varieties.

In the class for 48 blooms of distinct varieties Messrs. FRANK CANT & Co. won the Challenge Cup presented by Captain J. R. B. Newman, D.L., J.P., together with a money prize, the most prominent blooms in their exhibit being Her Majesty (satiny rose-pink), Rosomane, Mme. Gravereaux, Countess of Oxford, Horace Vernet, White Maman Cochet (very fine), Dean Hole (grand), Mme. Constance Soupet, Lady Ashtown, William Shean, Bessie Brown, Boadicea (pinkly-white), Duchess of Portland

(cream), Maman Cochet (very fine), Hugh Dickson, Mildred Grant, Papa Lambert (pink), and Xavier Olibo. 2nd, Messrs. B. R. CANT & SONS, whose best blooms included White Maman Cochet, Florence Pemberton, William Shean, Mildred Grant, Frau Karl Druschki, and Earl of Dufferin. Messrs. D. PRIOR & SON were a good 3rd. In the class for 18 Tea or Noisette blooms of distinct varieties the winners were as follows: 1st, Messrs. B. R. CANT & SONS; 2nd, Messrs. FRANK CANT & Co.; 3rd, Messrs. D. PRIOR & SON, all staging fine blooms, the most noteworthy in the 1st prize stand being White Maman Cochet, Mme. Constant Soupet, Bridesmaid, Souvenir de Pierre Notting, Ernest Metz, Ethel Brownlow, and The Bride.

Twelve distinct varieties, three blooms of each.—Messrs. B. R. CANT & SONS won the 1st prize, staging fine blooms of Her Majesty, Bessie Brown, Gustave Figeacou, Maman Cochet, A. K. Williams, Hugh Dickson, White Maman Cochet, and Mrs. Theodore Roosevelt. Messrs. F. CANT & Co. being a good 2nd, and Messrs. D. PRIOR & SON a close 3rd. In the class for one dozen blooms of one variety of a H.P. Rose, the exhibitors named occupied the same positions as in the two previous classes, the 1st and 2nd prize stands containing respectively fine blooms of Frau Karl Druschki and Her Majesty.

The same exhibitors as in the three previous classes occupied similar positions in the class for 12 blooms of one variety H.T., Mildred Grant and Dean Hole being staged in fine form by each grower.

Messrs. FRANK CANT & Co. were the only exhibitors of 12 bunches of garden Roses, and were given the 1st prize.

AMATEUR CLASSES (OPEN).

Mr. W. LEGGETT, Colchester, was the 1st prize winner in the class for 24 distinct varieties, staging among other varieties grand blooms of Dean Hole, Horace Vernet, Kaiserin Augusta Victoria, Florence Pemberton, Bessie Brown, and David Harum.

Mr. ROBINS, Ingatstone, was 1st for 18 distinct varieties. 2nd, Mrs. BARNES, Rochford.

In the class for six varieties, three blooms of each, Mr. W. LEGGETT won the 1st prize; 2nd, Mr. ROBINS—both showing good blooms. In the class for 12 Teas or Noisettes, distinct varieties, Mr. LEGGETT was again successful with good all-round blooms, the Rev. F. R. BURNSIDE, Great Stambidge Rectory, Rochford, being 2nd.

Messrs. LEGGETT and BURNSIDE again occupied the same positions in the class provided for eight Tea or Noisette Roses of distinct varieties, three blooms of each. Local amateur rosarians also showed good blooms in the several classes allotted to them.

Three silver medals of the National Rose Society were offered for the best blooms in the show of Hybrid Perpetual Rose, Hybrid Tea, and Hybrid Tea or Noisette varieties respectively. Mr. W. LEGGETT secured two of the medals with large, well-formed fresh blooms of Horace Vernet and Dean Hole, the Rev. F. R. BURNSIDE being awarded the other for a fine flower of White Maman Cochet.

In the ladies' classes several dinner table floral arrangements, epergnes, &c., were effectively arranged by Mrs. TALBOT, Mrs. BLAKELEY, Mrs. H. E. CAMPLING, Miss H. G. CAMPLING, and Miss F. E. CAMPLING. Mr. W. A. Voss, Rayleigh, was the most successful amateur exhibitor.

Messrs. SALTMARSH & SONS, Chelmsford, were successful in the classes for Sweet Pea.

Vegetables and fruit were fairly well shown in the numerous classes provided for them.

WOLVERHAMPTON FLORAL FÊTE.

JULY 7, 8, 9.—The twentieth annual floral fête was held in the spacious, well-kept West Park, Wolverhampton, on these dates. As usual, the large plant groups were a feature: Roses and Sweet Peas were also shown in good condition. Fruit trees in pots from Messrs. T. RIVERS & SON, Sawbridgeworth, and gathered fruit from Mr. J. Doe (gr. to Lord SAVILE, Rufford Abbey), displayed great cultural skill. Vegetables of excellent quality were shown in quantity.

PLANTS (OPEN).

The two principal group classes were for (1) plants in and out of flower, and (2) foliage plants only, each to be arranged on a space of 350 square feet. Prizes amounting to £57 10s. were offered in each class, and three exhibits were staged in each of them, bearing the same number as in 1907. The leading prize in the first-named class was won by MESSRS. JAMES CYPHER & SONS, Queen's Road, Cheltenham, whose plants showed excellent culture and were artistically arranged. The group was almost identical with the one which won premier position for the same firm last year. The 2nd award was gained by Mr. W. HOLMES, West End Nurseries, Chesterfield; the 3rd by Mr. W. VAUSE, Leamington.

The 1st prize in the class of corresponding importance to the above-named, but confined to foliage plants, was won by Mr. W. HOLMES, with a pleasing arrangement of well-coloured Codiaums, Caladiums, Asters, Pandanus Veitchii, Alpina Sandenii, Begonias, &c. 2nd, Mr. W. VAUSE; 3rd, Mr. G. HANCOX, West Bromwich.

Six Exotic Ferns.—1st, Mr. W. MANNING, Dudley, with handsome specimens of Davallia filifera robusta, Gleichenia Mendelii, Microlepia hirta cristata, Adiantum formosum, Nephrolepis davallioides furcata and Cyathocha medullaris. 2nd, J. A. KENRICK, Esq., Berrrow Court, Edgbaston (gr. Mr. A. Cryer).

In a class for twenty plants (at least eight to be in bloom) growing in pots and not exceeding 8 inches in diameter, three exhibits were forthcoming, the 1st prize being won by MESSRS. JAS. CYPHER & SONS, for large handsome specimens of Ixoras Pilgrimii and Williamsii, Clerodendron Balfourii, Bougainvillea Sandenii, Chironia ixifera, Anthurium Scherzerianum, Acalypha Sandenii and Codiaums. 2nd, Mr. H. BLAKEWAY, Rugby; 3rd, Mr. W. VAUSE.

In another class similar to the last-named, but restricted to twelve plants, of which six were to be in bloom, MESSRS. JAS. CYPHER & SONS again carried off the 1st prize. They had profusely-flowered specimens of Erica Cavendishiana, Bougainvillea Cypherii, Ixora Williamsii, Allamanda Hendersonii, and Phorocoma prolifera Barnesii. 2nd, Mr. W. VAUSE.

A class was provided for a collection of flowering plants limited to one kind, but any number of varieties of the same kind were allowed. The group was restricted to a ground space of 9 feet by 5 feet. Here again MESSRS. JAS. CYPHER & SONS beat all comers with a splendid collection of bushy, profusely-flowered Ericas. 2nd, J. A. KENRICK, Esq., Edgbaston (gr. Mr. A. Cryer), who depended upon Begonia Gloire de Lorraine and its variety Turnford Hall. The plants were profusely flowered. 3rd, Mr. JOHN E. KNIGHT, Wolverhampton, with Zonal Pelargonium Beauty.

Tuberous-rooting Begonias.—Mr. F. DAVIS, Pershore, the only exhibitor was awarded the 1st prize for a collection of unnamed double-flowered varieties. The flowers were large and shapely and of good colours.

PLANTS (AMATEURS).

J. A. KENRICK, Esq., Edgbaston (gr. Mr. A. Cryer), won the 1st prize for a collection of plants. The group was arranged with great taste.

Mr. H. BLAKEWAY, Rugby, showed the best six stove and greenhouse plants, and C. MARSTON, Esq., Compton (gr. Mr. W. E. Vall), won the 1st prize for 12 Gloxinias, his plants having rich and delicately-coloured flowers of great substance.

ROSE CLASSES (OPEN).

Roses were extensively and well shown. The champion class was for 72 blooms of distinct varieties, for which a sum of £42 was offered in three prizes. The winners of the 1st prize of £20 were MESSRS. D. PRIOR & SON, Colchester, with flowers of excellent quality. A few of the best examples were Innocence Pirola, Mildred Grant, J. B. Clark, Duke of Wellington, Mrs. E. Mawley, Dean Hole, Count Raimbault, A. K. Williams, Gustave Pignaneu, Hugh Dickson, Liberty, Princess Marie Merchetskysky, Charles Lefebvre, Suzanne Marie Rodocanachi, Killarney and Bridesmaid. 2nd, MESSRS. R. HARKNESS & CO., Hitchin, who had shapely flowers of Dean Hole, Horace Vernet, Her Majesty, Ben Cant,

and Papa Lambert. 3rd, Mr. HUGH DICKSON, Belfast.

Forty-eight blooms of distinct varieties.—Five competitors staged in this class. MESSRS. D. PRIOR & SON were awarded the 1st prize with exquisite flowers of J. B. Clark, Comte Raimbault, Caroline Testout, Duke of Wellington, Maman Cochet, Souvenir d'Elise Vardon, Miss Marie Corelli, Mildred Grant, Dupuy Jamin and Marie Grahame. 2nd, MESSRS. R. HARKNESS & CO., who had Mildred Grant, Frau Karl Druschki, White Maman Cochet, Duchess of Bedford, Madame Haussmann, and A. K. Williams.

Twelve distinct varieties, three blooms of each.—The 1st prize in this class also went to MESSRS. D. PRIOR & SON, who staged superb blooms of Madame Cochet, Bessie Brown, Horace Vernet, and Mildred Grant. 2nd, MESSRS. J. TOWNSEND & SONS, Worcester. 3rd, MESSRS. R. HARKNESS & CO.

Twenty-four blooms of distinct varieties.—The best of five exhibits came from MESSRS. D. PRIOR & SON, who had splendid specimens of A. K. Williams, Princess Marie Merchetskysky, Hugh Dickson, Horace Vernet, J. B. Clark, and Captain Hayward. 2nd, MESSRS. R. HARKNESS & CO., whose best blooms were Lady Moyra Beauchere, J. B. Clark, Ben Cant, and Marie Baumann.

In a class for 12 varieties put into commerce during the years 1905-6-7, for which a Gold Medal and £2 were offered as the 1st prize, Mr. HUGH DICKSON was placed 1st. The varieties shown were beautifully fresh and shapely, and were as follows:—Yvonne Vacherot, Midlle Simone Beaume, J. B. Clark, Mrs. Peter Blair, Lyon, William Shean, Mrs. John Bateman, Milly Crean, Queen of Spain, Madame Leon Pain, Mrs. Stewart Clark, and M. de Luze. 2nd, MESSRS. D. PRIOR & SON, whose best flowers were Queen of Spain, Mrs. John Bateman, William Shean, and Countess of Gosford.

The last-named exhibitors had the best twelve dark coloured Roses in the variety Victor Hugo. Mr. HUGH DICKSON was 2nd with J. B. Clark. In the next class for twelve light coloured Roses, Mildred Grant was well shown by the last-named exhibitor.

Twelve Tea Roses, distinct.—The best exhibit in this class was staged by MESSRS. D. PRIOR & SON, who had exquisite blooms of Souvenir d'un Ami, Muriel Grahame, Madame Jules Graveraue, Souvenir d'Elise Vardon, and Mrs. Edward Mawley. 2nd, MESSRS. J. TOWNSEND & SONS.

Only two exhibits were made in a class provided for twelve bunches of decorative Roses to be shown as grown, each bunch to contain three stems. 1st, Mr. JOHN MATTOCK, Oxford, whose flowers of Madame Abel Chatenay, Liberty, Gustave Regis, and Rosa Mundi were much admired.

MESSRS. PERKINS & SONS, Coventry, had the best bowl of Roses, Mr. J. BARROW being 2nd. In the next class for a vase of Roses the awards were reversed.

Bouquets and cut flowers (open).—Competition in the classes provided for these was stronger than was the case last year. MESSRS. PERKINS & SONS, Coventry, carried off 1st prizes in each of the following classes:—(1) Bouquet for the hand; (2) bridal bouquet (with Orchids) and bridesmaids' bouquets (Orchids excluded); and (3) feather-weight bouquet. Mr. W. J. GARNER, Hull, was awarded 2nd prize in each class.

The first position for a collection of hardy flowers, arranged on a table space of 15 feet by 5 feet was gained by MESSRS. G. GIBSON & CO., Seemingly Bar, Bedale, and MESSRS. W. PEMBERTON & SON, Bloxwich, Walsall, took the 1st prize for a very dainty arrangement of Pansies and Violas.

There were four decorated dinner tables; that arranged by Mr. W. J. GARNER was placed 1st. The effect of this table would have been improved by the use of fewer flowers.

In another class for dinner-table decorations, confined to amateurs, several very neat and pretty displays were to be seen. The 1st prize was awarded to Mrs. MARPLE, Penkridge, whose table was ornamented with pink Sweet Peas and sprays of Selaginella and Gypsophila.

SWEET PEAS.

Sweet Peas were shown in great quantity and in good condition. For a collection of 18 varie-

ties, for which the sum of £7 10s. was offered in four prizes, Sir R. S. BAKER, Bart., Blandford (gr. Mr. A. E. Usher), was awarded the premier place among five competitors. The blooms were large, substantial, and such varieties as Elsie Herbert, Andrey Crier, Mrs. H. Sykes, Mrs. Breadmore, John Ingham, and Helen Lewis were well shown. 2nd, Mr. T. JONES, Ruabon.

The prizes offered by Mr. Henry Eckford, Wem, for 12 varieties brought two exhibits. 1st, Mr. T. JONES, with handsome flowers, beautifully arranged.

Mr. Robert Sydenham also offered prizes in a class for Sweet Peas. Here there were six contestants for a handsome silver bowl offered as 1st prize and £2 10s. as second prize for 18 varieties. 1st, Mr. T. JONES, Ruabon, with uncommonly good flowers of Primrose Spencer, Henry Eckford, Helen Pierce, Black Knight, George Herbert, Frank Dolby, and Countess Spencer. 2nd, Sir R. S. BAKER, Bart., Blandford (gr. Mr. A. E. Usher).

The last-named exhibitor beat eight competitors in MESSRS. BAKER'S class for Sweet Peas with a splendid collection nicely arranged.

MESSRS. SUTTON & SONS offered a guinea as 1st prize for the best bunch of the variety Sutton's Queen. Five exhibits were staged, the 1st prize being won by Mr. T. JONES.

FRUIT AND VEGETABLES.

Fruit and vegetables were well shown. In the leading class for gathered fruit, eight dishes were required, these to include two varieties of Grapes (one black and one white, three bunches of each) and one Melon (Pineapples were excluded). The 1st prize was won by Lord SAVILE, Rufford Abbey (gr. Mr. J. Doe), with Madresfield Court and Muscat of Alexandria Grapes, Dryden and Pineapple Nectarines, Brown Turkey Fig, a seedling Melon, and two dishes of Peaches. The 2nd award went to the Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), whose fruits, except Muscat of Alexandria Grape, were good. 3rd, Hon. E. F. S. WOOD, Temple Newsam (gr. Mr. R. Dawes).

Lord SAVILE (gr. Mr. J. Doe) won 1st prizes in the classes provided for (1) four bunches of Grapes (two black and two white), (2) two bunches of white Grapes, and (3) two bunches of black Grapes. H. J. KING, Esq., Ashford, Kent (gr. Mr. G. Weston), was 2nd in the first two classes, and Lord HARLEIGH, Oswestry (gr. Mr. T. Lambert), 2nd in the last-mentioned class.

Lord SAVILE (gr. Mr. J. Doe) staged the best three dishes of Strawberries.

The Earl of HARRINGTON (gr. Mr. J. H. Goodacre) sent the best green-fleshed Melon, the variety being Royal Favourite, and the best scarlet-fleshed Melon (Read's Seedling).

Lord BAGOT (gr. Mr. T. Bannerman) won the 1st prize for Peaches with excellent fruits of Royal George. The Hon. E. F. S. WOOD, Temple Newsam (gr. Mr. R. Dawes) was 2nd with Abec, and MESSRS. T. RIVERS & SON, Sawbridgeworth, 3rd with Peregrine.

Of the single-dish classes, the one provided for Nectarines found most favour with exhibitors. The dish of Pineapples which gained the 1st prize for the Earl of LATHOM, Ormskirk (gr. Mr. B. Ashton), was the handsomest dish of Nectarines in the show. 2nd, Lord SAVILE (gr. Mr. J. Doe) with Dryden. The last-named exhibitor staged the best three dishes of Tomatoes.

FRUIT TREES IN POTS.

Notwithstanding the very handsome prizes offered in the above class, MESSRS. T. RIVERS & SON, Sawbridgeworth, were the sole exhibitors. They were, however, deservedly awarded the 1st prize for a splendid collection, which contained examples of May Duke and Knight's Early Black Cherries, Crimson Galande and Thomas Rivers Peaches, Cardinal and Victorine Nectarines, Apples, Plums, Oranges, and Lemons, &c.

SPECIAL PRIZES.

MESSRS. SUTTON & SONS offered prizes for six distinct kinds of vegetables. The 1st prize was won by the Duke of PORTLAND, Welbeck Abbey (gr. Mr. J. Gibson). 2nd, the Marquis of NORTHAMPTON, Northampton (gr. Mr. A. R. Searle).

The premier prize in Messrs. Webb & Sons' class was won by the last-named exhibitor.

The Rt. Hon Lord HATHERTON, Penkridge (gr. Mr. H. Taylor), secured the 1st prize, also offered by Messrs. Webb & Sons, for six kinds of vegetables, open only to amateurs and gardeners residing within 10 miles of Wolverhampton.

First-class Certificates were awarded to each of the undermentioned plants: Sweet Pea A. B. Bantock, from Messrs. BAKER'S, Wolverhampton; Viola Master Joseph Chamberlain, from Messrs. BASTOCK & SONS, Moseley; Delphinium Guy Dickson, from Messrs. DICKSON'S, Chester; Delphinium Gloriosa and Gaillardia The King, from Messrs. HARKNESS & SON, Bedale.

HONORARY EXHIBITS.

Messrs. CLIBRAN'S, Hale, Manchester, contributed a collection of small, well-coloured Codiaums, mostly narrow-leaved varieties. Eight well-grown Caladiums occupied the centre of the group. (Silver Medal.)

Mr. ROBERT SYDENHAM, Tenby Street, Birmingham, had a table of Sweet Peas artistically arranged in rustic stands. (Silver Medal.)

Mr. THOMAS DARLINGTON, Watton, Carnforth, exhibited 50 vases of Sweet Peas of much merit. (Silver Medal.)

Mr. JOSEPH LAMBERT, Southport, displayed Sweet Peas, Carnations, and Roses in rustic stands.

R. J. KING, Esq., Ashford, Kent (gr. Mr. J. G. Weston), had an effective arrangement of "Malmaison" and perpetual-flowering Carnations.

From Mr. F. LILLEY, Guernsey, came a group of Gladioli and miscellaneous hardy flowers. (Silver Medal.)

Messrs. WEBB & SONS, Stourbridge, occupied a large space with a collection of fruits and vegetables, together with indoor plants and miscellaneous flowers. (Silver Cup.)

Mr. JOHN E. KNIGHT, Wolverhampton, staged floral designs, also flowering and foliage plants in variety. (Silver-Gilt Medal.)

Messrs. JARMAN & Co., Chard, showed Sweet Peas, Zonal Pelargoniums, and Roses. (Silver Medal.)

Messrs. SUTTON & SONS, Reading, had a long table, on which Melons, Tomatoes, Cucumbers, culinary and Sweet Peas, and a lovely batch of Nemesis showing great variety of colour were effectively displayed. (Gold Medal.)

Mr. H. N. ELLISON, West Bromwich, staged an interesting collection of Ferns. (Silver Medal.)

Messrs. DICKSON'S, Chester, exhibited a large collection of herbaceous flowers and Roses in a beautifully fresh condition. (Gold Medal.)

The most extensive, and certainly the most beautiful, non-competitive exhibit came from Messrs. BAKER'S, of Codsall and Wolverhampton, whose group of outdoor flowers arranged on the ground had an irregular frontage and was divided into several sections. In the centre there was a well-constructed rockery, on which Campanulas, Saxifragas, Dianthus, Acantholimon glumaceum, dainty Ferns, and a host of other choice subjects were planted in positions such as the real plant enthusiast loves to see. At the base of the rockery, flowers of Nymphs and similar plants were floating on water, on either side of which border and bog garden plants were exhibited in great variety. On a table near by representative collections of Sweet Peas and Roses were shown in splendid condition. (Silver Cup and Gold Medal.)

Messrs. E. & H. SUCKLING, Wolverhampton, had an arrangement of floral devices, together with cut flowers of Sweet Peas, Carnations, Delphiniums, &c. (Silver-Gilt Medal.)

Miss S. S. THOMPSON, Alfred Road, Handsworth, showed cactaceous plants, including several of uncommon species. (Silver Medal.)

Messrs. CUTBUSH & SON, Highgate, staged a handsome collection of hardy flowers, including Romneya Coulteri, Eremurus Shellford, Darlingtonias, Sarracenias and choice Nymphs. (Gold Medal.)

From Mr. C. F. WATERS, Balcombe, came one of his characteristic displays of Carnations, representing "Malmaison," Perpetual Flowering and border varieties. (Gold Medal.)

Mr. ROBERT BOLTON, Carnforth, sent a delightful collection of Sweet Peas. (Gold Medal.)

THE BATHS AND PARKS COMMITTEE OF THE WOLVERHAMPTON CORPORATION (Supt. Mr. A.

Webster) showed three groups of miscellaneous flowering and foliage plants. (Silver-Gilt Medal.)

Mr. W. LOVE, Beeston, Notts, staged Roses and herbaceous flowers. (Gold Medal.)

From the nursery of Messrs. T. RIVERS & SON, Sawbridgeworth, came a collection of fruit trees in pots similar to those already referred to in one of the competitive classes. (Gold Medal.) Messrs. BOYES & Co., Leicester, showed Carnations and Roses. (Silver Medal.)

Messrs. T. B. DOBBS & Co., Wolverhampton, had a model garden on the lawn, in which flowering plants were arranged in groups. Rustic arches and poles were clothed with climbing Roses: Ferns, &c., formed an edging to the various borders. (Gold Medal.)

CROYDON HORTICULTURAL.

JULY 8.—On this date the above Society held its 41st annual exhibition, and was unfortunately in the matter of weather, as has frequently happened in the case of this annual show. The ground was not mown in the meadow in which the show was held, and the rain made matters very unpleasant for the visitors. The exhibits were accommodated in several large marquees, and quite filled them; indeed, for some things the space was much too limited.

Croydon Show has long been famed for its Roses, especially in the open classes, but this year there was a noticeable falling off in the numbers of these flowers owing to seven other flower shows occurring in the district: the great heat of the sun in the previous week also had the effect of bringing on the blooms quickly.

OPEN ROSE CLASSES.

The blooms shown in this section were equal in all points to those we noticed at the National Society's exhibition at Regent's Park Botanic Gardens, and they kept in a fresher condition, the weather being cooler, and the air laden with moisture.

The first prize for 48 distinct varieties of Roses, with which gold the National Society's Silver-Gilt Medal, was awarded to Messrs. FRANK CANT & Co., Braiswick Nursery, Colchester, for blooms of large or small size according to the wont of the variety. There were extremely fine blooms of Mildred Grant, Maman Cochet, Duke of Teck, G. Laing, Paul (a large-petalled blush H.T. variety), Florence Pemberton, Papa Lambert, W. Shead, Victor Hugo, Horace Vernet, J. B. Clark, Duke of Connaught, Françoise Michelon, Souvenir d'Elise Vardon, Frau Karl Druschki, Madame Constant Souperet. Therefore the contribution, as it will be noted, consisted of varieties new and old, forming a splendid mass of blooms. The 2nd prize fell to Messrs. B. CANT & SONS, of Colchester, the exhibit being strong in the Hybrid Tea varieties, as will be apparent in those of our selection, viz., Dean Hole, Comtesse de Nadaillac, The Bride, Mildred Grant, Mamie, Dr. W. Gordon, G. Hill, and Robert Scott. The blooms of crimson-coloured H.P.'s, viz., Chas. Leobers, Marie Baumann, Prince Arthur, and A. Williams were very beautiful.

Twenty-four Roses, distinct in triplets.—In this class, Messrs. B. CANT & Co. were again placed 1st with many of the same varieties that were found in the larger competition. Other than those, we remarked blooms of Lady Fitzwilliam, Mrs. J. Laing, Princess M. Merchertsky, Captain Hayward, and the fine Irish Rose Ulster. The 2nd prize was awarded to Messrs. B. R. CANT & SONS for blooms but very slightly inferior to the winning exhibit. We noted that remarkably striking variety, Commandant Fely Fane, a fine triplet of Ulrich Brunner, Her Majesty, and Alfred Colomb.

In a class for 24 Roses of distinct varieties, in which those who show in the first two classes cannot compete, Mr. E. J. HICKS, Rose grower, Twyford, Berks, won the 1st prize with blooms showing evenness in regard to size and good quality, and nearly identical in names with those in the other 24 bloom class.

For eighteen blooms, Teas or Noisettes, distinct varieties.—1st, Messrs. B. R. CANT & SONS, and F. CANT & Co. 2nd, These exhibitors had evidently decided their finest flowers to the larger competitions. In their contributions to this class there were noted fine examples of Jean Dupuy, Emilie Conin, Madame Cusin, Madame

de Watteville (a variety not often shown), Golden Gate, Mrs. Morley, and Muriel Graham.

Twelve Roses of one variety.—1st, Messrs. B. R. CANT with Dean Hole, a variety we have never observed shown better in shape, size and colour; the same variety won the 2nd prize for Messrs. F. CANT & Co., but the colour in this case was fainter; 3rd, Mr. F. J. JEFFERIES, with blooms of that distinguished Rose Florence Pemberton.

The best twelve blooms of a Tea or Noisette Rose—were shown by Messrs. F. CANT & Co. in White Maman Cochet; 2nd, Messrs. B. R. CANT with the same variety.

AMATEUR CLASSES (OPEN).

For the best thirty-six Roses, distinct.—The 1st prize and Challenge Cup went to E. B. LINDSELL, Esq., Hitchin, Herts. His outstanding blooms were C. Lefebvre, A. K. Williams, Duchess of Bedford, Dean Hole, Lady M. Beauchere, Cleopatra, Bridesmaid, and Her Majesty; 2nd, A. TATE, Esq., Downside, Leatherhead, who had fine blooms of Oberhofgarten Tercks, Gustave Piganeau, Marchal Niel, Beauty of Waltham, and Horace Vernet; 3rd, E. J. HOLLAND, Esq., Sutton, Surrey.

Twenty-four Roses, distinct varieties.—1st, E. M. EVERSFIELD, Dene Park, Horsham, who had notable blooms of Hugh Dickson, Mrs. E. Mawley, Maman Cochet, White Maman Cochet, and Florence Pemberton; 2nd, E. J. HOLLAND, Esq., with fine examples of Bessie Brown, Comte Raimbault, W. Shean, and Françoise Michelon.

Six Roses distinct, shown in triplets.—1st, E. J. HOLLAND, Esq., with fine examples of Dean Hole, Mildred Grant, Her Majesty, and White Maman Cochet; 2nd, E. M. EVERSFIELD, Esq., in whose box were very fine blooms of Bessie Brown and Florence Pemberton.

The best 12 blooms of one variety were shown by E. M. EVERSFIELD, Esq., who had fine examples of white Maman Cochet; 2nd, E. J. HOLLAND, Esq.; and 3rd, F. SLAUGHTER, each with the same variety. There were many other smaller competitions in the Open Classes.

There were several local Rose classes open to amateur residents in the borough within three miles of the Town Hall. One of the principal prizes is a Challenge Cup, subscribed for in 1908, which goes with the 1st prize in the class for 12 Roses distinct. It was won by H. G. MOLYNEUX, Esq., Brantwood, Parley, with blooms of average merit; 2nd, D. R. HARVEST, Esq., Camden Road, 28, Croydon; 2nd, G. H. ASHBERRY, Esq., Wallington. There were competitions for six H.P.'s, six Teas or Noisettes distinct, and six Roses of one variety. In this last class Mr. P. H. BECK, Onslow Gardens, Wallington, showed Florence Pemberton excellently, one of the blooms being accounted the finest in the show.

MISCELLANEOUS EXHIBITS.

Coleus, as small plants, took up much space, but there was nothing seen in them that indicated superior cultivation. Ferns were shown in considerable number, and some good specimens were noted.

Caladiums were shown, but they were small-sized plants. Fuchsias showed a great improvement on last year's show, being better bloomed and trained and more symmetrical. The best Fuchsias were in pyramidal form and about 6 feet high. They were shown by C. CHAPMAN, Esq., Thornton Heath.

Specimen plants in flower were few. The best was a Bougainvillea glabra shown by Mr. LANE (gr.). Achimenes were noted, formed into pyramids 4 feet high, planted in cylinders of wire-work filled with moss, and some very good.

Tuberous-rooted Begonias gave patches of bright colour in the tents, likewise Pelargoniums of the Zonal section. Mr. BUTCHER, Nurseries, South Norwood, contributed many plants of a decorative nature.

Mixed flower and foliage groups were well placed with a background of large Palms, and there were several which showed a knowledge of plant arrangement, and made pleasing groups. Sweet Peas were extensively shown.

There was but little fruit shown, beyond a couple of dishes of Strawberries and a few bunches of good black and white Grapes; many specimens of Cucumbers were noted.

Specimen plant growing has apparently quite gone out of fashion here, as it was once one of the headquarters for fine plants.

The cottagers and holders of allotments made a characteristic show in a tent by themselves, and a very creditable one, too.

NON-COMPETITIVE EXHIBITORS included Messrs. J. PEED & SON, Nurserymen, West Norwood, with American and English Carnations; Messrs. J. CHEAL & SONS, Crawley, who showed Sweet Peas, cut blooms of Roses, hardy herbaceous perennials, Rambler Roses, &c.; Mr. E. J. Hicks showed fine new and old varieties of Tea Roses; good Roses were shown by Mr. A. SERGEANT, the gardener at the Recreation Ground.

Mr. J. Box, Croydon and West Wickham, contributed a pretty portion of Rockwork and a Lily pond; Messrs. G. PUNYARD & CO., LTD., Maidstone, made a big display with hardy plants, &c., as did Mr. BRAZIER, of Caterham.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

JULY 13.—The quarterly meeting of this Society was held at the Horticultural Hall, Vincent Square, on this date, under the chairmanship of Mr. Thomas Winter. Six new members were elected, making a total of 45 for the new year. The usual quarterly grants were made to old age members on the Benevolent Fund. The amount of sick pay for the month has amounted to £41 18s.

BRITISH GARDENERS' ASSOCIATION. (LEEDS BRANCH.)

JULY 14.—A meeting of this branch was held at the Grand Central Hotel, Leeds, on this date. A large gathering of members and other gardeners were present. Mr. Campbell presided. The lecturer for the evening was Mr. John Donoghue, the subject being "Carnations." The lecturer dealt with the details of culture of both border and pot varieties of this plant. Mr. Donoghue strongly recommended raised beds for cut-door culture. These, he said, should be thoroughly prepared and have ample provision for drainage. Planting in the early spring was advised. Mr. Donoghue also recommended careful watering and potting in the case of Carnations grown indoors, and he also advocated an abundance of ventilation on all favourable occasions.

The members expressed their intention of applying for permission to visit the grounds and gardens of Harewood House and Bramham Park.

A special meeting will be called for this purpose and a committee formed to carry out the necessary arrangements. G.C.

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending July 15.

Cool days and warm nights. Since the recent warm spell came to an end on the 3rd there has occurred only one unusually warm day. On the other hand, during the same period there have been but two considerably cool nights—the coldest thermometer on record falling below 40°. At 2 feet deep the ground is now 1° seasonably cold, and at 1 foot deep 2° colder, than is seasonable. Some rain fell on each day of the week, but the total measurement only amounted to about 1 inch. Small quantities of rainwater have passed through the bare soil percolation gauge on each of the last five days, but the gauge on which short grass is growing still remains perfectly dry. The sun shone on an average for only 34 hours a day, or for 3 hours a day less than a seasonable duration in July. The winds were rather high in the early part of the week, but no hour did the mean velocity exceed 15 miles. The average amount of moisture in the air at 3 o'clock in the afternoon was as much as 14 per cent. in excess of the quantity for that hour. E. M., Berkhamsted, July 15, 1908.

SCHEDULES RECEIVED.

Southern Counties Carnation Show.—The eleventh annual exhibition will be held, under the auspices of the Southampton Royal Horticultural Society, on The Royal Park, Southampton, on Wednesday, July 28, 1908.

Ashton-in-Wakfield and District Botanical and Horticultural Society's first annual exhibition, to be held in Carswood Park, on Saturday, August 15, 1908.

TRADE NOTICE.

We are informed that Messrs. W. H. HUNSON & Co. have removed their wholesale bulb and seed business from 31, Chiswick High Road to 218, Goldhawk Road, London, W.

MARKETS.

COVENT GARDEN, July 15.

(We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Ed.)

Cut Flowers, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Alstromerias, per doz. bunches...	20	30	Marigolds, white, p. dz. bunches ...	30	40
Calla aethiopica, per dozen ...	26	40	— yellow, per dz. bunches ...	20	30
Carnations, per doz. dozen blooms, best American variety ...	20	30	Mignonette, per doz. dozen bunches ...	30	40
— second size ...	16	20	Myosotis, per doz. bunches ...	20	30
— smaller, per doz. bunches ...	9	12	Odoglossum crispum, per dozen bunches ...	20	26
— Malmaisons, p. doz. dozen blooms ...	8	12	Paquities, per dozen bunches ...	16	30
Cattleyas, per doz. dozen blooms ...	8	10	Pelargoniums, per doz. bunches ...	50	60
Cereopsis, per doz. bunches ...	16	26	— Zonal, double scarlet ...	40	60
Cypripediums, per doz. dozen blooms ...	20	26	Erythraums, per doz. bunches ...	20	40
Eucrasia grandiflora, per doz. dozen blooms ...	40	50	Roses, 12 blooms, Niphotes ...	10	26
Gaillardias, per dz. bunches ...	16	26	— Bride'smaid ...	20	30
Gardenias, per doz. dozen blooms ...	16	30	— C. Testout ...	16	26
Gladioli, per doz. bunches ...	7	10	— General Jacqueminot ...	16	26
— Brenchleyensis, per doz. bunches ...	16	26	— Kaiserin A. Victoria ...	16	26
Gypsophila, per doz. bunches ...	30	50	— C. Mermut ...	20	40
Iris (Spanish), per doz. dozen bunches ...	30	60	— Liberty ...	26	40
Lilium auratum ...	20	30	— Line-Chatenot ...	20	60
— caeruleum ...	16	20	— Mrs. J. Laing ...	20	40
— longifolium ...	20	30	Spiraea, p. dz. bunches ...	50	80
— laevis, per doz. dozen bunches ...	20	30	Stock, per doz. dozen bunches ...	40	80
Lily of the Valley, p. dz. bunches ...	60	90	Stocks, double white, per doz. bunches ...	30	40
— extra quality ...	12	15	Sweet Peas, per doz. dozen bunches ...	16	26
			Tuberous, per doz. dozen blooms ...	40	60
			— on stems, per bunch ...	10	20

Cut Foliage, &c.: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum cucum- tum, dz. liches	60-90	Grasses, per dozen bunches	10-26
Asparagus plu- mosus, long trails, per doz.	8-12-0	Italy foliage, per doz. dozen bunches	20-60
— medium, bunch	10-20	— various, per doz. dozen bunches	20-60
— Sprengeri, bunch	9-13-6	— long trails per bundle	9-16
Berbers, per doz.	26-30	— short green, per doz. bunches	16-26
Croton leaves, per doz.	10-13	Moss, per gross	40-50
Cycas leaves, each	16-20	Myrtle, per dozen bunches	40-60
Fern, English, per doz. bunches	20-30	— French (Eng- lish), per doz. dozen bunches	10-16
— French, per doz. bunches	10-30	— French	10-16
Galax leaves, per doz.	20-26	Smilax, per dozen trails	30-50

Plants in Pots, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Ampelopsis Veitchii, per dozen	60	8-0	Eunonymus, per doz.	40	9-0
Aralia, per doz.	40	6-0	Ferns, in tubs,	60	10-0
— larger...	90	12-0	— in small and large 60's	12	20-0
— smaller...	60	12-0	— in 48's, per doz.	40	10-0
Araucaria excelsa, per dozen	120	30-0	— in 32's, per doz.	10	18-0
Aspidistra, p. doz.	15	24-0	Ficus elastica, dz.	80	10-0
— variegated...	30	42-0	Fuchsia, per doz.	60	9-0
Asparagus, p. doz.	80	9-0	Heliotropium, p.	40	6-0
— in pots...	90	12-0	— paniculata, per	18	26-0
Boronia elatior, per dozen	15	24-0	Kentia Belmoreana, per dozen	18	30-0
— ceterophylla, per dozen	18	24-0	— in pots...	18	30-0
Calceolarias, yellow, per doz.	60	8-0	Latania borbonica, per dozen	12	18-0
Callas, per dozen	60	8-0	Lilium longifolium, per doz.	18	24-0
Campnula iso-phyllos, per dozen	60	8-0	— lancifolium, per doz.	18	24-0
Cerinas, per doz.	80	9-0	Lily of the Valley, per dozen	18	30-0
Crocus Weddelliana, per dozen	18	30-0	— in pots...	40	6-0
Crocus, per doz.	80	9-0	— in pots...	40	6-0
Cypripedium alternifolius, dozen	40	8-0	— in pots...	40	6-0
— in pots...	40	8-0	— in pots...	40	6-0
Dracenas, per doz.	90	12-0	— in pots...	40	6-0
Ericas, per dozen	90	12-0	— in pots...	40	6-0

Plants in Pots, &c.: Average Wholesale Prices (Contd.).			
	s.d. s.d.		s.d. s.d.
Rhodanthe, per dozen	40-60	Selaginella, p. doz.	40-60
Roses, Ramblers, each	20-50	Spiraea japonica, p. doz.	50-90
— hybrid per- petuals, p. doz.	90-180	Verbena, Miss Willmott, per dozen	40-60

Fruit: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples (Tasmanian), per man, per box			Figs (English), p. doz.	20-60	60-80
— Cox's Orange Pippin...	130-170		— (Guernsey), p. doz.	20-80	20-80
— Scarlet Non-pateil...		80-100	Gages (French), p. doz.	50-70	50-70
— Australian, per case			— "Zieve"...	10-20	10-20
— New York Pippin...	70-100		— per box	10-20	10-20
— Cox's Orange Pippin...	110-150		Grape Fruit, case	80-120	80-120
— Adams Pear...	80-100		Grapes (English, new), per lb.	10-30	10-30
— French Crab...	70-90		— Muscats (English, new), per lb.	10-30	10-30
— Sturmer Pippin...	60-80		Gooseberries (English, 1/2 sieve), 26-30	26-30	26-30
Apricots (French), per box	10-13		Lemons...		
— per 1/2 sieve	4-6-56		— Messina, case	70-100	70-100
Avocado Peas, dz. dozen	60-120		— Nappas, box	80-100	80-100
— No. 2 Canary...	60-80		— Lyons (new), p. lb.	10-15	10-15
— Extra...	80-90		Lychies, per box...		
— Giants...	100-120		— per dozen	40-80	40-80
— (Clare)...	70-80		Melons (English), p. doz.	10-20	10-20
— Jamaica...	40-60		— (Guernsey), p. doz.	40-80	40-80
— Loose, per dz. dozen	90-13		— Rock...	30-40	30-40
Cherries (English), per 1/2 sieve	70-80		— Canteloupe...	40-45	40-45
— per 1/2 sieve	70-80		Nuts, Almonds, per doz.	45-50	45-50
— "Lox's" Orange Wood...	30-36		— Brazil, new, per cwt.	50-57-0	50-57-0
— Early Rivers...	40-50		— Walnuts (English), p. bushel	23-26	23-26
— "Lox's" Orange Wood...	30-36		— Valencia, per doz.	30-32-0	30-32-0
— Waterloo...	30-40		— Cocoa nuts, 100 lb.	10-14-0	10-14-0
— Victoria...	30-40		Nectarines, select d.	90-120	90-120
— Black Eagle...	30-40		— Onions (English), p. doz.	10-15-0	10-15-0
— Ambers...	30-36		— second quality...	10-15-0	10-15-0
— Knight's Early Black...	30-36		— best quality...	10-15-0	10-15-0
Cranberries, case	80-90		— (French), p. bx.	11-18	11-18
Currants (English), per 1/2 sieve	40-50		— per 1/2 sieve	30-50	30-50
— white, per 1/2 sieve	40-50		Pears (Australian), per box	36-50	36-50
— black, 1/2 sieve	40-50		— (French), p. doz.	10-12	10-12
Dates (Tunis), doz. boxes	40-43		— (French), p. doz.	10-12	10-12
			Strawberries (English), per doz.	10-20	10-20
			— Kent Pecks...	10-20	10-20

Vegetables: Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes (French), per dozen	13	16	Mushrooms, but- tons, per lb.	10	13
Beans, Broad, per bushel	30	40	— Mustard and Cress, per dozen pail	13	—
— (English), run- ners, per doz.	60	80	Onions (English), p. doz.	10	15
— Guernsey, p. lb.	60	80	— picking, per doz.	16	26
— (French), p. lb.	60	80	— Parsley, 12 bunches per doz.	20	26
Beetroot, per bushel	13	16	— Spring, per doz.	20	26
Cabbages, per tally	16	20	— bunches	20	26
— Cress, p. bag	16	20	— Peas (English), per bushel	36	50
Carrots, per doz.	40	80	— (French), p. doz.	10	12
Celery, per tall	16	20	— (French), p. doz.	10	12
Chicory, per lb.	30	36	— (French), p. doz.	10	12
Chow Chow (Sichuan edule), per dozen	30	—	— (French), p. doz.	10	12
Cucumbers, per doz.	16	20	— (French), p. doz.	10	12
— per flat	46	66	— (French), p. doz.	10	12
Endive, per dozen	16	20	— (French), p. doz.	10	12
Horseradish, for- ward, per doz.	90	120	— (French), p. doz.	10	12
— bundles	10	16	— (French), p. doz.	10	12
Letts (French), per dozen	80	100	— (French), p. doz.	10	12
— (French), Cos, per dozen	16	20	— (French), p. doz.	10	12
— (French), Cos, per dozen	16	20	— (French), p. doz.	10	12
Marrow (English), per doz.	10	20	— (French), p. doz.	10	12
Nint, per dozen	10	16	— (French), p. doz.	10	12
Mushrooms, per lb.	10	13	— (French), p. doz.	10	12
— broilers	10	13	— (French), p. doz.	10	12

REMARKS.—Tomatoes are much cheaper, and are likely to be so for some time owing to the great quantities received daily. A few good Madresfield Court Grapes were on sale this week. Peaches are more plentiful, but best Nectarines are not numerous. French Rock or Cantaloupe Melons are scarce. Owing to the wet weather of the past week, English-grown cherries are arriving in a bad condition, and prices are in consequence very low. The demand for Black Currants continues good. Supplies of Raspberries are better. Foreign fruit includes Plums and Gages from France. Home-grown Peas are doing in good market. Trade generally is quiet. E. H. K., Covent Garden, Wednesday, July 15, 1908.

Potatoes.

s.d. s.d.	s. s.
New Potatoes—per cwt. Lincoln's—per ton...	60-90
St. Malo Gages—40 — Old — 60 —	60-90
Kent Snowdrums (per bushel) 5-6-6	60-90
Lincolns, new per cwt. 6-6-6	60-90
Sharpe's Express 6-5-3	60-90
Epifore 4-3-6	60-90
Birdie 4-4-6	60-90

Unbarns—

Up-to-Date (red soil) 110-115	110-115
Maincrop (red soil) 115-120	115-120
Scott (grey soil) 60-70	60-70

REMARKS.—There is a fair trade for best samples of Kent and Lincoln new Potatoes. Consignments from Jersey have been finished. *E. J. Newbourn, July 15, 1908.*

COVENT GARDEN FLOWER MARKET.

Supply and demand are now equally uncertain. Some growers still have bedding plants, and one informed me that he was doing a better trade in small bedding plants than with Ferns and other large decorative plants. At the end of the season buyers are slow to purchase anything except what they have on order.

Flowering plants are well supplied, *Lilium longiflorum* in pots are over plentiful, and this morning (Wednesday) many were left unsold at closing time. *Campanula isophylla* and the blue variety "Mayi" are seen. *Crassulas* are not quite so plentiful. White *Marguerites* are abundantly supplied. *Rambler Roses* are still coming from several nurseries, but extra large plants are not procurable. *Spiraea japonica* is good and there are plants of the pink varieties, but these are very expensive. *Ericas* are now nearly finished for the season. *Petargoniums* include *Zonitis*, Ivy-leaved, and show varieties, all being very good.

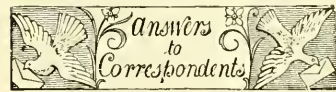
In foliage plants, Ferns in all sizes are well supplied; nothing new is seen in these plants. *Asplenium nidus* still remains a favourite, and *A. bifurcatus* well. *Aralia Sieboldii* in short, sturdy plants is seen. Palms have not a great demand. *Asparagus tenuissimus* is seen in good plants, also *A. Sprengeri* and *A. plumosus*.

CUT FLOWERS.

Sweet Peas are seen in huge quantities; I noted this morning that many were left over at closing time. *Roses* are uncertain, there are large quantities of second quality cut from the open ground, but best quality blooms on long stems are not very numerous. *Campanula* border *Carnations* are now coming in, but the American varieties spoil their sale. *Gypsophila paniculata* is seen in large buns, a few days later it will be better in flower. *Lavender* has already made its appearance. *Statice*, in white, blue, and yellow colours, is plentiful. *Liliums* have been down to low prices. *Fonies* and *Pyrethrums* are not so abundant. *Supplications* of *Tridax* sold out well; the English varieties are very pretty. *Gladiolus Brechenleysis*, also the *Colvillei* varieties, *Delphiniums*, and other hardy flowers are all abundant. *A. H., Covent Garden Market, Wednesday, July 15, 1908.*

Obituary.

LOUISA CATHERINE MAYCOCK.—We regret to record the death of this lady, wife of Mr. G. H. Maycock, of Vale Royal Gardens, near Northwich, Cheshire, and previously at Luton Hoo Gardens.



APPLE AND PEAR LEAVES INJURED. *L. F. and N. G., Lewes.* Apple scab is present on the Apple leaves. Pear scab on the Pear leaves. Spraying now will do no good, but in winter spraying must be done, and again just after the leaves are expanded in the spring, using the Bordeaux mixture at half strength.

BEGONIAS FAILING. *H. R. J.* The plants exhibit the condition known as the rust disease, which is caused by a small mite. The foliage should be dipped in tobacco water. See reply to *W. P.* on 40 of the issue of July 11.

CARNATION: Malmison. We cannot undertake to name varieties of *Carnations*, or other florists' flowers. Send to a nursery grower of these plants.

CARNATIONS DISEASED. *W. J.* The plants are infested with the stem eelworm. There is no cure for this pest, and all plants and the soil in which they have been grown should be burned. No portion of the diseased plants should be used for propagation.

CHRYSANTHEMUM-FLOWERED ASTERS: Correspondent. There is no microscopic agent responsible for the injury. In our opinion, something has been applied to the roots which has killed the plants.

CHRYSANTHEMUM RUST. *H. S.* Spray the plants with a solution of potassium sulphide, using half an ounce of the chemical to one gallon of water.

CLASS FOR PERENNIALS: Hortus. The genus *Adenophora* is distinct from *Campanula*, and with the exception of *A. Michleri*, which is a synonym of *C. trichocalycina*, any of the *Adenophoras* may be legitimately shown in a class with *Campanulas* for 12 vases of distinct perennials.

FIGS FAILING. *R. L.* There is no disease present that can be attributed to fungi or insects. The defect is due to some cultural error.

FORCING LILY-OF-THE-VALLEY AND TULIPS: F. Howarth. The necessity, in the case of the Lily-of-the-Valley, for the early forcing of the current year's crop of crowns has been considerably modified during recent years by the more general use of "retarded crowns," these responding to a bottom heat of 70° and flowering well in about three weeks or so from the date of their introduction into the greenhouse. To obtain the best results a darkened frame or greenhouse and the above-named temperature with free supplies of moisture are necessary. In dealing with the new crowns, only those of first size should be employed for early work. Starting with a bottom heat of 65°, this should be increased to 75° in a few days and finally to 80° or 83° as a maximum. The greatest length of flower stem is secured by plunging the crowns 6 inches deep in cocoanut fibre, the fibre to be removed when the flowering spikes appear. With the crowns well moistened when introduced and the plunging material ordinarily moist, little or no water will be required before the crop is fit to be removed from the plunging material. A darkened frame is best, and no special overhead pipe is required. The atmosphere of the house should be kept at about 60°. Three 4-inch pipes would be ample in a 4-foot wide bed with good boilers. Tulips are amenable to much the same treatment, but not *Daffodils*.

"FRENCH" MARKET GARDENING: H. M. An expert informs us that the necessary amount of capital required for working one acre of land on the "French" system, exclusive of charges for rent and water, would be £374 10s., made up as follows:—250 lights at about 8s. each, £100; 84 frames for the light at 10s. per frame, £84; 1,500 cloches at £5 per 100, £75; 300 mats at 1s. 6d. each, £22 10s.; necessary tools and implements, £10; 500 tons of manure, £125—total £374 10s. The labour bill would include wages for one experienced foreman, one assistant, one woman, and casual help when necessary. It would not be advantageous nor economical to employ hot-water pipes, as the extra cost would leave practically no margin for profit, but in the case of a private garden, where expenses are not considered so keenly as in commercial gardening, 3 or 4-inch hot-water pipes might be used, as the pipes would furnish the necessary heat when that from the manure was almost exhausted. This system, however, can only be worked successfully in the case of pipes enclosed by walls of brick. With success, a garden of the area described, provided with plenty of water, would give a net profit of about £60 or £70 per annum.

GRAPES DISFIGURED: J. H. The injury is only superficial and no fungicide is present. The berries have probably been rubbed when thinning the bunches or tying the shoots. Sometimes rubbing is caused by cold draughts or by syringing with extra force so as to remove the coating of wax known as the bloom.

GUMMING IN CHERRY TREE: D. R. See reply to *J. H.*, p. 40.

INSECT: E. B. When your box reached us it contained an empty chrysalis case and a moth which had evidently emerged from it; the latter had so beaten itself about that all the scales were knocked off the wings, and it was in such a condition that it was impossible to name it further than to say it belonged to the family Noctuidae. Perhaps it was just in the act of leaving the chrysalis that made you think it was "a peculiar insect."

MARKET GARDENERS' COMPENSATION ACTS: J. V. The Agricultural Holdings Act was passed in 1885, and the Market Gardeners' Compensation Act in 1895. In 1904 a new Bill was introduced in the House of Commons to remove certain doubts as to the meaning of the Market Gardeners' Compensation Act. The latest legislation affecting market gardeners is embodied in the recent Allotments Act. Any of these official publications may be obtained from the Government printers, Messrs. Wyman and Sons, Breams Buildings, Fetter Lane, E.C.

MULBERRY TREE: S. J. S. Shade the plant from hot sunshine, if this is possible. Spray

it overhead with clear water every evening, and again early in the morning, and do not let the soil about the roots get dry. There is nothing else you can do, but it is probable these means will help the tree to survive.

MUSCATS SHANKING: C. F. The trouble is probably due to a faulty border, as a check to the root system is generally the cause of shanking in Grapes. Send us an example of an affected bunch for examination.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to discourage the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time: they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determination. *Correspondents not answered in one issue are requested to be so good as to consult the following numbers.*

PLANTS: *1. Iritis*, 1. *Helenium Bolanderi*; 2. *Veronica longifolia* var.; 3. *Centaurea dealbata*; 4. *Alstromeria bamautha*; 5. *Helipopsis laevis*; 6. *Carduus heterophyllus*;—*3. H. Lithospermum petraeum*—*T. M. Philomitis fruticosa*. *W. and S.* The Grass is *Agrostis* (syn. *Apera*) spica-venti. *Rubrum* possibly, probably *S. striatum*—*E. C. D.* *Hedysarum coronarium*—*A. W. B.* *Lilium chalcidicum*—*J. F.* 1. *Clematis integrifolia*; 2. *Marchantia polymorpha*—*W. B.* *Hypericum quadrangulum*—*H. H.* *Cymbidium aloifolium*—*Pen.* 1. *Oncidium micropogon*; 2. *Dendrobium mutabile*; 3. *Odontoglossum gloriosum*; 4. *Oncidium* (*Palumbina*) *candidum*—*W. T., Nottingham*. 13. *Thalictrum flavum*; 14. *Helenium autumnale*; 15. *Epilobium angustifolium*, white variety; 16. *Solanum jasminoides*; 17. *Trachelium caeruleum*; 18. *Vitis heterophylla* variegata. *J. J.* The silvery plant is *Scindapsus argyrea*; the spiny plant *Ononis spinosa*; the other *Galium Aparine*.

POTATO SCAB: D. C. The tubers are affected with English scab (*Sorospodium Scabies*). Lime prevents the spread of this disease, but acid manures favour it. The American scab (*Oospora Scabies*), which is much more general in this country, is favoured by the presence of lime and checked by acid manures.

ROSE BUDS TURNING BLACK: T. W. C. There is no disease present attributable to either insects or fungi. The injury may have arisen from one of several causes such as drought, extremes of temperature, or anything that would cause a check to the plants.

SOUTHAMPTON FLOWER SHOW.—Mr. Frank Lilley, St. Peter's, Guernsey, was awarded a Silver-Gilt Medal at this exhibition for an exhibit of early flowering *Gladioli*.

STRAWBERRIES FOR NAMING: H. R. In order to name these fruits it would be necessary to compare them with varieties in the garden. The fruits very much resemble those of Royal Sovereign, but the plants may differ greatly in habit from that variety. Perhaps Messrs. Lawton Brothers, Bedford, or Messrs. J. P. Bunyard Ltd., Maidstone, may be willing to assist you. The fruits were splendidly packed and arrived in a good condition.

TOMATO DISEASED: E. H. The plants are attacked by the leaf spot disease, *Macrosporum solani*. Spray the plants with the Bordeaux mixture and afford them a drier atmosphere, with an abundant ventilation.

TOMATO LEAVES: F. H. P. Send further examples for another examination.

TOMATO SEEDS: H. G. C. Select the best shaped and finest fruits generally for seed purposes. Rub the pulp and seeds in sand, allow them to dry, and then rub the sand from them over a fine mesh sieve.

COMMUNICATIONS RECEIVED.—*G. S. and L. H. & Co.*—*J. C. W. B.*—*E. C. J. B.*—*Zola*—*L. F.*—*H. D. & Co.*—*H. C. J. S.*—*Mrs. G. N. G.*—*W. H. J. P.*—*J. P. O. M.*—*R. T. L.*—*F. P.*—*F. J. K.*—*H. D.*—*R. P. B.*—*W. H. T.*—*W. B. F.*—*A. B. C.*—*Hobart*—*E. P.*—*F. H.*—*E. S. S.*—*F. P.*—*B. L.*



PEONIA LUTEA SUPERBA; FLOWERS YELLOW WITH CARMINE AT THE BASE OF THE PETALS.
FROM SPECIMENS SUPPLIED BY MR. W. E. GUMBLETON.



THE

Gardeners' Chronicle

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DWARFING STOCKS—A RETROSPECT.

MANY people interested in gardening not improbably harbour the thought that dwarf fruit trees, especially dwarf Apple trees, are a modern invention. Paradise and Quince stocks an innovation dating from the nineteenth century only. Yet it is a fact, easy of verification, that dwarfing stocks have been in use in England for nearly three centuries, and it may be assumed, though it cannot be proved, for an even longer period, while it is impossible to say how far back the practice extends on the Continent. The Paradise Apple was first noticed by the French physician Ruellius, by the name of *Malus paradisica*, but it is not economically mentioned till about a century later, the authors of that epitome of sixteenth century rural pursuits, *La Maison Rustique*, failing to refer to it, though it is noted by the author of *Le Theatre d'Agriculture*, who states that espaliers were at first furnished with dwarf Apple trees called St. John.*

* Les premiers espaliers ont été fait des Pommiers nains dits de St. Jean.

In Brabant dwarf Apples were in cultivation some fifty years earlier, and Dodoeus, referring to the subject, shows that St. John was synonymous with the Paradise Apple of the French. What we know of the condition of gardening in England under Elizabeth would lead to the belief that this novel method of forming vegetative divisions could hardly escape the English gardener of that epoch, nor his master either, but not till Parkinson published his *Paradisus* is it noted by an English authority, the latter having had a hedge of Pippins and Pomewater low grafted on the Paradise stock growing by the side of a walk in his orchard. But Apples alone were not the only fruits employed to furnish these low espalier hedges, for Ralph Austin, of Oxford, an authority equally reliable with the transparently honest author of the *Paradisus*, states how it was "the custome (of late) to make Cherry hedges in gardens and orchards and hedges of Quodlins (the Pomewater was a kind of Codlin), Mirogards, Plums, and vines." All these were arranged a yard apart, but had nothing in common in training with cordons, the shoots being twisted and plied through the trellising in order to produce a close hedge. Shears were, at least occasionally, used to prune them!

Worlidge, who was a chronicler of the horticultural doings of other people rather than a trumpeter of his own achievements, records a forward step, for in 1669 he tells those who desire to have dwarf bush fruit trees: "Let the stocks whereon you graft them be of the Paradise Apple for Apples, of the Quince for Pears, of the Morello or common Wild Cherry for Cherries—being kept low according to the new mode, though," he conscientiously informs his readers, "I see but little pleasure or profit that way." Previous to this time dwarf fruit trees had been specialised in the gardens of Hampton Court, Kensington, and elsewhere, and in Taylor's description of the *Gardens of Wilton*, "the pains and industry" of Mr. Adrian Gilbert in making "walks, hedges and arbours of all manner of most delicate fruit trees," and how he "planted certain walks and arbours all with fruit trees" is not forgotten. I think it may be concluded that dwarfing stocks would be employed in these "curiously conceived" examples of horticultural skill. Bacon indeed recommends alleys to be set with fruit trees of all sorts, but as he has not once referred to dwarf trees, we may not assume that he knew anything of them. It may, in any case, be matter for consideration that Worlidge, when he wrote, had in his mind the then well-known instances referred to above. But the Paradise which was either the original French, or the Dutch, which was also early to be introduced, was not by any means the sole dwarfing stock employed, for Codlins, Burcknots (Oslin Pippins), and other dwarf Apples were also used, and there is no doubt that they became extremely popular. So much so that, perhaps as a result of Quintincy's teaching, they were also employed for orchards, those which were laid out in the beginning of the eighteenth century being furnished entirely with espaliers and dwarf trees. The walks in kitchen gardens were at an early date bordered with espaliers, the distances from the sides of the walk varying from 3 to 6 feet.

The varieties were strictly limited to dwarf-growing dessert varieties, of which Golden Pippin, Kirton and Holland Pippins were the most esteemed and popular. The cult of dwarf trees seems to have reached its zenith in Queen Anne's time. Bradley, who (1717) epitomised the best gardening of the period, may be selected from other writers as an authority, tells how espaliers in kitchen gardens were disbudded in May, and at midsummer disburdened of superfluous shoots, and were so managed that one-third of the shoots bore fruit, one-third "knotted to blossom" the succeeding spring, and the remainder were shoots of the current year, the winter pruning consisting in the removal of the set which yielded its fruit the previous autumn. The shoots were "tied about 4 inches apart." Bradley was averse from using the knife on Apple trees, and one of the reasons he gave for recommending the Paradise stock was that Apples grafted on it bore "abundance of fruit with very little pruning." As illustrating the advanced state of gardening at this time, it may be added that he—Bradley—had known such trees "frequently cultivated in pots, sometimes so full of fruit that the Apples themselves have weighed more than the tree and the pot they grew in." It was about the beginning of this century that the Doucin was first introduced. Laurence, in 1726, states "that the dwarfing stock was introduced about thirty years previously, each tree costing 5s.," the natural inference being that he referred to the Doucin. It is quite clear that about this time the day of dwarf Apples was on its decline, and before long we read of free stocks being used for espaliers and distances adopted to plant these, each from the other, which demonstrates the suppression of the true Paradise, though the Doucin might have been used. The "Creeping," which is another name for the Dutch Paradise, also fell into disrepute, and one is hardly surprised to find dwarfing stocks condemned outright, even for Golden Pippins, in 1774. At the same time Hiitt, Gibson, Millar, and others had a good word for them, but it is obvious that the dwarf tree of their time was another thing from that of the earlier authorities. Nor must it be assumed that dwarfing stocks for both Apples and Pears fell completely into disuse because Abercrombie, Nicoll, and others recommend them merely with faint praise, though Forsyth's silence is almost as eloquent as their slightly commendatory notes. George Lindley was perhaps the first to call attention to the value of the Doucin, which again may have been neutralised by the persistent advocacy on the part of Thomas Rivers of his dwarfing stock, an advocacy which, however, had the merit of bringing the whole question again to the front, to be further popularised by Mr. Robinson's notes on French gardening and the use of dwarfing stocks in France.

These are very slight notes on this interesting subject, but they demonstrate the fact that the use of dwarfing stocks is no new thing, that the French, the Dutch, and the Doucin, besides a few dwarf-growing Apples have been long known in this country for their adaptability to dwarf trees and to promote early bearing, and so long ago as Parkinson's time it may be added that the desirability of low grafting was recognised. R. P. Brotherston.

TREES AND SHRUBS.

XANTHORHIZA APIFOLIA.

This is a comparatively unknown shrub in gardens, although it was introduced into cultivation as far back as 1766. The plant is of considerable interest, for the foliage is ornamental and the inflorescences are pretty, though the individual flowers are small. It is a native of North America, being found in various states from Pennsylvania southwards to Florida, whilst in Carolina it is very common. In a state of nature it is found growing in shady places in moist ground, frequently in woods, or on the margins of streams. Under cultivation it grows from 1 to 2 feet in height. The leaves are bipinnate and arranged in tufts at the extremities of the branches, and vary from 3 to

ERICA AUSTRALIS.

The early-flowering Heaths form a very ornamental group of shrubs, and are worthy of cultivating on an extensive scale, for they rarely fail to produce an abundant crop of flowers during the early months of the year. *Erica australis* is one of the least known, though, according to Aiton, its date of introduction was 1769, the introducer being given as the Earl of Coventry. It is probable that it lost favour with horticulturists through being somewhat tender, for it is unable to withstand very severe frost, though 16 degrees does not harm it. Although it belongs to the section known as Tree Heaths, it is one of the dwarfiest of the group, and never attains to the size of such species as *E. arborea*, *E. mediterranea*, *E. lusi-*

NOTES FROM A "FRENCH" GARDEN.

MUCH time is now required for examining the fruits of Melons to ascertain which are ripe, as during dull weather many are mature whilst the skin is still green.

We have now planted Cauliflowers amongst the old batch of Melons, except in the case of those which were planted in June: in this case we shall plant the Cauliflowers in a fortnight's time.

Endive has benefited greatly by the recent rains, and the plants are now thoroughly established in their new quarters. We are also planting Cauliflowers amongst this crop, placing one Cauliflower between every two Endives in the rows 1, 4, 7, and 10. As it is necessary to tread on the beds when planting the Cauliflowers, a very dry day has to be chosen for the operation.

Celery promises well, and up to the present this crop has required very little watering. We have cleared all the Cauliflowers which were planted next to the batch of early Cos Lettuces, and the ground has been dug. We have sown "Bellot" Carrots and Spinach as a catch crop. These will both require copious waterings in order to obtain good results.

Persons intending to start this system of gardening should order all necessary lights, cloches, mats, and other implements at once. If the lights are ordered from France, it should be specified that the sashes must be capable of taking 12-inch wide glass, for if this is not pointed out, they will be made to take the French glass, which is half-an-inch less in width than the English glass. There is only one type of cloche made for the intensive culture of vegetables, and they are known as *cloches maraichères*. They are 17 inches in diameter and 15 inches in height, but they may vary slightly in the casting. They should be ordered in crates holding from 200 to 300 cloches, for then they can be lifted by machinery, which saves many breakages that often occur when they are bundled about by hand. All the implements, including lights, mats, cloches, etc., should be delivered by September, as the cloches are needed at the end of that month, and if the glazing of the lights is to be done on the premises this will allow ample time for them to dry before they are wanted for use in January. The ground for a French garden should be chosen in a well-sheltered spot, having a gentle slope from north to south and close to a main road. An abundant supply of water is very essential. A fence or wall 6 to 8 feet high around the garden will be found very useful. The ground should be levelled and heavily manured if the crops are intended to be grown in the open. *P. Aquatias, Mayland, Essex. July 15.*

SEMPERVIVUM HOLOCHRYSUM.

IN Mr. Howard Fox's wonderful garden at Rosehill, Falmouth, numbers of rare and tender plants are grown, and it is impossible for a flower lover to visit it at any season of the year without being impressed with the treasures it contains. A remarkable plant that was in flower in the spring three seasons ago was *Sempervivum holochrysum*, a native of Tenerife, and classed by Nicholson as a greenhouse plant. At Rosehill, however, it was growing vigorously among the stones at the edge of a path, and was blooming superbly (see fig. 24). The great, yellow flower-heads were 15 inches in height and 43 inches in circumference, and the height of the flower-stems was 3 feet 6 inches. It presented a striking sight, with its enormous, golden flower-clusters borne on tall stems above its spreading, succulent foliage, and was quite one of the most interesting features of the beautiful garden at that time. It is probably not grown in the open anywhere else in England, and, being a rare plant, is seldom seen even under glass. *S. W. Fisherbert.*



FIG. 24.—SEMPERVIVUM HOLOCHRYSUM.

6 inches in length. The flowering period is late March and early April: the flowers, which are small and purple, are borne in graceful, drooping panicles from the ends of the leafless branches. It is known in the United States under the name of Yellow Root, a name given on account of the saffron-yellow colouring of the root and stem. According to Small's *Flora of the South-Eastern United States*, the local name of Brook Feather is also applied to it in some places. A figure of the plant is given in Bentley and Trimen's *Medicinal Plants*, vol. i., fig. 9, and the roots are there stated to possess similar qualities to quassia. If given loamy soil, and a fairly moist position, it grows readily and increases rapidly by means of underground stems.

tanica, &c. Under cultivation in the London district it attains to a height of 3 to 4 feet, but this may be doubled under favourable conditions of soil and climate. The growth is loose and rather straggling, in which it shows a distinct contrast to other species. The leaves are dark green, the flowers, which are red, are larger than those of any other hardy Heath, and for this reason, when growing in company with *Ericas*, the plant, when flowering, is very conspicuous. Though it never forms such a dense growth as other species, repeated stopping of the shoots when young causes a denser growth. *Erica australis* is a native of Spain, Portugal, &c., and has been spoken of as the "Spanish Heath." The plant flowers in April. *W. D.*

THE ALPINE GARDEN.

THE PORPHYRION SAXIFRAGES.

IN the case of Alpine plants there are many small but essential cultural points which require attention if success is to be attained. Among the Saxifrages there are some which require peculiar treatment, and one section which gives much trouble to many is that known as the Porphyron, or oppositifolia class, well known and hardly requiring any description, seeing that Saxifraga oppositifolia, which may be taken as the type of the whole, is fairly familiar to all cultivators of Alpine plants.

In cultivation it and its allies are almost certain to become brown in the centre and die off after being a year or two in the same position, although in some places there are good plants which have gone on for a few more years, but even these eventually become lost in the same way. Many have dreams of large sheets of these brilliant little flowers, but such can only be secured by planting together a number of smaller plants and by keeping up a steady system of division and propagation. Only the other day I saw good patches of *S. oppositifolia* and its variety splendens, and it seemed hard to advise the owner to tear these plants to pieces in order to secure their maintenance in health. Yet it was essential to do so, and it is this process of breaking up and replanting these forms which is absolutely necessary if one's stock of these charming little Alpines is to be retained. It is even more needful with some of the finer forms of *S. oppositifolia*, such as *pyrenaica* and splendens, and this operation should be performed every two years or so.

The best time to carry it out is during showery weather immediately after the flowering period, lifting the plant and tearing it to pieces about an inch or two across, replanting the pieces in similar soil to that recommended below, and watering well until established. Top-dressing with grit and leaf-soil will oftentimes prolong the life of a plant, but whenever the signs of browning in the centre are visible it is doomed unless the process of division is adopted at the proper season. Indeed, it would be better to do this in August than to leave the plant alone. I have always found these Saxifrages do best in a place exposed to the sun and in a compost made up of loam, sand, and grit in about equal parts. They are greatly assisted by copious drenchings with water during warm, dry weather in spring and throughout the summer. It is well to put plenty of broken stones about the plants, sandstone being preferable on account of its capacity of absorbing moisture, and thus assisting the plant during dry weather.

ASPERULA HIRTA.

THERE are many beautiful things among the Alpine *Asperulas* or Woodruffs, but I do not know of any one which is more generally admired when it is well cultivated than *Ramond's Asperula hirta*, from the Pyrenees. It has been in cultivation since 1817, but appears to be rather rare, although it is not at all difficult to grow in the open. A book of much value tells us that it thrives "best in a rather damp position on the rockery," but this depends greatly upon the amount of rainfall in the district, and it does not require, as a rule, any special consideration in this respect, seeing that it will grow in almost any soil and in a situation exposed to cold winds, and where there is a dry instead of a damp soil. I have one of my plants high up in my rock garden and in poor, dry, stony soil, and this one is growing and flowering quite as well as one lower down and in a position more in accordance with the suggestion in the book already referred to. I see, also, that M. Correvon, in his excellent little

work, *Les Plantes Alpines et de Rocailles*, names it among the plants which form this class one for cultural treatment, these being of easy culture and requiring nothing special in the way of soil. This is quite in accordance with my own experience, and I have for some time ceased to use peat in the soil in which this *Asperula* is cultivated, finding that it is much more satisfactory when in hardy, poor, stony, and gritty earth. The portion of the rock-garden where it is best with me is simply formed of the soil excavated from the foundations of my house, and of a hard and gravelly nature, and without any addition of peat, leaf-mould, or even good loam.

Asperula hirta forms a compact, little Moss-like mound of rather hairy foliage, seated on which are little heads of tiny flowers which open whitish, changing soon to pink, and making a delightful subject for the Alpine garden. This *Asperula* is best increased by division. *J. Arnott, Sunnymead, Dumfries.*

CALATHEAS.

IT is probable that many years will elapse before the beautiful foliage plants long known in gardens as Marantas will be recognised by any other name, though botanists now include them in the genus *Calathea*.

In the days when stove foliage plants were in great popularity, Calatheas were general favourites because of their handsome leafage. I well remember the excitement caused by the introduction of *C. Veitchii*, a plant first introduced by Richard Pearce, of tuberous *Begonia* fame, and distributed by Messrs. Veitch as a new plant in 1866. With the exception of the distinct and showy *C. zebrina*, which was sent from Brazil in 1815, *C. Veitchii* is one of the oldest introduced species and also one of the best. Since its introduction many other Calatheas have been put into commerce, nearly all of which are natives of the tropical portion of South America.

A species that at once arrests attention by reason of the almost indescribable colouring of the foliage is *C. Massangeana*—the markings of the leaves have been compared with those on the wings of some butterflies. A prominent feature of the foliage is the large blotches of a dark velvety purplish-maroon set on a comparatively light ground. *C. Massangeana* has a low-spreading habit of growth, and under favourable conditions it grows freely. The genus *Calathea* is a fairly extensive one, so that in most gardens a selection is necessary. The following, with the particulars of their foliage, are all good and distinct kinds:—*C. hieroglyphica*, dark velvety green ornamented with streaks of silvery-white, undersides purple; *C. illustris*, bright green marked with deep green and white; *C. Kerchoviana*, greyish-green with a row of chocolate blotches on each side of the midrib; *C. leopardina*, yellowish-green with irregular blotches of deep green; *C. Makoyana*, deep green in the centre, blotched with creamy-yellow and white; *C. Massangeana*, already alluded to; *C. roseo-lineata*, olive-green leaves with pink lines; *C. Sanderiana*, a bold-growing plant whose leaves are of a dark olive-green marked with white lines and rich purple underneath; *C. Veitchii*, an erect-growing plant having large leaves of a rich glossy green, marked with crescent-shaped blotches of yellowish-green; *C. Warszewiczii*, large leaves of a velvety green, relieved by a feathery stripe of yellowish-green on either side of the midrib; and *C. zebrina*, of a light velvety green barred with purplish-green.

In addition to these there is a comparatively new species, viz., *C. insignis*, a fine specimen of which formed a very striking feature in Messrs. James Veitch & Sons' group of stove and greenhouse plants at the recent Temple Show. This species has long, partially erect, lanceolate-shaped leaves, of a light green colour, deeply

shaded on the margins, and ornamented with dark velvety blotches on either side of the midrib. The under surface of the leaf is coloured a rich purple. The leaves are longer in proportion to their width than in any of the other Calatheas, being about 15 inches long and 2 inches wide at their broadest part.

The Calatheas belong to the natural order Scitamineae, or, as they are popularly termed, Ginger Worts, but unlike many of their congeners, the flowers cannot be termed showy. Perhaps the most noteworthy for the beauty of its blossoms is *C. crocata*, which was given a First-Class Certificate by the Royal Horticultural Society on February 8, 1881. I have not seen it for some years, and cannot say if it is still in cultivation.

The conditions under which the different Calatheas occur in a state of nature must be borne in mind in their cultivation, for they grow generally in forests, and consequently vegetable debris form their principal rooting medium. Like most plants that grow in this manner the root system is shallow and wide-spreading rather than deep and descending. For this reason when they are grown in pots a liberal amount of drainage material is necessary, for they need copious supplies of water when actively growing, but they are impatient of stagnant moisture. Where provision exists for planting them in borders in the stove these Calatheas are well suited for forming an undergrowth or as edging plants. When cultivated in pots a suitable compost is formed of equal parts of loam, leaf-mould, peat, and sand, the whole being pulled to pieces with the hand and not sifted, as by this means an open porous compost is ensured. Repotting and division is best carried out in the spring before growth recommences. As much as possible of the old soil should be removed, for the fresh roots will soon take possession of the new compost. As the sun gains power shading is necessary, and a liberal amount of atmospheric moisture must be maintained, otherwise the leaves are liable to attacks of red spider. *W.*

COLONIAL NOTE.

TRANSVAAL FLOWERS.

WRITING under date June 21, 1908, Mr. Jas. Hall, The Rosary, Johannesburg, says: I have before mentioned to you the beauties of the Roses here and the profusion with which they produce their flowers, some of our old kinds, such as *Archimède*, producing a sheaf of flowers for every one seen on the ordinary Rose bush in England. Nevertheless we get the newer sorts, and they are very satisfactory. Carnations grow and bloom beautifully. The old stock by propagation sometimes wears out, and for the last few years I have been very successful in raising fine doubles from seeds obtained from Mr. Jas. Douglas, and these have a good constitution and produce fine flowers. After one of the finest autumns I remember, winter has now commenced, and it has lately been very cold, windy and dusty, for we have had no rain for several weeks. At this season dry weather is best, although we have to keep all growing crops moist by irrigation. This is done early in the morning so as to give our never-failing beautiful sun the chance to dry the earth before nightfall and thus escape damage by frost, which is often severe towards morning. This season, so far, nothing has been damaged by frost except Dahlias and other tender plants of that class. Five years ago, earlier in the year than this, frost came so suddenly and severely that it killed hundreds of my Carnations that were 2 feet high, and many other tolerably hardy plants, including quantities of *Citr. Violets*, perished. This year the Violets are still blooming beautifully.

CAMPANULA CARPATICA VAR. PELVIFORMIS.

THIS beautiful *Campanula* is held by some to be a distinct species, but there is little doubt that it is merely a form of *C. carpatica*. Certainly, as far as its flowers are concerned, it might well rank as a species, for there is nothing in them to indicate a relationship to *C. carpatica* but in the foliage it is different, for this is practically identical with that of *C. carpatica*. Another conclusive proof of its parentage is that seedling plants are never like their parent, but revert more or less to the typical *C. carpatica*. The original plant was raised by Herr Fröbel. Its flowers are pale lavender in colour, saucer-shaped and about 2 inches across, being totally distinct from the bell-shaped blossoms of the common *C. carpatica*. It is a charming plant of a stiff, firm habit, with freely-branching stems about a foot in height. Among the members of the *Campanula* family none is more distinct and worthy of culture. It will commence to bloom when only 3 inches in height, and as it increases in size will afford a finer display each year. It should be found in every collection of hardy plants, for it is certainly one of the best of its class, and is both compact and free-flowering. Its erect and sturdy habit prevents the blossoms from being beaten down by the rain. Those who are not acquainted with it would be surprised at the length of time during which it continues to develop its softly-tinted flowers, for during many weeks in the summer it is a cloud of lavender. It is better suited to the rock-garden than to the border proper, and does best in light, rich soil, wherein the root-fibres may feed and move freely. It is, however, by no means an easy plant to keep, as it has an unfortunate habit of dying out in many gardens, but it is so beautiful that it should be tried again and again in spite of reverses. *S. W. Fitzherbert.*

THE ROSARY.**SOME EARLY-BLOOMING CLIMBING ROSES.**

PROBABLY NO ROSES are more esteemed than those which announce the approach of summer, and blossom in advance of the great flush of the Rose season. I venture to give a few notes on those that are in full beauty at the end of June, varieties which are extremely effective as pillars or arches or for pergolas:—

Morgenroth, the perpetual-blooming carmine pillar, is one of the earliest to unfold, and its lovely single carmine-red flowers with white bases render it one of the best in this section.

Una, a lovely single flower with the faintest of blush edges and golden anthers, forms a perfect arch, and is not surpassed by any variety of the same colour.

Ards Pillar is a superb, richly-scented crimson Rose, which is the finest of the dark Roses for a climber in any form.

Leuchstern makes a stiff, full, and perfectly filled arch, carrying many thousands of its bright, single, cherry-pink flowers with white centres in clusters of 10 or 12. Its effect is very striking and lasting.

Rosa moschata nivea.—The flowers are white with the faintest blush, produced in elegant clusters, a perfect single flower for an arch, and its silvery-green foliage is an additional charm.

Aglaia, a soft primrose double flower, produced in clusters most freely. This is a very vigorous grower, and a perfect galaxy of loveliness when in perfection. It sends up shoots 8 to 10 feet in a year, and my largest plant is trained in three directions for 20 feet, and is the admiration of all visitors.

The Wallflower.—This is a double rosy-red flower; it makes a compact pillar, and is of a shade of colour unusual in this class.

The Lion, a single crimson of a fascinating shade with a white centre. The plant forms a close pillar, and is most striking.

Jersey Beauty, a lovely single flower of primrose colour shading to white. The plant is of vigorous growth, and has the bright shining foliage of the *Wichuraiana* breed. It is excellent also as a carpet creeper.

Alberic Barbier, a creamy white and yellow double form of the *Wichuraianas*, and a most beautiful variety.

François Crousse, rich crimson in clusters, flowering all the season, very vigorous, a Hybrid Tea of great merit.

Réni André, a double salmon-rosy *Wichuraiana* variety, elegant in bud, and most profuse in flowering, a shade of colour greatly admired.

Claire Jacquier, a Polyantha variety, producing double primrose flowers with yellow centres in loose clusters, a rampant grower of great beauty.

Electra, primrose and yellow, with larger flowers than those of *Claire Jacquier*. The plant forms a pretty close pillar, and is one of the best hybrid *Wichuraianas* or Polyanthas.

The Dawson.—This variety flowers very early, and produces hundreds of lilac-rose blossoms in

Roses are now so interbred that it is difficult to place them in any class, but the word "Roamers" would cover all that are suitable for climbing over old trees, on arches or pergolas, the less vigorous growers being used for pillars.

As July lengthens, other most desirable varieties commence to blossom. In the crimson varieties we have Philadelphia, deep in colour and glowing in effect; Crimson Rambler, the exquisite single crimson Hiawatha, Rubin, with its purple foliage, and the vigorous, large-flowered Mme. Ernest Levavasseur, Mme. Isaac Pereire, Noella Nabonnand, the latter finely scented but erratic in growth, carrying large clusters at the end of 2 feet shoots.

In pink and rose colours there are Dorothy Perkins, still our best, and its more elegant form, Lady Gay, Mrs. Flight, Blush Rambler, and the lovely Tausendschön.

In softer shades, Psyche, Helene, Debutante, and Minnehaha, and the lilac-rosy Queen A. Alexandra.

In white varieties we get Trier, Waltham Bride, Snowstorm, and Perle des Neiges.



FIG. 25.—*CAMPANULA CARPATICA PELVIFORMIS*.

loose clusters. It is a fine Rose for an arch or pergola.

Lady Waterlow, a hybrid with fine foliage. It makes a good pillar, and flowers twice in the season. The blossoms are large, white in centre, with a lovely shade of peach and rose at the edge. It also forms a good bush in the garden.

Gustave Regis, a primrose-coloured flower, with yellow base in the bud state, but semi-double white or faintest primrose when open, with clusters of anthers in centre. A pearl of the first water, and a Rose for an artist.

Rosa macrantha, white and palest blush, with gold anthers, an exquisite single variety.

Thalia, with snow-white rosette flowers produced in conical clusters, effective and early.

I might mention that all these, and especially the "*Wichuraiana*" varieties, make useful subjects for pegging on banks or to clothe unsightly spots. Their culture is very simple, merely cutting out the old wood in winter and disposing the long new shoots where required.

In coppery and orange shades Marco, Goldfinch, Crepuscule, and the grand Noisette William Allen Richardson.

At the same time we must not overlook the old Ayrshire evergreen climbers, as the rampant Mme. d'Arblay, 20 feet up a tree in my garden, with big white clusters, the rosette-white Félicité Perpétue, the cluster whites, Bennett's Seedling and Aimée Vibert, with snowy masses of blossom, Brunonii, with silver-green leaves, Dundee Rambler; the blush cluster varieties, as Williams' Evergreen, Princess Marie, Myriantes, and Wells' Pink.

I propose to deal with the larger-flowered Roses, suitable for pillars, &c., such as the Dijon and climbing hybrids in a future paper, but I can fully recommend all the kinds I have now named.

For early blossom in mid May, the Briar Roses Fragrantissima, single primrose, and Horace orange-yellow, are very effective as bushes, coming as they do before even the China Roses. *George Bunyard.*

FLOWERS OF SPENSER.

(Continued from p. 45.)

HELLEBORE.

Dead sleeping Poppy and black Hellebore.
F.Q., II. vii. 52.

Black Hellebore was the established classical name for many poisonous plants. It is now restricted to our Christmas Rose, which, though not a British plant, may have been known to Spenser, as it was introduced into English gardens in very early times.

HOLLY.

Leave me those hilles where harbrough nis to see,
Nor holly-bush, nor breere, nor winding ditch.

Shepherds Calendar, June, 19.

Of course our beautiful English evergreen.

HOLM.

1. The carver Holme. *F.Q., I. i. 9.*
2. And the black Holme that loves the watre Vale. *Virgils Gnat, 27.*

The word Holm was variously applied by the old writers to the Oak, Holly and evergreen Oak or Ilex. In the first passage I suppose Spenser means the Holly. The whole stanza relates the uses of the different trees, as the Pine for shipbuilding, the Oak for building, the Yew for bows, and so the Holly for making the handles of knives or carvers. In the second passage he would mean the evergreen Oak or Ilex; but he could not have had much personal knowledge of it, or he would not have spoken of it as loving "the watrie vale." It is certainly not a water-loving tree; in Southern Europe it is often seen growing out of the bare rocks.

HYACINTH.

1. Fresh Hyacinthus, Phœbus paramoure, And dearest love. *F.Q., III. vi. 45.*
2. The purple Hyacinthe, and fresh Costmary. *Virgils Gnat, 84.*

The Hyacinth of the Elizabethan poets was our Bluebell of the woods, but in these two passages Spenser is simply copying and translating Virgil.

HYSSOP.

Sharpe isopos good for greene wounds remedies. *Muioptomos, st. 24.*

The Hyssop was a favourite plant in English gardens in Spenser's time, but I do not find in the herbals of the day any reference to its use in "greene wounds." It is a native of Southern Europe.

IVY.

1. Whylst freshest Flora her with Yvie girlond crowned. *F.Q., I. i. 48.*
2. And on his head an Yvie girlond had. *F.Q., I. iv. 22.*
3. And with an yvie twyne his waste is girt about. *F.Q., I. vi. 14.*
4. An Arbre green disprid, Framed of wanton Yvie, flouiring fayre. *F.Q., II. v. 29.*
5. A wandring Yvie Enchaced with a wanton yvie twine. *F.Q., II. ix. 24.*
6. And over all of purest gold was spread A trayle of yvie in his native hew; For the rich metal was so coloured That wight, who did not well avisd it vew, Would surely deeme it to bee Yvie trew. *F.Q., II. xii. 61.*
7. Which knitting their rancke braunches, part to part, With wanton Yvie-twine entrayled athwart. *F.Q., III. vi. 44.*
8. His waste was with a wreath of Yvie greene Engirt about, no other garment wore. *F.Q., IV. vii. 7.*
9. And nigh thereto a little Chappell stode Which all with Yvy overspred Deckt all the roof. *F.Q., VI. v. 35.*

10. And over them spred a goodly wilde Vine, Entrailed with a wanton Yvie twine. *Shepherds Calendar, August.*
11. And girt in girlonds of wild yvie twine. *Shepherds Calendar, October.*
12. Amongst the rest the clambing Yvie grew, Knitting his wanton armes with grasping hold. *Virgils Gnat, 28.*
13. And pallid Yvie, building his owne bowre. *Virgils Gnat, 85.*
14. At length within the Yvie todde I beard a busie bustling. *Shepherds Calendar, March.*

In all these passages Spenser shows no appreciation of the beauty of the Ivy. In all of them he connects the plant more or less with revelry and licentiousness, so showing that he was copying the classical association of the Ivy with Bacchus and Silenus.

JASMINE.

Her nipples lyke young blossomd Jessamynes. *Amoretti, 64.*

The Jasmine was introduced into England from Southern Europe about thirty years before Spenser wrote. It is not, however, a true European plant, and the name seems to show that its native home is Arabia.

JUNIPER.

1. No tree, that is of count, in greenwood groves, From lowest Juniper to Cedar tall. *F.Q., IV. x. 22.*
2. Sweet is the Junipere, but sharpe his bouge. *Amoretti, 26.*

The Juniper was, no doubt, a much commoner shrub on our hillsides in Spenser's time than it is now. It is found more or less all over Great Britain.

KINGCUPS.

And cowslips and kingcups and loved lilies. *Shepherds Calendar, April.*

A very old name for the Marsh Marigold, and still in common use.

LAUREL.

1. But now they laurell braunches bore in hand; Glad signe of victory and peace in all their land. *F.Q., I. xii. 5.*
2. The Laurell, meed of mightie conquerors, And Poets sage. *F.Q., I. i. 6.*
3. That Fame may it resound, In her eternall tromp with laurell girlond croud. *F.Q., II. iii. 38.*
4. And all the margent round about was sett With shady laurell trees. *F.Q., II. xii. 63.*
5. Beside the same a dainty place there lay, Planted with myrtle trees and laurells greene. *F.Q., III. v. 40.*
6. Daunst lively and her face did with a lawrell shade. *F.Q., III. x. 44.*
7. A grave personage That in his hand a branch of laurell bore. *F.Q., III. xii. 3.*
8. Lawrell th' ornament of Phœbus toyne. *Virgils Gnat, 84.*
9. The fresh and lustie Lawrell tree. *Visions of Petrarch, 3.*
10. And head with Lawrell garnisht was about. *Visions of Bellay, 9.*
11. The laurel-leave, which you this day doe weare. *Amoretti, 28.*
12. Like Virgin Queenes with laurell garlands croud For virtues meed and ornament of wit. *Tears of the Muses, Terpsichore.*
13. The woods with Paphian myrtle peopled To laurels sweete were sweetly married. *Britains Ida, 2.*

Spenser's Laurel in all these passages was not the shrub which we now call Laurel, but the Bay tree. And all the references are to the classical associations of the Laurel with the crowns of conquerors, except in No. 12, where the association with virgin queens re-

calls Ovid's *innuba laurus*, because the virgin Daphne was turned into a Laurel. The Bay, both tree and name, was well known before Spenser's days, but the name was more given to the berry than the tree. (See also Bay.)

LAVENDER.

The wholesome Sauge and lavender still. *Muioptomos, st. 24.*
Spenser's Lavender was the same as our own.

LETTUCE.

Cold lettuce and refreshing Rosmarine. *Muioptomos, st. 25.*

LILY.

1. He led a lovely maid Forth by the Lilly hand. *F.Q., Canto iii., 37.*
2. On a sweet bed of Lillies softly laid. *F.Q., II. v. 32.*
3. The Lilly, lady of the flowing field. *F.Q., II. vi. 16.*
4. And that faire flowre of beaute fades away, As doth the lilly fresh before the sunny ray. *F.Q., III. vi. 35.*
5. As roses did with Lillies interlace. *F.Q., V. iii. 23.*
6. But if her like ought on Earth might read, I would her liken to a crowne of Lillies Upon a Virgin Brides adorned head. *Colin Clout, 330.*
7. Cowslips and Kingcups and loved Lillies. *Shepherds Calendar, April.*
8. The Lilly fresh and Violet belowe. *Virgils Gnat, 84.*
9. Seest how fresh my flowers bene spredded, Dyed in Lily white and Cressmin redde. *Shepherds Calendar, February, 129.*
10. With rose and lilies over them displayed. *Hymnes, 286.*
11. And with sweet kisses suckt the wasting breath Out of his lips like Lillies pale and soft. *Astrophel, 165.*
12. It soft doth lie, In bed of Lillies wrapt in tender wise. *Clorinda, 70.*
13. Her heart sent drops of pearls which fell in foyson downe Twixt Lily and the Rose. *Mourning Muse, 97.*
14. The rose and lily have their prime. *An Elegie, 137.*
15. Her goodly length strecht on a lily bed, Few roses round about were scattered, As if the lilies learnt to blush, for spight To see a skinnie much more than lilly-white. *Britains Ida, III. 2.*

In these passages Lily has more than one meaning. In some it stands for any beautiful flower, as in the "Lilies of the field" in the Gospels; in others it merely stands for a colour; but in others there is no doubt that some special Lily is meant. There is no Lily truly native in England, but in Spenser's time several from Southern and Eastern Europe were common in English gardens; the most common being the White or Madonna Lily. As in all the passages, its whiteness is especially mentioned, and so it is taken as the emblem of purity and beauty; I should suppose that this is the Lily that Spenser had in his thoughts, and there is none more beautiful.

LOTUS.

And them amongst the wicked Lotos grew, Wicked for holding guilefully away Ulysses men, whom wrapt with sweetenes new, Taking to hoste, it quite from him did stay. *Virgils Gnat, 25.*

Spenser is quoting from Homer's account of the food of the Lotophagi. It is not certain what tree Homer meant, but the general opinion is in favour of the Jujube tree (*Zizyphus lotus*). H. N. Ellacombe.
(To be continued.)

GRIMSTON PARK, TADCASTER.

ALTHOUGH the post town is Tadcaster, Grimston Park is situated in the Yorkshire village of Kirkby Wharfe, and the visitor from York, about 11 miles distant, alights at Ullselt station, the journey to the park being about $1\frac{1}{2}$ miles along a pretty country road. Grimston Hall is a commodious mansion, built in the Italian style of architecture, the main front having a handsome balcony supported by Doric columns, and with wings at either end. There are two towers, which add dignity to the building, and the roof is surrounded by balustrades with ornamental vases at intervals. Stonework is freely employed in the building, magnesium limestone being abundant in the district. It was from the neighbouring village of Towton, famous for its battle in 1461, described as the bloodiest and most fatal fought on English soil since the battle of Hastings, that much of the stone employed in the building of York Minster was quarried. The present mansion was built on the site of, or rather incorporated with, an older building, by the late Lord Howden. Subsequently it passed into the possession of Lord Lonsborough, from whom it was purchased by the late J. Fielden, Esq.,

almost as fresh as when they left the sculptor's studio. In the winter season they are carefully enclosed with wood, and thus frost, which exerts such an injurious effect upon stonework, is in a great measure excluded. With regard to the flower garden at this spot, it is intersected by several broad and well-kept paths, which are in part lined with standard Rose trees, the flower-beds being formed in a setting of turf, and there are many half-circular clipped trees of Holly. The flower-beds form a series of panels, the larger ones having a circular centre bed and two of oblong shape north and south. These beds are filled in summer-time with a variety of plants, including Zonal and Ivy-leaved Pelargoniums, Begonias, Centaureas, Salvias, Calceolarias, &c., and others are furnished with sub-tropical bedding. The whole forms a pretty parterre garden, and in summer-time it affords a beautiful setting to the handsome south front of the residence. The best Pelargonium to succeed is the fine Guillian Manglesii variety, that in summer-time furnishes a gay picture with its showy flowers. At the western end of the Hall is a large conservatory, 60 feet long, having a dome in the centre of an iron roof, and with stone dressing to the exterior walls, in harmony with the main building. This conserva-

temple containing a laurel-crowned bust of the first Emperor Napoleon. The avenue is entirely shut in on either side by tall trees, a strip of turf on either side, with the broad path in the centre, only separating the trees; but the latter are undulating, so that the avenue is not too formal. A little to the south of this statue-lined walk stood the famous old Sycamore that was illustrated in our issue for October 8, 1881, p. 469. This was indeed a monarch of the forest: it measured 21 feet in circumference at 4 feet from the ground, the lowest limb extending 44 feet from the bole. The tree branched into four main stems. It was found necessary to remove the tree in December, 1906, as owing to injury by storms and from decay, it was considered unsafe and liable to fall. At this spot are two replicas of classical statues representing lions attacking a horse and a bull.

Near this spot the woodland scenery is enchanting, and many fine Copper Beeches and Golden Yews add a touch of colour to the scene; the path winds beneath the canopy of trees, and shrubs play their part in forming border lines to the walks, formal outlines being avoided. Our attention was directed at this spot to the turf which borders the paths. Growing in abundance, in company with the grass, was *Selaginella denticulata*. This has established itself, and is, apparently, perfectly hardy—a remarkable fact, seeing that Yorkshire does not enjoy a climate free from severe frosts. Its presence is accounted for by the use of old potting soil when transplanting some shrub or tree. In the conservatory there were for many years marginal boxes filled with the plant in question, which require replanting every few years. The old soil was always wheeled to a heap not far away. There can be no doubt the plant propagated itself from spores or fragments of the plants in this soil when used for the purpose above-named.

In one part of the grounds near to the house is a sunken dell, wild, but beautiful in its aspect, with native ferns scrambling up the sides. This would form an ideal spot for a rock-garden, although some of the overhanging trees would have to be sacrificed, as it is quite shaded over by their branches. There is also a fine border planted with hardy plants, and against a wall are Roses and flowering shrubs. On the opposite side of the path are beds of Roses, and in summer-time this walk is one of great beauty. From it is reached the walled enclosed garden devoted to fruit and vegetable culture.

This kitchen garden occupies a favoured position, and the crops are, on the whole, considering the very cold weather of the past spring, doing well. Culinary Peas, on the occasion of our visit, gave promise of fine crops. The variety Langley Gem always furnishes abundant pods; others favoured are Acme, Criterion, and Prestage. There were large breadths planted with Brussels Sprouts. Cauliflower Dean's Snowball, sown in January, produces fine heads, and this is followed by Early London; Onions, Carrots, Beet, Potatoes, &c. Of the last-named, Sharpe's Express and Duke of York, on a south border, were especially good. There is a fine old tree of Marie Louise Pear on a north wall, some of the branches being trained over on to the south side. This tree was carrying a good crop of fruits, but most of the other Pear trees were sparsely fruited. The best Pears to succeed are Louise Bonne of Jersey, Jargonelle, Williams' Bon Chrétien, and Pitmaston Duchess. Apples did not promise a heavy crop, but a tree of Warner's King rarely fails to fruit heavily in these gardens. Others noticed were Lane's Prince Albert, Lord Suffield, Margil, Potts' Seedling, Ribston Pippin, and Claygate Pearmain. Peaches and Nectarines in the open in some seasons give good crops. Plums also do well generally; but this season, in common with trees in most gardens, the crop of this fruit is thin. Varieties that succeed here are Greengage, Coe's Golden Drop, Pond's



FIG. 26.—GRIMSTON PARK HOUSE, TADCASTER.

the present owner being Mrs. T. Fielden. The park embraces about 600 acres, the elder Nasmyth being responsible for its laying out about 70 years ago. The main entrance is near to the highway, and an old toll-gate, which is said to have been cleared by the outlaw Dick Turpin on his horse during his famous ride to York, stood not far away. This is on the north side, but the principal front faces to the south. The entrance gates are of iron, finely wrought, and with two large heads, graven in stone known as the "Kings of the Forest," on the two main pillars. A circular lawn is bounded by the carriage drive.

Grimston Park is famous for two features—its beautiful sylvan scenery and its garden statuary. Were little attempted in the way of pleasure gardening, the spot would still be one of great beauty on account of its natural features; but much has been done to make the grounds additionally attractive, especially the garden front to the mansion, which is a broad expanse, well designed and boldly planted. It is here that most of the beautiful statuary already alluded to is found, and they are so carefully preserved that at present they show little traces of damage from the climate, and appear

tory communicates with the dwelling rooms, and in summer-time forms a cool retreat. It is furnished with Palms, including two fine specimens of *Raphis flabelliformis*, a number of roof climbers, such as *Tacsonias*, *Asparagus* and *Roses*, and large hanging baskets of *Stenotaphrum americanum variegatum*. Planted out is a large tree of *Acacia dealbata*, that must be of great age. Flowering plants in pots afford a touch of colouring to the Palms, Ferns, and other greenery. Near the entrance to this plant house is a sunken lawn that is now used for croquet and other games, its limits being planted with standard Rose trees. This was originally a flower garden, designed in keeping with the flower-beds facing the front of the mansion. Further on still is a large water basin, with a beautiful vase rising from the centre. The basin is spacious and planted with showy flowering *Nymphæas*. Continuing the walk to the west, past fine woodland scenery, the visitor approaches a spot known as the Emperors' Walk (see fig. 27). This name is given on account of the series of busts of Roman Emperors on pedestals which line the walk. These are 12 in number, and between each is a shapely specimen of Irish Yew, and at the far end a

Seedling, and Victoria. Of Strawberries, Royal Sovereign is largely planted, and is used extensively for forcing, but President is the heaviest cropper. Louis Gauthier is another favourite variety at Grimston, where it grows and fruits well.

The glasshouses, including the large conservatory, number 23. Three are vineries, the same number Peach-houses, and others are used for the culture of plants, Figs, Melons, Tomatos, Cucumbers, &c. Four houses are devoted to the culture of Carnations, principally of the Souvenir de la Malmaison type. Many large plants of the Princess of Wales and the old Blush varieties were noticed. Some were in 10-inch pots, and many in 6-inch pots for supplying cut blooms. In the plant houses were many Orchids,

ionantha in the stove, with much larger and brighter-coloured flowers than the type. It has been named after Mrs. Thos. Fielden. The variety is an acquisition. Poinsettias are given especial attention, and a large quantity of these winter-flowering plants are cultivated at Grimston Park. They were in fine condition in all stages, some being old plants that had been saved from previous seasons. These are cut down almost to the ground level, and give excellent results. No account of these gardens would be complete without reference to Mr. H. J. Clayton, who for many years had the care of these gardens and grounds. His good work can be seen on every hand, and is being continued by his successor, Mr. G. P. Bound, whose work shows evidence of a skilful cultivator. Since Mr. Clayton's re-

flower as a young plant, but only after reaching a certain age. The flowers appear, together with the young leaves, on the top of the branches. Calyx, pedicels, and the young shoots and leaves, are all densely covered with fine brown hairs which soon disappear from the upper side of the leaves and from the branches as they grow older. The branches are armed throughout from the youngest to the oldest with short, stout thorns, and possess a greyish-green smooth bark. The leaves are trifoliate, the side leaflets ovate-acuminate and truncate at the base, the terminal ones of the same shape and scarcely longer. They are not equally deciduous throughout the tree—some always remaining from one year to the other. The flowers are borne in dense but short racemes, which are all bent upwards, and



FIG. 27.—THE "EMPEROR'S WALK" AT GRIMSTON PARK.

including Cattleyas and Cyripediums in quantity, these being grown for their useful flowers in winter; also Odontoglossums, Dendrobiums, Lycastes, and other Orchids. A stove was filled with the usual array of heat-loving plants, and suspended from the roof were large baskets of Stenotaphrum americanum of the variegated variety, which are hung in summer-time from the rafters of the conservatory. This makes a fine basket plant, and affords a change from the species of Asparagus so largely used as trailing plants. A house planted with varieties of Begonia Rex amongst rockwork, with Ferns, was very pleasing. In this structure were also large plants of Cyripedium insigne, growing amongst the stones. We noticed a variety of Saintpaulia

tirement he has made his home in the village of Ullskelf.

NOTES FROM LA MORTOLA.

ERYTHRINA INSIGNIS TOD.

A PLANT of striking beauty when in flower, as it was in the middle of May, is *Erythrina insignis*. It is a large bush or tree, about 15 metres high, with very stout and thick divergent branches from the base, and certainly not often met with along the Riviera. It was described by Todaro from a large specimen in the Botanic Garden at Palermo, from which our plant may possibly have originated. It does not

are about 6 to 8 centimetres long; and sometimes are borne in groups of three at the top of a branch. The pedicels are 10 millimetres long, the calyx about twice as long, but rusty brown. The vexillum is the largest and the only coloured petal of the flower; it is of a most vivid fiery-red. It is elliptical in outline, but folded and strongly recurved, somewhat darker outside and paler inside at the base. It measures about 6 centimetres in length and $3\frac{1}{2}$ to 4 centimetres in breadth. The carinal petals are much shorter, about 2½ centimetres long, of a pale insignificant green. The alae or wings are bent over them and are nearly as much coloured as the vexillum, but have a blackish-brown margin. The

stamens are long, exerted, and bent upwards in the same way as the vexillum. The filaments are of a dull green, and nine of them united to three-quarters of their whole length, which is 4 to 5 centimetres; the tenth stamen is free or nearly so. The anthers are small and brownish. The ovary is long, stipitate, and is surrounded by the staminal tube; it ends in a long, curved style, which finally bends in various ways. The flowers secrete a large quantity of sweet, watery juice, which doubtless serves in its native country to attract animals, most probably humming birds. Here a few pods are sometimes produced, perhaps in consequence of fertilisation by means of large bees. The native country of this tree is unknown. Todaro gives no origin. According to him the plant has been grown in the Palermo Botanic Garden for a long time (de tempo antico), but was received from the Royal Gardens at Bocca di falco. Our plant agrees in all details with Todaro's description and figure in his *Hort. Botan. Panormitanus* 6, t. ii. *Alwin Berger, La Mortola, Italy.*

PLANT NOTES.

A NEW RACE OF FUCHSIAS.

It is doubtful whether *Fuchsia triphylla*, which was discovered on the Island of Hayti or St. Domingo over a couple of centuries ago, was ever in cultivation in this country till within recent times. At all events, its introduction, or perhaps reintroduction, in the early eighties by Messrs. Henderson, of St. John's Wood, attracted much attention, and owing to its distinct appearance and the vivid colour of the blossoms, great anticipations of its possible value to the hybridist were indulged in.

Many attempts at crossing, however, only ended in failure, and several years elapsed before a pretty hybrid of German origin was put on the market. This, known as *F. triphylla hybrida*, was the result of crossing *F. triphylla* with *F. corymbiflora*. Two or three other seedlings which much resembled the first hybrid were also put into commerce, but no decided break was met with.

Within the past few years, however, matters have changed, and the German nurserymen have distributed several varieties showing a marked change from those previously grown. Judging by their general appearance I should say they are the result of crossing and intercrossing *F. triphylla*, *F. corymbiflora*, and *F. fulgens*. One of this section, viz., *Coralie*, was given an Award of Merit by the Royal Horticultural Society on September 3 of last year. A very attractive group, consisting of several varieties of these hybrid *Fuchsias*, was seen at the recent Holland Park Show.

The florists' varieties of *Fuchsia* have long followed the same line, so that a fresh break will be gladly welcomed. Among the best of these new *Fuchsias* are *H. Henkel*, with flowers a shade of reddish-salmon; *Coralie*, apricot, with a coral-red shade; *Perle*, pale yellowish-salmon with a pink shade; and *Gartenmeister Bonstedt*, rosy-red shaded salmon, while the young leaves are of a bronzy hue. An older variety, *Mary*, more nearly approaches the typical *F. triphylla*, the blossoms being bright crimson in colour.

In addition to these, one could not fail to notice at Holland Park the much delightful hardy *Fuchsias* exhibited by Messrs. Jas. Veitch & Sons, Ltd. There is undoubtedly a great future before these plants, but the surprising part of the matter is that several of the best were raised and distributed many years ago by M. Lemoine, of Nancy, without their merits being generally recognised. Should they now attain the position in gardens that they are entitled to, these *Fuchsias* will furnish another illustration of plants ignored for a time becoming ultimately popular. *W.*

The Week's Work.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to Lord Llangatock, The Hendre, Monmouthshire.

Tomatoes for fruiting in winter.—Plants that were raised from seeds sown thinly in pans or shallow boxes early in July, and placed in a cool frame, should as soon as they develop rough leaves be potted singly into small pots. Slightly shade the plants from the sun until they have recovered from the root disturbance, and afterwards expose them to the weather at all times when the conditions are favourable. When well rooted repot them rather firmly into 6-inch pots, using a compost of loam, lightened with broken manure from a spent Mushroom bed, and shodded ashes. Place the plants in an unheated frame and remove the lights except during bad weather. If frames are not available, place the plants in rows in a sheltered position in the open; secure them to stakes, and screen their pots from the sunshine by placing against them some thin boards on edge. Take proper care in watering and do not afford manure water. *Sunrise* and *Frogmore* Selected are good varieties for winter fruiting.

Tomatoes in fruit.—Plants that were put out as successional crops to forced Strawberries have now their earliest fruits swelling freely, and should be top-dressed with compost enriched with bonemeal or some similar fertiliser. They may also have occasional waterings with diluted drainings from the farmyard. Keep the leading growths secured to the trellis, or stakes as the case may be, and stop the lateral growths closely. Ventilate the house freely and keep a tolerably dry atmosphere. Should white fly be troublesome, either fumigate or vaporise the house. Maintain a fairly dry air by night, and ventilate freely early in the day in order to prevent moisture from condensing upon the ripening fruits, otherwise mischief may result from sun scalding. Fungous diseases are not likely to appear if the structure is kept properly ventilated, the atmosphere fairly dry, and the temperature reasonably warm, but should the fruits become affected spray both the plants and their surroundings either with a solution of sulphide of potassium—1 ounce of sulphide in a quart of hot water, with enough water added to make 2½ gallons—or with the Bordeaux mixture.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady Wantage, Lookinge Park, Berkshire.

Lilium candidum.—This species is one of the handsomest of all the Lilies. Soon after the plants have finished flowering the bulbs should be lifted and stored for a period of about two months. But they should first be dried by exposure to the sun. When planting these bulbs they should be placed on a layer of sand, and not covered deeply with soil. It will be noticed that shallow-planted bulbs, even though they may be quite green, always give the best flowers and are the most healthy. One often sees these Lilies doing splendidly in cottage gardens, the reason being that they are not often interfered with. An over-rich and moisture-laden soil is especially harmful to the *Madonna Lily*, and is a frequent cause of the plants being diseased. As a precaution against disease, dust the bulbs and the soil in which they are planted with sulphur.

Heuchera sanguinea.—This handsome perennial plant flowers from early summer to autumn. Now is a suitable time to sow seeds or to propagate the plant by cuttings or by division of the root-stock. It will grow in almost any part of the garden in any kind of soil, but it needs to be frequently replanted, as the crowns when large raise themselves considerably above the ground level, and from this cause are often injured by frost.

Viola cuttings.—Shoots of the *Viola* root readily in a cold frame partially shaded from direct sunshine. The use of a frame is necessary if they are intended for planting at the end of October or early December, but if they are not required until the spring they may be inserted in the open, selecting a sheltered, shaded position for the purpose. When inserting the cuttings allow plenty of space between them so that each may be lifted with a good ball of soil

at the roots. Among the best varieties of *Violas* for bedding purposes are *Lord Elcho*, *Duchess of Sutherland*, *Countess of Hopetoun*, *Countess of Kintore*, and *Archibald Grant*.

Isatis glauca.—This is a very handsome border plant flowering at this season of the year, the small, clear, blue flowers being borne in immense numbers. The plant grows about 4 feet in height, having light green stems and glaucous foliage. The inflorescences form spreading panicles, and though the individual flowers are small the effect produced by the sprays of bloom is very fine. The plant is quite hardy, and being a perennial may be increased by division. It may also be raised from seeds.

THE APIARY.

By CHLOEUS.

Bees and the Heather.—It is useless to attempt to remove to Heather-covered ground some distance away any hives containing combs not wired, for there is little doubt but that the vibration of a wagon or a railway truck would cause them to break down. Further, it is useless to take any colony that is not bubbling over with bees. Often it pays to unite colonies that are to be utilised on the moors, so as to make them extra strong. Having made up our minds what kind of colony will repay us for our trouble, the next is to make the hive secure for travelling. The frames must be tightly wedged, a piece of perforated zinc must take the place of the quilts and two laths laid on the top of the zinc across the frames, and tightly screwed down to prevent them swinging. The entrances must be made secure by screwing on perforated zinc, and then the whole hive tightly roped together. If any accident should happen and the bees are liberated, thus causing damage to anyone, the apiarist is responsible. Knowing this, one cannot exercise too much care in making all quite safe. If a cart or wagon be utilised to remove the bees, allow the hives to rest on a good bed of straw to prevent any unnecessary jar. Let the whole operation be performed at night. Generally speaking, sections are best for the purpose, because Heather honey is so dense that an extractor will fail to throw it out, and so it must be pressed out, which means the loss of many valuable frames of drawn-out comb for the next season. When sections are utilised, if the foundation is drawn out, so much the better. The crates must be very snugly wrapped up to prevent any draught from entering; pack in as much as you can around them, and place good warm quilts, with brown paper between, on the top.

Supers.—If we keep the supply of space a little in advance of the bees' requirements we may prevent swarming. When frames or sections are all filled, save those on the outside, then another crate may be added. By adding too rapidly and giving too much space we defeat our purpose and disappoint the bees. Much uproar may be caused in an apiary by performing the task, either clumsily or at an improper time. Choose a bright day, not a cloudy one when the bees are having a slack time, as they are then less likely to swarm. The new super must be placed underneath the one that is nearly completed. Have the crate near at hand and the smoker well charged and also well lighted. Give the bees a little puff of smoke at the entrance and wait two or three minutes, so that they may gorge themselves with honey, which robs them of the desire to sting. Remove the roof, and as you turn back the quilt puff in a little smoke between the frames or sections. Then lift the super by giving it a slight twisting and upward movement. Now hold a the smoker drive the bees below the new enclosure zinc, and add the new crate, replace that or those removed above, and wrap up warmly as advised before; fit the roof securely to prevent intruders gaining access to the hive, as otherwise robbing is very liable to occur.

Robbing and its causes.—Robbing is often caused by leaving about pieces of comb containing honey, for bees seem to derive much pleasure from gaining honey easily. Fighting on the alighting board is the danger signal to the beekeeper. Later in the season when feeding with syrup robbing is often seen, but this may be prevented by spilling the syrup in the neighbourhood of the hives and by closing the entrances so that one bee only may enter at a time.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E.L., Westonbirt, Gloucestershire.

Oncidium (continued).—Among the cooler-growing species are some of the most showy kinds, and many of these are extremely useful plants to cultivate for making a display in late summer and autumn. *O. varicosum* Rogersii is perhaps the most extensively cultivated of these species, large consignments of plants being imported annually and sold at low prices. The great demand is due to the fact that there is no flower which is more valuable for exhibition or decorative purposes than the long, handsome spikes of this yellow *Oncidium*, either as seen on the plant or in a cut state. Other handsome and attractive kinds are those members of the crispum group, such as *O. Forbesii*, *O. Gardneri*, *O. crispum* and *O. Martini*; also *O. tigrinum* and *O. dasystyle*, &c. Examples of these that are well established and growing freely are best given a position close up to the roof ventilators in a cool, intermediate temperature, where they may enjoy the full benefit of the light and air, which is so essential to the maturation of the pseudo-bulbs and the subsequent producing of strong flower-spikes. At this stage a plentiful supply of water at the roots is needed, and, weather permitting, the plants should be freely syringed overhead until the present season's growths are fully completed. *O. olivaceum*, *O. microchilum*, *O. Phalaenopsis*, and others that have flowered during late spring and early summer will now be commencing their season's growth, and as the latter advance the supply of water at the roots should be gradually increased. These plants should be carefully examined, and, if necessary, the work of repotting or top-dressing should be carried out at once, according to the principles described in a former calendar. These remarks apply also to that magnificent species, *O. Marshallianum*, and the beautiful, compact-growing species, *O. concolor*. These flower in spring and early summer, and they thrive in a cooler atmosphere than any of the others already mentioned. *O. flexuosum* is a very common Orchid, but one of the most useful and beautiful kinds in cultivation. For cutting purposes there is hardly another to compare with the flowers of this species, as the spikes, owing to their light, graceful appearance, can hardly be wrongly placed. This species is usually grown in too cool an atmosphere and close a compost for it to yield the best results. I have seen plants growing in a shady part of the Cattleya house in Spaghnum-moss and charcoal alone, making wonderful growths, the spikes being very long and exceedingly numerous. During the growing season these plants require an abundant supply of moisture at the roots.

PLANTS UNDER GLASS.

By THOMAS LINT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Primula sinensis.—Plants that were potted in 3 or 4-inch pots are now ready for shifting into receptacles having a diameter of 6 inches, for this *Primula* must never be allowed to become root-bound in small pots. A suitable compost is loam and leaf-soil in equal proportions, with a sprinkling of sand and some old Mushroom-bed manure, but the latter may be replaced by a little Peruvian guano. In potting place the plant just deep enough to allow a slight covering of soil over the old ball; make the soil moderately firm in the pots. Newly-potted plants should be watered very carefully for some time after repotting; rather err on the side of under-watering than giving too much. The pots should be placed on a bed of ashes in an unheated frame where they must be shaded from bright sunshine, but, of course, the shading must be removed when the sky is overcast. Ventilate the frames early in the morning, to prevent the plants from becoming drawn, and weakly in growth, and for the same reasons allow plenty of room between each plant, each of which should be turned half-way round once a week. Pinch off all the flower-spikes as they appear in order that the plants may not expend their energy in this direction. *Primula obconica* and *P. sinensis*, but in their case the pots should be plunged in ashes.

Cinerarias.—Plants that were pricked out into boxes last month are now ready for potting into 4-inch pots. Use a similar compost to that advised above, but use rather more loam and add a sprinkling of bone-meal. Keep the ashes in the frame well damped during hot weather and remove the lights at night time when circumstances permit.

Mignonette.—Pot plants intended for autumn and winter flowering are now making rapid growth, and should be placed at the back of a wall having a northern aspect, but, although they need shade from direct sunshine, they must be given conditions that will encourage plenty of leaf growth but not flowers. These latter should be pinched as soon as they appear and the shoots be trained by means of very small stakes. Guard against caterpillars, which do much harm to the foliage. Syringe the plants daily during bright weather, placing a little soot in the water. As the root system is now well developed, weak liquid manure should be given about twice a week. Batches of later plants should be repotted in a compost consisting of loam two parts, leaf-soil one part, sand and old lime rubble one part, with some old Mushroom-bed dung. The pots should be provided with plenty of drainage material, as *Mignonette* requires an abundance of water, but it must not be allowed to remain about the roots, and it would be liable to do this if there was not good drainage, as the soil needs to be pressed moderately firm when potting.

Freesia refracta alba.—The bulbs of old plants that were forced last year, and which have been given a suitable period of rest, should have the old soil shaken from them and the largest bulbs be potted into 6-inch pots, in loam, leaf-soil, and sand. Manure is not needed, for feeding can be practised after the plants have started into growth, but it is essential that the rooting compost be of an open texture. When they are potted stand them on a bed of ashes, and place a layer of ashes or sand on the top of the pots until the shoots begin to push through, when they should be at once placed close to the glass in an unheated frame and allowed plenty of ventilation.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NUNBERGMELE, Warter Priory, Yorkshire.

Budding.—When the branches of fruit trees have become bare from any cause, the bare places can be easily refurnished with shoots by inserting buds on the old branches where it is most desirable to have them. If hot, dry weather prevails after this operation, it is advisable to syringe and shade the branches from the bright sunshine. Peach, Nectarine, Cherry, and Plum trees may all be budded at the end of July and the beginning of August; if the work is done carefully during dull weather, success is almost certain. The process of budding fruit trees is exactly similar to that for Roses. Select plump buds from half-ripened wood, remove any wood that is present with the handle of the budding knife, and make an incision about an inch long in the stock with a cross cut at the top, in the shape of a T. Insert the bud with the point of the knife, and bind it with raffia, but not too tightly, it only being necessary to exclude the air and the wet. The buds will remain dormant during the winter months, but in the following spring they will burst into growth.

Newly-grafted trees should be given attention, and if the scions are thoroughly united to the stock and growing freely, the binding material may be removed entirely. Young shoots on dwarf stocks should be properly secured to a next stake to prevent the new shoots being damaged by strong winds. This also applies to grafted standard and other trees. Remove any suckers or shoots that appear below the graft.

Apricots.—These fruits are now swelling fast, and it should be ascertained that none is being injured between the shoots and the walls or against the nails. Where the foliage is dense about the fruits, remove a few of the leaves, but not so as to fully expose the fruits, as these ripen better and are finer generally when shaded with a little foliage. Keep a sharp look-out for woodlice, as these pests often damage the best fruits. Syringe the foliage two or three

times a week before the fruits ripen, in order to keep down insect pests.

Thinning fruits.—The rains which have fallen during the past week will assist in swelling the fruits and in cleansing the trees from insects. Apple and Pear trees that are bearing heavily should be thinned of all unnecessary fruits, for overcropping not only spoils the size and quality of the fruits but also militates against a reasonable crop the following year. Care must be taken when thinning the fruits to study the character of the individual variety, for in the case of a small-fruited kind a larger number may be allowed to develop than should be permitted with larger varieties.

THE KITCHEN GARDEN.

By E. ECKERT, Gardener to the Hon. VISCOUNT GIBBS, Aldenham House, Elstree, Hertfordshire.

The Cabbage.—Preparations should now be made for sowing the principal batch of spring Cabbage. This is such an important crop that special care should be taken to ensure good results. Complaints are made each year that a large percentage of Cabbages flower prematurely. This is owing chiefly to sowing the seeds too early and selecting bad stocks. If the seed is not sown before the end of July, and reliable varieties only chosen, growers would not experience much trouble in this respect. Select an open quarter of ground which has not been lately manured, fork it up, and then rake the surface to a fine tilth. Scatter the seed thinly broadcast, and protect it from birds by nets. A second sowing should be made about the end of the first week in August. Three excellent varieties are Ellam's Early (still unsurpassed as a spring Cabbage), Sutton's April, and Flower of Spring. The last-named is a larger Cabbage than either of the other two, and is ready for use about a fortnight later. If these three sorts only are grown they will afford all that is required either for a large or a small garden in the way of spring Cabbages. Red or pickling Cabbage should be sown at the same time as the second batch of spring Cabbage.

Coleworts.—There are few more useful vegetables for autumn and early winter use than these, consequently large breadths should be planted on ground which has been liberally manured and deeply worked. Plant them in trenches apart each way, and make two or three plantings at least, to allow for a succession.

Winter Greens.—The showery weather has been ideal for getting these planted and established. Any which have been planted between the rows of Potatoes will need exposing to the light and air by bending down the haulm of the Potatoes about them. Savoys, Broccoli, and Kales may still be largely planted on any available ground. These late plantings frequently endure a severe winter much more satisfactorily than earlier plants. It is a good plan to start very late Savoys on a south border which has been well manured.

Brussels Sprouts.—Strong, established plants should be well earthed up, and the soil made very firm about them to prevent the wind blowing them about; when special Sprouts are required, the plants should be secured to stakes.

Spinach.—This vegetable may now be sown in large quantities on well-prepared ground. The Carter is an excellent variety for sowing during the next fortnight, but it should be thinned to a good distance apart just before the second late is made: a distance of 6 inches will be none too great. Fresh soot should be liberally strewn over the young plants, especially during showery weather.

Celery.—Seldom have I known the Celery fly to be more troublesome than it has been this year, and only by constant hand-picking and frequent applications of soot has the crop been able to make any headway. I believe this trouble has been universal. Probably the worst time for this is now over, but it may cause annoyance again in the autumn. Continue to blanch the earlier plantings which may be required for consumption next month and early in September, the most simple and effectual way being to place bands of brown paper, about 6 inches in width, around each plant at intervals of about seven or eight days, until the desired height is reached. When doing this, place a little soot around the base of each plant.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only, on two sides, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, JULY 22.—Bishop's Walheim Fl. Sh. Midland Counties Sweet Pea Soc. Exh. at Wolverhampton, Chesterfield Fl. Sh.

THURSDAY, JULY 23.—Royal Lancashire Agric. Soc. Sh. a Manchester (4 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—63° 1".

ACTUAL TEMPERATURES.—LONDON.—Wednesday, July 22 (6 P.M.): Max. 77°; Min. 56°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, July 23 (10 A.M.): Bar. 30.1; Temp. 72°; Weather—Bright sunshine.

PROVINCES.—Wednesday, July 22 (6 P.M.): Max. 71° Guildford; Min. 58° Bristol.

We have no hesitation in characterising the *Types of Floral Mechanism** as one of the most remarkable of the books dealing with flowering plants that has appeared within recent times. The volume before us forms the first instalment only of the entire work, but it is to be hoped that the appearance of the other volumes may not be long delayed.

We had gathered from the introduction that the treatise was intended for the "elementary student," but we confess we should like to meet that student. Even Maculay's omniscient schoolboy would prove the veriest dunce beside him. Doubtless there is a great deal in the work that may be utilised for elementary instruction, and this is further helped out by the magnificent series of illustrations which the book contains. But much of the subject matter is such as can only appeal to the very advanced student, though to him it will assuredly prove very stimulating.

The general plan of the work has been to take individual flowers as representative types, and around them to group the related forms, thus exhibiting the flexibility of the type and the play of variation around it. Twelve such plants, which are in flower from January to April, are selected for treatment in the present volume, which we presume is to be followed by at least three similar ones. A short historical account of each of the principal plants described is given, its economic uses, distribution, and other facts of general interest are added. Then follows a morphological account of its structure, accompanied by admirable explanatory figures, some of

them in colours. Details of pollination, the structure and development of the fruit and seed are presented in full, and the more general aspects of the matters raised in connection with a particular plant are dealt with under "Theoretical Conclusions," and the latter will be found well worth reading by the most advanced botanist. The whole treatment of the subject is remarkably original, and constantly challenges the reader by the provocative—we had almost said dogmatic—way in which new views are set forth. Every page of the book is full of matter for thought, and while no doubt many will refuse to follow the author in all his conclusions, all must admit the stimulating influence of the ideas enunciated.

Dr. Church very skillfully works up his conception of the "Mean Type" towards which so many decotyledonous flowers approximate, and he urges the importance of distinguishing similarities due to mere convergence from marks of real affinity. He also traces in a very interesting way that peculiar and often recurring type of floral organisation, illustrated by Ribes, wherein the outer floral whorls become raised up by the intercalation of what is termed the "zona perigyna."

Naturally, in a work of this kind differences of opinion will obtain respecting some of the positions adopted by the author. We ourselves demur to the term racemose being applied to inflorescences in which the terminal flower opens first, for such "racemes" seem to us to have originated from cymose types. They are specially abundant in forms whose near allies exhibit the cyme in its most typical form. To term them racemes seems to confuse convergent series with related ones, a confusion against which, in another connection, Dr. Church especially warns his readers.

Again we feel compelled to take exception to "gynæcium," which is used instead of the more usual (and correct) rendering gynæceum.

Many people, it is to be hoped, will appreciate the statement, on page 99, respecting cleistogamous flowers and their origin. "There is no reason to regard the production of cleistogamous flowers as at all an act of compensation for a lack of normal fruits, owing to failure of the mechanism of cross-pollination." The breezy way of putting forward this unquestionably correct statement may perhaps shock some of those naturalists who are really Lamarckians at heart, but we believe it to represent a perfectly accurate statement of a plain fact. Dr. Church mentions the interesting circumstance that Violets which have been forced, are prone to exhibit premature germination of the pollen whilst still within the anther, and he suggests that this may afford the clue to a correct explanation as to how cleistogamy became a possibility.

We cannot conclude a notice of this important work without congratulating the author and the publishers alike on its production. The Delegates of the Clarendon Press have already deserved well of botanists for the sake of the well-known series of translations which have been issued from Oxford, and this new undertaking is well worthy of the best traditions of the Press.

It is, in the best sense of the word, a scholarly scientific work that deserves to be widely known and generally used.

OUR SUPPLEMENTARY ILLUSTRATION.—For the opportunity of illustrating the new single yellow Paeony known as *Pæonia Mlokosewitschii* we are indebted to Mr. W. E. GUMBLETON, of Belgrove, Queenstown, who also supplied us with the material from which the illustration of the Paeony figured last week was prepared. *P. Mlokosewitschii* is described in the *Botanical Magazine* as belonging to a group of yellow-flowered Paeonies from the Caucasus, the others being *P. Wittmanniana* and *P. macrophylla*, all of which are very closely allied, and may possibly be merely forms of *P. corallina*. The species we now figure was discovered by MLOKSEWITSCH near Lagodekhi, in the eastern part of the Central Caucasus, whilst typical *P. Wittmanniana* is a native of Adsharia, in the basin of the Tshorok River, south of Batum. Mr. GUMBLETON obtained his plant from Mr. MAX LECHTILIN, of Baden-Baden, and since that time young plants have been raised at Kew from seeds received from the Tiflis Botanic Garden. Mr. W. WATSON, also writing in the *Botanical Magazine*, describes this species as the most handsome of the yellow-flowered Paeonies, but Mr. GUMBLETON informs us that the colour of the flowers is not nearly so rich a shade as shown in the *Botanical Magazine* figure (tab. 8173). Mr. WATSON further states that the plant thrives under the treatment suitable for the other forms of herbaceous Paeonies. The glaucous leaves with their red veins and markings have a good effect, independent of the flowers.

NATIONAL CHRYSANTHEMUM SOCIETY.—The annual outing will, this year, take place on Monday, July 27, when a visit will be paid to the Royal Gardens at Frogmore. The party will travel to Windsor Station, and proceed to the gardens. Lunch will be served at Layton's Restaurant at 1.30 p.m. After lunch there will be time for a short visit to St. George's Chapel, and at 3.30 p.m. the party will embark at Windsor Bridge for a trip up the river. A halt will be made at Maidenhead for tea (about 5.30), and after tea the party will return so as to reach Windsor in time to catch the 8.28 p.m. train to Paddington.

HORTICULTURAL COLLEGE, SWANLEY.—Lady BECTIVE distributed the prizes awarded the lady students of the Horticultural College at Swanley on July 14, in the presence of an influential assembly of the supporters of the institution, which is a pioneer one of its kind in the country. Sir JOHN COCKBURN presided. Lady BECTIVE spoke of the new field that was opened out to women in regard to horticulture. They loved their gardens, but had been unable in the past to accomplish much in them from lack of knowledge. She was delighted with the work being done for women in association with the college, and she was also pleased to learn that the students had done so well in their work and examinations. Lady BECTIVE also remarked, says the *Times*, that she was gratified beyond measure to learn from Sir JOHN COCKBURN of the great success of the colonial branch of the college's work, and that the college had been recognised by the Government as one of the first institutions for third year training in horticultural and nature study for those teachers who were taking up these subjects.

ROYAL VISIT TO CHESTER AND STOCKPORT.—In connection with the recent visit of their Royal Highnesses the Prince and Princess of WALES to Chester and Stockport, the whole of the floral decorations at Chester Town Hall, Northgate Railway Station, Chester, and Tiviot Dale Railway Station, Stockport, were carried out by MESSRS. DICKSONS, LTD., Chester, under the supervision of Mr. J. SMITH, chief of their floral department. The decorations were much admired by the royal visitors and general public.

* A selection of diagrams and descriptions of common flowers arranged as an introduction to the systematic study of Angiosperms. By Arthur Harry Church, M.A., D.Sc. Part I., Types i.-xii. (January 1908). Oxford: Clarendon Press, 1908.

THE MIDLAND CARNATION AND PICOTEE SOCIETY'S show will be held at the Edgbaston Botanical Gardens, Birmingham, on August 6 and 7. In addition to Carnations and Picotees, special classes are provided for Sweet Peas. Particulars may be obtained from Mr. T. HEMPSEY, Botanical Gardens, Birmingham.

AMERICAN GOOSEBERRY-MILDEW.—It is stated that there are at present several severe cases of American Gooseberry-mildew on Gooseberry bushes in commercial gardens in Kent.

THE ROYAL VISIT TO LEEDS.—Our Leeds correspondent writes as follows: The visit made by their Majesties the KING and QUEEN to Leeds on July 7 was the first visit of a reigning sovereign to this town for some hundreds of years. The decorations carried out in honour of the event were remarkably good. It was surprising how all the plants, cut flowers, and foliage had been got together. The embellishment of the Town Hall called forth the best efforts. When it is said that both his Majesty the KING and his royal consort freely gave ex-

also tastefully decorated with large Palms and flowering plants, similar groups being suitably placed along the sides of the roof. Along the corridors leading therefrom to the luncheon room were dados, some 4 feet in height, of diamond trellising stained a light mahogany and thinly furnished with Ivy and other suitable plants. Every few yards were arches of evergreens, &c., with branches of the Dog Rose in flower twined in them. As will be seen, these dados formed an excellent means of carrying the eyes along from arch to arch. The main façade of the Town Hall presented a grand massive appearance; hence it required much thought in temporary decorations. The scheme was a great success, though it would be difficult to describe here. The parks superintendent, Mr. A. J. ALLSOP, was responsible for the whole.

THE LATE MR. ARTHUR LISTER, F.R.S.—It is with great regret that we learn of the death, on Sunday last, of Mr. ARTHUR LISTER, F.R.S., the well-known authority on the Myxomycetes or Slime Fungi. His monograph on these plants,

covered with wire gauze not coarser than 18 wires to the inch both ways; all pools, ponds, fountains, or other water receptacles not containing fish to be screened as above, or covered with crude petroleum; forbidding any water to remain in any receptacle whatsoever; requiring all privy walls to be thoroughly covered with kerosene every 15 days; and that water be turned off, and water receptacles emptied should a house be unoccupied for more than five days. The penalty for neglecting to comply with any of these requirements was a fine not exceeding \$2 per day. Dr. C. M. HILL, who had charge of the work, brought the matter more forcibly before the public by delivering a series of lectures explaining the mode of mosquito extermination, and cards were displayed in the tramcars calling the attention of householders to the importance of their co-operation in the work. Reporting upon the experiment (Annual Series, No. 3,982) Mr. Consul FRASER says the result of it is satisfactory, and the City Council has appropriated another £1,000 for continuance of the work in 1908. Dr. HILL is grateful to Dr. Ross, of the Liverpool School of Tropical Diseases, for much valued advice in his efforts to exterminate the mosquito, which has hitherto been the cause of so much illness and death in Baltimore. *Journal of the Society of Arts.*

M. LE TEXNIER.—This gentleman has been much occupied with the historical aspects of popular flowers. His publications include "The History of the Tulip," "The History of the Chrysanthemum," "The History of the Carnation," "The History of the Hyacinth," and "Notices on Celebrated Gardeners and Garden Amateurs." They are neat little booklets of 30 or 40 pages each, and contain many historical and literary details that amateurs of these flowers will highly appreciate. Some are published by the Librairie Horticole, Paris; others by the Imprimerie Montparnasse.

SAXIFRAGA VANDELLII.

THIS scarce species (see fig. 28) belongs to a small section of the genus of which *S. Burseriana* is the best-known example. It is somewhat similar in habit to *S. Burseriana*, having closely-matted stems that are densely clothed with stiff, three-edged, sharply-pointed leaves. In flowering it is later, for its blossoms do not open till early in April, when most of the different forms of *S. Burseriana* are over. The illustration at fig. 28 shows the species flowering in a pan in the Alpine house at Kew during the early weeks in April. The plant had been grown in a cold frame, the pan being plunged to the rim in ashes. As a rock-garden subject, it does not grow and flower so freely as when cultivated in a frame, where it receives protection during bad weather. In the open it needs to be wedged between stones, and in such a position that its roots are readily within reach of moisture.

S. Vandellii is found on the Alps of the Tyrol and north-eastern Italy, where it grows on calcareous rocks, and forms dense tufts of foliage. The flowering stems are densely villous and glandular, about 2 inches high, and bear from five to ten flowers in a cyme. The flowers are of a good size, ivory white, save that the oval petals have five straight nerves. Although the plant has been in cultivation for a long time, it is not frequently met with in gardens, owing probably to the difficulty of establishing it. The rooting medium should consist of a very gritty soil, composed near the surface of nearly all stones, between which the plants should be tightly wedged. The plant forms a useful subject as a succession to *S. Burseriana*, and is well worth growing in a cold frame. *W. Z.*



[Photograph by W. Irving.]

FIG. 28.—SAXIFRAGA VANDELLII, FLOWERS WHITE.

pression to their great pleasure and satisfaction, no more need be said. It was in connection with the rooms set apart for the royal luncheon and the retiring rooms of their Majesties that the most artistic floral decorations were to be seen. These rooms open from a corridor some thirty yards in length, the whole of which was made into a rustic archway or pergola, young Birch trees being mainly used for the purpose. These were most tastefully covered with "Dorothy Perkins" Rose full of flowers, which seemed to grow up naturally from a narrow border of dwarf flowering and foliage plants on each side of the corridor. Amongst these were batches of Lily of the Valley, Liliuns in variety, Gladioli, and Pelargoniums, the whole being edged with a natural-looking dwarf green Sedum. To complete the picture, a rustic gate made from peeled Oak branches was fixed at the end first entered. Large flowering plants of the same Rose were placed in the royal rooms, cut branches being also used for the decoration of the luncheon table. The royal dais in the Victoria Hall was

published as a British Museum catalogue, is the finest work on the group in existence, and is copiously illustrated with excellent plates, many of which were executed by his daughter. A second edition of this important work is in course of preparation, and every botanist cannot but feel the deepest regret that the author has not been spared to see its completion. Mr. LISTER, like many other eminent botanists, belonged to the Society of Friends, and his remains will be interred in the grounds of the Friends' Meeting House at Leytonstone.

THE EXTERMINATION OF MOSQUITOES.—The people of Baltimore seem to have been successful in their warfare with the mosquito. In December, 1906, an ordinance was passed by the City Council, and the sum of £2,000 appropriated by it for the purpose of taking measures to exterminate the insect. In the following May the work began, and the first step taken was a distribution by the police to householders of a notice setting forth the provisions of the law requiring all the cisterns, tanks, and wells to be

* THE FRENCH SYSTEM OF MARKET GARDENING.

(Concluded from page 47.)

I HAVE only at present mentioned Cabbage Lettuce, but I know a very good price can be got for Cos Lettuce, which are, if anything, more easily grown than the Cabbage Lettuce.

The market gardeners of Paris employ Romaine or Early Clôche Cos for winter culture in the same manner as Early French Cabbage Lettuce. The seed of this Cos Lettuce is sown during the first days of October; its culture is almost the same as the Early French, but to prevent mistakes I repeat it here.

The first week in October one should prepare a well-sheltered place facing south; after digging, carefully rake the soil, and on the top put 2 inches of rich compost. Make the bed quite level, put on one corner of this a bell-glass and press firmly on the top, so that the rim of the glass will imprint a ring on the ground. Take it up, and place it at the side to make another ring, and so keep on. When there are enough rings marked, sow the seed thinly in each circle, and cover with half-an-inch of very fine soil, placing a bell-glass over each circle. One can also sow the seed at the end of an old hot-bed. The seed will come up in three or four days, and 12 or 15 days afterwards the plants ought to be pricked out under the bell glasses on a bed prepared in the same way as for sowing the seed. Prick out 24 to 25 plants under each bell-glass, and put on the bell-glass immediately. The plants will take root in a few days, and, as the Cos Lettuce likes the air, raise the bell-glasses a little during the day, but shut them down again at night. When severe weather comes, cover with mats and make a ring of manure round the bed where the bell-glasses are, and put very short and dry manure between the bell-glasses and double mats. When the cold has gone, take off the coverings and admit air if the weather permits. In January or February choose the strongest plants and plant one under each bell-glass, together with four early French Cabbage Lettuces.

The whole of the ground allotted to the cloches should be sown with early Carrots. The Cabbage Lettuces will be ready to cut before the Cos have room to develop, and after these latter are cut, take off the glasses and carefully thin out the Carrots if too thick. The first were forced in Paris in 1812.

On the outside the smaller-sized plants of Cos Lettuce are planted to be coming along, and as soon as those under the cloches are cut, the ones outside are ready to have the cloches moved on to them to get a second crop.

The British market gardener is a very conservative sort of fellow. What his father and grandfather did before him, he is quite willing to go on doing still, and he cannot understand why any "new-fangled" thing should come along. His forefathers have been quite content to grow Schofield's and Lees' Immense Lettuce to come in in the spring, and so is he, and what were good enough in the old days should be good enough for his customers. There is no need to have these new-fangled Lettuces sent from Paris.

This is all very well, but the world goes on, and those who will not move with the times are eventually left behind in the race.

If English people in the districts suited for early culture would give this French system a trial, they would find that it would be to their benefit, but you must not think that this is a royal road to fortune. You will have the same ups and downs that you have had in ordinary gardening, but the results in the end are much better.

Here in our country we have an enormous population, and a well-to-do population, who can afford to buy from Paris these delicate early vegetables. They only want to be educated to the idea that they can obtain these in England, and that they can have them fresh on either their lunch or dinner table, cut the same morning, instead of being sweetened in boxes while coming from France, perhaps taking three or four days to do it, and possibly lying in a shop window two more days until they are sold.

I believe, indeed I am sure, that it is possible to make French gardens here, but I also know that it will entail very hard work.

A Frenchman for seven months works 18 hours out of the 24, and through the other five months he works 14 hours a day. You must not think he looks overworked: he does not, but is as happy, contented and jovial a man as you can come across.

A French market gardener does not get on well without a wife. If the husband cultivates the garden, the wife is the only one who can properly see to the produce being packed, sent away, and sold. They get up every day very early, breakfast at seven, lunch at ten, and have dinner at two o'clock.

The Frenchman has devoted his energies to the production of primers until it has become a science. He produces forced Asparagus in November, an abundance of Lettuce in January, Cos Lettuce in February and March, and Carrots, Radishes, and Strawberries in March, and Tomatoes, Melons, &c., in April.

Market gardening is so much overdone in England that there is very little made out of it. It is a hand-to-mouth business, and where there is any possibility, which there is, of improving it by introducing some fresh style into the gardens, especially the small gardens which are in this neighbourhood, I am sure it would be an untold boon, because you would be taking more money at a time when you usually take very little. You can waste nothing on it because you have your frames, which are useful for other vegetables, and you have your manure, which is only partially exhausted when you have finished with it.

It may interest you to know how many of these Lettuces, &c. are sent over to London every day during the season. The usual consignment of Lettuce per day is 4,000 to 5,000 crates: also 500 crates of small early Carrots, 100 crates Asparagus, 100 crates long French Turnips, and 50 crates Celeriac. Do not these figures give you some idea of the importance of this method of gardening?

At the present time, the price of Lettuces and Carrots very early in spring are prohibitive, except for those who are fairly well off for money, but if by production one can cheapen them so that they are within reach of every body, the present quantity of 5,000 crates of Lettuce per day will speedily jump up to 20,000 crates.

These particular Lettuces are sold by the French gardener to a middleman at 6d. per dozen. The growers themselves do not ship anything to England, any more than you would send to retail customers, but they send their produce to a commission agent.

If the French gardeners get 6d. per dozen, they are quite happy: it pays them well, and I have seen no French gardens that do not look prosperous. Why should there be one foreign Carrot or Turnip or a single Lettuce brought into England, when all can be produced here? You will have no difficulty in getting 1s. or 1s. 6d. per dozen for Lettuce, even if they were what you considered to be low in price.

A great many of you will recollect the time when Tomatoes were by very little grown, before they came into fashion. At that time they fetched a large price. When the Canary Islands and other places began to send in their early Tomatoes, it was thought it would kill the English trade altogether. But has it?

I should say that at the present day there are 2 to 3 cwt. of Tomatoes grown where one pound used to be grown years ago. They are one of the most paying crops there is, whether grown inside or out-of-doors.

Why should not this success be reflected in a partial way with these Lettuces and other produce?

Now as to the Cauliflowers, which our French friends grow, let me ask how many could be obtained in Cheltenham a month or six weeks ago? I am sure you could have gone all over Cheltenham and not obtain one, but how many could have been sold if you had had them?

I have brought a straw mat, which is used for this kind of gardening or any other that is necessary, and should be used by all market gardeners here. It does not absorb the wet like an ordinary Archangel mat, but allows the water to run off and they quickly dry. They are easily rolled up.

I have also been lent a frame on which these mats are made, as I should like to show you how easy it is to make them for yourselves.

The Paris market gardeners make all these mats themselves. There are several sizes and thicknesses, but the generality are neither too large nor too thick, so that they may not be too heavy, and that they may dry quickly after being wetted by rain.

In length they are 2 yards by 1 yard wide. They are used for covering bell-glasses and lights for keeping out the cold, and also for shading purposes. They are made as follows:—On a level floor, or on hard soil, fix two 1-inch boards 7 feet long by 1 inch deep, parallel at a distance of 4½ feet. The space between these two boards, which are for the purpose of fixing the width, is divided into five equal parts by four lines placed longitudinally 13 inches from each other and as long as the plants. At the two ends of each wooden line, a small wooden peg, the size of one's finger, is firmly placed in the ground, giving a space between the mat and the ground of 2 inches. These pegs determine the length the mat should be, just as the side planks determine the breadth. Then some tarred cord is attached securely to all the pegs at one end of the frame. Now, one has therefore five lines of tarred cord each 6 feet 6 inches long, but cord should not be cut the exact length from peg to peg. From experience, one has learnt that the proper thing is to double the cord, so as to have sufficient to secure the straw on to the cord stretched on the pegs. It is necessary to measure thrice the length of the stretched cord, i.e., to make 6 yards before cutting the string. The loose end of the cord is wound on a bobbin of some description, so that it may be more easily handled.

On the string that is stretched, one puts clean Rye straw, and as long as possible, 1 inch deep, and so placed that the thick ends come outside against the planks, making the mat of equal thickness. Now one may go on with the sewing, if one may so call it. One or two people can sew at the same time. Let the workers kneel at the bottom of the frame where the bobbins are, and with the left hand take a bunch of straw about the size of a finger, and raise both it and the cord which is below. Then with the right hand pass the bobbin under the stretched cord and bring it back to the left hand. In this way they encircle a bunch of straw with string, which they tie tightly. Then take another bunch of straw and proceed as before.

When these mats are made at home they are very cheap indeed, but when they have to be imported from France they come somewhat dearer.

As you will see by my small book,* I advocate growing Strawberries under glass, not in greenhouses in the ordinary way, but in frames, the same as are used for this particular form of gardening.

In my book I made a special note on the packing of vegetables, in which I think we are backward; the French are much better than we are in this. I rather foolishly thought they did this for their own country as well as for abroad. Possibly they do, but I was eating Asparagus the other day at a French table, and saw that they, like our own market gardeners here, had placed the sprue in the middle.

BATTERSEA PARK.

In many of the flower-beds in this park the Fuchsia is freely employed, sometimes as an edging, but chiefly as standards, pyramids, and low bushes, with an undergrowth or carpet of some sort, and a bordering of plants of comparatively low growth. Fuchsia fulgens, an old inhabitant of gardens, but mostly treated as a greenhouse or conservatory plant, is here used in many parts of the park, and in various ways. This species appears to have been much employed as a parent in hybridising Fuchsias about 1837, when many varieties were raised between

* Being a paper recently read at Cheltenham by Mr. C. D. McKay, of Messrs. Watkins & Simpson.

* *The French Garden*, by C. D. McKay, price 6d.

it and other long tubular-flowered varieties, as *F. corymbiflora*, *F. cordifolia*, and *F. globosa*. Few of these early varieties are now to be found in gardens, excepting *Venus*, *Victrix*, *Venus de Medicis*, and *Goldfinch*. The first-named of these varieties was the first *Fuchsia* with a white tube and sepals introduced into gardens. *F. fulgens* makes a conspicuous bedding plant by reason of its red-tinted young leaves and the elegance of its vermillion-coloured, long, tubular flowers. It may be observed at Battersea in company with plants of *Erythrina Cristagalli*, *Anthericum variegatum*, and *Amaranthus melancholicus*, in lines in a sort of ribbon border, and mixed varieties of *Fuchsia*. There are mixed *Fuchsia* beds, consisting of tall bushes and standards, and between these plants of the variety Display.

A bed planted with tall plants of *Acer Negundo variegata*, having scarlet *Pelargoniums* beneath and a broad line of *Funkia Sieboldii* as an edging, had a good effect.

The plants of *Plumbago capensis* are making promise of a show of flowers finer than usual; but, on the contrary, *Cannas* are not making much progress. An unusual combination was noted in a bed in the sub-tropical garden. The plants employed were *Erigeron speciosus*, a pink-flowered *Pelargonium*, and a broad edging of the yellow-leaved *Lysimachia Nummularia aurea*.

Good use is made of Ivy-leaved *Pelargoniums* as pyramids, *Coleus* and *Lobelia* being employed as edging to some of these beds. *Salvia splendens* var. *Zurich*, mixed with *Heliotrope* *Madam de Bussy*, and *Iresine Lindeni*, had a pleasing effect.

Violas in all colours are much employed, and the plants are growing and flowering capitally. Some beds of *Roses*, *H.P.'s*, and others of *Tea* and *Hybrid Teas*, produced fine blooms until the recent storms occurred, spoiling them for a time. *Turner's Crimson Rambler Rose* has flowered abundantly; indeed, the *Roses* have done wonderfully in this park in the present season—an unusual occurrence in London.

Specimens of *Vitis Cointetiae* and *V. flexuosa* have made ample shoots by the lake side; likewise *Polygonum Baldschuanicum*. The various borders, to the upkeep of which Mr. Rogers pays great attention, are gay with *Lilies* in variety, *Sweet and Everlasting Peas*, *Hollyhocks*, *Delpiniuns* (especially fine this year), and *Hemerocallis*, together with numerous herbaceous plants, that will come into bloom as the season advances. *F.*

TRADE NOTE.

GEORGE MOUNT & SONS, LTD.

This firm has been registered with a capital of £30,000 to acquire and carry on business as nurserymen, florists, flower and fruit growers, farmers and hop growers, at Canterbury, Folkestone, Herne Bay, and other places in Kent. It is a private company formed to enable George Mount to take his four sons into partnership, and no shares are offered to the public.

We are informed that Mr. George Mount first founded the business in 1884. He hired 3 acres of ground, being part of a 40-acre field at St. Dunstons, Canterbury, put up two glasshouses, and planted up most of the ground with *Roses*; he afterwards planted the whole 40-acre field. In 1889 the Old Exotic Nursery, Canterbury (which was carried on for many years by the father of the late Dr. Masters), came into the market. This Mr. Mount purchased and carried on for many years. In 1893 he was invited by the late Lord Radnor to open a nursery at Folkestone, which he has carried on ever since; in 1898 a nursery was opened at Herne Bay, which is still held; in 1897 and 1898 60 acres of adjoining land were taken, being part of Beverley Farm, which makes the total nursery ground at St. Dunstons to 100 acres. In 1902 he

purchased 170 acres of land near St. Martins, Canterbury, being part of the Barton Court estate, which is now planted with fruit and Hops; in 1904 he hired 270 acres of land, being Woolton Farm, near Canterbury, which is now planted largely with fruit and Hops, a small portion being arable; in 1907 he took Hode Farm, 267 acres, which is being planted up with fruit largely, the rest being Hops and arable land; he also hired 60 acres of land adjoining the Barton estate, which is being used for nursery work, being planted up with *Paradise* and other stocks for fruit trees, and seedling Briar and other stocks for *Roses*, the total holding being now over 900 acres. There are ranges of glasshouses at Canterbury, Folkestone, and Herne Bay, with a total superficial area of 150,000 feet.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

THE FLOWERS OF SPENSER.—I thank Mr. Engleheart for his criticism on the word *aquilegia* (p. 54). I know the derivation for *Aquilegus*, and accepted it in my *Plant Lore of Shakespeare*. But I am now sure that I was wrong. There is no such Latin word as *aquilegia*, and I cannot find who invented it. The older word was *aquilina*, which is late Latin, but is retained in English in "aquiline nose." I can find no earlier mention of *aquilina* than Gerard; he and Parkinson both use it, but in connection with aquila. In 1633 Bauhin says: "*Aquilegia videtur dicte quasi aquilina ob florum mucrones aduncos ut sunt aquilini ungues*" (*Pinax* 144). But Linnaeus' account is decisive. Among his "*nomina perversa, ex errore lectione veterum*" he has "*aquilegia pro aquilina*." This is enough for me, so that *pace* Messrs. Engleheart and Wolley-Dod I shall stick to *aquila*. In all the European names of the plant the reference is to *aquila* and not *aqua*, and the history of *aquilegia* is very simple: *Aquila*, *aquileia*, *aquileia*, *aquilegia*. I knew Mr. Wolley-Dod well: he was a good scholar and his derivations were always worth attention, but he was not infallible. I should like to add that I should be very thankful for any notes or criticism on the Spenser papers. I have taken a good deal of trouble with them, but "*humanum est errare*." Henry N. Ellacombe.

THE R.H.S. AND ITS JUDGES.—There are some things said that were best left unsaid; and some things it is needful to say that are said at the wrong time. I hardly know into which of these categories to place the remarks as to judges' fees and expenses (essentially matters of a pecuniary nature) made by one speaker at the otherwise very pleasant luncheon and social function to which the Council invited the members of the committees, the judges, and others at the recent Holland Park show. The speaker in question might, with all due propriety, as one of the judges, have thanked the Council for the concession made to him and others in paying their necessary travelling and similar expenses, and have then been content to express a hope that other favours might in time be extended. Certainly the R.H.S. does differ from horticultural societies generally in relation to judges' fees; but, still, many national societies enlist the services of judges without payment of fees, hence the R.H.S. is not alone in that respect. But no similar society is so wealthy, and it is knowledge of that fact doubtless which led to the appeal for fees to judges, in addition to the payment of travelling expenses. But whilst the R.H.S. needs the service of judges but few times in the year, it needs the service of members of its committees at some 23 ordinary meetings, at several special meetings at Wisley, and, moreover, at least at three great shows, making some 30 occasions in each year. Now, the attendance at meetings or shows each year is usually good, and if any member attends but 20 times out of the whole, at a cost of, say, but 4s. each time, he has, in the discharge of his duties, to expend, beyond his annual subscription, at least £4 each year. Some members attend even oftener, hence to them the needful attendance involves during the year a considerable outlay. But I do not

know that they ever complain or ask for out-of-pocket expenses, much less for fees. These members do what they do for the love of horticulture, for their regard for the Society, and as some return for the honour shown them in being invited to become members of the committees. Thus, if constant in the discharge of their duties, they incur greater expenses than do those judges who come to shows perhaps twice a year. If the Council could place a light luncheon at the disposal of members of the committee each meeting, that would be a singularly acceptable concession, as a lunch usually costs more than travelling. In paying rail fares from Waterloo to Weybridge and back, also in providing a conveyance from Weybridge to Wisley, and giving members a lunch, the Council has done very much to earn members' thanks. It is, in such directions so much can be done to secure loyal co-operation. A Member of a Committee.

A NEW HYBRID PEONY (P. SOUVENIR DE MAXIME CORNU).—In the second part of the *Revue Horticole* for July, the editor, Monsieur D. Bois, describes and illustrates by a woodcut an apparently most beautiful hybrid *Peony*, which has been obtained by M. Louis Henry by crossing the yellow tree *Peony Delavayi* with the pollen of one of the fine forms of *P. mouatan* named *Ville de St. Denis*, the colour of whose flowers is white more or less shaded and spotted with violet-carmine, derived slightly from a hybrid obtained by this raiser, the pollen parent of the first (named *Mme. Louis Henry*) being another *Mountain* variety named *Elisabeth*. The first hybrid was figured on a coloured plate in the *Revue Horticole* last year and described on pages 322 and 544. The later hybrid, which is to bear the name of Professor *Maxime Cornu*, late director of the *Jardin des Plantes*, is apparently a much larger and more beautiful flower than *Mme. L. Henry*, being from 10 to 18 centimetres in diameter and very double; the flowers are of a pale canary-yellow, lightly tipped with carmine at their extremities and sometimes also at the bases of the petals: this also appears in the fine form of the parent *P. lutea* or *Delavayi superba*. The plant produced five flowers, three of which were on the terminal extremities of the shoots and the other two on the laterals. The terminal flowers were slightly larger in size than the others. The shade of colour also of the smaller flowers differed slightly from the rest, being of a rather greenish hue, with the carmine shading more accentuated and spreading more over the petals; the stems of the new variety being of a much more woody nature than the first hybrid. As propagation is expected to be easy and rapid, it is to be hoped that so fine a plant will ere many years be obtainable by the public. W. E. Gumbelton.

TOMATO NEW DWARF RED.—It is somewhat difficult to appraise the value of a new *Tomato*, because of the many excellent kinds already in cultivation, but the variety under notice is so excellent a cropper, and the fruits are so good in quality, that it is worthy of special notice. For a private garden it is an ideal variety on account of its dwarf habit, free cropping and good flavour. I recently saw a large number of plants of this variety laden with ripe fruits, the latter being excellent both as regards shape and colour. The fruits are very solid, and have remarkably few seeds. Owing to its dwarf character it can be cultivated in a small house or pit. It greatly resembles *Acquisition*, which is one of its parents, but it is far in advance of that variety, both in regard to crop and edible quality. I do not know of any *Tomato* that sets more freely than new *Dwarf Red*, and this makes it a most valuable winter variety. The fruits are borne in clusters of from six to eight fruits, and quite close on the stem. The plants average about 3 feet in height, and the first fruits are produced quite close to the base. As a variety for 'utilizing' in the open it is excellent, as the plants crop early and produce fruits freely. G. W. Yates.

CORIARIA JAPONICA.—In a reference to this species in your last issue (see p. 43), in which I stated that it produced "amber-coloured fruits," I had obviously *C. terminalis* momentarily in mind. *C. japonica* has fruits of a scarlet or coral-red colour, and in their fully-ripe stage they assume a blackish hue. E. H. Jenkins.

BIRDS ENTANGLED IN FRUIT NETS.—Will you allow me to suggest to your readers that they should make a practice, at this season of the year, of periodically visiting their fruit nets and so insure against such of our little songsters as many have been caught there dying a slow death by hunger and thirst? It is quite a common sight to see the dead body of a bird entangled among the meshes of a net, and although we all know how troublesome these little thieves are, we ought surely, if their despatch is necessary, to make it as swift and painless as possible, and not leave them to die a lingering death such as one does not like even to contemplate. *Missed Thrush.*

"FRENCH" MARKET GARDENING.—I am terribly disappointed with last week's *Gardener's Chronicle*. For some time past I have been reading with interest articles possessing such alluring titles as "Golden Soil," "£4,000 (or was it only £400?) Profit per Acre," "The Secret of the Black Soil," &c., in the daily Press. For a halfpenny per diem there is put at the disposal of readers the valuable secret of how, with little or no horticultural experience, the veriest tyro simply has to rent a small piece of ground and make an annual profit of many hundreds of pounds. The basis of it all seemed to be "soil as black as your hat"—one day though it was "bones," but that is a detail. With soil of this productive colour Lettucses, Radishes, Carrots, and Turnips were produced in such astonishing numbers that, with the help of a few Melons as pot-boilers, the petite culturist's fortune was soon made. True, there are accessories, but simple ones, such as frames, lights, and cloches. In the same way news is given to the world at large of a new French discovery in the shape of straw mats for covering purpurs. (My grandfather used to make them, but perhaps he was merely a pioneer.) The simplicity and certainty of it all caused me to think, and I quickly decided that I was not doing justice to myself or my family. My salary as a private gardener falls woefully short of the black soilist's income, and besides Lettucses, Radishes, Carrots, Turnips, and an occasional Melon, I grow several other things which, under my ignorant and misguided routine, entail a deal of worry and anxiety to grow successfully. So I almost decided to "relinquish my appointment" and turn "French" gardener, but this week's *Gardener's Chronicle* bids me pause and reconsider, for in your "Answers to Correspondents" columns your expert on "French" gardening gives the net profit as about £60 or £70 per annum (per acre.—Ed.), and as the *Gardener's Chronicle* possesses a reputation for accuracy, I feel that perhaps it will be wiser to bear my intense disappointment at the affluence so suddenly snatched from my reach and remain an "English" gardener. *A. C. B.*

LILIUM JAPONICUM.—This beautiful and distinct Lily, the subject of a supplementary illustration in the *Gardener's Chronicle* for May 16, is far more generally known as L. *Kramerii*. We must, I suppose, on the ground of priority, accept L. *japonicum* as its correct title; but, as a Lily lover, I emphatically protest against classing *Alexandria* and *Colchesteri* as varieties of L. *japonicum*. The *Index Kewensis* is beyond my means, but the *Kew Hand List* so places them; while in Mr. Baker's paper read at the Lily Conference, Colchester, it is regarded as a variety of L. *Brownii*; but *Alexandria* is referred to under the name of L. *japonicum*. Taking first the case of L. *Alexandria*, I fail to see in what respect it is related to L. *japonicum* (L. *Kramerii* of gardens), except that they are both members of the same section of the genus *Lilium*. When it was first introduced under the name of L. *Ukeyuri*, this Lily was regarded as a hybrid between L. *auratum* and L. *longiflorum*, and its affinities are certainly more with these two Lilies than with L. *japonicum*. Taking its prominent features more in detail, the erect stem of L. *Alexandria* is clothed with rather pale green leaves, about 5 or 6 inches long and three-quarters of an inch or so in width, but they widen out just at the upper part of the stem. The flowers are shorter than those of L. *longiflorum*, and less shallow than in L. *auratum*, though in this, in other features, there is a certain amount of variation. The flowers are clear white, shaded inside and outside with green, while the fragrance much resembles that

of L. *longiflorum*. The bulb, too, shows no particular affinity to L. *japonicum*, but in colour and shape it more closely resembles that of L. *longiflorum*. For a few years after its introduction we used to get a large number of bulbs of L. *Alexandria* from Japan, but recently the supply seems to have greatly fallen off. In claiming for L. *Alexandria* a well-marked distinctness from L. *japonicum*, it may be pointed out that all authorities concur in assigning specific rank to L. *rubellum*, a species which is very similar to L. *japonicum*. With regard to Colchester being classed as a variety of L. *japonicum*, it cannot, I think, be disputed by anyone that it is simply a form of L. *Brownii*. When in flower at Kew, I have frequently seen it so named. Mention of L. *Brownii* suggests the question: What is the typical species? It is said to have been first flowered by Brown, a nurseryman, at Slough, in 1837, but its origin is, I believe, unknown. At all events, L. *Brownii* has been for the last 40 years, and probably many longer, grown in the Dutch, and sent, among other bulbs, to this country. The *Hand List* gives the native countries of L. *Brownii* as China and Japan; yet out of a great number of bulbs collected wild from both these countries that have for some years past come under my observation, I have never yet found L. *Brownii* as grown by the Dutch. The L. *Brownii* of Japanese nurserymen is L. *Colchesteri*, which, according to priority in nomenclature, should be known as L. *odorum*. *W.*

NERTEA DEPRESSA (see p. 25).—This plant needs only cold frame protection, and, given this, it is free in growth, and seldom fails to set an abundant crop of its scarlet fruits. In former days, and especially when the so-called carpet bedding was in vogue, the plant was in great demand, examples well set with fruits selling literally by the hundred. At that time the stock of this species in one nursery garden was divided between the soft-wooded and hardy plant departments; but when it was seen that much the best examples were produced by the cold frame treatment, the entire stock was transferred to the hardy plant department. In the greenhouse the growth was too rampant, and the creeping stems becoming elongated, fruits were few. Plunged in sand in pots in a cold frame, the tufted growth remained, and there was a free set of berries. The plants were watered overhead at all seasons save the winter time, when little was required. At flowering time in spring the lights were drawn off entirely during the best part of the day. I have tried the plant in the open in sheltered places, but the spring frosts invariably ruined the flowers. *E. H. Jenkins.*

EVOLUTION AND SCIENCE.—The Darwin-Wallace jubilee meeting of the Linnean Society, on July 1, undoubtedly marked most notable event in the history of natural science, and all must acknowledge that the impetus to biological research and knowledge which has resulted from the lines of investigation introduced by the new ideas first promulgated in 1858 fully justified such a celebration. But, at the same time, is there not some danger lest our jubilation should be considerably overdone, and that we should too easily satisfy ourselves that the brilliant and captivating hypothesis identified with the name of Mr. Darwin has led to more in the way of certain knowledge than is actually the case? No doubt, as is said in your article of the 11th inst.: "We have long since accepted the fact of evolution itself almost as a self-evident proposition, as an axiom of thought." But are we meanwhile any nearer agreement as to what "Evolution" exactly signifies—by what agencies and through what processes it has been wrought? And until we have something approaching a certitude upon this point, can it be said that we have made any substantial progress towards a solution of the problem? Quite recently, in his Gifford Lectures for 1907, so high an authority as Herr Driesch has declared that "Everything about a real theory of phylogeny must be left to the taste of each author who writes on the theory of the Living." And, he adds: "You may call that a very unsatisfactory state of affairs, but no other is possible." There will, of course, be many who vehemently demur to such a verdict, but it seems at least to show that no conclusion has yet been reached which compels

scientific assent. As to the Darwinian explanation in particular, which on the occasion of the gathering was naturally the theme of many distinguished speakers, it was proclaimed by one, whose utterances cannot fail to carry weight, that the main lines of the theory of Darwin and Wallace remain unchanged. But the main—the essential—factor upon which they both relied for the work of evolution was undoubtedly the action of Natural Selection, or the survival of the fittest in the struggle for existence; and who will say that this is now universally, or even generally, regarded as an adequate explanation of the transformation which organic life is held to have undergone? More than 20 years ago, the late Professor Romanes declared that, "At present it would be impossible to find any working naturalist who supposes that survival of the fittest is competent to explain all the phenomena of species formation"; and it will hardly be pretended that since he spoke stronger agreement on the subject has been attained. Is it not, therefore, the wiser and more truly scientific course to refrain from glorying in what manifestly has not yet been achieved, and to acknowledge with Driesch, "We do not know very much about evolution at all . . . in this field we are just at the very beginning of what deserves the name of exact knowledge." *John Gerard, S.J., F.R.S.*

TWO NATIVE FLOWERING PLANTS.—*Phytolacca spicata* is a handsome plant, the lower leaves being cordate acuminate in shape and slightly indented at their margins. The flowers are pale blue, and form a dense spike 2 or 3 inches in length. This charming plant attains to a height of from 1½ to 2 feet, and is especially suited for cultivation in the foreground of an herbaceous border. The plant is wild in some parts of England, being found in hilly pastures and woods of eastern Sussex. *P. orbiculata*—another very ornamental plant—may be growing wild on the chalk downs from Kent to Wilts. It is of slightly decumbent habit, from 6 to 18 inches in height. The radical or lower leaves are ovate and cordate, the upper ones narrow and sessile. The flowers are deep blue in colour, and are borne in a globular terminal head of an inch or more in diameter. It is a suitable plant for the Alpine or rock garden, where it produces a pretty effect when in full bloom. Both these plants thrive in a mixture of good loam and sand: they require an abundance of moisture during hot, dry weather. *W. Glover, Langport.*

SOCIETIES.

ROYAL HORTICULTURAL.

JULY 21.—The Horticultural Hall, in which the meeting on the above date was held, displayed alterations in the arrangements, which, as departures from those usually observed, were improvements. In the centre of the building Messrs. J. CARTER & Co. had erected a kind of temple, in which were effectively arranged great quantities of Sweet Peas in variety. Against the back wall of the hall, great oblong blocks of flowering plants, Palms, Ferns, and *Codiaeums* found places. The more noteworthy were *Fuchsias*, from Messrs. J. VEITCH & SONS; perpetual-flowering Carnations, shown by W. CUTBUSH & SONS, and a beautiful group of Carnations, *Lilies*, *Streptocarpus*, *Calceolarias*, *Verbenas*, &c., from the gardens of G. H. BROWN, Esq.

Floral Committee.

Present: H. B. May, Esq. (in the chair), and Messrs. C. T. Drury, J. Green, T. W. Turner, C. Dixon, W. A. Biley, R. Hooper Pearson, R. C. Nuttall, G. Reuthe, J. Walker, W. Howe, J. Jennings, H. J. Jones, A. Turner, C. E. Pearson, T. J. Bennett-Poë, W. Cutbush, E. H. Jenkins, W. J. James, G. Paul, J. Douglas, G. Gordon, J. F. McLeod, J. Hudson, and J. W. Barr.

Messrs. J. VEITCH & SONS, LTD., Royal Exotic Nursery, Chelsea, exhibited a table of miscellaneous plants, viz., *Begonia* Washington, of great compact habit, each plant surmounted with large corymbs of scarlet-coloured, double blooms, the plants, including the pots, measuring but 1 foot in height; *Begonia* "Colonel Laussedat," having a dwarf habit of growth, double flowers, and marbled foliage; well-

bloomed young plants of *Exacum macranthum*, also *Lobelia Richardsonii*, very suitable for a basket plant; a number of vigorous specimens of *Solanum Wendlandii*, each surmounted by a large corymb of lilac flowers. This firm showed a dozen flower-heads of *Rhododendron javanicum-jasminiflorum* hybrids, a few fine varieties of perpetual-flowering Carnations, including the varieties Miss Willmott, Juno, Robt. Berkeley, Mandalay, Robt. Buchanan, and Earl König; and a fine, large-flowered *Canna*, W. Saunders, in colour a glowing crimson, also Mrs. Kate Gray, Messrs. Veitch also exhibited cut flowers of hardy border plants in much variety; and among the rarer or showier species, mention may be made of *Romneya Coulteri*, *Sedum kamtschaticum* variegatum, with pink-coloured flower-buds which, when open, disclose starchy blooms, the leaves are green, bordered with yellow, and *Campanula carpatia pelviformis* (see fig. 25). Standing apart by itself, Messrs. Veitch showed a group of Columnar-formed *Fuchsias*, some of them 10 ft. in height. (Silver-Gilt Flora Medal.)

Messrs. WARE, LTD., Feltham, exhibited miscellaneous border flowers and rare Alpine plants. The *Phlox decussata* varieties, if not in great numbers, were notable for large size of truss and brilliant colouring. The blooms of *Echinacea intermedia* were large and very showy; *Chrysanthemum* King Edward VII. and *Agrostemma hybrida* were also shown. (Silver Flora Medal.)

Messrs. BARR & SONS, King Street, Covent Garden, London, made a large display with cut blooms of hardy border plants, and noteworthy among them were *Potentilla*, *Vase d'Or*, *Sidalcea Rosy Gem*, *Platycodon grandiflorum*, *Phlox decussata* in fine varieties, *Astilbe chinensis Davidii*, and *Water Lilies*.

Mr. AMOS PERRY, Hardy Plant Farm, Enfield, made an extensive show of *Water Lilies* and cut blooms of hardy border plants. Very showy were *Lychnis cognata*, large, and of a brilliant scarlet colour; *L. Haageana* hybrids exhibited colours differing in the shades of scarlet. *Liliums* were shown in considerable numbers, and made a fine show of colour. Great stems of *Senecio macrophylla*, surmounted with yellow-coloured flower heads, were conspicuous objects. *Chrysanthemum maximum* in variety formed a large part of the exhibit. (Silver Flora Medal.)

Mr. MAURICE PRICHARD, nurseryman, Christchurch, Hants, exhibited cut blooms of hardy herbaceous perennials, and among them we noted *Campanula Isabel*, a rich blue-purple flower, some very finely-formed and coloured *Gladioli*, excellent shrubby *Phloxes*, *Hemerocallis Baronii*, and a fruiting branch of *Coriaria japonica* laden with ripe red fruits. (Silver Flora Medal.)

Messrs. HUGH LOW & CO., Bush Hill Park, Middlesex, showed *Buddleia variabilis* Veitchii, and a variety named *magnifica* having large racemes; *Solanum Wendlandii*, *Swinsonia splendens*, a quantity of perpetual-flowering Carnations in tall and short glasses, making an excellent effect of themselves. (Silver Flora Medal.)

Mr. G. REUTHE, Fox Hill Nursery, Keston, showed in abundance cut flowers of hardy herbaceous perennials—*Phlox decussata*, *Campanulas*, *Chrysanthemum maximum*, *Lilies*, and *Shirley Poppies* forming the major proportion of the flowers. (Silver Flora Medal.)

The fine display made by Messrs. J. CARTER & Co., reference to which has already been made, consisted of choice varieties of Sweet Peas, and formed a pleasing feature facing the main entrance to the hall.

Messrs. JAS. CARTER & Co. also showed nine plants of *Eschscholtzia* The Mikado, a scarlet variety outside and inside. (Silver-Gilt Banksian Medal.)

Messrs. W. BULL & SONS, King's Road, Chelsea, showed a number of stove plants, mostly consisting of such as possess coloured or variegated foliage. We remarked *Bertolonias*, *Dorstenia argentea*, *Dracenas*, *Codiaeums*, *Aglaonema versicolor*, and *Caladiums*.

Messrs. W. CUTBUSH & SON, Highgate, made an imposing exhibit with Carnations in tall cases and in the most metal stands, the flowers cut with the longest possible stalks, as is now the vogue. Between these tall stands and glasses

dwarf bouquets of Carnations were placed, with ample space between them. This firm showed a miscellaneous plant group set up in close array. It consisted of *Lilies*, *Dracenas*, *Codiaeums*, Carnations, *Caladiums*, *Verbenas* Miss Willmott, &c. (Silver Flora Medal.)

Messrs. EGGETT & SON, Thames Ditton, showed a small exhibit of Ferns.

Messrs. KELWAY & SON, Langport, Somerset, made a fine display with *Gladioli*.

Messrs. PHILLIPS & TAYLOR, Lily Hill Nurseries, Bracknell, showed Carnations, many of them in fine form, of which Roy Morris, Touchstone, Ida, Mrs. Kearley, Desdemona, and Red Rover were examples of note.

Messrs. R. & G. CUTHBERT, Southgate, showed pink-coloured *Astilbes*, and *Humea elegans*, the latter as large healthy plants. A Cultural Commendation was given for the *Humeas*.

Messrs. G. BUNYARD & CO., LTD., Maidstone, had a large exhibit of cut flowers of hardy perennials, among which we remarked *Pentstemon digitalis*, *P. Southgate* Gem (bright scarlet), *P. Newbury* Gem (darker in the tint but smaller), *P. T. Shaw* (scarlet exteriorly and white in the throat), *Shrubby Phloxes*, *Alströmarias*, *Coreopsis*, and *Helenium*. (Silver Flora Medal.)

Messrs. H. CANNELL & SONS, Swanley, Kent, showed plants of *Begonia Washington*, *Hydrangea grandiflora alba*, well bloomed, in 5-inch pots, &c.

Mr. A. F. DUTTON, The Nurseries, Iwer, Bucks., exhibited perpetual-flowering Carnations in immense variety, occupying a table half the length of the hall, and also apart at the east end of the same. (Silver-Gilt Banksian Medal.)

Messrs. H. B. MAY & SONS, The Nurseries, Upper Edmonton, exhibited *Isorais* in pots, including *I. Williamsii* and *aurantiaca*, capitally flowered; *Abutilon Nabob*, a crimson flower; *A. Golden Fleece*, lemon yellow; and *A. Triumphans*, of a light pink tint with marked veining; *Campanula isophylla superba*, nicely flowered, a useful plant; and well-flowered *Fuchsias* in many varieties. (Silver Flora Medal.)

Mr. J. DOUGLAS, Edenside, Great Bookham, had a notable exhibit of Carnations, self, fancy, and border varieties. (Silver Flora Medal.)

Messrs. SUTTON & SONS, Reading, exhibited 40 plants of their fringed varieties of tuberous-rooted *Begonias*, in pink, yellow, scarlet, white, and other tints. In a few cases the blooms showed doubling to a minor degree and in others they were single. It is a showy strain, and the blooms are thrown well above the leaves.

HEIT GEORG ARENDS, nurseryman, Ronsdorf, Germany, showed *Astilbe Arendsii* Venns, A. A. Cream Pearl, A. A. Ceres, A. A. Vesta, A. A. Pink Pearl, and some unnamed seedlings. All of these are of some shade of pink, and have the same erect habit of growth of varying degrees of strength.

LEOPOLD DE ROTHSCHILD, Esq., Gunnersbury House, Acton (gr. Mr. Jas. Hudson), showed flowers and foliage of *Nymphaea gigantea* var. *Hudsoniana*. The flowers measured 8 inches in diameter, had three rows of petals of varying lengths, and a yellow mass. The colour is pale blue on the upper side, and darker hue on the lower. (Cultural Commendation.)

Messrs. WATKINS & SIMPSON, 12, Tavistock Street, Covent Garden, showed *Nemesia Triumph* in various colours. It is compact in growth and very free to flower.

G. H. BROWN, Esq., Roehampton, arranged a group of stove and greenhouse plants. (Silver Flora Medal.)

AWARDS.

FIRST-CLASS CERTIFICATE.

Nelumbium speciosum var. *Ostris*.—This is a handsome variety, the shapely blossoms attaining to fully 10 inches in diameter. The somewhat cupped blossoms are made up of about 14 petals with white bases, and coloured a clear rose, which merges into a deeper tone at the extremities of the petals. The flowers, like the huge, petate, orbicular leaves, are poised on tall stems, and thus rendered singularly effective. A flower and leaf of this handsome aquatic was exhibited by LEOPOLD DE ROTHSCHILD, Esq., Gunnersbury House, Acton (gr. Mr. J. Hudson), and the variety was unanimously awarded a First-Class Certificate.

AWARDS OF MERIT.

Astilbe Arendsii Ceres.—A deeply-coloured variety resembling that known as *Queen Alexandra*.

Astilbe Arendtii Pink Pearl.—In this variety the blossoms do not appear to open so fully, the buds retaining their distinct colouring for a long period. These were exhibited by M. GEORG ARENDS, Ronsdorf, Germany. They are said to have been raised from crosses made between *A. astilboides* and the newer species, *A. Davidii*.

Sinningia hybrida Dr. Maxwell T. Masters.—Said to be a bi-generic hybrid between the *Gloxinia* and *Gesnera*, the hybrid somewhat resembling in its flowers the drooping type of *Gloxinia* of former years. The flowers are rose-coloured, drooping, and freely produced, the leaf petioles longer than in the *Gloxinia*, and the roundish ovate leaf-blades of a soft, silky nature. From Mr. ERNEST BEXLEY, Germany.

Begonia kewensis.—A white-flowered variety with drooping clusters of blossoms appearing from nearly horizontally disposed stems. The plant is suitable for growing in baskets. From Messrs. JAMES VEITCH & SONS, LTD., Chelsea.

Coriaria japonica.—Some exceptionally good fruiting branches of this handsome species were shown. The fruits are reddish or coral at first, and when fully ripe assume a blackish hue. In the first-named stage they are singularly attractive, and appear from axillary clusters on the previous year's wood. The leaves are obovate, acuminate, deeply nerved. Exhibited by Mr. M. PRICHARD, Christchurch, Hants.

Rose Lady Godiva.—A pretty variety of the *Wichuriana* class, the double-flowered blossoms being coloured a pleasing salmon-pink, a shade of colour seen in *Madame Abel Chateau*. From Messrs. PAUL & SON, Old Nurseries, Cheshunt.

Carnation Cardinal.—A border Carnation of much excellence and of a perfect form. The colour is clear and rich, and in this respect marks an advance in this class of flower.

Carnation Splendour.—Also a border variety of much merit; the colour is bright purple, and the form of the flower excellent.

Carnation Hercules.—Said to be a cross between an American tree variety and one of the *Souvenir de la Malmaison* type. The flowers are very large, fragrant, of a crimson-maroon shade, and produced on long and stout stems. The calyx, too, is non-splitting. This large and showy variety, if lacking refinement, merits attention by reason of its parentage. These Carnations came from Mr. JAMES DOUGLAS, Great Bookham, Surrey.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair); and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch & B. Crawshaw, W. Bolt, H. Ballantine, Gurney Wilson, H. A. Tracy, W. H. White, A. Dye, W. P. Bound, H. G. Alexander, J. Forster Alcock, A. A. McBean, Stuart Low, W. Boxall, H. Little, R. Brooman-White, and C. H. Curtis.

LT.-COL. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), had an excellent group composed of 16 grand specimens, all very fine examples of good cultivation, and including *Cattleya Warscewiczii* Othello, a magnificent variety of the *C. W. saturata* class, with a very fine rose-purple lip, showing but very small yellow spots on each side; *C. W. Low's* variety of the same class, with two spikes of six and four flowers; a pretty *C. Warscewiczii* of the old type, with 15 flowers, and the beautiful *C. W. Frau Melanie Beyrodt*, with 22 large pure white flowers, with purplish-rose labellums, and for which a Cultural Commendation was justly awarded. Others in the group were two fine home-raised *Cattleya Hardyana*, two of C. Lord Rothschild, also raised at Westonbirt; *Miltonia vexillaria superba*, with 12 spikes bearing together 53 flowers; another fine light form of *Miltonia vexillaria*, two well-flowered *Platylia filiformis*, *Brasso-Cattleya Digbyana* Warscewiczii, *Sophrone-Lelia laeta* Orpetiana, a large and good form of *Dendrobium regium*, hybrid *Odontoglossums*, &c. (Silver Flora Medal.)

Messrs. CHARLESWORTH & Co., Heaton, Bradford, staged a group of rare and interesting plants, a novelty being *Cattleya Semiramis* (Empress Frederick $\times$ *labiata* Warneri), comparable to the darkest *C. Fabia*, and with rich purplish-rose sepals and petals and deep ruby-crimson lip with gold lines at the base. Others noted were two finely-flowered *Ancistrochilus Thompsonianus* var. *Gentilii*, the rare *Odontoglossum Uro-Skinneri* album, *O. ardentissimum* album, *O. Gladys*, two *O. Eleanor*, *O. Schleiperianum citrinum*; plants of the handsome and fragrant *Oncidium Lanceanum*, *Miltonia vexillaria alba*, with large white flowers; the singular *Bulbophyllum sarcocephalum*, various hybrid *Cattleyas*, *Odontoglossums*, &c. (Silver Banksian Medal.)

Messrs. HUGH LOW & Co., Enfield, had an effective little group, the central plant, at the highest point, being *Platyclinis filiformis*, with

W. M. APPLETON, Esq., Weston-super-Mare (gr. Mr. Brooks), showed *Cypripedium Vipanii roseum* (philippinense $\times$ niveum) with white flowers having dotted rose-coloured lines.

The Right Hon. Lord ROTHSCHILD, Tring Park, Tring (gr. Mr. A. Dye), showed a fine inflorescence of a pretty *Stanbopea* from Mexico, bearing ten flowers.

Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), showed *Lælia Bella* (majalis $\times$ purpurata), a showy flower with a strong indication of *L. majalis*, and with deep rose-coloured sepals and petals showing the white ground colour at the base, the front of the lip and tips of the side lobes being bright mauve-purple. Sir TREVOR LAWRENCE showed three other new and rare species. (See Awards.)

J. FORSTER ALCOCK, Esq., Northchurch, again showed his hybrid *Sobralia* raised out of *S. Wiganiana*.

Odontioda Thwaitesii (*Cochlidia vanilica* $\times$ *Odontoglossum Harryanum*), from R. G. THWAITES, Esq., Chessington, Streatham (gr. Mr. Black). A very pretty hybrid with sepals and petals of a bronzy-claret colour, the lip being rosy-lilac with yellow crest. The plant, which was still small, bore an erect spike of five flowers and buds.

BOTANICAL CERTIFICATE.

Epidendrum costatum, from Sir TREVOR LAWRENCE, Bart., K.C.V.O. (gr. Mr. W. H. White). A very remarkable species from Mexico, resembling in growth the *Barkeria* section, but much stronger, and with thick green leaves. The terminal nodding raceme consists of about 15 flowers, each nearly an inch across, the sepals and narrower petals being reddish brown with an acuminate yellow tip. Lip formed as in *E. pseud-epidendrum*, whitish, ridged, and blotched with purple.

Geodorum purpureum, from Sir TREVOR LAWRENCE, Bart. A Himalayan species of *Bletia*-like growth. Inflorescence erect, drooping at the point. Flowers densely arranged; white with purple markings on the lip. Roxburgh described it as having rose-coloured flowers, but the plant shown agrees with the figure in King and Pantling's *Flora of the Sikkim Himalaya*.

Fruit and Vegetable Committee.

Present: George Bunyard, Esq. (chairman); and Messrs. J. Cheal, Geo. Woodward, J. Vert, A. Dean, A. M. Allan, G. Kelf, G. Wythes, E. Beckett, O. D. Tuckett, J. Jacques, C. G. A. Nix, A. H. Pearson, and W. H. Divers.

Mr. J. ROSS, Handcourt Gardens, Upton-on-Severn, sent a Melon as a seedling variety; flesh scarlet, smooth and nice, but somewhat overripe.

Messrs. S. SPOONER & SONS, Hounstone, sent a tray of handsome, well-coloured fruit of the old Early Apple, red or summer, for eating, though not yet ripe. (Vote of Thanks.)

Mr. Palmer (gr. to W. P. BEALL, Esq., M.P., Baschill, Ayrshire) sent three named red Tomatoes as new—Nonsuch, The Don, and Le Grande. These were not different in taste, texture, or appearance from good varieties now in commerce.

Mr. R. STANNARD, The Gardens, Panshanger, Herts., had well podded plants of edible Peas, showing robust growth. These did not present any material advance on present-day varieties, of which there are myriads.

Messrs. CLIBRAN, of Manchester, sent a cluster of some four or five pods of a very long-podded Broad Bean. This was regarded as identical with the variety known as *Leviathan* or *Aquadulce*, the Beans in the pods being too thinly placed.

Messrs. JAS. VEITCH & SONS, Chelsea, set up a nice collection of 13 varieties of Cabbage Lettuces in trebles. The white, smooth-leaved forms were All the Year Round, Acquisition, and Summer Face. Perfect Gem was small, having green leaves, and Royal Albert, New York, and Crystal Palace had rough green leafage. The brown varieties were Marvel, Brown Dutch, and Large Brown Summer. (Vote of Thanks.)

Messrs. J. K. KING & SONS, Coggeshall, staged a collection of 60 varieties of Peas, many of them early and ripe, all from ordinary field culture. The best were Quite Content, Telegraph, Duke of York, Duke of Albany, Twentieth Century, Progress, Lord Kitchener, Gladstone, King's No. 1, Filbasket, Lord Salisbury, and The Daisy. (Vote of Thanks.)

Much the finest collection of Peas, however, came from Messrs. DOBBIE & Co., Mark's Tey, Essex, who set up in broad flat baskets 44 varieties, generally of the finest description. The stand was backed by numerous plants in pod, specially good being Veitch's Perfection, Gladstone, Alderman, The Bell, Bystander, of the Gladstone type, but greener, and Stratagem. Very fine, in baskets, were Quite Content, Exhibition Marrowfat, Essex Wonder, Gladstone, Superlative, Antocrat, The Bell, Duke of Albany, Gradus, Magnum Bonum, Ne Plus Ultra, Prince of Peas, Lord Roberts, Thos. Laxton, Senator, Sharpe's Queen, Prizewinner, and Filbasket. (Silver Knightian Medal.)



FIG. 29.—PORTION OF MESSRS. E. WEBB AND SONS' EXHIBIT AT THE WOLVERHAMPTON SHOW, WHICH WAS AWARDED A SILVER CUP. (See ante p. 58.)

46 drooping racemes of its pretty yellow flowers. In front were several *Oncidium Lanceanum*, good *O. leucochilum*, the Swan Orchid (*Cycnoches chlorochilon*), *Anguloa Clowesi*, *Lycaste Deppiei*, and, among others, the handsome *Cattleya Mendelii* Goliath. (Silver Banksian Medal.)

W. P. BURKINSHAW, Esq., West Hill, Hessele, Hull (gr. Mr. J. T. Barker), showed *Cattleya Warszewiczii*, Rochford's variety, of the *C. W. saturata* class, in which the light yellow patches usually seen on the sides of the lip are almost obliterated. The plant was very finely grown, the spike bearing six flowers.

Mr. J. BIRCHENALL, Alderley Edge, Cheshire, showed *Bollea Lalindei* aurea, a light yellow flower; *B. L. pallida*, white, with faint lilac markings, *Pescatoria Dayana*, and a small plant of *Polystachya pubescens*.

Messrs. J. VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea, showed *Cattleya Dusseldorfei* Undine, with fine pure white flowers.

AWARDS.

FIRST-CLASS CERTIFICATE.

Stanbopea tigrina superba, from Messrs. CHARLESWORTH & Co., Heaton, Bradford. First introduced by Messrs. Hugh Low & Co. from Mexico in 1899, it still remains one of the most remarkable of Orchids, its enormous pale yellow flowers heavily tinged and blotched with deep claret colour, rendering it a very striking object. The variety shown was an exceptionally large and richly-coloured form.

AWARDS OF MERIT.

Angracum Augustum (Rolfe), from Sir TREVOR LAWRENCE, Bart., K.C.V.O. (gr. Mr. W. H. White). A very remarkable species from N.E. Rhodesia, with thick, fleshy, light green, slightly glaucous leaves, quite unlike any other species; and long drooping raceme of pure white flowers, with nearly equal segments, and pale greenish spurs about 6 inches in length, the flowers being nearest to those of *A. Koitschyi*. It was sent to Sir TREVOR LAWRENCE by Mr. Augustus Old.

COLCHESTER ROSE AND HORTICULTURAL.

JULY 8.—The annual show of this Society was held on this date in the Castle Park grounds, an ideal spot for the holding of a flower show. Unfortunately, the weather was wet, and this affected the attendance. Roses were contributed by the best exhibitors. In the amateur classes, Mr. O. G. ORFEN had remarkable success, having splendid blooms. In the Rose classes the competition was very keen, but not much fruit was shown; vegetables were excellent. In the small classes the military competed largely and made a good show.

ROSES.

Many classes were devoted to these flowers. In those that were open to all exhibitors, remarkably good groups were staged, the competition being very close. The 1st prize for 43 distinct blooms of varieties was secured by Messrs. B. R. CANT & SONS, Messrs. PRIOR & SON being 2nd, and Messrs. FRANK CANT & CO. 3rd, all these being Colchester firms. In the class for 18 blooms of Tea or Noisette Roses, Messrs. B. R. CANT & SONS again won the 1st prize, but Messrs. F. CANT & CO. were 2nd, and Messrs. PRIOR & SON 3rd. For 24 garden or decorative Roses the premier award was secured by Messrs. B. R. CANT & SONS with splendid blooms, Messrs. F. CANT & CO. being 2nd. The prize for the best Rose bloom in these classes was secured by Messrs. B. R. CANT & SONS with a perfect bloom of Yvonne Vacherot. The amateur classes were good throughout. In the class for 18 distinct trusses, Mr. W. LEGGETT, Colchester, was 1st, with beautiful flowers; Mr. O. G. ORFEN, East Bergholt, being a close 2nd. In that for 12 Tea or Noisette Roses, Mr. O. G. ORFEN was 1st with fine blooms, and he also secured the Silver Medal given by the Mayoress of Colchester. For garden or decorative Roses the Rev. J. H. PEMBERTON, Havering-atte-Bower, was awarded the 1st prize for flowers of great beauty; 2nd, Mr. O. G. ORFEN; 3rd, Hon. WM. LOWTHER, Campsea Ash, Wickham Market. Dr. PALLETT, Earl's Colne, was 1st in the smaller classes, also taking a Silver Medal for the best Rose other than a Tea variety, having a very fine bloom of Fran Karl Drischki. Mr. O. G. ORFEN won the Colchester Medal offered for the best Tea Rose, with a grand bloom of Maman Cochet; the last-named exhibitor had also some splendid blooms of Bessie Brown. Other exhibitors of Roses were Dr. COOKE, Birch; Mrs. STANFORD, Braiswick; Capt. CANTLEY, Nowton Briars; Mr. COOKE, Polstead; Mr. BLYTH, Nayland, and Mr. DOW, Hakeston.

PLANTS.

There was a splendid group of plants from the gardens of Mr. HETHERINGTON, Borechurch Hall, Colchester, and it won easily the 1st prize. 2nd, Mrs. LARPERT, Lexden. The best table of plants in pots was shown by the Rt. Hon. J. ROUND (gr. Mr. Bishop), Birch Hall, Theydon Bois; Mr. P. W. OLLE, Colchester, being a good 2nd.

CUT FLOWERS.

These were staged in great quantities and of excellent quality. An important class was for 24 bunches of hardy garden flowers, and here Messrs. R. W. WALLACE & CO., Kilnfield Gardens, Colchester, won easily, with splendid specimens. 2nd, Mr. A. J. HARWOOD, Colchester. For 12 bunches of hardy cut flowers the Hon. W. LOWTHER (gr. Mr. Andrews) was awarded the 1st prize, and Dr. F. H. COOKE, Birch, the 2nd. The class for Sweet Peas was strongly contested, but some of the best flowers lost points by being crowded and badly arranged. Mr. T. CROSS was 1st in the large class, Messrs. SALTSMARSH and E. W. KING & CO., Coggeshall, being 2nd and 3rd in the order of their names. In the smaller class for Sweet Peas Capt. CANTLEY and Major BUCKLE were the leading exhibitors.

FRUIT AND VEGETABLES.

The best collection of six dishes of fruit was shown by the Hon. W. LOWTHER (gr. Mr. Andrews); 2nd, Mr. OSBORNE. The 1st prize for Grapes was taken by Mr. ANDREWS with well-finished bunches of Black Hamburgh. Mr. T. OSBORNE had also the

largest bunches of Muscat of Alexandria, but the berries were not quite ripe. Mr. OSBORNE had the best Peaches and Nectarines. Mr. ANDREWS was 1st in all the three classes for Strawberries.

The vegetable classes were very closely contested, only two points separating the leading exhibits. The Rt. Hon. J. ROUND (gr. Mr. Bishop) was 1st for a collection of eight kinds, and he was closely followed by the Hon. J. LOWTHER, a weak dish of peas marring an otherwise excellent collection. The best collection of vegetables from market growers was staged by Mr. A. S. HARWOOD, Colchester. The best collection of salads came from Rt. Hon. JAS. ROUND.

The best 100 heads of Asparagus were shown by Mr. A. J. HARWOOD. There was a strong competition in all the smaller vegetable classes, the military in many instances showing well.

NON-COMPETITIVE EXHIBITS.

Messrs. WALLACE & CO., Colchester, arranged a splendid rock and water garden exhibit in the open on the slope under the eastern wall of the castle. Messrs. JOHN K. KING, Coggeshall, had a grand collection of Sweet Peas. Messrs. ABBOTT & SONS also had some 50 varieties of these flowers of splendid quality from their Ardleigh Nursery, and Messrs. E. W. KING, Coggeshall, also had very fine blooms. Messrs. BUNTING had a choice group of Iris.

SCOTTISH HORTICULTURAL.

JULY 14.—Following on the paper upon the "Strawberry," read by Mr. Kidd at the monthly meeting on July 7, a conference on the Strawberry, with an exhibition of the fruit, was held on the 14th inst. in the Goolld Hall, 5, St. Andrew Square, Edinburgh. About 50 dishes of fruit were exhibited, including the varieties Aberdeen Favorite, Bountiful, British Queen, Duke of Edinburgh, Dumbarton Castle, Elton Pine, Filbasket, Garibaldi, Vicomtesse H. de Thury, Givon's Late Prolific, Grove End Scarlet, Dr. Hogg, The Laxton, Leader, President, Red Alpine, Reward, Royal Sovereign, John Ruskin, St. Antoine de Padou, Scarlet Queen, James Veitch, and Waterloo, the exhibitors being Messrs. ROBT. AITKEN, Loganbank (Midlothian); ALLAN BROWN, Edinburgh; R. H. COCKBURN, Gartmore (Perthshire); W. GALLOWAY, Gosford (East Lothian); A. MCKENZIE, Edinburgh; A. MCKINNON, Clifton Park (Ross-shire); C. MILLAR, Carron House (Stirlingshire); R. MOFFAT, Fordeledean (Midlothian); W. SMITH, Lambton Castle (Durhamshire); Mrs. VASS, Dalkeith (Midlothian); and Mr. JAS. WHYTECOCK, Dalkeith House (Midlothian). The jurors were Messrs. J. Whytock (Dalkeith), W. G. Pirie (Dalhousie), and G. Sinclair (Prestonkirk). The best sample of Givon's Late Prolific was from Mr. SMITH; of Royal Sovereign from Mr. AITKEN; of Garibaldi from Mr. MOFFAT; of President from Mr. MCKINNON; and of Dr. Hogg from Mr. COCKBURN.

Of the following varieties fine dishes were staged:—Leader (from Mr. GALLOWAY), Dumbarton Castle (from Mrs. VASS), Duke of Edinburgh (from Mr. MOFFAT), and British Queen (from Mr. COCKBURN). Mr. AITKEN sent a fine dish of Reward, which, for an extra large fruit, the jurors pronounced to be of good flavor, and worthy of commendation. The jurors did not consider that any of the samples of Elton Pine shown were true to name, and they thought that one of the dishes of Dr. Hogg was also wrongly named. Royal Sovereign and Dumbarton Castle they considered to be two of the best Strawberries grown.

On taking the chair, the president of the association referred to the disappointingly small number of dishes staged, but the audience was at one with him in attributing this to the dry weather, succeeded by the wet weather which had been experienced in most districts immediately prior to the conference. An interesting discussion regarding the merits of the various varieties, more especially as regards their adaptability for growing in different districts and their value for market purposes, as well as questions of nomenclature, followed, the speakers including the president and Messrs. GALLOWAY, McLellat, Berry, Massie, and Grieve.

A meeting of the adjudicating committee was also held on this date, Mr. Whytock, the

convener, being in the chair. Six new varieties of culinary Peas, viz., W. H. Massie, D. E. Laird, Jas. Staward, Jas. Welsh, W. Staward, and James Grieve were submitted to the committee for their opinion, and it was unanimously agreed to award First-Class Certificates to W. H. Massie, D. P. Laird, and Jas. Staward, and Certificates of Merit to James Welsh, W. Staward, and James Grieve. The Peas were raised by Mr. R. STAWARD, Panshanger Gardens, Hertford. A Certificate of Merit was also granted to Strawberry "Reward," exhibited by Mr. AITKEN at the conference.

The annual excursion of the association took place on Saturday, July 18, when a party of over twenty of the office-bearers and members journeyed to Drummond Castle, the seat of the Earl of Ancaster. At Crieff they were joined by contingents from the Dundee and Broughty Ferry Associations, and also by a few members of the Bridge of Earn Society, making in all a party of 107. The weather being fine, the famous gardens were seen under favourable conditions, and the trip was greatly enjoyed.

GLOUCESTERSHIRE ROSE.

JULY 14.—The twentieth annual exhibition of the Gloucestershire Rose Society was held on the Spa Cricket Ground, Gloucester, on the above date, and proved an all-round success. The entries numbered 150, about the same number as last year. With regard to the quality of the Roses, in many instances this was not so good as last year, the recent heavy rains and boisterous winds having damaged many of the blooms.

For the first time in the history of the Society classes were arranged for Sweet Peas. Most of the leading raisers and growers in the country were represented in this section, and the display was a comprehensive and attractive one.

Mr. W. H. PICKFORD won the piece of Plate given by the Mayor and Corporation of Gloucester for the best display of Roses by an amateur residing in the city. In the Gloucestershire amateur classes, Mr. W. G. BONNOR, of Barnwood, Gloucester, secured the piece of Plate presented by Messrs. JEFFERIES & SON, Cirencester, for 18 varieties. Mr. J. H. CROXFORD was awarded the City High Sheriff's piece of Plate offered to Gloucester amateurs for six varieties of Roses. In the cottagers' classes, pieces of Plate were presented by Mr. Henry Terrill, K.C., and Mr. J. H. CROXFORD, and these were won by Mr. A. MORTIMER, Tuffley; Mr. C. NEECHAM, Saintsbridge; and Mr. J. G. ORFEN, Gloucester.

The National Rose Society's Silver Medals for the best Roses exhibited by an amateur were awarded to Mr. R. FOLEY HOBBS, Worcester, for a bloom of Mrs. Theodore Roosevelt; Mrs. BONNOR, Barnwood, for White Maman Cochet; and Mr. J. G. ORFEN, Gloucester, for Bessie Brown.

In the nurserymen's classes Messrs. ALEX. DICKSON & SON, Ltd., Newtownards, and HENRY DREW, Longworth, each carried off a couple of 1st prizes, and Messrs. JOHN JEFFERIES & SON, Cirencester, the 1st prize for 36 varieties. In the open classes Messrs. ALEX. DICKSON & SON and Messrs. JOHN JEFFERIES & SON each won two first prizes. Messrs. J. JEFFERIES & SON's Lady M. Bathurst, a new Rose distributed by this firm, and which has received commendation from the National Rose Society, figured conspicuously in Mrs. W. H. PICKFORD's prize-winning basket.

In the amateur classes (open), Mr. F. DENNISON, Kenilworth, won the 1st prize for 24 varieties, with Mr. R. FOLEY HOBBS, Worcester, and Mr. CONWAY JONES, Gloucester, 2nd and 3rd respectively. For 12 varieties, three blooms of each variety, the prize winners were in the same order, but in the classes for 12 varieties, single blooms, for six Teas and for nine bunches of garden Roses, Mr. CONWAY JONES took the three premier honours.

In the Sweet Pea section, the 1st prizes for Gloucestershire amateurs were won by Mr. W. J. THORPE, of Hucclecote (18 varieties), and Mr. G. R. BONNOR, Barnwood (12 varieties); 2nd, Mr. CONWAY JONES, Gloucester. Mr. W. H. PICKFORD secured the 1st prize. Miss MERCE, of Sandhurst, Gloucester, was awarded premier honours for the best display of Sweet Peas.

BIRMINGHAM BOTANICAL AND HORTICULTURAL.

JULY 15.—The midsummer flower show of the above Society was held at the Edgbaston Botanical Gardens on this date, and was a great success. The weather was fine, and visitors were more numerous than at any of the Society's previous special shows.

The Right Hon. JOSEPH CHAMBERLAIN, M.P., Highbury, Birmingham (gr. Mr. John Deacon), sent a large and very well-grown group of "Malmesbury" and Tree Carnations. The last-named were arranged along the back of the group, and the "Malmesbury" varieties were placed in batches of different sizes in front. The flowers were large, shapely, and of good colours. (Gold Medal.)

From Messrs. BAKER'S, Wolverhampton, came a grand display of Roses, Sweet Peas, and Gladioli. Of Roses, René André, Captain Hayward, Frau Karl Druschki, Madame Abel Chateau, Marjorie, Countess of Derby, and Blush Rambler were well shown; and of Sweet Peas several excellent varieties were noted, including three new ones named A. B. Bantock, Earl of Plymouth, and G. W. Kerr. (Gold Medal.)

W. BYNG KENRICK, Esq., Somerset Road, Edgbaston (gr. Mr. Jas. Webb), showed a group of flowering plants, comprising double and single-flowered tuberous-rooting Begonias, Francoa ramosa, and a very good strain of Gloxinias. (Bronze Medal.)

Mr. C. H. HERBERT, Accocks Green, Birmingham, had a very showy group of hardy flowers, in which Gaillardias, Campanulas, Liliums, Delphiniums, &c., were shown in excellent condition; also Verbenas in variety and Zonal Pelargonium Paul Crampel, bearing large handsome trusses of flowers. (Silver-Gilt Medal.)

Mr. A. R. BROWN, Wychall Lane, King's Norton, sent Roses and a choice selection of Carnations. (Bronze Medal.)

Mr. ROBERT SYDENHAM, Tenby Street, Birmingham, contributed a pleasing display of Gladioli and Sweet Peas. (Silver Medal.)

Mr. W. H. MORTER, Cannon Hill Park, Birmingham, sent three very large plants of Nephrolepis todeoides. (Vote of Thanks.)

Messrs. W. H. SIMPSON & SON, Monument Road, Birmingham, had a beautiful collection of Sweet Peas, in which the varieties Miss Audrey Crier, Princess Victoria, Mrs. Henry Bell, Nora Unwin, and Frank Dolby were of exceptional merit. (Silver Medal.)

Messrs. RICHARD SMITH & CO., Worcester, sent an extensive group of Roses, Sweet Peas, and miscellaneous border flowers. (Silver Medal.)

Messrs. HEATH & CO., Cheltenham, had an arrangement of Alpine plants and border flowers. (Bronze Medal.)

SWEET PEAS.

In a class provided for nine varieties of Sweet Peas there were six exhibitors. The 1st prize was awarded to A. HUGHES, Esq., Packwood Grange, Knowle (gr. Mr. T. Parry), who had a splendid lot of flowers. 2nd, Mr. W. MARPLE, Penkridge.

AWARDS OF MERIT

were granted to a variety of Pink known as Progress; a strong-growing variety, with unusually large, light-purple flowers borne on tall, strong stems; and Galea, official name Her Majesty, which differs from the type by reason of its stronger growth, larger and deeper-coloured flowers borne on very long racemes. These were shown by Mr. C. H. HERBERT, Accocks Green.

BRITISH GARDENERS' ASSOCIATION.

The next visit of the London Branch will be to Finsbury and Waterlow Parks on Saturday, August 8. Members will assemble at Station Gates, Finsbury Park, at 3.30 for 3.40 p.m.

All professional gardeners are invited. Those unable to join the party at the appointed hour will on enquiry be informed of the direction which the party has taken.

The visitors expect to arrive at Waterlow Park 6.30 p.m.

Obituary.

RICHARD LOWE.—We regret to record the death of Mr. Richard Lowe, who, for a period of more than half a century, carried on business as a nurseryman and seedsman in Wolverhampton. His death took place on Monday, July 6, at his residence, Sandy Lane, Tettenhall, at the



THE LATE RICHARD LOWE.

advanced age of 81 years. The late Mr. Lowe commenced his business career at a very early age. He went to Wolverhampton as a young man in the early forties to act as assistant to his aunt, Miss Jane Lowe, in the conduct of the old nursery business established by his uncle in Queen Square, and at nurseries in Chapel Ash and North Road, so far back as the year 1785. On the decease of the above-mentioned lady, Mr. Lowe—in conjunction with



THE LATE THOMAS HOGG, WHOSE DEATH WAS RECORDED ON ante p. 32.

a Mr. Mowbray, with whom he entered into partnership—purchased the business from Miss Lowe's executors. They worked together up to the middle of 1862, when the partnership was dissolved, and Mr. Mowbray was succeeded by Mr. Lowe's brother William, the partnership between them lasting until 1871. Mr. Richard Lowe then took over the business and continued

to carry it on in the old shop in Queen Square, and at his nurseries on the North Road, Penn Road, until the month of September, 1890. Deceased was a member of the committee of the old Wolverhampton Horticultural Society, which he largely helped to establish some 50 years ago. He was entrusted with the laying out of Molineux Grounds for the purpose of the Fine Arts and Industrial Exhibition, which was held there in the year 1869, and which proved an unqualified success. In the month of January, 1907, he was elected a pensioner of the Gardeners' Royal Benevolent Institution. He had held the position of honorary secretary of the Wolverhampton Auxiliary of that Institution for several years previously. Deceased was buried in Tettenhall Old Churchyard.

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending July 18, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The weather.—Cool and unsettled conditions were experienced over the whole kingdom, and except in the north of Scotland and the English Channel district the rain was extremely heavy. In the south-western districts occurred in almost all localities, but were more common over the eastern half of England than elsewhere.

The temperature was below the average, the deficit being greatest, about 8° in England S.E. and S.W., and in Scotland E. The highest of the maxima were recorded on somewhat irregular dates, and varied from 74° in England E., 73° in the Midland Counties, and 72° in England S.E., to 67° in England S.W., the English Channel, and Scotland N. On some days many of the maxima were below 65°, even in the south of England, and below 60° at some stations further north. The lowest of the minima, which were also recorded on irregular dates, ranged from 38° in England S.W. and 40° in Scotland E. and W., to 47° in England S.E., to 50° in England E., and to 61° in the English Channel. As a rule the nights were mild and calm of the minimum temperatures were above the normal. The lowest readings reported from the thermometer on the grass were 31° at Llanganach Wells, 34° at Cockle Park, Morpeth, 35° at West Linton, and 36° at Burnley.

The mean temperature of the sea.—Compared with the corresponding week of last year the mean temperature of the water was low at nearly all the stations except those on the south and south-east coasts. The actual figures ranged from 62.6° at Margate, 62.4° at Eastbourne, 60.4° at Seaford, and 60.0° at Newquay, to 51.0° on the north-east coast of England and 50.0° at Wick, and 50.0° at Aberdeen.

The rainfall greatly exceeded the average except in Scotland N., where there was very little, and in the English Channel. In many parts of England the fall was more than twice, and in England S.E. and E. more than three the average. Falls of an inch or more in one day were registered over a large portion of England, generally either early in the week or on Thursday. The largest quantities were recorded on the 12th and 13th, when the fall was 4.1 inches at Clacton-on-Sea, Felixstowe and Tunbridge Wells, 1.38 inches at Broadstairs, and 1.80 inches at Norwich; and on Thursday 1.37 inches at Clifton, 1.39 inches at Prestwich, and 2.04 inches at Arington. On the same day 1.92 inches fell at Armagh. The highest totals for the week were 3.51 inches at Felixstowe, and 3.15 inches at Clacton-on-Sea.

The bright sunshine was very deficient generally, the percentage of the possible duration ranging from 33 in the English Channel and 24 in Ireland S. to 15 in the Midland Counties and England E., 12 in Ireland N., 8 in Scotland E., and 7 in Scotland N.

THE WEATHER IN WEST HERTS.

Week ending July 22.

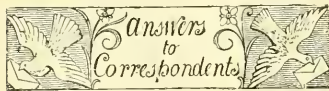
A cool, wet, and very gloomy week.—For nearly three weeks the dials have remained cool for the time of year, the highest temperature to the thermometer screen, on only three of them exceeding 70°. The nights, however, during the same period have been mostly warm, the lowest reading indicated by the exposed thermometer being only 40°. Both at 1 and 2 feet deep the ground is at the present time about 2° colder than is seasonable. Rain fell on each of the first four days of the week, to the total depth of 1 inch—equivalent to a watering of nearly five gallons on each square yard of surface in my garden. Of that amount more than three gallons have passed through the bare soil percolation gauge, but the gauge on which short grass is growing has been in no way affected. The record of bright sunshine again proved very deficient, the average daily duration being only 24 hours a day, or less than half the usual quantity at this season. The winds were light, the mean velocity in no hour exceeding 11 miles. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by as much as 10 per cent. E. M., Berkhamsted, July 22, 1906.

SCHEDULES RECEIVED.

Newport and District Chrysanthemum Society's annual exhibition to be held on Thursday, November 5, 1905, in the Gymnasium, Newport. Secretary, Mr. H. Poole, 25, Morden Road, Newport.

The Thirtieth Annual Show of the Aitricham and District Chrysanthemum Society, to be held on Friday and Saturday, November 6 and 7, 1905, in the Drill Hall, Hale.

Lady SARAH WILSON, Stud House, Hampton Court,
Middlesex.



ACETYLENE GAS LIME: E. P. This material can be used as a manure to supply the constituent lime, but it should be placed in a heap exposed to the influence of the atmosphere for a month or two before being used. It is more suitable for heavy clay lands than for the lighter and more loamy soils, and it is also more adapted for coarse-growing plants, such as members of the Cabbage family than for Roses, or flowers generally. Another point to be observed is never to apply acetylene gas lime to land planted with Potatoes, as it is apt to impart a very unpleasant flavour to the tubers. For Roses growing in a lime-deficient soil, use ordinary quicklime mixed with sulphate of magnesia (Epsom Salts), four parts of lime to one part of magnesia, and apply 6 ozs. of the mixture per square yard any time during the month of March. In using acetylene gas lime for the coarser varieties of plants on land deficient in lime, 8 ozs. per square yard may be trenced in some time previous to planting. We doubt if this substance will kill wireworm in the soil. For this purpose use ordinary gas lime.

A GARDENER AND BAILIFF'S NOTICE: De Mol En Piz. (1) Only the employer of some one duly authorised by him can give the notice of dismissal. (2) The employer can give notice without waiting to pay what may be due to you, but under your arrangement you can insist on payment at the end of the month of the amounts disbursed by you, irrespective of whether notice is given by either side. (3) A head gardener is usually entitled to a month's notice, but where he also performs the duties of bailiff, three months' notice does not seem unreasonable. It is, however, purely a question of the custom of the country, and you had better ascertain from other bailiffs what their evidence would be on this point if called upon as witnesses. (4) Your predecessor's agreement is not binding on you, though, possibly, the employer may endeavour to bring it forward as evidence of custom. (5) The proper remedy is to sue in the County Court, and if this becomes necessary you should instruct a local solicitor to issue the summons and represent you. **E. S.** As you are an under gardener and paid weekly, you are only entitled to a week's notice.

CATERPILLAR: C. B. The specimen you send is the caterpillar of the Death's Head Hawk Moth.

CHRYSANTHEMUM MRS. THOMPSON: W. B. It is now rather late for stopping the shoots, but if required for flowering in January and the plants can be grown under favourable conditions they might be stopped once more. If, however, the plants have already a fair number of shoots it would be safer not to do so. Much depends upon the conditions under which the plants are grown. Last winter many growers failed to flower the late varieties satisfactorily.

DOUBLE PETUNIAS: G. T. These may be propagated at any time when good cuttings can be obtained. The ends of the flowering growths be pinched off the plants will make new shoots from the lower part of the stems, and when these are about 2 inches long they will make good cuttings. Insert them in light, sandy loam and place them in a frame where there is a little bottom heat and a cool surface. They will soon root if the frame is kept closed for a time. The usual method of treating Petunias is to keep the plants in a cool house through the winter, and take the cuttings early in February or as soon as the plants have made new growth early in the year. The tops of the young plants may make better cuttings than those afforded by the older plants.

GRAPES DEFICIENT IN COLOUR: F. H. An application of iron sulphate will have little or no effect in producing a deeper colour in your black Grapes. The failure of the berries to colour is due to some cultural deficiency,

such as an insufficiency of fresh air in the vinery or improper ripening of the wood. Train the lateral shoots well apart, so that air may circulate freely amongst the shoots, and do not overwood the vines with foliage. Apply water to the roots carefully, and do not stand pot plants on the borders, as the drainage water from these will do harm. When the Grapes are harvested, open the house to all ventilation possible, so that the wood may become firm and hard. Above all, avoid overcropping, which is the most frequent cause of a constitutional weakness in the vines.

GRAPES DISEASED: W. H. B. Some of the berries are affected with the "spot" disease, but most of them exhibit shanking. The latter condition is usually the result of some trouble at the root system, generally a badly-drained border. Renovate part of the border next winter, and be guided by the results as to whether it is advisable to remake the whole of the border in the following season.

INSECTS ON FRUIT TREES: A. H. D. We failed to find any of the creatures you describe. Your best plan will be to spray the trees with some arsenical insecticide such as Paris green, and in the winter to syringe them with the caustic soda solution. If you will send us some of the insects in a small box, we will endeavour to help you further.

MONSTERA FRUITS: Correspondent. The fruits of the Monstera after attaining their full size are several months before they show signs of ripening, but as you say the plant began to develop fruits twelve months ago these latter should now ripen. The size of the fruits you give is satisfactory; we have seen them larger, but that was on old plants. We would advise you now to keep the plants drier for a short time, and discontinue spraying them overhead; this will induce ripening. Once the fruits show signs of ripening they finish in a few days. You can readily perceive when the fruits are approaching the ripening stage; they emit a strong but pleasant aroma, somewhat like a ripe Pineapple, and the outer portion of the fruit peels off, beginning at the stalk. The fruits should then be cut and placed on a dry warm shelf for a few days. They have a distinct Pineapple flavour and are very juicy. The only drawback in eating the fruits is that numerous small black spines are attached to the inside portion; these are disagreeable and being minute are difficult to remove; they are apt to cause a prickly or itching sensation in the throat.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but we must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to organise the preparations for the weekly edition, or to encroach upon time reserved for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time; they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly-ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. *Correspondents not answered in one issue are requested to be so good as to consult the following numbers.*

PLANTS: A. M. *Inula glandulosa*.—Zola. We do not undertake the naming of Roses. The other plant is *Lycasteria formosa*.—*Dick*. 1, *Dracena marginata gracilis*; 2, *Dracena intermedia*; 3, *Adiantum cuneatum* Pacotii; 4, *Begonia Madame Anna Low*; 5, *Chelidonium majus*.—*A. E. S.* *Stapelia variegata*.—*T. C., Tonbridge.* *Melilotus officinalis*.—*W. T.* 19, *Campanula* species; 20, *Rhynchosystis retusa* (*Saccolabium guttatum*); 21, *Aerides virens*, very light form; 22 and 23, *Cypripedium barbatum*.—*Young Gardener.* 1, *Begonia argyrostigma*, warm greenhouse plant; 2, *Polystichum angulare*, hardy; 3, *Adiantum cuneatum* Pacotii, greenhouse; 4, *Galega officinalis*, hardy.—*J. S.* *Orthothylacium latifolium*.—*F. O. S.* 1, *Oncidium flexuosum*; 2, *Oncidium triquetrum*; 3, *Brassia verrucosa*; 4, *B. zia verucunda*; 5, *Anthegonium gracile*; 6, *Dendrobium crepidulum*.—*Reader.*

1, *Odontoglossum Adriane*; 2, *Oncidium raniferum*; 3, *Pleurothallis rubens*; 4, *Celia macrostachya*; 5, *Oncidium sphaeculatum*.—*Jury.* *Lysimachia vulgaris*.—*E. Gray.* The plant could be named with greater certainty were it in flower. There is, however, but little doubt it is *Alchemilla vulgaris*, and therefore not a Strawberry plant.

PALM ROOT INFESTED WITH MEALY BUG: W. B. The insects resembling mealy bug on the roots of your Palm are known as *Kipisia terrestris*. As you have such a bad case, we should advise turning the plants out of the pots and washing the roots with warm water, but in the case of plants not so badly affected a little bisulphide of carbon should be poured into the soil. This is done by making holes at intervals with a piece of stout wire into which the liquid is poured. A teaspoonful of the chemical is sufficient for a pot of ordinary size.

PEA MALFORMED: H. L. The example you send exhibits fasciation or fusion of growth. It is an ordinary garden variety. We cannot explain what has caused the abnormality.

SEED FOR NAMING: R. T. L. The very large seed is from the pod of a leguminous plant—*Entada scandens*.

TOMATO SPOT DISEASE: Mosley. See reply to *W. H.*, page 20, in the issue for July 4. The disease has no connection with the dressing of bonemeal used.

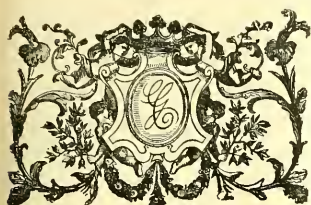
TREE INJURED BY LIGHTNING: F. F. As the damage does not appear to have extended for any considerable width, the tree will probably repair the injury by a callus or new growth from the sides of the bark that is split. Paint the wound with tar to exclude the wet and keep spores of fungus diseases from germinating and gaining an entry into the tissue of the tree. Keep the tree under observation, and if any curing results, fill the crack with Portland cement.

UTILISING FORCING HOUSES: G. K. You do not mention whether the houses are span-roofed or lean-to, but, presumably, they are the latter, with a southern aspect, though that also you do not state. Have you had experience in the cultivation of any special produce? If not, a difficult task is before you in obtaining sufficient crops from two houses of the size named to provide you with a living. It would be advisable to take up some speciality and apply yourself to that thoroughly, as a mixture in such a small compass would never give good results, nor would you have sufficient produce for sale in large quantities, and you will find that few salesmen can deal profitably with small consignments of ordinary quality. Do not think of sending plants to London from your district; the cost would be prohibitive, and the markets are already well supplied with such produce. If you can find a good local market, one of the houses might be devoted to either Roses or Carnations in pots, and the other 15 Cucumbers or Tomatoes, making the selection in accordance with your experience as a grower, and with the demand of the district, which you must first ascertain. A portion of the latter house might be utilised for forcing Seakale, Rhubarb, or Asparagus early in the year, and when the plants are cleared from the other house, Cucumbers or Tomatoes could take their place for the late summer months; but there is not much profit in these crops at that season, and you might find it more advantageous to have a succession of Carnations. If you are starting the work without experience, as it would almost appear from your letter, we strongly advise you to have expert advice on the spot, as it may save you considerable expense and disappointment. Reliable salesmen advertise in these columns.

COMMUNICATIONS RECEIVED.—Lewis Smith (with thanks).—*T. D.* and *Co.*—*T. G. B.*—*W. G. S.*—*W. H. S.*—*L. P.*—*J. C.*—*F. B.*—*F. D.* and *Co.*—*R. Syderum, Ltd.*—*Enquirer*.—*G. F. T.*—*H. D.*—*A. B. C.*—*W. A. S.*—*W. H.*—*Fonthill*.—*G. H. S.* and *Co.*—*O. V.*—*Cheadle Hort. Soc.*—*G. H. P.*—*C. H. A.*—*A. T.*—*T. A. C.*—*T. L. E.*—*M.*—*Rosser Jones* and *Co.*—*Chloris*.—*H. O. B.*—*C. H. P.*—*Roy, Hort. Soc. of Ireland* (too late for this issue).—*R. W. G.*—*Frank B.*—*F. A. S.*—*W. E. G.*—*T. G.*—*J. V.* and *Sons.*



PEONIA MLOKOSEWITSCHII, A NEW HARDY SPECIES WITH YELLOW FLOWERS, AND RED MARGINS AND VEININGS IN THE FOLIAGE. FROM SPECIMENS SUPPLIED BY MR. W. E. GUMBLETON.



THE

Gardeners' Chronicle

No. 1,127.—SATURDAY, August 1, 1908.

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BIRD-SCARING DEVICES.

CONSIDERING the enormous amount of damage committed by birds in the garden every season, it is somewhat surprising that so little ingenuity appears to have been displayed by inventors in the matter of an effective bird-scarer. One must admit that the subject is one of great difficulty, chiefly for the reason that familiarity breeds contempt, and birds are by no means slow in proving the truth of that well-worn maxim. Most of us have had plenty of experience as to this fact, and a bird's nest in a scarecrow's pocket or in the crown of its dilapidated hat is no uncommon thing. Perhaps the boldest thing of this kind that ever came within the writer's personal knowledge was a thrush's nest in the middle of a cherry-tree, the latter being already covered with a network of black thread to "scare the birds." In this instance, however, the bird paid the penalty of its temerity, for she was found one morning hanging dead in the tree, one of her legs entangled in the threads.

Various devices have, of course, been employed by gardeners from time immemorial to protect their crops from the birds, and where expense is not a consideration the matter is

not so difficult to deal with. But what is really wanted is some cheap and really effective method of bird-scaring that can be as well adapted to the cottager's garden as to that of his well-to-do neighbour. Netting, which is practicable enough in some cases but quite impossible in others, is rather a laborious as well as an expensive business, and it is only those who are prepared to lay out a considerable sum of money on their gardens who can afford to adopt the more satisfactory but elaborate process of wiring in their fruit trees and bushes to protect them from the enemy. Ordinary tarred string netting is good so long as it is new, carefully put on and taken off, and arranged so that the crop can be gathered with a minimum of inconvenience, but most of us at one time or another have had trying experiences with closely-netted Strawberries and Gooseberries, or have broken our backs trying to gather the fruit while stooping under the protective canopy arranged overhead. Where large trees such as Cherries have to be protected, or the area of ground to be covered is considerable, netting is too costly or difficult a process to be worthy of consideration. Thread-work protection for seeds, flowers or bush-fruits when in bud is often successful up to a certain point, but here again the labour involved is considerable and the device is not always successful.

A good many of the old-fashioned bird-scarers seem to have gone out of fashion nowadays. We may dismiss the scarecrow at once as being quite out of place and much too disreputable for any well-ordered garden, but where are the terribly fierce-looking hawks that we used to see hovering over the Strawberry and Currant beds, and where are the bright three-cornered bits of looking-glass that used to be suspended amid the branches of the Apple-trees in days gone by? The former, if constantly moved from place to place, were not altogether without effect, especially when their jointed wings clattered in the breeze, and the latter were certainly effective for a time at least. Jingling tins that were hung so that they clanged together in the breeze soon lost their novelty from the birds' point of view, but were perpetually irritating to human ears. The same may be said for the dinner bell hung in the tree and agitated by the junior members of the family from the nursery window. Feathers or bits of coloured rag tied at intervals along a string impart a certain amount of terror to birds when the wind blows, but here again the effect is only fleeting.

Bird-scarers of a noisy character are, of course, the most effective, but even these are apt to lose their efficiency in the course of time. The mechanical gun is all very well, but a tremendous lot of fruit can be devoured between each report if these are only timed four or five to the hour, and if they are more frequent the birds get quite accustomed to them. Ordinary guns want somebody to look after them, and when a charge of shot happens to get in above the powder they are not at all desirable things in a garden where people are wont to wander. Take it on the whole, therefore, there is hardly any method of bird-scaring that is sufficiently effective to leave no room for something novel.

But there is one plan which has been adopted with some success, and since it costs

nothing is worthy of wider adoption. This is the cat system, and consists in the kennelling of the ordinary domestic grimalkin in the fruit bed or orchard. A long wire is strained between posts a considerable distance apart, and to it is attached a running chain or collar which the cat wears round her neck. [See Fig. in *Gardeners' Chronicle*, March 23, 1907, p. 189.—Ed.] Her bread and milk is placed at one post and her kennel—an old butter-tub with a handful of straw in it—at the other. The cat passes backwards and forwards perpetually, and as she does so rattles her chain and scares the birds. There is no cruelty in the system if the cat is taught to wear a collar when young and trained early, and a good active cat certainly enters into the fun of the thing, scampering along her wire whenever she sees a bird anywhere near. This method of bird-scaring may be recommended as a good one, but there is still room for some mechanical contrivance at a popular price, for even cats neglect their work at times. *East Sussex.*

NOTES FROM LA MORTOLA.

BRASSICA INSULARIS (MORRIS).

This is certainly one of the finest species of its genus, and can be considered as a highly decorative plant when in flower in early spring. It was first described and figured by Morris in his *F. Sard.* 7. (1837), 168, t. xi. The plate, however well engraved, does not convey any idea of the beauty of the plant, as under cultivation in deep, rich soil it grows far more vigorously, and produces an immense quantity of flowers arranged in stout but elegant racemes. The individual flower is a very large one for its genus, and of a pure white. In fact, the whole plant forms a mass of white. *Brassica insularis* is a native of the Island of Sardinia, where it grows on calcareous or volcanic rocks. Seeds of it were received some time ago from the Botanic Garden at Cagliari, and have been distributed from this garden for several years. It is such a beautiful cabbage that it ought to be more cultivated. It shows off best where it cannot be seen too closely, so that the rather coarse leaves are not visible. Like all its congeners, it likes a rich and well-manured soil; in a barren place it hardly makes any progress. *Alain Berger, La Mortola, Ventimiglia, Italy.*

CULTURAL MEMORANDA.

A METHOD OF PROPAGATING SCIADOPITYS.

THE usual method of increasing *Sciadopitys verticillata* is by means of seed, and this is the only one usually mentioned in garden literature; but seeds are comparatively dear, and they vegetate less freely than those of most coniferous plants, besides taking a long period of time, and much attention. Grafting is much to be preferred to seed growing, grafted plants growing readily and making in four months plants equal in size to three-year-old seedlings. Early in March the terminal shoots are taken, and grafted on to pieces of the roots of the same species and bound round with oiled cotton wool; planted in small pots; and placed in a close house or frame having a temperature of 63° to 68° Fahr. When growth is completed, the plants should be hardened off, and by the beginning of the month of July the majority will be fit for planting in the nursery. The usual coating of the graft and root with grafting-wax or placing in an air-tight case are not required. Under this treatment the percentage of failures is very small. *F. M.*

OZOTHAMNUS ROSMARINIFOLIUS.

ALTHOUGH this pretty Australian evergreen shrub has been cultivated in this country for upwards of eighty years, it is by no means well represented in gardens generally. It forms a neat bush of free growth, with long slender shoots clothed with narrow Rosemary-like leaves about one inch in length, and in June and July bears corymbs or dense clusters of tiny white Aster or Daisy-like flowers at the apex of the branches and branchlets in such profusion as to justify the appellation of "Snow Flower," by which it is sometimes known (see figs. 32 and 33). Unfortunately, this species is not thoroughly hardy throughout the whole of the British Isles, but in the more favoured parts of the country it succeeds in the open air without protection.

By no means fastidious as regards soil, it prefers one consisting of rather stiff loam, to which peat and leaf-mould have been added, which should be made quite firm at planting time. Perfect drainage is essential. The best position is one having a south or south-west aspect, as it is only when the wood becomes thoroughly ripened that the best results are obtained. On no account should a position be selected that is exposed to cold winds, as the plant is apt to suffer in spring while growth is tender. Water should be given freely during hot, dry weather. In cold districts this species may be grown as a pot-plant for the embellishment of the greenhouse. It is very valuable for affording flowers for cutting, and they can be obtained with long stems for vases, being capable of remaining fresh for a long time. T. H.

ACHIMENES COCCINEA.

THIS is one of the original species of Achimenes, and was introduced to our gardens from Jamaica as long ago as 1778. In size of flower it does not approach the numerous garden varieties now in cultivation, but is nevertheless from its brightness of colouring well worthy a place in gardens. It succeeds when treated as a basket plant in a warm greenhouse, and so grown its small bright scarlet flowers render it an object of beauty throughout the summer months. When the highly ornamental flowers and the long blooming season of Achimenes in general are borne in mind, it is a matter for surprise that they are nowadays so little grown. Perhaps the fact that they are not of much value for cutting purposes is answerable for a good deal of this neglect, as invariably the first question asked concerning any new flowering plant is: will it be useful for a supply of cut bloom? W.

The Week's Work.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Narcissi for forcing.—If it is intended to employ bulbs for early forcing, which are now growing in the open borders, these may now be lifted. Select only the best of the bulbs for this purpose. If they are required for decorative purposes the best plan is to put a considerable number of bulbs into an 8-inch pot. Each pot should be well drained and afterwards filled to half its depth with a compost of good loam, leaf-mould and sand. Place as many bulbs on this layer of soil as there is sufficient room for. Then fill up with soil to the top of the bulbs. Afterwards place as many bulbs between those of the bottom layer as possible, and fill up again with soil, pressing it firmly around them. Although the bulbs in the bottom layer are so much lower in the pot than the others, they will all come into flower at the same time, grow to the same height, and, therefore, there will be a larger number of flowers in a given space. After the potting is completed, apply a good soaking of water, and place the pots in a position where they can be covered overhead with about 6 inches deep of ashes or sand.

Nerine Fothergillii major.—The bulbs which have been quite dry should now receive a little water, and as soon as the flower-spikes appear the supply of water should be increased; later, when the foliage also appears, the loose soil should be picked off from the surface and a

slight top dressing afforded. Nerines do not require to be reported frequently, but any that do need a fresh rooting medium should be treated directly after the flowering stage is passed, taking the bulbs and shaking the soil away from them and repotting them into a compost of loam, leaf-mould, wood ashes and sand. The pots should be very carefully drained, and during the active growing season the plants may be given a free water supply. Immediately following the operation of repotting, the plants should be placed in a house of an intermediate temperature, where they can be shaded from the sun's rays during very bright weather, and syringed as often as necessary. As soon as the leaves begin to show signs of withering or decay the water supply should be gradually reduced and finally discontinued when the leaves have died quite away, at which time the pots may be

Queen Pineapples.—Plants from which the fruits have been gathered should have their leaves shortened, so that the suckers which have been reserved for the purpose of propagation may have plenty of room for developing. Careful attention must still be given to such routine matters as watering, manuring, syringing, and ventilating. A night temperature of 70° to 75°, with the usual increase by day, should be maintained, the aim being to secure stout, well-matured suckers possessed of short, broad leaves, and fit for potting by the beginning of September. Slender, elongated suckers, which are produced under unduly high and close atmospheric conditions, will not furnish the best fruits. Plants of young Queen Pines intended for fruiting next summer will now be growing freely and forming suckers; these should be removed as



[Photograph by Miss Wallace.]

FIG. 32.—FLOWERING SPRAY OF OZOTHAMNUS ROSMARINIFOLIUS: FLOWERS WHITE.

placed on a shelf exposed to the sunshine in a cool greenhouse, where they may rest until the following season.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATOCK, The Hendre, Monmouthshire.

The late Peach-house.—The fruits having now been finally thinned and the period of stoning passed should be fully exposed to the sun, in order to improve their flavour and colour. Keep the young wood properly thinned and trained, all lateral growths pinched out, and any extra vigorous shoots should be entirely removed. Ventilate the house freely, copiously water the borders as required, using diluted liquid manures often, and do not neglect to use the syringe.

soon as they are large enough to be grasped by a suitable pair of pincers. Examine the plants individually once a week, and water those that are in need of moisture with tepid water in which has been placed a small quantity of guano. In cases where they are planted out, they must, of course, be watered collectively. Ventilate the pit early and tolerably freely on sunny days. Slightly shade the plants with thin tiffany, maintain a fairly moist atmosphere, and spray between the plants and overhead with tepid water when the house is closed early in the afternoon. It should, however, be borne in mind that much injury results from keeping the soil in the pots very wet, and this may be thoughtlessly done when syringing between and over the heads of the plants. Maintain a bottom heat of about 85°.

THE FLOWER GARDEN.

By W. FIFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Flower beds.—Recent heavy rains having hardened the surface of the soil, it will be necessary to loosen this in order to prevent the ground cracking, and to admit more air to the roots of the plants. If a light mulching of leaf-mould be afterwards supplied it will be beneficial. Give frequent attention to pegging and tying the growths until the beds are completely furnished, and when this has been accomplished continue to pinch and regulate the shoots in places where they are thinner than in other portions, never allowing a particular plant to grow beyond its proper limits. Free-flowering plants such as *Calceolarias*, *Verbenas*, *Violas*, *Lobelias*, require frequent waterings during dry weather. Remove all decayed flowers, never allowing the seeds to develop; thus will the plants be enabled to flower over a longer period. It has been necessary to give very careful attention to affording supports to *Dahlias* and other tall-growing plants, as recent winds would otherwise have caused damage. Sub-tropical plants appear vigorous and are very effective this season, and these species particularly need frequent attention in regard to protection from winds.

Winter bedding.—Evergreen shrubs that were removed from the flower beds last spring and will be required again for a similar purpose in the autumn must be given attention in the meantime. Unless they are constantly maintained in a moist condition at the roots and the growths regulated and kept clean by syringing, they will lose their decorative appearance.

Lawns.—In dry districts, if the turf is getting brown, the mowing machine had better be discontinued for a time, using only the scythe for removing the coarser growing grasses as they appear above the ordinary level. Just now the Plantain is a conspicuous lawn weed, and should be at once eradicated in order that the bare patches may quickly become furnished with grasses.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westbury, Gloucestershire.

Cypripediums.—The species *C. Stonei*, *C. Rothschildianum*, *C. Sanderianum*, *C. Curtisii*, *C. superbiens*, and their hybrids, *C. Lord Derby*, *C. Mrs. Harry Smith*, *C. A. de Lairese*, *C. Veitchii-Morganiae*, *C. Youngianum*, *C. Morganiae*, &c., all need the temperature of the warmest division. On the contrary, *C. Lawrenceanum*, *C. barbatum*, *C. callosum*, and their hybrids *C. Chapmanii*, *C. Maudiae*, *C. Charles*, *C. equalis*, *C. Gowerianum*, and many others, equally attractive and useful, grow best in the intermediate house. To cultivate these plants successfully, it is essential that the receptacles be well drained, and a porous compost consisting of equal parts turfy loam, peat, and sphagnum-moss, used as a rooting medium. The present is the most suitable time to examine the plants, and afford new material to those in need of it, as fresh growth commences soon after the flowering period is past. These plants should be given a position where they can be shaded at all seasons from strong sunshine. During the growing season there must be no lack of moisture at the roots or in the atmosphere, and those with tessellated foliage enjoy frequent overhead syringings, especially when the weather is bright.

Succulent kinds.—The dwarf-habited species such as *C. bellatulum* and its variety *album*, *C. niveum*, *C. Godefroyae* and its variety *leucochilum*, *C. concolor* and *C. Sanderae* may be classed amongst the most difficult of Orchids to cultivate, and keep in a healthy state for many years. These plants succeed best when grown in a warm moist atmosphere, either suspended from the roof or placed on a stage close up to the roof-glass, when they will be free from drip. Careful watering is necessary at all times, and more especially during the winter months, when only sufficient is needed to prevent the succulent leaves from shrivelling. The most suitable time for repotting is soon after the plants have ceased to flower. Disturbance at the root, however, should not take place unless the compost and drainage make this necessary, but if the surface material is sour, pick out as much as possible without injury to the roots, and replace it with a mixture of two-thirds turfy

loam and one-third each of turfy peat and sphagnum-moss, adding plenty of finely-broken brick, or limestone, and coarse, clean sand. The hybrids derived from this section are very numerous, and while some have good constitution and grow away freely, others are difficult to cultivate, and require careful treatment.

Cooler growing species.—Plants of the late autumn and winter-flowering kinds, which occupy the cool, intermediate house, will now need liberal treatment, as these are growing freely and fast filling their pots with roots. While these *Cypripediums* are shade-loving Orchids, it is well to bear in mind that light and fresh air are necessary for the production of strong, healthy growth, from which alone can well-coloured flowers of good substance be produced. Air should be admitted by the top and bottom ventilators, whenever practicable, admitting air at night if the weather will allow. Thus treated, there is not that flaccidness in the foliage so noticeable with those plants that are grown too warm, close, and heavily shaded. Providing the drainage is perfect, and rooting material porous, copious supplies of water will now be needed at the roots, and the plants should be kept freely syringed, to keep insect pests in check. Large root-bound specimens will benefit greatly from occasional doses of weak liquid farm-yard manure, but this should be allowed to stand until it is clear before using, for if used in a turbid state, the potting compost will become clogged and sour.

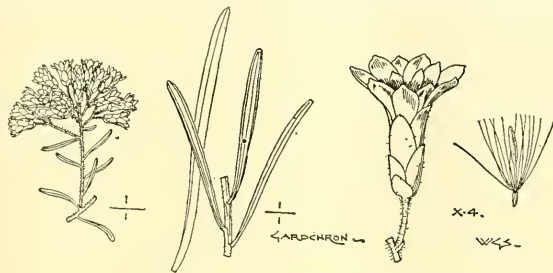


FIG. 33.—*OOTHAMNUS ROSMARINIFOLIUS*: SHOWING DETAILS.

(See text on p. 82.)

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Downage Lady, Nuneham House, Wallingford, Berkshire.

Peaches and Nectarines.—These trees should now be frequently examined and all laterals persistently pinched in at the first leaf. The fruits will require full exposure to light and air, and the leaves should therefore be fastened on one side, or, if the trees are in a very healthy condition, a few of the leaves might be removed altogether. Give trees carrying heavy crops of fruit occasional assistance by the application of liquid manure or some approved fertiliser. The best time to apply artificial manures is just before rain is expected. After the fruits have safely passed the stoning period, stimulants may be applied more freely, as the trees then require greater assistance to develop their fruits. Carefully tie in all the growths that are required for next season, removing any others in order to avoid overcrowding, and so give the trees a neat and finished appearance. The trees should be syringed thoroughly with soft water every afternoon about four or five o'clock, in order to keep them healthy and free from red spider, and occasionally spray them with weak XL-A1 insecticide. The earliest varieties of Peaches such as *Amsten June*, *Alexander*, and *Waterloo*, will soon be ripening in the southern counties, and in these cases syringing of the trees and application of manures at the roots should be discontinued. The ripe fruits must be most carefully gathered, and handled as little as possible so as to prevent bruising.

Summer pruning.—All summer pruning should be brought to a close as soon as possible. Where early pinching was carried out, according to directions given in previous Calendars, little will now remain to be done, with the exception of removing any superfluous shoots which have been overlooked, so that the sun

and light may have free access to all parts of the trees. After the pruning is completed, each tree should be thoroughly washed with water from the hose pipe, cleanliness being most essential to health. Stop any growths from shoots that were previously pinched back to two leaves beyond the previous stopping. Pinch out the points of all vigorous extension shoots that are making too much growth, and thus encourage the weaker ones and the development of well-balanced trees.

Gathering fruit.—The weather of late being so unsettled, it has been a difficult matter to catch the fruit in a dry enough condition for gathering. Every opportunity for this work should be seized upon and extra hands employed, so as to get the fruit gathered quickly. If necessary, spread the fruits out in a vinery to dry, as another week's wet weather would completely spoil half the crop. The bad weather already experienced has caused many Strawberries to rot and the Black Currants to crack, whilst other fruits have been more or less damaged.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Seakale.—The plants should now be reduced to one crown, and every care taken to encourage the building up of stout, well-ripened crowns by the autumn. Frequently stir the surface soil with the Dutch hoe: during showery weather a fortnightly application of some patent vegetable

manure specially suitable for vegetable crops, will greatly benefit the plants.

Capitulum and Chilies.—These should now be placed in cool pits or frames fully exposed to the sunshine. Liberally supply the plants with manure water and syringe them freely in the morning and afternoon, closing the lights in good time each afternoon. Every plant should be secured to a stake.

Cucumbers.—During the next few weeks little difficulty will be experienced in procuring excellent fruits both in portable frames and cold pits, but to ensure that the plants will continue to be satisfactory until the end of September (as they certainly should) they must be kept clean and healthy. Overcropping must be strictly avoided, never allowing the fruits to remain on the plants a day after they are ready for cutting. Prune out the old growths, stop, regulate, and peg down the young shoots twice weekly, and top-dress the roots occasionally with a compost of three parts good turfy loam and one part well decayed horse manure. Failing the latter, add a 3-inch potful of Clay's fertiliser to every half-bushel of loam. Ventilate early in the morning, but close the lights early in the afternoon, and, as the nights become cold and chilly, endeavour to create warmth with good fermenting material placed round the outside; also cover the lights with mats or other suitable material. Sow seeds singly in small 60-sized pots for raising plants to yield a supply during late autumn and early winter. Select a variety which possesses a robust constitution, and which is a prolific fruiter during the short days. For home use, and especially where a continuous supply has to be maintained, those varieties of medium length are far more profitable and frequently of better quality, particularly during the winter. Use a light compost and raise the seedlings in a brisk heat.

REPORT OF THE CONDITION OF THE OUT-DOOR FRUIT CROPS.

[FROM OUR OWN CORRESPONDENTS.]

THE WORDS "AVERAGE," "OVER," OR "UNDER," AS THE CASE MAY BE, INDICATE THE AMOUNT OF THE CROP;
AND "GOOD," "VERY GOOD," OR "BAD," DENOTE THE QUALITY.

FULLER COMMENTS WILL BE GIVEN IN THE FOLLOWING NUMBERS. SEE ALSO LEADING ARTICLE ON PAGE 90.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
SCOTLAND.										
0. Scotland, N.										
CAITHNESS	Average; very good	Average; good	.....	Over; good	.....	.....	Average; good	Average; very good	.....	W. F. Mackenzie, Thurso Castle Gardens, Caithness.
MORAYSHIRE	Under	Under	Under	Average; good	Under	Under	Average; very good	Average; very good	.....	William Orr, Duffus House Gardens, Elgin.
	Under; good	Under; good	Under; bad	Average; good	Under	Under	Average; good	Over; very	.....	John Macpherson, Mayne Gardens, Elgin.
	Under	Under	Average	Over	.....	Under	Average	Average	.....	D. Cunningham, Darnaway Castle Gardens, Forres.
ORKNEYS	Under	Under	.....	Over; good	Average; very good	.....	Over; good	Over; good	.....	William Liddell, Balfour Castle Gardens, via Kirk- wall.
SUTHERLANDSHIRE	Under	Under	Under	Under	.....	.....	Average	Average	.....	D. Melville, Dunrobin Castle Gardens, Sutherland.
1. Scotland, E.										
ABERDEENSHIRE ..	Under; bad	Under; bad	Under; bad	Average; good	.....	.....	Average; good	Average; Over; good	.....	James Grant, Rothienorman Gardens, Aberdeen.
	Average	Under	Under; bad	.....	.....	.....	Average; good	Over; good	.....	John Brown, Delgaty Castle Gardens, Turriff.
	Average	Average	Average	Average	.....	.....	Over	Over	.....	Simon Campbell, Fyvie Castle Gardens, Fyvie.
	Under	Under	Under	Under	.....	.....	Average	Average	.....	John M. Troup, Balmoral Castle Gardens, Ballater.
BANFFSHIRE	Average	Under	Under	Average; good	.....	.....	Over; very good	Over; very good	.....	Geo. Edwards, Ballindalloch Castle Gardens, Ballindal- loch.
BERWICKSHIRE	Over; very good	.....	Under; good	Average; good	.....	Under; bad	Over; very good	Over; good	.....	J. R. Redpath, Castle Gar- dens, Duns.
	Average	Under	Average; good	Average; good	.....	.....	Average; very good	Average; very good	.....	Robert Stuart, Thirlstone Castle Gardens, Lauder.
CLACKMANNAN- SHIRE	Under	Average	Under	Average	Under	Under	Under	Average	.....	Alexander Kirk, Norwood Gardens, Alloa.
EAST LOTHIAN	Under	Under	Under	Under	Under	Under	Under	Average	.....	R. P. Brotherton, Tynning- hame Gardens, Prestoakirk.
FIFESHIRE	Under	Under	Under	Under	.....	.....	Average; good	Over; good	.....	William Henderson, Balbir- nie Gardens, Markinch.
	Under	Under	Under	Average	.....	Under	(Gooseberries under) Average	Over; good	.....	Chas. Simpson, Wemyss Castle Gardens, E. Wemyss.
FORFARSHIRE	Under	Under	Average	Average; good	.....	Under	Average; good	Over; good	.....	Thos. Wilson, Glamis Castle Gardens, Glamis.
	Under	Under	Under	Average; good	.....	.....	Average; good	Average;	.....	William Alison, Seaview Gardens, Monifieth.
KINCARDINESHIRE	Under	Under	Under	Average	Under	.....	Over; very good	Average;	.....	John M. Brown, Blackhall Castle Gardens, Banchory.
	Under	Under	Under	Average; good	.....	.....	Over	Over; good	.....	William Knight, Fasque Gar- dens, Laurencekirk.
MIDLOTHIAN	Average	Under	Average	Average	.....	.....	Average; good	Average	.....	Wm. G. Pirie, Dalhousie Castle Gardens, Bonnyrigg.
	Average; good	Under; good	Under; good	Under; bad	.....	.....	Under; good	Average;	.....	James Whytock, Dalkeith Gardens, Midlothian.
PEEBLES SHIRE	Under	Under	Under	Under	.....	.....	Over; (excepting Gooseberries)	Over; very good	.....	Wm. McDonald, Cardrona, Traquair, Innerleithen.
PERTHSHIRE	Under	Under	Under; good	Average; good	Under	Under	Under	Average;	.....	J. Farquharson, Kinfauns Castle Gardens, Perth.
	Under; bad	Under; bad	Under; good	Under; good	.....	Under; bad	Average;	Average;	.....	Thomas Lunt, Keir Gardens, Dunblane.
	Average	Under	Average	Average	.....	.....	Average	Average	.....	John Robb, Catherine Bank Gardens, Perth.
	Under; good	Under; good	Average; good	Under; bad	Under; good	.....	Under; good	Over; very good	.....	John Fairley, Castle Menzies Gardens, Aberfeldy.
6. Scotland, W.										
ARGYLLSHIRE	Under; good	Under; bad	Under; good	Average; good	Under; bad	Under; bad	Average; very good	Over very good	Under	D. S. Melville, Poltalloch Gardens, Lochgilphead.
	Over	Under	Under	Average	.....	.....	Under	Average	.....	Henry Scott, Torloisk Gar- dens, Aros, Isle of Mull.
AYRSHIRE	Under	Under	Under	Average; good	.....	.....	Under; good	Average;	.....	William Priest, Eglinton Gar- dens, Kilwinning.
	Under	Under	Average; good	Over; good	.....	.....	Over; very good	Over; very good	.....	John McInnes, Kirkmichael Gardens, Kirkmichael, by Maybole.
	Average; good	Under; good	Over; good	Over; good	Under	.....	Average; good	Average;	.....	D. Buchanan, Bargany Gar- dens, Dailly.
BUTESHIRE	Under	Under	Under	Under	Under	.....	Under	Over	.....	M. Heron, Mount Stewart Gardens, Rathfriland.
DUMBARTONSHIRE	Average	Under	Under	Average	.....	Under	Average	Average	Under	George McKay, Balloch Castle Gardens.
	Average	Under	Under	.....	.....	.....	Average	Average	.....	D. Stewart, Knockberry Castle Gardens, Cove.
DUMFRIESHIRE ..	Under; good	.....	Under; bad	Average; good	.....	Under	Average; good	Over; very good	.....	John Urquhart, Hoddom Castle Gardens, Ecclefechan.
	Average; good	Under; bad	Average; good	Average; good	Under; good	Under; good	Over; good	Over; good	Average	John MacKinnon, Terregles, Dumfries.
	Under; good	Under	Under	Average; good	.....	.....	Average; good	Over; good	.....	James MacDonald, Dryfield Gardens, Lockerbie.
KIRKCUDBRIGHT- SHIRE	Under	Under	Under	Under	Under	Under	Over; very good	Over; very good	Average;	Wm. Kinneir, Glenlee Gar- dens, New Galloway.
RENFREWSHIRE ..	Under	Under	Under	Average; good	Under	.....	Average; good	Average;	.....	John McIvor, Elythwood Gardens, Renfrew.
	Under	Under	Under	Average	.....	.....	Under	Average;	.....	Thomas Lunt, Ardgowan Gar- dens, Inverkip.
STIRLINGSHIRE	Average; good	Under; bad	Under	Under	Under; bad	Under; bad	Over; very good	Over; very good	.....	Henry Henderson, Bantaskin, Falkirk.
WIGTONSHIRE	Under	Under	Under	Under; bad	Under; bad	Under; bad	Average	Average	Under	James Day, Galloway House Gardens, Galloway.
	Under; good	Under; good	Under; good	Under; bad	.....	.....	Under; good	Average; good	.....	John Bryden, Dunragit Gar- dens, Dunragit.

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
ENGLAND:										
2, England, N.E.										
DURHAM	Average	Average	Average	Under	None outside	.....	Gooseberries under; Currants over	Average	.....	Robt. Draper, Seaham Hall Gardens, Seaham Harbour.
	Under	Under	Under	Under	.....	Under	Average	Average	.....	James Machar, Smelt House Gardens, Howden le Wear, R.S.O.
VORKSHIRE	Over; very good	Under	Under	Average	.....	.....	Average	Average	.....	J. Simpson, Studfield, near Sheffield.
	Average; good	Under; good	Under; good	Average; good	.....	.....	Average; very good	Average; very good	Under	F. Jordan, Watter Priory Gardens, York.
	Average; good	Under; very good	Average	Average; very good	Average; good	Under; bad	Over; very good	Average; good	Under	W. Jackson, Dalton Hall Gardens, Dalton Holme, Beverley.
	Over; very good	Average; good	Over; very good	Under; good	None outside	.....	Average; good	Average; good	.....	Jas. E. Hathaway, Balders Park Gardens, Thirsk.
	Average	Under	Under	Under	Under	Under	Average	Over; very good	Under	Henry J. Clayton, Wharfe Bank House, Ullenselt, York.
	Average	Under; poor	Over; good	Average; good	.....	.....	Over; good	Over; good	Average	Geo. R. Bound, Grimston Park Gardens, Tadcaster.
3, England, E.										
CAMBRIDGESHIRE	Average; very good	Under; good	Under; bad	Average; good	Average; good	Under; good	Average; good	Average; good	Over; good	R. Alderman, Babraham Gardens, Cambridge.
	Average; bad	Average; good	Under	Average; good	Under	Under	Average; good	Average; good	Under	T. W. Birkinshaw, Hatley Park Gardens, Gillingay.
	Average	Average	Under	Average; good	Over	Under	Average; very good	Over; very good	Under	W. J. Snell, Wimpole Hall Gardens, Nr. Royston.
	Average; good	Average	Under	Under	Under	Under	Average; good	Over; very good	Walnuts average; Filberts and Cobs under	Wm. Abrahams, Papworth Hall Gardens, Papworth Everard.
	Under; bad	Under; bad	Average; good	Over; very good	Under; bad	Under; bad	Over; very good	Over; very good	Under; bad	W. Stretten, Hall Gardens, Six Mile Cross, New- market.
ESSEX	Average; good	Over; good	Under; good	Over; good	Average; good	Under; bad	Average; very good	Over; very good	Over; good	B. Goodacre, Moulton Pad- dock Gardens, Newmarket.
	Under; good	Under; good	Average; good	Average; good	Average; good	Under; good	Average; good	Average; good	Under	A. Bullock, Copped Hall Gar- dens, Epping.
	Average; good	Under; good	Under	Average; good	Average; good	Under	Under; good	Average; very good	Average	Henry Lister, Easton Lodge Gardens, Dunmow.
	Average	Under	Under	Average	Under	.....	Under	Over; good	Average; very good	W. R. Johnson, Stanway Hall Gardens, near Colchester.
	Average; good	Under; good	Under; bad	Over; very good	Average; good	Under; bad	Average; good	Over; very good	Under	W. Johnson, Stained Hall Gardens, Stained.
	Under; good	Average; good	Under; good	Over; very good (especially Mottelols)	Average; good	Under; good	Average; good	Over; very good	Under; good	James Vert, Audley End Gardens, Saffron Walden.
LINCOLNSHIRE	Over; good	Average; good	Over	Average	Average	Under	Over; very good	Over; good	Average	H. W. Ward, Lime House, Rayleigh.
	Over; good	Under	Average	Under	Under	Under	Average; good	Over; good	.....	H. Vinden, Harlaxton Manor Gardens, Grantham.
	Average; good	Average	Over; very good	Average; good	Under; bad	Under; bad	Over; very good	Over; very good	.....	F. C. Stansby, Brocklesby Park Gardens.
	Average; good	Under	Average; good	Under	Under	Under	Average; very good	Over; very good	Average	John Hope, Ranceby Hall Gardens, Grantham.
	Average; good	Under	Average; good	Average; good	Under	Under; bad	Over; very good	Over; very good	Average	F. Barton, Hainton Hall Gar- dens, Lincoln.
	Very good	Under; good	Average; good	Average; good	Under	Under	Average; good	Very good	Under	H. Louth, Boothby Hall Gar- dens, Grantham.
NORFOLK	Average; good	Under; good	Over; good	Over; very good	Over; very good	Under; bad	Over; very good	Under; good	Under	F. J. Fleming, Weelsby Old Hall Gardens, Grimsby.
	Under; good	Average; good	Average; good	Under; good	Under; good	Under; good	Over; very good	Over; very good	Average; good	J. Wynn, Sedgford Hall Gardens, King's Lynn.
	Average; good	Under; good	Under; very good	Average; very good	Over; very good	Under; good	Average; good	Under; very good	Average; good	Lewis Smith, Shotesham Park Gardens, Norwich.
	Under	.....	.....	.....	.....	.....	Average	Over	.....	J. W. Bradbrook, Kettering- ham Park Gardens, Wymon- dham.
SUFFOLK	Under	Average; good	Under	Under	Average	Under	Average	Average; very good	.....	W. N. Thurston, Wotton Park Gardens, North Walsham.
	Under; good	Average; good	Average; good	Average; very good	Over; very good	Under; bad	Over; very good	Over; very good	Average; good	Thos. Simpson, Henham Gar- dens, Wangford.
	Average	Average	Average	Average	Average	Average	Over	Over	.....	Alfred Andrews, High House, Campsea Ashe, Wickham Market.
	Average; good	Average; good	Under	Average; good	Average	Under	Average; good	Over	Average	W. Messenger, Woolverstone Gardens, Ipswich.
	Average; good	Under; good	Under; bad	Average; good	Under; bad	.....	Average; very good	Over; very good	Average; good	F. Smith, Oakley Park Gar- dens, Lye.
4, Midland Counties.										
BEDFORDSHIRE	Average; good	Under	Average; good	Under; bad	.....	Under	Under; good	Over; very good	Under	F. J. Foster, Cranfield Court Gardens, Woburn Sands, R.S.O.
	Under; good	Under; good	Under; bad	Average; good	Under; bad	Under; bad	Under; good	Over; good	Under; good	H. W. Nutt, East End Farm, Flitwick.
	Average; good	Average; good	Average; good	Average; good	Average; good	Under; bad	Average; very good	Over; very good	.....	C. J. Ellett, Chicksands Priory Gardens, Bedford.
	Average	Under	Over	Over	Average	.....	Under	Over; good	Under	George Mackinlay, West Park Gardens, Ampthill.
BUCKINGHAM- SHIRE	Under	Under	Over	Over	Average	.....	Average	Over	Average	Wm. F. Palmer, Froxfield Gardens, Woburn.
	Average; good	Under; good	Average; good	Over; good	Average; good	Under	Average; good	Over; good	Over; good	James Wood, Hedor Park Gardens, Woburn.
	Average	Over	Average	Average	Over	Under	Average	Average	Average	John Fleming, Wexham Park Gardens, Slough.
	Under; good	Average; good	Under; good	Under; bad	Average; very good	.....	Over; very good	Average; good	.....	James McGregor, Menmore Gardens, Leighton Buzzard.
	Under; good	Under	Under; good	Under; good	Under; good	Under	Average; good	Over; good	Under	Chas. Page, Dropmore Gar- dens, Maidenhead.
CHESHIRE	Over	Under	Average	Over; good	.....	.....	Gooseberries Over; good	Over; good	Under	W. E. Wright, Alderley Park Gardens, Chelford.
	Average	Average	Under	Under	.....	.....	Average; good	Over; good	.....	Peter Wilkinson, The Gar- dens, Walton Lea, Warring- ton.
	Average; good	Over; very good	Average; good	Over; good	Under; bad	Under; bad	Over; very good	Over; very good	Average; good	Charles Flack, Cholmondeley Castle Gardens, Malpas.
	Average; good	Under	Under	Average	.....	Under	Average; very good	Over; very good	.....	N. F. Barnes, Eaton Gardens, Chester.

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
4. Midland Counties.										
DERBYSHIRE	Under; good	Under; good	Under; good	Over; good	.....	.....	Average; good	Over; good	.....	J. C. Tallack, Shipley Hall Gardens, Derby.
	Over; good	Under	Average; good	Under	Under	Under	Average; good	Over; very good	.....	Bailey Wadds, 181, Uttoxeter New Road, Derby.
	Average	Average	Average	Average	.....	Under	Average; good	Average; good	Under	T. Kettleby, Darley Abbey Gardens, Derby.
	Average; good	Average; good	Average; good	Average; good	.....	.....	Average; very good	Over; very good	.....	F. Jennings, Chatsworth Gardens, Chetfield.
	Over; good	Average; good	Over; good	Under; bad	.....	.....	Over; very good	Average; good	.....	F. G. Mills, Laneside Home Farm, Glossop.
	Over; good	Average; good	Over	Over; good	.....	Under; bad	Average; good	Over; good	.....	James Tully, Osaston Manor Gardens, Derby.
HERTFORDSHIRE ...	Under	Under; good	Average; very good	Average	Average; good	Under	Over; very good	Over; good	Average	C. E. Martin, The Hoo Gardens, Welwyn.
	Under good	Under; good	Over; good	.....	.....	.....	Average; good	Average; very good	Under; good (Walnuts over very good)	Thos. Rivers and Son, Sawbridgeworth.
	Average; good	Under; good	Under; bad	Over; very good	Average; good	.....	Average; good	Over; very good	Under	H. Prime, Hatfield House Gardens, Hatfield.
	Under	Under	Under; good	Average	Under	Under; bad	Average; good	Average; good	Under	F. W. Gooch, Edge Grove Gardens, Watford.
	Average; good	Under	Average; good	Over; good	Under	Under	Average; good	Over; very good	Average	Edwin Bett, Aldenham House Gardens, Elstree.
	Under; bad	Under; bad	Under; good	Average; good	.....	.....	Under; bad	Over; very good	.....	Arthur Dye, Tring Park Gardens, Tring.
	Under	Under	Under	Under	Under	Under	Raspberries over; Gooseberries and Currants almost a failure	Average; very good	Under	Wm. Whitclaw, Hatchwood Gardens, St. Albans.
	Average; good	Under	Average	Average; good	Under	Under	Average; very good	Over; very good	Under	Hy. Parr, Treat Park Gardens, New Barnet.
	Under; good	Under; good	Average; good	Under; good	Under; good	Under; good	Average; good	Average; good	.....	C. R. Fielder, North Myms Park Gardens, Hatfield.
LEICESTERSHIRE ...	Average; very good	Under	Average; good	Average; good	Under	Average; good	Average; very good	Over; good	.....	William Pople, Haddon Hall Gardens, Warr.
	Under; good	Under; good	Under; good	Average; good	Under; good	.....	Raspberries over; good; other small fruits under	Over; good	Walnuts, Average; good	Daniel Roberts, The Gardens, Prestold Hall, Loughborough.
	Over; very good	Average; good	Over; very good	Over; very good	Average; very good	Under	Over; very good	Over; good	Under	W. H. Divers, Belvoir Castle Gardens, Grantham.
	Average	Under	Over; good	Under	.....	.....	Average; good	Over; good	.....	W. Wadsworth, Barkley Lane Nurseries, Queensborough.
NORTHAMPTON-SHIRE	Under	Under	Average	Under	Under	Under	Average	Average	Under	F. B. Botton, Rolleston Hall Gardens, Leicester.
	Under; good	Under	Under	Average	Under	Under	Under	Over; good	.....	R. Johnston, Wakefield Lodge Gardens, Stony Stratford.
	Under	Under	Under	Under; bad	Under; bad	Under; bad	Under	Average; good	Under; bad	Silas Cole, Althorp Park, Gardeas, Northampton.
	Under; good	Under; good	Over; good	Over	Over; good	Under; good	Over; very good	Over; very good	Average; good	H. Turner, Fineshade Abbey Gardens, Siamford.
	Average	Under	Average	Average; good	Under	Under	Average	Average	Walnuts; average; over	John Blayson, Cotterstock Hall Gardens, Oundle.
	Under	Under	Average	Over; very good	Under	Under	Under	Over	Under	Thos. Masters, Shackburgh, Daventry.
	Average; very good	Under; bad	Average; very good	.....	Under	Under; bad	Average; except Gooseberries	Over; good	Under; very good	W. Batchelor, Stoke Bruerne Park, Towcester.
NOTTINGHAM-SHIRE	Under; good	Under; good	Under; good	Under; good	Under; good	.....	Average; good	Average; good	Average; good	Amos Parr, Holme Pierrepont Hall Gardens, Nottingham.
	Over; good	Average	Under; good	Over; very good	.....	.....	Over; good	Over; very good	Under	James B. Allan, Osberton Gardens, Worksop.
	Under	Under	Under; very partial	Under	Average	Failure	Half crop	Best crop for 20 years	Average	J. R. Pearson and Sons, Loughborough.
	Average	Average	Average	Average	.....	Average	Average	Over; very good	.....	A. W. Culloch, Estate Office, Newarked Abbey.
OXFORDSHIRE	Average; good	Average; good	Average; good	Over; very good	Average; very good	Under	Over; very good	Over; very good	Average; good	John A. Hall, Shipley Court Gardens, Henley-on-Thames.
	Under	Under	Under	Over; good	Average	.....	Average; good	Average; good	Under	A. J. Long, Wyfold Court Gardens, Reading.
	Average; good	Under; good	Under; good	Under; bad	Over; very good	Under; bad	Average; good	Over; very good	.....	A. W. Perry, Middleton Park, Bicester.
	Average; good	Average; very good	Over; good	Under; very good	Average; good	Under	Over; very good	Over; very good	Over; very good	W. H. Clarke, Aston Rowant Gardens, Wallingford.
	Average; good	Under; bad	Average	Under	Under; good	.....	Under; good	Over; good	Under	James Broadfoot, Shotover Gardens, Wheatley.
SHROPSHIRE	Over; good	Average; good	Average; good	Over; good	Under	Under	Over	Over; good	Under	A. S. Kemp, Broadway, Shifnal.
	Under; good	Under; good	Average; good	Over; good	Under; good	Under	Average; good	Over; very good	Under; good	J. Taylor, Hardwicke Grange Gardens, Shrewsbury.
	Average; very good	Under; very good	Under; good	Under; good	Under; good	Failure	Under; good	Over; good	Average; good	Alex. Hargreaves, Moor Park Gardens, Ludlow.
	Under	Under; bad	Average	Over; good	Average	Average	Over; good	Over; good	Under; bad	Chas. Roberts, Halston Gardens, Oswestry.
STAFFORDSHIRE ...	Average; good	Average	Average	Average; good	Under	Under	Good	Over; good	Under	Edwin Gilman, Ingestre Gardens, Stafford.
	Average	Under	Average	Average	.....	.....	Average; good	Over; very good	.....	A. Cheney, Shenston Court Gardens, Lichfield.
	Under	Average	Over	Average	.....	Under	Over (except Gooseberries)	Over	Under	T. Bannerman, Blithfield Gardens, Rugby.
	Average; good	Under; good	Under; good	Average; good	.....	.....	Under; good	Over; very good	Under	G. Woodgate, Rolleston Hall Gardens, Burton-on-Trent.
WARWICKSHIRE ...	Over; very good	Failure	Under	Over; good	.....	.....	Over; good	Average; good	Walnuts over; good	W. Miller, Berkswell.
5. Southern Counties.										
BERKSHIRE	Over; very good	Over	Average; good	Over; very good	Over; very good	.....	Over; very good	Over; very good	.....	F. Capp, Charters Gardens, Ascot.
	Under	Average; good	Under	Average	Average	Under	Average; except Gooseberries	Over	Average	J. Howard, Benham Park Gardens, Newbury.
	Average	Under	Under	Average	.....	.....	Under	Over; very good	Under	William Fyfe, Lockinge Gardens, Wantage.
DORSETSHIRE	Average; good	Average; good	Under	Under	Average	Under; good	Average; good	Average; good	Under	James Combes, Englefield Gardens, Reading.
	Average; good	Under	Under	Under; very good	Average	Under	Under; good	Average; good	Under	T. Turton, Castle Gardens, Sherborne.
	Over; very good	Average; good	Under	Under	Average	Under	Average; good	Over; good	Average	Thos. Deary, Dowa House Gardens, Blandford.
HAMPSHIRE	Average; good	Average	Under; good	Average	Under	.....	Average; except Gooseberries	Over; very good	Under	Edwin Molyneux, Swanmore Park, Bishop's Waltham.
	Average; very good	Under; bad	Average; good	Morellos average; very good	.....	Under; good	Average; good	Average; good	Average	A. G. Nichols, Strathfieldsaye Gdns., Mortimer, R.S.O.
	Under	Under	Average	Average	.....	Under	Over; very good	Over; very good	Average	James Wasley, Sherfield Manor Gdns., Basingstoke.

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
5. Southern Counties.										
KENT	Over	Average	Under	Average	Under	.....	Over ; very good	Average ; very good	.....	Fredk. Sparks, Walmer Place, Walmer.
	Average ; good	Under ; good	Average ; good	Over	Under	.....	Average ; good	Average ; good	Under	George Woodward, Barham Court Gardens, Maidstone.
	Average	Under	Average	Over	Under	Under	Over	Over	Failed	George Bayard, Maidstone.
	Average	Under	Over	Average	Under	Average	Black Currants and Gooseberries average ; Red Currants and Raspberries over	very good	Under	Alfred O. Walker, Ulcombe Place, near Maidstone.
	Average ; good	Under ; good	Under	Under	Under ; good	.....	.....	Average ; very good	Under	Wm. Lewis, East Sutton Park gardens, Maidstone.
	Over	Average ; good	Average	Over ; bad	.....	.....	Average	Over ; good	Under ; bad	Geo. Fennell, Bowden, Ton- bridge.
	Under	Average	Average	Over	.....	.....	Under	Over	Under ; almost a failure	B. Champion, Mereworth.
	Over ; very good	Under ; good	Average ; good	Over ; good	Average ; good	Average ; good	Over ; good	Over ; very good	Under ; bad	H. Cannell and Sons, Eyns- ford.
	Under	Under	Average	Average ; good	.....	.....	Under	Average ; good	Over ; good	George Lockyer, Mereworth, Maidston.
	Average ; good	Under ; good	Average ; good	Over ; good	Under ; very good	Under ; bad	Over ; very good	Over ; very good	Under ; bad	W. E. Humphreys, Blendon Hall gardens, Bexley.
	Over ; very good	Under	Over ; very good	Over ; very good	very good	.....	very good	Over ; very good	.....	John Thos. Shanley, Butts- hangar Park Gardens, East- stry, Dover.
MIDDLESEX	Over ; good	Under	Average ; good	Average ; good	Under	Under	Over ; very good	Over ; very good	.....	J. G. Weston, Eastwell Park Gardens, Ashford.
	Average ; good	Average	Average ; good	Average	Average	Under	Average	Over ; very good	Average	H. Markham, Wrotham Park Gardens, Barnet.
	Average ; good	Average ; good	Under	Average	Average ; good	Under ; bad	Average ; good	Average	Under	W. Watkinson, Hatfield Place Gardens, Uxbridge.
	Average ; good	Average	Average	Average ; good	Under	Under	Average	Average	Average	W. Bates, Cross Deep Gar- dens, Twickenham.
	Over ; very good	Average ; good	Over ; very good	Over ; very good	Average ; very good	Under ; bad	Under ; bad	Over ; very good	.....	A. R. Allan, Hillingdon Court Gardens, Uxbridge.
SURREY	Over ; very good	Average ; good	Average	.....	Average ; good	.....	Over ; very good	Over ; very good	.....	James Hawkes, Osterley Park Gardens, Isleworth.
	Average ; good	Average ; good	Average ; good	.....	.....	Under ; good	Over ; good	Over ; good	Under ; bad	S. T. Wright, R.H.S. Gar- dens, Caterham Valley.
	Average ; good	Under ; good	Average ; good	.....	.....	.....	Average ; good	Over ; very good	Average ; good	W. P. Board, Gatton Park Gardens, Reigate.
	Over	Over	Under	.....	.....	.....	Raspberries over ; Gooseberries under ; Currants average	Over ; bad	.....	W. Wilks, Shilbury Vicarage, Croydon.
	Average ; good	Under	Under	Average	Under	Under	Over ; good	Over ; good	.....	A. Dean, 62, Richmond Road, Kingston.
	Average	Under	Under	Over	Under	Under	Average	Average	Average	Geo. Kent, Norbury Park Gardens, Dorking.
	Under ; good	Under ; good	Under ; good	.....	.....	.....	Over ; very good	Over ; very good	Average	Geo. Halsey, Riddings Court Gardens, Caterham Valley.
	Under ; good	Under	Average	Under	Average	.....	Over ; good	Over ; very good	Average	W. H. Hoopes, Hopdene Gardens, Holmbury St. Mary.
	Average ; good	Under ; good	Average ; good	Over ; very good	Under ; good	.....	Over ; very good	Over ; very good	Over ; good	G. Hunt, Ashstead Park Gar- dens, Epsom.
SUSSEX	Average ; good	Average ; good	Average ; good	Average ; good	Under	Under ; bad	Average	good	.....	Jas. Lock, Judds Lodge Gardens, Weybridge.
	Average	Under	Under	Average	Average	Under	Average	Average	.....	J. Osborne, Wykehurst Park Gardens, Bolney, Nr. Hay- wards Heath.
	Average	Under ; bad	Under ; bad	Under	Average	.....	Over ; good	Over ; good	Under	J. Muddell, Sedgwick Park Gardens, Horsham.
	Over ; good	Average	Average	Average ; good	Average	Under	Over ; good	Over ; good	Under	A. Wilson, Edge Castle Gardens, Tunbridge Wells.
	Average ; good	Under	Under	Under ; good	Under	.....	.....	Over ; good	Under	William Bear, Napham Down, Hailsham.
	Under ; good	good	good	Under	Under ; bad	.....	Average ; good	Average ; good	Average	A. B. Wadds, Paddockhurst Gardens, Crawley.
	Over ; good	Average ; good	Under ; good	Average good	Under ; good	.....	Average ; good	Average ; good	Filberts under ; Walnuts average	Alex. Reid, Fossingworth Gardens, Cross-in-Hand.
	Average ; good	Under ; bad	Under ; good	Average ; good	Over ; very good	.....	Average ; good	Over ; very good	.....	W. H. Smith, West Dean Park Gardens, Chichester.
	Average ; very good	Average	Average	Under	Under	.....	Under ; Raspberries over	Over ; very good	Average	Wm. Brandens, Brambletye Gardens, East Grinstead.
	Over ; very good	Average ; good	Average ; good	Under ; bad	Average ; good	.....	Over ; very good	Over ; very good	Under ; good	W. J. Langridge, Ore Hall Gardens, Bexley.
	Over ; very good	Average ; good	Average ; good	Average ; good	Average ; good	.....	Over ; good	Over ; good	Average	W. A. Cook, Leonardlee Gardens, Horsham.
WILTSHIRE	Average ; good	Average ; good	Average ; good	Under ; good	Under ; good	Under	Average ; good	Average ; good	.....	H. C. Pringle, Buxated Park Gardens, Uckfield.
	Average ; good	Average ; good	Under ; good	Average ; good	Under ; bad	Under ; bad	Average ; good	Average ; good	Average	George Brown, Bwood Gard- ens, Calne.
	Average ; good	Under ; good	Under ; bad	Average ; good	Over ; good	Under ; good	Over ; good	Average ; good	Under ; good	Walker Funn, Malmesbury, Thomas Challis, The Gar- dens, Wilton House, Salis- bury.
7. England, N.W.										
CUMBERLAND	Average ; good	Average	Average	Average	Average	.....	Over ; very good	Average ; good	Average	John Shaw, Muncaster Castle Gardens, Carlisle.
	Average ; good	Average ; good	Over ; good	Average ; good	Under ; good	Under ; good	Over ; very good	Average ; good	.....	William Scott, Eden Hall Gar- dens, Craghead, S.O.
LANCASHIRE	Average ; good	Under	Under ; good	Average ; good	.....	Under	Average good	Average ; good	.....	Thomas Tunstall, Carleton Hill Gardens, Penrith.
	Average ; good	Average ; good	Under ; good	Average ; good	Under	Under	Average ; good	Average ; good	.....	E. F. Hazelton, Knowsley Gardens, Preston.
	Average ; good	Under ; good	Average ; good	Over ; good	.....	.....	Over ; good	Over ; very good	.....	Wm. Ashton, Wrightington Hall Gardens, nr. Wigan.
	Over	Under	Under	Average	.....	.....	Over ; very good	Over ; very good	.....	B. Cronwell, Cleveley Gar- dens, Allerton, Liverpool.
	Over ; very good	Average ; good	Under	Average	Average ; good	.....	Over ; very good	Over ; very good	Average	Ben. Ashton, Latham House Gardens, Ormskirk.
	Over ; good	Over ; good	Over ; good	Average	Under	.....	Average ; good	Average ; good	.....	Wm. P. Roberts, Curdoo Hall Gardens, Preston.
	Average ; very good	Under ; bad	Under ; good	Average ; good	.....	.....	Average ; good	Average ; very good	Under	T. Wytton, Abbeystead Gar- dens, nr. Lancaster.

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
GLAMORGANSHIRE	Over; very good Under	Under; good Under	Average; good Under	Average; good Over; very good	Over; very good Over; very good	Failure	Over; very good Over; very good	Over; very good Over; very good	Over Under	R. Milner, Margam Gardens, Port Talbot. C. T. Warrington, Penllengar Gardens, Swansea.
MERIONETHSHIRE	Under; good	Under; bad	Average; good	Average; good	.....	.....	Over; very good	Over; very good	.....	John S. Higgins, Rhŷg Garden, Corwen.
MONTGOMERYSHIRE	Under; good	Average; good	Average; good	Under; good	Under; good	Under; bad	Average; good	Average; very good	Under; good	John Lambert, Powis Castle Gardens, Welshpool.
PEMBROKESHIRE	Under	Under	Under	Average	Under	.....	Under	Over; very good	Under	Geo. Griffin, Slebeck Park Gardens, Haverfordwest.
	Average; good Average; good	Average; good Under	Over; very good Under	Average; good Under	Average; very good Under	Under	Over; very good Under	Over; very good Under	Average	W. A. Baldwin, Clynwch Gardens, Bonchurch.
RADNORSHIRE	Under; bad	Under; bad	Average; good	Average; good	Under; bad	Under; bad	Average; good	Average; very good	Under; very good	J. MacCormack, Maesllwch Gardens, Glastbury, Hereford.
	Under; good	Under; good	Under; good	Under; bad	.....	.....	Over; very good	Over; very good	Under	A. Buckingham, Stasage Park Gardens, Brampton Brian.
IRELAND: 9, Ireland, N. DUBLIN	Under	Under	Under	Under	Under	Under	Average (except Gooseberries)	Average; good	Average	A. Campbell, St. Anne's Gardens, Clontarf.
GALWAY	Over; very good Average; good Average	Under; good Under; bad Under; bad	Under; bad Under; good Under; bad	Average; bad Under Under; bad	Under .....	.....	Average; good Average; good Under	Over; very good Under; bad	Average	W. M. Macdonald, Castle Gardens, Kylemore.
MEATH	Under	Failure	Average	Failure	Under	.....	Over	Over; very good Average; very good	Average; good	Thomas Dunne, Lough Cutra Castle Gardens, Gort. R. Savage, Belleek Manor Gardens, Ballina.
	Under; bad	Under; bad	Under; bad	Over; good	Over; good	.....	Over; good	Over; good	Average; good	Michael McKeown, Julianstown, Drogheda.
TYRONE	Over; good	Average	Under	Under	.....	.....	Average (Gooseberries under)	Over; very good	.....	J. E. Pow, Duessany Castle Gardens.
	Average; very good Average; good	Under; good Under	Under Under	Average; good Morellos good	.....	.....	Average; good Average; good	Over; very good Over; good	Under	Fred. W. Walker, Sion House Gardens, Sion Mills.
WEST MEATH	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Snial, Caledon Gardens.
10, Ireland, S. ATHLONE	Over	Under	Under	Under	Over; good	.....	Over; very good	Over; very good	Under	George Bogie, Pakenham Hall Gardens, Castlepollard.
CORK	Average; good Under; good	Under; bad Under; good	Average Under; good	.....	Failure	.....	Average; good Average	Over; very good Under	.....	J. Murray, Moydrum Castle Gardens.
KILDARE	Average; good	Under	Under	Under	.....	Under; bad	Average; good Average; good Under (except Gooseberries)	Over; very good Average; very good	.....	Maurice Colbert, Ahern, Cuna.
	Average	Under	Under	Under	Under	Under	Average	Over	Under	C. Price, Mitchelstown Castle Gardens.
ROSCOMMON	Average	Under	Under	Average	Average	.....	Under; bad	Average	.....	Fred. Bedford, Straffloe House Gardens.
WATERFORD	Under	Under; bad	Under	Under; bad	Under; bad	Under; bad	Over; good	Average; good	Under	Alexander Black, Carton Gardens, Maynooth.
WICKLOW	Average; good	Under; bad	Average; good	Bad	.....	.....	Average; very good	Average; very good	Average	Terence Rogers, Frenchpark House Gardens, Frenchpark.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	David Crombie, Curraghmore Gardens, Portlao.
CHANNEL ISLANDS: GUERNSEY	Average; very good	Over; very good	Average; good	Under; good	Average	.....	Average; good	Average; good	.....	William Owen, Powerscourt Gardens, Enniskerry.
JERSEY	Average	Under	Under	Over; good	Under; bad	Under; bad	Over; very good	Average	Under	Chas. Smith and Son, Caledonia Nursery.
ISLE OF MAN:	Average; good Average	Under; good Average	Average; good Average	Average	.....	Average	Average; good Average; good	Over; good	.....	T. Sharnan, Imperial Nursery, St. Mark's Road.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Inglis, Brunswick Road Nurseries, Douglas.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Bishop, White House Gardens, Kirkmichael.

SUMMARY.

SCOTLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(45)	(43)	(43)	(43)	(16)	(17)	(45)	(45)	(6)
Average	13	3	9	24	1	1	28	25	3
Over	9	1	5	—	—	—	9	4	—
Under	30	40	33	14	15	17	1	1	3

ENGLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(180)	(188)	(188)	(177)	(135)	(125)	(186)	(180)	(130)
Average	104	69	78	88	53	7	103	67	58
Over	88	6	20	36	12	—	52	120	11
Under	47	123	90	53	70	118	31	2	61

WALES.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(20)	(20)	(20)	(18)	(14)	(10)	(20)	(20)	(14)
Average	8	5	10	10	1	—	10	5	2
Over	4	2	3	2	—	—	9	16	2
Under	8	15	8	5	11	10	1	1	10

IRELAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(17)	(17)	(17)	(16)	(10)	(5)	(11)	(17)	(10)
Average	9	1	3	4	1	—	1	1	5
Over	5	—	—	11	2	—	4	9	—
Under	12	16	14	5	8	5	7	8	10

ISLE OF MAN.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(2)	(2)	(2)	(2)	(1)	(2)	(2)	(2)	(1)
Average	2	1	1	1	—	1	1	1	—
Over	—	—	—	—	—	—	—	—	—
Under	—	—	—	—	—	—	—	—	—

CHANNEL ISLANDS.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(2)	(2)	(2)	(2)	(1)	(2)	(2)	(2)	(1)
Average	2	1	1	1	—	1	1	1	—
Over	—	—	—	—	—	—	—	—	—
Under	—	—	—	—	—	—	—	—	—

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens or plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturalists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Appointments for August.

MONDAY, AUGUST 3—
Wellington Fl. Sh. Shitley, Millbrook & Freemantle Hort. Sh.

TUESDAY, AUGUST 4—
Roy. Hort. Soc. Cons. meet. Nat. Amateur Gard. Assoc. meet.

WEDNESDAY, AUGUST 5—
Roy. Hort. Soc. of Ireland and Nat. Sweet Pea Soc. Sh. at Dublin.

THURSDAY, AUGUST 6—
Midland Carnation Soc. Exh. at Birmingham.

WEDNESDAY, AUGUST 12—Taunton Fl. Sh. (2 days).

SATURDAY, AUGUST 15—Sandway and Dist. Fl. Sh.

TUESDAY, AUGUST 18—
Roy. Hort. Soc. Cons. meet. British Gard. Assoc. Ex. Council meet. Brighton Fl. Sh. (2 days).

WEDNESDAY, AUGUST 19—
Shropshire Hort. Soc. Exh. at Shrewsbury (2 days).
Hemel Hempstead Fl. Sh.

THURSDAY, AUGUST 20—
Roy. Hort. Soc. of Aberdeen Sh. (3 days). Oxford Autumn Fl. Sh.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—63°.

ACTUAL TEMPERATURES:—
LONDON.—Wednesday, July 29 (6 p.m.): Max. 75°; Min. 67°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, July 30 (10 a.m.): Bar. 30.4; Temp. 75°; Weather—Bright sunshine.

PROVINCES.—Wednesday, July 29 (6 p.m.): Max. 71° Guildford; Min. 63° Newcastle.

The Fruit Crops.

In conformity with our usual practice, we have asked a large number of correspondents to send us reports upon the present condition of the fruit crops in their districts. The tabulated information so obligingly sent us we place before our readers in the present issue, reserving the fuller remarks for future publication.

In our review of the crops last year we said that they could not fairly be described as unsatisfactory, notwithstanding that the most important crop, that of Apples, was below the average. It will be remembered that the Apple crop was very deficient, but that Pears were less scarce, and that the outstanding features were the abundant crops of Plums, Cherries, and Apricots, and small fruits, in which term are included Gooseberries, Currants, and Raspberries. In some respects the present crops are opposite to those of last year, but in no instance is this more marked than in the case of Apricots. In 1907 the returns for Apricots were 101 above average, 62 average, and only 26 under average. This year there is not a single return from the United Kingdom or Ireland recording a crop above the average, and there are only eight reports of average crops, whilst the number who return deficient crops is 151.

It is satisfactory to find that the great fruit

crop of the year, namely, the Apple crop, is appreciably better than last year, or even than in 1906. This season there are 185 reports of average or over average crops, and 90 of crops that are less than the average. Last year there were 175 reports below average and only 114 average or above the average, whilst in 1906 there were reports of 109 average crops, 40 over the average, and 104 below the average. But whilst the Apple crop generally is satisfactory, it appears to be very deficient in Scotland, the returns of average crops from Scottish gardens being even fewer than last year.

Pears are certainly less plentiful over the whole kingdom than last year, but the returns are slightly better than in 1906. There is little to complain of in respect to Plums, for whilst there are 146 returns of under average crops, there are 126 who report crops equal to, or above the average. We cannot expect to have every year such abundant crops of Plums as were common last season, and probably most cultivators do not desire them. Such excessive crops of a soft fruit like the Plum are apt to cause the cultivator a great amount of anxiety and labour for very little return, and in any case they invariably lead to waste, because the growers neglect to provide themselves with satisfactory means of conserving the fruits upon the premises for use in the winter season or in the following year if the crops should be deficient. It is remarkable that even a good average crop of Plums should be obtained this year, because it frequently happens that immediately following a season of bountiful crops there is a period of scarcity. Cherries are somewhat less plentiful than last year, but out of 258 returns there are only 85 which indicate crops that are below the average. We have already alluded to Apricots, and it has to be said that out-of-door Peaches and Nectarines are also very deficient. In this case it must be borne in mind that the excellent crops of out-door Peaches and Nectarines were a feature last year. The crops of Currants, Raspberries, and Gooseberries, which are for convenience included in the table under "Small Fruits," are plentiful, and this remark applies with even greater force to Strawberries, for out of 278 returns there are only six which record the crop as below the average yield. We may mention, however, that many of our correspondents have excepted Gooseberries from their returns, and it may be assumed that this crop has been a scant one in many gardens.

The nut crop is not of the same importance as some of those to which we have referred,

but it may be added that nuts are almost as plentiful as they were last year.

Remembering the severe weather experienced in the last week of April, it is satisfactory to know that the fruit crops are as bountiful as our reports indicate, for many of us whilst visiting the Quinquennial Exhibition at Ghent received telegrams which described snowstorms in England of such severity as are rarely experienced even in winter. We suspect it was the weather at that time that ruined the crops of such early blooming fruits as Peaches, Nectarines, and Apricots.

Sweet Peas.

Probably no garden flower is capable of creating a more beautiful and varied combination of floral colouring in any one exhibition as is the Sweet Pea. Those who were privileged to see the remarkable display made by the National Sweet Pea Society in the Horticultural Hall, Vincent Square, on the 24th ult. will be likely to admit this much at least. Looking upon the exhibition from the height of the gallery, the effect was one of exceptional beauty. Nowhere was there to be seen a harsh colour, but the softest, most delicate hues predominated, and the harmony of colouring was remarkable. A welcome deviation from the ordinary straight table monotony was furnished by Messrs. Jas. Carter & Co. in their central circular-arched stand, which was picturesquely decorated with baskets and vases of Sweet Peas. If a similar feature could have been placed at each corner of the Hall, the effect would have been even greater, but the exhibit in itself was sufficient to provide a rest for the eye upon entering the exhibition. Several of the trade firms who occupied positions next to the walls of the building had done much to display decorative effect. This was especially seen in a triumphal arch which Messrs. Felton had erected very near to the entrance to the Hall, and it was most brilliantly decked with flowers and foliage.

It is worth remark that in the competitive classes the exhibits represented a very wide range of country. There were flowers from the south-west of Cornwall and from Westmoreland, whilst every intervening county seemed to be more or less represented, as was also the Principality of Wales.

The fine flowers displayed by southern growers afforded the leading feature of the show, especially those exhibited by Sir Randal Baker, from Blandford, Dorset, by Mr. Wellesley, of Woking, in Surrey, and by Messrs. Basile and Stevenson, of Adlestone. The twelve bunches with which Mr. Wellesley won

GRAND SUMMARY, 1908.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(275)	(272)	(272)	(268)	(177)	(159)	(272)	(275)	(161)
Average ...	198	69	103	127	57	8	165	103	68
Over ...	47	7	23	45	16	7	75	168	13
Under ...	90	196	146	85	104	151	42	4	80

SUMMARY OF 1907 FOR COMPARISON.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(279)	(276)	(276)	(267)	(192)	(189)	(278)	(277)	(185)
Average ...	80	122	105	163	98	62	106	114	63
Over ...	15	28	108	97	73	101	165	56	14
Under ...	175	126	68	67	16	26	7	77	69

the Henry Eckford Challenge Cup were probably equal to any that have ever been staged. This speaks volumes for the capacity of Surrey sand and a comparatively dry climate to produce superb flowers, for whilst the flowers from Wales and Ulverston seem, in their long, stout stems, to dominate over others, they appear to produce these stems rather at the expense of the flowers. Another notable fact is the tendency of flowers on long stems to develop long internodes between the flowers, thus to some extent to rob them of that effectiveness which pertains to those more compactly grown. It is clear that the straining after long stems may be carried too far. No one seems to have exhibited Sweet Peas, the produce of seed inoculated by nitro-bacterine. Our enquiries of those growers who had very fine blooms, led to entirely negative answers. Deep culture and ample manuring are old-fashioned aids to culture, but they are the methods of the best growers, and cultivators are careful also to sow the seeds thinly. If seedlings be raised under glass for flowering early, successional sowings should also be made in the open ground, to maintain the supply of flowers. A noteworthy feature of the Sweet Pea Shows is the illustration which they afford of the development of a common garden flower.

In addition to this exhibition, the Midland Sweet Pea Society held a successful show at Wolverhampton on Wednesday last, and at Dublin on the 5th inst. the National Society will hold an exhibition in connection with the annual show held under the auspices of the Royal Horticultural Society of Ireland.

OUR SUPPLEMENTARY ILLUSTRATION represents a batch of two hundred plants of seedling Gloxinias grown at Warsash House Gardens, near Southampton, the residence of G. SHENLEY, Esq. According to our correspondent, Mr. EDWIN MOLYNEUX, the plants displayed excellent culture, and we think our readers will agree with Mr. MOLYNEUX'S appreciation. The plants are luxuriant in foliage, and some of the blooms measure as much as 5 inches in diameter. At the time the photograph was taken, many of the plants were carrying 30 fully-developed blooms. All the plants were obtained from one 5s. packet of seed. The culture practised by Mr. HUNT, the skilful gardener, is as follows: The seed was sown at the end of February, 1907, in a warm, moist house, and the seedlings were potted into 60-sized pots as soon as they were large enough to handle. In these latter pots they were allowed to flower last year, and then fully exposed to the sun in a cool Peach-house, afterwards being stored for the winter on shelves in the potting shed, which is over the stovehole, and consequently calculated to thoroughly dry off the roots. Early in March they were placed in a vinery which had been recently started, and as growth commenced they were transferred to pots 4 inches and 5 inches in diameter and placed in a heated pit, kept moist, and carefully watered. Here they remained until the flower stems were showing, then they were removed to a low span-roofed stove to develop their flowers. The plants were about 15 months old when the photograph was taken. For the rooting medium Mr. HUNT uses a compost of turfy loam, decayed manure, and sand. The plants are freely fed with weak guano water after the pots have become filled with roots.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will be held in the hall at Vincent Square, Westminster, on Tuesday, August 4th.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We are informed that GEORGE W. F. MACNAUGHTON, Esq., M.D., M.R.C.P., F.R.C.S., &c., of 33, Lower Belgrave Street, S.W., has been elected honorary physician to this Institution.

NOTES FROM THE NORTH-WEST.—Sir HERBERT MAXWELL, Bart., writing on July 22, sends us the following interesting note from Monreith, Scotland:—"The vigour of *Buddleia variabilis* is amazing, both as regards the type and its variety *Veitchii* superba. Being in full growth on April 24, it was badly cut by the severe frost of that date, all the young shoots being destroyed, and young plants killed down to the ground. The bushes set to work to repair damages at once. They have made 3 and 4 feet of fresh growth, and the remarkable part of it is that this growth is now (July 22) loaded with flower-buds, so that the display has merely been postponed a couple of months. *Buddleia globosa*, being later in starting growth, did not suffer at all, and the flower is past. *Rubus spectabilis*, which was cut as badly as *B. variabilis*, recovered as freshly, but is producing very few flowers. *R. nobilis* was uninjured by the frost, owing to its later growth in spring. This fine shrub, which I received some years ago from Glasnevin, resembles *R. spectabilis*, but flowers two months later and far more continuously, producing no suckers. The loveliest of all the blue Geraniums is *G. Wallichianum*. It has the spreading habit of *G. sanguineum*, but it continues to flower all through summer and autumn. The blossoms are about the size of a florin; the petals are sky-blue, white towards the claw, and veined with crimson. *G. platyanthum*, recently introduced from China with trumpet-flourish, is a worthless affair, hanging its dingy flower-heads as if ashamed of their inferiority to our own *G. pratense*. Thirty years ago, or thereby, I dug up in the Valtellina Alps a sturdy Composite, which has flourished in the open border ever since, growing 3 feet high, and producing large heads of a fine rose-colour, after the manner of *Centaurea macrocephala*. Hitherto I have failed to get it named; but now Professor ISAAC BAXLEY BALFOUR pronounces it to be *Centaurea Rhaponticum* (I am not responsible for the concord). If the seed ripens well, I shall be happy to send some to any reader of the *Gardeners' Chronicle*. The plants makes a fine group with *Delphinium*. Another charming companion for that fairest of Larkspurs is the Queen of the Prairie—*Spiraea lobata* or *venusta*. It passes my comprehension how anybody can be content with *S. palmata* and neglect this species, which, though equally easy, is infinitely more refined and of purer rose. The common Evening Primrose, *Oenothera biennis*, is usually classed and treated as a biennial; but with me it is more durable than many things. Within ten yards of me as I write is a plant four years old, which has grown into a great bush 6 feet high and 12 feet round, although, in the interest of its neighbours, I have cut it back severely every year. When it behaves like this it is a truly fine thing, and, were it rare and costly, would be as highly esteemed as *Romneya Coulteri*. A scattering of seed in any bare woodland ground, not too dry, ensures an annual display of showy, lemon-yellow blossom. Another yellow American which has established itself permanently with us is the common Monkey Flower, *Mimulus nitens*. It has escaped from cottage gardens into countless rills and brooks,

taking complete possession of their margins, and lining them, sometimes for a mile and more, with a continuous chain of gold, lasting in flower throughout June and July."

NATIONAL CARNATION AND PICOTEE SOCIETY (NORTHERN SECTION).—We are asked to remind our readers that the annual exhibition of the northern section of the National Carnation and Picotee Society will be held in the White City (late Botanical Gardens), Old Trafford, Manchester, on Saturday the 15th inst.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.—We are asked to publish the following details respecting the provincial show of the National Sweet Pea Society, which will be held at the Royal University, Dublin, on Wednesday, August 5, in conjunction with the autumn show of the Royal Horticultural Society of Ireland. All Sweet Peas in competitive classes must be shown in vases provided by the National Sweet Pea Society. A charge of one penny each will be made, and application for the hire of the vases must be made to the secretary of the Royal Horticultural Society of Ireland, 5, Molesworth Street, Dublin. All the Sweet Peas exhibited must be legibly named on white cards, which will be supplied by the secretary of the Royal Horticultural Society of Ireland, and the use of any other cards will not be permitted.

A GREAT SEED HOUSE.—Under the above heading there appeared in the issue for June 27 of our contemporary *The American Florist*, of Chicago, a descriptive article concerning the famous French firm of VILMORIN, ANDRIEUX & C^{IE}. The article is illustrated by a portrait of M. PH. DE VILMORIN, and the following views of the firm's establishments, viz., the Massay seed farm, the warehouses at Paris, the warehouses at Verrières, the city store and offices, the old shop as it was half a century ago, the warehouse at Neuilly, warehouses and greenhouses at Verrières. The text of the article deals with the business aspects of the VILMORINS, a former article having been devoted to the scientific accomplishments of this illustrious horticultural family. The highest testimony that can be paid to the management of any firm is that contained in the concluding paragraph, which says:—"Clerks having had from 40 to 50 years' experience in the firm are of common occurrence, and men with 30 years of active service may be counted by the score. Many of the clerks have been employed by the firm from grandfather to grandson without a break." Eloquent but simple words these, that go a long way to explain the prosperity of the firm.

THE CARDIFF SHOW.—The annual exhibition of the Cardiff and County Horticultural Society was held on the 22nd ult., and proved very successful. A feature at this show was an excellent collection of Melons, Tomatoes, and culinary Peas, contributed by Messrs. SUTTON & SONS, Reading. This exhibit was florally decorated, and thus made doubly attractive. It was awarded a Gold Medal. Messrs. ED. WEBB & SONS, Wordsley, were also awarded a Gold Medal for a meritorious exhibit of vegetables, Melons, and Sweet Peas.

SWEET PEA AUTHOR HONOURED.—A short time ago Mr. G. D. CLARK, of Dover, wrote a little treatise on the culture of the Sweet Pea (*Les pois de senteur*) in the French language, and for this he has recently been awarded the Silver Medal of the National Horticultural Society of France.

FRANCO-BRITISH EXHIBITION.—We notice that our correspondent, Mr. HARMAN PAYNE, is writing a series of interesting articles on horticulture at the Franco-British Exhibition in the columns of our French contemporary *Le Jardin*, of Paris.

COURS LA REINE GREENHOUSES.—Horticultural visitors to Paris will learn with regret that the demolition of the two large greenhouses in which the National Horticultural Society of France has held its spring and autumn shows for the past eight years has definitely been decided upon. We may well enquire, with our excellent contemporary *Le Jardin*, where will the horticultural shows be held in the future?

its perusal to all who are interested in the subject. The first few lines in the author's preface give some reason for writing on the subject. He says: "A strong conviction that the recent endeavours to work up a 'milk scare' are both groundless and mischievous, has induced me to publish this pamphlet." The more important points which Sir WALTER GILBEY sets forth in the 42 pages of his pamphlet

The tuberculin test for cows he considers to be of "very doubtful utility." The pamphlet is both interesting and instructive, as it contains a great amount of information about the milk supply not only of the United Kingdom but of other countries.

THE LAVENDER HARVEST.—The Lavender farms at Mitcham and other districts in Surrey have produced a good crop, and the harvest



FIG. 34.—MALVASTRUM HYPOMADARUM GROWING IN THE ROYAL BOTANIC GARDEN, EDINBURGH. THE PLANTS EXCEED 5 FEET IN HEIGHT.

* **MILK AND MILCH ANIMALS.**—We have received a copy of a pamphlet dealing mainly with the milk supply of the United Kingdom, written by that high authority Sir WALTER GILBEY, Bart., and we recommend

* *Milk and Milch Animals.* VINTON & Co., Bream's Buildings, London.

may briefly be summarised. He agrees that every possible means should be taken to ensure the cleanliness of the milk, which should be consumed in its natural condition, without being "Pasteurised" or sterilised. He holds that tuberculosis is not communicated to man through the milk in the manner urged by some.

promises to be a record one. Large bunches of Lavender are being retailed in the London streets at 2d. each.

MR. R. BROWN, for the past 9½ years gardener to W. SLINGSBY HUNTER, Esq., of Gilling Castle, Yorkshire, is leaving Gilling in order to take up farming in Roxburghshire, Scotland.

MALVASTRUM HYPOMADARUM IN EDINBURGH.

THE opportunity was taken during a recent visit to Edinburgh of examining the specimen of *Malvastrum Hypomadarum* (*M. grossulariæ-folium*) which is growing in the corridor of the plant-houses in the Royal Botanic Garden. This plant is of special interest, inasmuch as it represents the stock from which the specimen figured in the *Gardener's Chronicle* for June 20, 1908, on p. 394, was indirectly derived; and as there appear to be some features in which it nevertheless differs from the plant kindly supplied by Messrs. James Veitch & Sons for the purpose of our former illustration, we reproduce a photograph (fig. 34) of the plant which reached us through the courtesy of Prof. Bayley Balfour.

The differences, although rather striking, seem to be due mainly, if not entirely, to the different methods of cultivation adopted. The Edinburgh example is growing planted out in a bed in the corridor, and is trained up the wall, where it may attain to a height of as much as 10 feet. The internodes are longer, the leaves are less downy and also less clearly lobed than in the Veitchian plant, which was grown in a pot; but the most striking difference lay in the presence of but a single flower in the axil of each leaf, a feature which is said to be constant in the Edinburgh specimen. But the fact that the flower may be replaced by an axillary shoot which itself continues to bear single axillary flowers, explains the apparent difference, for examination of the London specimens shows that the apparent clustering of the flowers is merely due to the suppression of the internodes of an axillary floriferous shoot. This is clearly proved by the appearance and position of the small bracts which accompany the younger flowers of a cluster.

The Edinburgh plant sets fruit (see fig. 35) very freely, though it appears that artificial pollination is necessary in order that it may do so. By the kindness of the Regius Keeper, in sending the material, we are able to illustrate the fruit, which is enclosed in the persistent calyx and epicalyx.

THE ROSARY.

CULTURAL HINTS FOR AUGUST.

UNTIL the recent rains, it has been almost impossible to bud Roses effectively, but now that the conditions are more favourable, the work can be resumed. With the exception of the stocks of *R. multiflora* and *Manetti*, budding should be brought to a finish during the present month. I should like to draw attention to some of the remarks made last month on budding generally, for if these are intelligently followed there will be few failures. One point is very necessary, and that is not to shorten the shoots of the briar after budding, until it is seen that there is a good callus and that the union is completed, otherwise a considerable check will be given at the wrong moment, and weakly buds may die in consequence.

Established plants after flowering early in the month can be cut back a little, and if fed with weak liquid manure, will be capable of flowering again in the autumn; varieties of the Tea, Hybrid Tea, China, and Bourbon sections are most valuable for this purpose, the flowering shoots upon pillar and rambling roses may be shortened or cut right away as soon as the blooms have passed, in order to provide room for layering the young shoots, which are now growing too quickly from the base. The climbing Teas and Noisettes after their first flowering, are more of a perpetual character, and all that is now necessary is to shorten the old wood a little and cut out weakly and unripe growths, removing all

seed pods and spent flowers. Plants in active growth may be afforded surface mulchings of manure, and occasional applications of liquid manure.

Examine the early-budded Briars and loosen any ties that appear to be cutting into the bark, but it is too early to remove such ties altogether.

The *Multiflora* stock is especially valuable for the working of strong-growing varieties of climbing Noisettes, Hybrid Teas, and Ramblers. The following varieties are especially good and free climbers, whether for planting out of doors or under glass:—*Aimée Vibert*, *Alister Stella Gray*, *Climbing Niphetos*, *Belle Lyonnaise*, *Belle Siebrecht*, *Bouquet d'Or*, *Cheshunt Hybrid*, *Climbing Devonensis*, *Gloire Lyonnaise*, *Ophiré*, *Madame Alfred Carrière*, *Madame Ernest Levasseur*, *Reine Marie Henriette*, *Gloire de Dijon*, *Dorothy Perkins*, and *Kaiserin Frederick Victoria*. Insert the buds as low down as possible upon the stocks, and it may be remembered that such Roses may be budded upon the *Multiflora* stock as late as the end of the first week of September. If some of the early buds have failed fresh ones may be put in as near to the main stem, or the axis of the shoot as possible.

The present is a suitable time to increase the stock of any desirable variety by layering the shoots, provided the ground is in a good condition, or, failing this, it is possible to apply frequent soakings of water to thoroughly moisten the soil to the depth of one foot, keeping it in

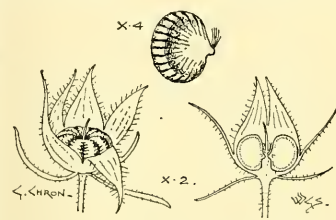


FIG. 35. FRUITS OF *MALVASTRUM HYPOMADARUM* FROM THE ROYAL BOTANIC GARDEN, EDINBURGH

this condition until the layers show signs of making growth.

Shoots which have matured out-of-doors are the best for this purpose, and should be at least one foot in length. Make a sloping trench 10 inches deep and dig into the bottom a good layer of sandy grit, burnt earth and leaf-mould, for the rooting medium. Make an incision one inch long half-way through the shoot, giving it a slight twist and placing it carefully against the trench on the compost; make the shoot firm with a hooked peg, fill in the trench and level the soil, treading it firm before applying a good watering. Afford the surface of the ground a liberal mulch.

Pot Roses that were forced early and that have been placed out-of-doors should be examined for the purpose of cleansing them from all insect pests, but the repotting or top-dressing may be deferred until September. If pot plants were stopped in July for the last time they should now be cleansed from insects and mildew, preparatory to housing them in an unheated house at the end of September. If the plants have been well disbudded and properly looked after they will provide a valuable quantity of flowers during autumn.

Roses that are planted out under glass have had a hard time of it, excepting those which are cultivated in houses having movable top lights, in which cases the lights are best removed altogether during such weather as we have recently experienced. The borders should now receive a mulching of cow manure and soot, together with ground bones, applying an abundant watering

afterwards. Syringe also an insecticide into the heads of the plants by means of the garden engine, and thus thoroughly cleanse the foliage from dirt and insect pests. The most forward plants may be pruned during August, leaving only the strongest and ripest growths. Ventilate the houses to the fullest extent both night and day. Climbing and pillar varieties trained to the posts and roofs of the houses require pruning in a lesser degree, leaving in these cases the rods of this season's growth intact, but shortening the thinner and less vigorous shoots. The Hybrid Teas give the best results when planted out in borders; they flower more freely and have a more or less perpetual character. Excellent varieties include *Lady Battersea*, *La France*, *Caroline Testout*, *Duchess of Albany*, *Killarney*, *Mrs. W. J. Grant*, *Mildred Grant*, *Perle des Jardins*, *Niphetos*, *Safrano*, *Liberty*, *Madame Abel Chateau*, and *Kaiserin Augusta Victoria*. J. D. G.

NOTES FROM A "FRENCH" GARDEN.

AT the beginning of July we removed the lights from the Melons, but owing to heavy rains we have had to replace them, leaving, however, the lights open at nights, because the Cauliflowers that are growing amongst the Melons require air both by day and night. The first batch of Melons planted at the end of March is practically exhausted, and we are taking the frames from them for the protection of other Melons planted at the end of June, which have been sheltered up to the present time by cloches. We are now planting *Endive La Ruffec* in the open ground; this batch will be ready in October. *Endive* always give excellent results at that time and are superior in quality to those cultivated earlier in the season. The last batch of *Cos Lettuce* to be sown this season has just been put in, and if the weather in autumn is very wet we shall have to shelter the plants with cloches in order to obtain satisfactory results. The consignments of horse manure for early use next season have commenced to arrive. We stack it in heaps 12 to 15 feet wide and 20 to 22 feet long, leaving three apertures in the centre of each stack for the escape of gases; care has to be taken to watch the manure, for in the event of the heat becoming excessive, the stack must be pulled down and remade, otherwise the manure will slowly smoulder away into ashes.

In the new garden, where the quantity of well-decayed manure is short, it is advisable to sow on an old manure bed some Spinach or plant some Cabbage Lettuces, but the bed may be cleared again by September, and thus be available for the sowing of Cabbages, Cauliflowers, and Lettuces. If there is no decayed manure to be obtained, all the spare time should be spent in making fine soil for these different crops. For this purpose good fine loam, mixed with half its quantity of well broken up manure, should be stacked together; the heap will have to be turned over occasionally and broken up with the back of a fork. *P. Aquatilis*, *Mayland*, Essex.

TREES AND SHRUBS.

TRICUSPIDARIA LANCEOLATA.

I HAVE had the privilege for a number of years of seeing a good specimen of this shrub in the garden of Mr. W. D. Robinson-Douglas, at Orchardton, Castle Douglas, Kirkcudbrightshire, and on the occasion of a visit a few days ago, I was glad to observe that it had withstood the severe weather of the spring better than I had anticipated, although many of the flower-buds had dropped. The foliage was, however, uninjured, and was in itself pleasing, even without the few flowers of deep crimson which nestled among it. The plant at Orchardton is on rock-work and faces almost due south-west, and is now more than 6 feet high, and about as many feet through. Orchardton lies close to the Solway, and is in a mild part of the county, but there are many places in similar districts where this fine plant might well find a place, seeing that it also thrives well on the Ayrshire and West Ross-shire coast. J. Arnott.

STRAWBERRIES IN POTS.

HARDLY is the business of one Strawberry season over and done with than it is necessary to begin making preparations for the next. By the middle of August those who believe in making new beds in the summer rather than in the spring will be busy, but before then the plants which are to be forced next season will need to be seen to. The usual custom is to layer the first plants of the runners into small pots filled with soil, detaching them when well rooted, and transferring them into their fruiting pots before the end of September. Most people, ignorant perhaps that there is a better, if somewhat more elaborate plan of preparing Strawberries for forcing, are content to pursue the old method, but since in gardening no plan is good enough if there happens to be a better, it may be interesting to explain an improved system of preparing the plants that deserves to be more widely practised.

The first thing to do is to mark with stakes the most prolific plants on the bed from which the runners are intended to be taken. This is easily done, of course, during the fruiting season, or soon afterwards, since the fruit stems left on the plant are a good enough guide to its productivity. If, however, it is inconvenient or difficult to determine which of the plants in the old bed are the most fruitful, the selection of runners may safely be deferred till the spring. In the first case, the most prolific plants having been selected, it only remains to layer the strongest runners into pots, pinching off all the rest, and transplanting the former into a nicely-prepared bed of rich, but not recently manured, soil by the end of August. Otherwise, when the selection of runners is deferred till the spring, the strongest of the young plants will be allowed to root themselves on the old bed. So soon as the parent plants begin to bloom, it will be easy to pick out the most floriferous among them and select only those runners that are attached to such plants. The runners must now be severed from their parents and transplanted carefully in moist weather, or, after a good watering, with a good ball of soil, to a new bed. At the same time every bit of bloom that the young plants are showing must be nipped off, and any subsequent blossom must be treated in similar fashion. Whether the plants have been set out in their fresh quarters in the autumn or spring matters but little if the work be carefully done, and by the time that June arrives each will be well established and making good growth. The treatment from June onwards is precisely the same in either case, the chief things to attend to being the keeping the land free from weeds, removing runners from the plants, watering in dry weather (or, better still, slight mulching) and the nipping off of all flower-buds directly they appear.

During the last week of July, or, at any rate, not later than the last week in August, the plants should be lifted and potted into their fruiting pots, which need never be larger than 6-inch (32's), the "crowns" being kept well above the soil and the roots carefully spread out while being potted, and the soil well rammed afterwards. The soil for potting should consist of two parts turfy loam, half a part of well-decayed manure, and half a part leaf-mould, with a good handful of coarse sand. After potting, the plants should be treated exactly as other Strawberries prepared for forcing.

The advantages of this system of preparing plants are many. In the first place the exclusion of all "blind" plants is assured, the presence of which adds so greatly to one's labours all through the season and deprives one of much valuable space all to no purpose. Secondly, only the very best and most fruitful plants are selected. Thirdly, the plants being in their second year, instead of mere runners, are much more vigorous and capable of carrying a heavy crop. And, fourthly, they are practically established plants by the time they are lifted into their fruiting-pots, thereby ensuring an abundance of roots—the keynote of success in Strawberry forcing. These advantages certainly compensate for any extra trouble which this more elaborate system of preparation may entail. E. S.

LAW NOTE.

LOSS OF £400 ON ORCHIDS.

At the London Bankruptcy Court recently, the first meeting of creditors was held before Mr. Savill, Official Receiver, under a receiving order made in the case of G. A. Jackson Burton, of Leighside Hall, Lewes, market gardener.

It appeared that the debtor was formerly in the Army, and afterwards in the Colonial service. He stated that he went to Lewes eight years ago, and started horticulture as a hobby; but about two years ago he began to make it more of a business. He estimated that he had incurred a loss of £300 on the purchase of Lilies, and expenditure in exploiting the same, also a loss of £400 in respect of some £900 worth of Orchids. A statement of affairs was filed, showing liabilities £9,520, of which £8,406 were expected to rank, and assets valued at £7,170, including an estimated surplus of £6,925 from securities held by creditors. The Official Receiver was informed that the liabilities were considerably understated, and that the security (valued at £8,000) held by a creditor, consisting of a mortgage of the lease of Leighside Hall, and the general effects of the business, was probably much overstated.

Mr. Lawson Lewis, of Eastbourne, asked for an adjournment in order that an arrangement might be made for the bringing in of capital and the nursing in of the estate, with a view to the ultimate payment of a composition of 10s. in the pound.

The creditors, however, passed a resolution for bankruptcy, and appointed Mr. J. G. Fowler, chartered accountant, trustee of the estate together with a committee of inspection.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

THE R.H.S. EXHIBITIONS.—At the Royal Horticultural Society's Exhibitions some official pushes the exhibitors' cards amongst the exhibits, and, in many cases, they are so hidden from view that visitors are unable to see what awards have been made. A society like the R.H.S. should not leave it to the lecturer to find a chairman for his meeting from amongst the visitors assembling to hear the lecture. Surely, from the council and committees a chairman from these bodies could be elected before the day on which the meeting is to be held. John Carvill, F.R.H.S.

THE FLOWERS OF SPENSER.—I owe Canon Ellacombe an apology for my offhand and over-confident note on the word *aquilegia*. What he has written since (p. 73) makes me content to leave the derivation a still open question, though with a somewhat strong inclination to *aqua-lego*. The transition of the "i" into "g"—*aquileia*, *aquileia*, *aquileia*, is seemingly a strong point, but I do not feel sure that there is actual literary evidence of these forms. Scientific etymology is entirely modern, and derivations given by the early writers, from Pliny down to Linnaeus, can seldom be taken seriously. To them *aquilegia* would superficially but naturally suggest *aquila*, and their explanations would follow suit. Linnaeus's statement has no separate value, as he simply repeats Bauhin. G. H. Engleheart.

PLANTS IN FLOWER AT LEONARDSLEE.—The beautiful evergreen plant *Mitrasacis coccinea* is now flowering for the second time this season, and occasionally the flowers may be found upon the plant until the end of September. It is a shrub and grows from 2 to 3 feet in height, and has bright scarlet tube-shaped flowers. The plant requires a somewhat moist position, sheltered from winds. It is very attractive in the rock-garden. Another plant in flower is *Philella busifolia*, a small evergreen plant, that in similar conditions succeeds very satisfactorily. It is exceedingly beautiful and perfectly hardy. The flowers, which are crimson and wax-like, resemble *Lapageria rosea*; they continue to be produced for several months. The plant requires a certain amount of shade, but not overhead, and a little peat and good leaf-soil should be

used when planting. *Desfontainia spinosa* is a charming and beautiful Holly-like shrub, dense in habit, with opposite leaves. The flowers are axillary, and about 2 inches long. They are crimson-scarlet, tipped with yellow. The plant requires a shady and well-drained position, but there are several specimens here which succeed well in the Alpine garden exposed to sunshine. During very severe frost in winter it is advisable to cover them with beather, bracken, or similar material. *Olearia macrodonta* passed through last winter without harm, and has flowered more profusely than ever. Large plants having a diameter of 8 or 10 feet have been much admired. *Escallonia rubra* flowers with delightful freedom. It grows in any good garden soil, and may be propagated very easily from cuttings. *Cornus japonica* has presented a remarkable sight for several weeks, its large white flowers showing up to great advantage amongst such plants as *Acers* and *Arundinaria*. *Fendlera runcinata* has also flowered very freely. *Crataegus* *Donnii* has been lovely. At a distance the large plants having a diameter of 6 or 8 feet had the appearance of being a snow-white cloth. *O. myrsinoides* is more rare, but it has flowered equally well. *Metrosideros floribunda* has flowered freely, and the red and the white varieties when planted together are most effective. W. A. Cook, Leonardslee Gardens, Horsham.

YELLOW-FLOWERED TREE PEONIES.—The anticipations indulged in when *Paeonia lutea* was first introduced, namely, that it might in the hands of the hybridist give rise to a new race of Tree Peonies, have been realised, and we may now before long hope to see some of them in our gardens. The varieties obtained by M. Louis Henry, which are referred to by Mr. W. E. Gumbleton, on p. 73, are apparently not the only ones in cultivation, for on this point I have received a most interesting communication from M. Lemoine, of Nancy, which I venture to reproduce for the benefit of the readers of the *Gardeners' Chronicle*. M. Lemoine writes: "You are probably aware that the Museum of Natural History at Paris possesses a new double yellow Tree Peony, a cross of *Paeonia lutea*. This variety, which flowered for the first time in May, 1908, received the name *Souvenir du Professeur Maxime Cornu*. It may perhaps interest you to know that we had long ago succeeded in effecting a similar cross, and that we have a variety of no lesser merit than the plant obtained by M. Louis Henry. [We had the opportunity of seeing the latter when in bloom in May.] Our plant has the habit of a true Tree Peony or *Paeonia Moutan*, the flowers are large, full, and of a colour which reminds one of the well-known *Rose Soleil d'Or*. It flowered this year for the third time." With M. Lemoine's long experience of propagating uncommon plants, there is great hope of this striking Peony being put into commerce before many years. W.

XANTHORHIZA APIFOLIA.—Amateurs who may be induced by the note in the *Gardeners' Chronicle* of July 25 to give a place in the flower border to this strange plant will be disappointed in the result, for it is far from ornamental. Interesting botanically as being the only shrubby member of the Ranunculaceae order, except the Clematis, it has not a single feature to recommend it as a decorative subject. It may serve as undergrowth in woodland, where, in a moist climate, it spreads freely and makes good game cover. At Cumloden, near Newton Stewart, there is an open wood filled with it. There is such a bewildering abundance of beautiful flowering shrubs to choose from, that there is much need of warning against planting things of inferior merit. Herbert Maxwell, Monreith. July 25.

DWARFING STOCKS.—In the notes on Dwarfing stocks it should have been remarked that Gerarde had the Paradise Apple, though it was not used as a stock. *Mirogardenis* should be *Nursgardenis*, a variety named only by Austin. B.

FREMENTIA CALIFORNICA.—Quite recently in the gardens of East Burnham Park, the country home of Mr. H. J. Veitch, near Slough, was seen a notable example in flower of this comparatively rare deciduous flowering shrub. Originally planted at the base of a high wall, the specimen in question has long since exceeded the wall in

height, and many erect growths of some 4 feet or 5 feet in length were crowded with a profusion of the rich yellow blossoms, few, if any, blossoms appearing on that portion of the tree sheltered by the wall. At no period of the year can our gardens boast of a great wealth of trees or shrubs having yellow flowers, and it would therefore appear desirable that the merits of this species in an unprotected position should be much more widely known. If one might judge from the flowering of this tree-growing specimen, it would almost appear that severe pruning and training are alike unsuited to the plant, and that a better result generally might be anticipated were sheltered positions in the open selected. Nearer the coast, and generally in favoured localities, good flowering examples of *P. californica* may be seen more or less frequently, but one was not quite prepared to see a handsome tree 10 feet or 12 feet in height flowering so profusely in an inland garden. There is a wider sphere of usefulness for the *Fremontia* in our gardens than is generally supposed, and it should not be overlooked by intending planters of rare flowering trees. *E. H. Jenkins.*

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

JULY 21.—*President:* E. A. Bowles, Esq., B.A., F.L.S. (in the chair), Prof. G. S. Boulger, Rev. W. Wilks, Messrs. Fawcett, Hales, Worsdell, Bennett-Poë, Fraser, and Chittenden (secretary).

Peloric Pansy.—Mr. HALE exhibited flowers of Pansy showing regular peloria. Many had but four petals, others had five, and each petal was spurred. Only one plant out of a batch of seedlings had exhibited this phenomenon, which appears to be very rare in the Pansy, though well known in *Linaria*, &c.

Myosotis.—Mr. BOWLES exhibited an inflorescence of the common Forget-me-not from the plant which he showed last year, and which then had the calyx much enlarged; this year, however, the calyx was of normal size.

Cypripedium with double lip.—From H. J. ALLWOOD, Esq., of Acock's Green, came a specimen of *Cypripedium Lawrenceanum*, normal in all respects except in the labellum, which was double, as though it had been cleft deeply in its very early stages of growth. This, and a curious form of *Cattleya Harrisonii*, were handed to Mr. Worsdell for further examination.

Blue Sweet Peas.—Mrs. BIFFEN, of The Gables, Histon, Cambridge, sent specimens illustrating blue forms of the "Spencer" type of Sweet Pea, together with an account of their pedigree:—

The various blue shades of waved Peas have resulted from crosses between *Zoe*, a medium blue Pea, and *Paradise*, John Ingman, and an unnamed rose-coloured variety practically identical with the original Countess Spencer. A similar series as far as colour goes, but less waved, has been given by a cross between *Zoe* and *Gladys Unwin*. Navy Blue crossed with *Paradise* has also given the same series, and it is probable that any shade of pink or deep rose and Navy Blue would also give them. In each case the first generation was a deep purple blue with deep blue wings. The selfed seeds from these purple hybrids (*Zoe* x John Ingman) gave a rather complex generation consisting of bronze purple, purple with blue purple wings, navy blue, *Zoe* blue, *Zephyr* blue, pale blue, lavender (probably Mrs. C. Foster), John Ingman colour, deep rose, pale rose (various shades of), tinged white. These various colours were present in both flat and waved forms, and farther as flakes on a white ground. The cultures raised were not sufficiently large to give reliable statistics, so the figures are not quoted here.

THIRD GENERATION.

The behaviour of each of the types mentioned has been traced in some detail, but attention is only called here to the blue shades. Anyone who has grown the mixtures known as Prince of Asturias, Rosie Adams,

The Marquis, Silas Cole, &c., can readily trace the genetic constitution of the heterozygous purples; whilst the pink and rose shades behaved much as the first stocks of Countess Spencer. It should be noted, though, that each of these purples can apparently be obtained in a fixed form.

The various blue shades either bred true to type or yielded a series of "sports" in definite proportions. The analysis of the whole set of statistics has not been completed yet, but the colours are given in the order of their frequency.

Zoe shade.—(1) Breaks into *Zoe*, navy, *Zephyr*, bluish pink, pale blue, and pale pink. (2) Gives the blue series just mentioned and no pinks. (3) Breeds true (*Zoe*, Countess form only, specimens exhibited).

Navy shade.—(1) Breaks into navy, *Zephyr*, and the same two pink shades as the above. (2) Gives navy and *Zephyr*. (3) Bred true (specimens exhibited).

Zephyr shade.—(1) Breaks into *Zephyr* and pale pink only. (2) Breeds true (specimens exhibited).

Pale blue.—(1) ? throws *Zephyr* (no case yet met with). (2) Breeds true (specimens exhibited).

The Spencer, the Unwin, and the flat standard types all behave in the same fashion, and what evidence has been obtained at present shows that the corresponding flaked colours give the same results. A few of the flaked types were exhibited for comparison with the whole colours. It should be noted that flaking is not visible in either parent. When it appears it has always acted as a simple recessive to the corresponding whole colour. Thus a deep purple flake might split into purple, blue, and pink types, but each would be flaked and no self colours would occur.

It is rather a curious fact that whilst a long series of pinks, orange, white and yellow shades are known in a fixed condition, no waved blues have yet appeared in commerce with the exceptions of Mrs. C. Foster. This latter is heterozygous, and may be left out of account. It would seem to point to the fact that the Spencer forms are not so readily cross fertilised by bees as is generally stated. If they were so we might fairly expect that the blue shades would be as well, or, knowing the partiality of bees for blue flowers, better represented than the pinks.

HEREFORD AND WEST OF ENGLAND ROSE.

JULY 15.—The Hereford Rose Show was held this year on the above date in the Shire Hall, Hereford, and attracted a large attendance. The hall presented a handsome appearance, the large centre tables being filled with Roses, and the Sweet Peas and hardy cut flowers arranged against the walls, while the table decorations were very effective in the centre corridor and lower hall, where also the hall pieces, baskets of Roses, and buttonholes were exhibited.

In the class for 72 varieties, the 1st prize was won by Messrs. DICKSON & SONS with a very fine display of Roses, the 2nd prize falling to the KING'S ACRE NURSERY CO., LTD., Hereford.

The 1st prize for 36 varieties was won by the KING'S ACRE NURSERY, and the 2nd prize by Messrs. TOWNSEND & SONS.

For 24 varieties the 1st prize was won by Messrs. DICKSON & SONS, the 2nd prize by the KING'S ACRE NURSERY, and the 3rd prize by Messrs. TOWNSEND & SONS.

In the amateur classes for 24 varieties, FOLEY R. HOBBS, Esq., won the 1st prize, and CONWAY JONES, Esq., the 2nd prize, both having fine displays of Roses.

In the class for 18 varieties the best exhibit was from JARRATT W. THORPE, Esq. WILLIAM REED, Esq., won the 2nd prize.

FOLEY R. HOBBS, Esq., won the 1st prize in the class for 12 varieties (trebles) and in that for six varieties of Hybrid Teas.

In the class for 18 varieties, Captain R. KILBEE STUART won the 1st prize, and he also gained the Silver Medal for the best bloom with Helen Keller, the 2nd prize falling to H. GRAYSTONE, Esq.

In the Tea and Noisette division (nurserymen),

Mr. HENRY DREW won the 1st prize for 18 varieties, and the KING'S ACRE NURSERY the 2nd prize.

Messrs. TOWNSEND & SONS had the best exhibit of 12 Teas and Noisettes, and in a similar class reserved for amateurs, FOLEY R. HOBBS, Esq., won the 1st prize.

The Silver Medal for the best Tea or Noisette bloom was awarded to CONWAY JONES, Esq., for a "White Maman Cochet," and he also won the Silver Medal for the best H.P. bloom with an excellent specimen of "Victor Hugo."

Hardy border flowers were particularly good, and the magnificent display evoked a great deal of admiration. Two extra prizes were given.

The Sweet Pea classes were well filled, a very good 1st prize winner in the class for 18 varieties being Mrs. G. W. DAVEY, and in that for 12 varieties Mrs. G. CHILD won the chief honour.

The baskets of Roses were not quite so good as usual, but the table decorations were extremely pretty and uncommon in many cases. Miss BATTISCOMBE won the 1st prize with a table decorated with mauve Clematis and pale yellow Briar Roses. *F. A. S.*

BRITISH GARDENERS' ASSOCIATION.

JULY 21.—At the last meeting of the executive council of this association, Mr. E. F. Hawes in the chair, 17 new members were elected, bringing the total up to 1,325. The solicitors were instructed to proceed with the case in which a member was entitled to £11 as wages. Grants of £2 each were made to the London and Blackburn branches to carry on propaganda work. The cases of lapsed members were considered, and it was decided to strike them off the list of members. They were comparatively few. *J. W.*

NATIONAL ROSE.

EXHIBITION AT MANCHESTER.

JULY 21.—Six shows of the National Rose Society have been held in the spacious grounds of the Royal Botanical Society during the last 28 years. The exhibits on Tuesday last were satisfactory, although the blooms generally showed the stress of weather that they had passed through during the last few days. The weather was highly satisfactory, and the competition throughout keen. The blooms generally were in fair condition, the dark varieties being admirable in colour and form.

NURSERYMEN'S CLASSES.

In the class for 36 blooms, in which the Challenge Trophy was offered, the Trophy and 1st prize were won by Mr. HUGH DICKSON, of Bellast, who staged excellent blooms of Gustave Figanère, Mrs. S. Clark, Earl Dufferin, Comte de Ludre, Caroline Testout, Horace Vernet, Hugh Dickson, Mildred Grant, Frau Karl Druschki, Mamie, Chas. J. Graham, Mrs. Theodore Roosevelt, and others; 2nd, Messrs. A. DICKSON & SONS, Newtownards, with many fine blooms; and Messrs. R. HARKNESS & Co. were 3rd.

For 72 blooms, distinct varieties, Mr. HUGH DICKSON was again the 1st prizewinner, having remarkable blooms of Duke of Wellington, Comte du Ludre, Killarney, Ulrich Brunner, Horace Vernet, Liberty, Victor Hugo, Beauty of Waltham, Marquise Litta, J. B. Clark, and others. Messrs. A. DICKSON & SONS again followed closely with a fine stand; Messrs. FRANK CANT & Co. were 3rd.

In the class for 24 distinct varieties, three blooms of each variety, Messrs. A. DICKSON & SONS took the lead, having many noteworthy examples; Messrs. FRANK CANT & Co. were 2nd, and Mr. HUGH DICKSON 3rd.

In a class for 36 blooms, distinct varieties, the winners were Mr. W. H. FRETTEINGHAM, Nottingham, the KING'S ACRE NURSERY CO., Hereford, and Messrs. G. & W. H. BURCH, in the order in which they are named.

Mr. W. H. FRETTEINGHAM was again to the fore in the class for six varieties, three blooms of each, having fine blooms of Horace Vernet, Duchess of Bedford, and Lord Macaulay; Messrs. G. & W. H. BURCH and the KING'S ACRE NURSERY CO. followed in this order.

For 18 Tea or Noisette varieties, Mr. G. PRINCE was to the fore with beautiful blooms, of which the best were Bridesmaid, Mrs.

Edward Mawley, Media, Comtesse de Nadaillac, and Golden Gate. The 2nd and 3rd prizes were won by Messrs. FRANK CANT & Co. and Mr. H. DREW, Longworth.

Mr. J. MATTOCK, New Headington, Oxford, won the 1st prize for 12 Tea or Noisette varieties, distinct, having bright blooms of Bridesmaid and Mrs E. Mawley, these being particularly noteworthy.

OPEN CLASSES.

A class for 12 new Roses was strongly contested, and Messrs. FRANK CANT & Co. proved the victors. They had noteworthy blooms of the varieties William Shean and Countess Annesley. Messrs. A. DICKSON & SONS followed closely, and Messrs. BEN CANT & SONS were awarded the 3rd prize.

The best exhibit of 12 blooms of any white or yellow Rose was one from Messrs. FRANK CANT & Co., who had good blooms of White Maman Cochet. Messrs. A. DICKSON & SONS won the 2nd prize with Fran Karl Drusckli; and the KING'S ACRE NURSERY Co. were 3rd with the same variety.

Mr. HUGH DICKSON had the best dozen blooms of a light pink variety in Mrs. Theodore Roosevelt. The KING'S ACRE NURSERY Co. were 2nd with the variety Mrs. J. Laing; and Messrs. FRANK CANT & Co. 3rd with Dean Hole.

Mr. HUGH DICKSON won 1st prize for a crimson variety, and showed blooms of Hugh Dickson; the KING'S ACRE NURSERY Co. were 2nd, with Alfred Colomb; and Messrs. G. & W. H. BURCH 3rd with Horace Vernet.

A class for 12 vases, containing five blooms each, was well won by Messrs. A. DICKSON & SONS, who included a vase of richly-coloured flowers of Duke of Wellington; Messrs. D. PRIOR & SONS were 2nd; and Messrs. G. & W. H. BURCH 3rd.

For 12 distinct Tea or Noisette varieties, three blooms of each, Messrs. FRANK CANT & Co. won the 1st prize.

The best exhibit of 18 distinct varieties of decorative Roses, to include not more than seven trusses of each variety, was one from Messrs. FRANK CANT & Co., in which Hiawatha, Minnehaha, Perle d'Or, and Ideal were most pleasing.

AMATEURS.

The Challenge Trophy was offered in a class for 24 blooms, distinct, and the 1st prize was secured by Mr. E. B. LINDELL, Hitchin, who staged especially good blooms of Alfred Colomb, Duchess of Bedford, Mrs. Mawley, A. K. Williams, and Mrs. J. Laing. The remaining awards went to Mr. W. BOYES and Mr. N. DENNISON, Kenilworth.

For 36 blooms, distinct, Mr. R. L. PARK led with good flowers of Horace Vernet, Victor Hugo, Mildred Grant, and Liberty; the Rev. J. H. PEMBERTON being 2nd, and Mr. H. C. MACHIN 3rd.

The best exhibit of nine blooms of any one Rose, except Tea or Noisette, was one from Mr. H. DENNISON, who had well-coloured blooms of Horace Vernet.

For six blooms, distinct varieties (trebles), Mr. C. S. SPREIGHT won the 1st prize; and the same exhibitor had 1st prize for six blooms of any Rose, except Tea or Noisette, showing good blooms of Her Majesty.

There were also classes for growers of a limited number of plants, and others reserved for local cultivators.

SILVER MEDALS.

SILVER MEDALS were awarded to Mr. HUGH DICKSON for the best hybrid Tea in Lyon Rose; and for any variety other than Tea, Noisette, or hybrid Tea, the winning flower being a fine bloom of Hugh Dickson. These were in the nurserymen's section. In the amateurs' classes Mr. E. B. LINDELL was awarded a Medal for the best Tea or Noisette, showing a fine bloom of Mrs. Mawley; Mr. W. BOYES for the best hybrid Tea in a fine specimen of Mildred Grant; and Mr. H. MACHIN for any other variety than Hybrid Tea, Noisette, or Tea.

NEW ROSES.

GOLD MEDALS were awarded to Messrs. A. DICKSON & SON for a charming crimson-coloured hybrid Tea named G. E. Waud; to Mr. HUGH DICKSON for a large pure single white flower named Simplicity; and to Messrs. B. R. CANT & Co. for white Dorothy Perkins.

NATIONAL CARNATION & PICOTEE.

JULY 22.—The annual show held at the Royal Horticultural Hall, Vincent Square, on the above date was one of the best displays of Carnations we have seen. In the competitive classes the blooms were excellent, and the trade exhibits were largely supplemented by those staged at the Royal Horticultural Society's meeting on the previous day.

Mr. W. H. PAGE, Hampton, exhibited two good seedlings (unnamed). One of these, a pink variety, was of a pretty shade, and a white variety with red stripes was also good.

Messrs. PHILLIPS & TAYLOR contributed a good group, and were also successful in some of the competitive classes.

Mr. W. SYDENHAM made a good display of border varieties, and exhibited some unnamed seedlings.

In reference to the trade exhibits which remained over from the previous day, it may be remarked that in all instances the blooms had kept well, and visitors who rarely go to the ordinary fortnightly meetings had an opportunity of seeing the American varieties which are not officially recognised by the National Carnation Society.

In the competitive classes the weakest point was the groups of pot plants, there being only one competitor in each class, yet it must be said that these were both of high quality. In the class for a group occupying not less than 50 square feet, the president, MARTIN R. SMITH, Esq. (gr. C. Blick), put up a fine group of varieties of high quality.

In class for groups to occupy 30 square feet, Mr. CHAS. TURNER, Slough, exhibited a very good group of plants, not arranged so formally as in previous years, when the flowers were all fixed out on wires.

In the classes for nine blooms of separate colours, Mr. J. DOUGLAS, Great Bookham, led the way, being first in several classes, and he was also a most successful exhibitor in other classes. Miranda secured the first prize offered for a pink variety, Amy Robsart for white, Agnes Sorrell for dark red, Dafodil for yellow, New Premier for scarlet, and Marmion for a self. It should be noted that this Marmion is quite distinct from Mr. Burnett's Marmion, which is now such a popular variety, and was well shown in several trade groups.

In the class for dressed blooms on cards, Mr. R. C. RUDD, King's Norton, was first for 12 selfs, and also for 12 fancies.

Mr. C. H. HERBERT, Acocks Green, Birmingham, secured the 1st prize for 12 white ground Picotees, and Messrs. PHILLIPS & TAYLOR were 1st for 12 yellow ground Picotees.

In the class for bizarre or flaked Carnations, Mr. BROWN was 1st with Mrs. T. Lord, a very pretty variety, and the same exhibitor was 1st for six blooms of any white ground Picotee with good blooms of Mrs. C. Hornby.

In the class for 18 bizarres or flakes, Mr. A. R. BROWN, Birmingham, was 1st with very good blooms.

For 18 selfs, Mr. MATHIAS obtained the 1st prize for very high blooms.

In the competitive for fancy varieties, MARTIN R. SMITH, Esq., won the premier honours, and also for yellow ground and white ground varieties. Mr. BROWN and Mr. MATHIAS being good exhibitors in the same classes.

The table decoration shown by Mr. C. BLICK was very pretty. For a vase of Carnations Mr. MATHIAS was 1st with a good arrangement.

In the class for five dressed blooms (selfs) Mr. R. MARTON won the 1st prize.

It was interesting to note that there were more classes for blooms on long stems in vases, and it is evident that these exhibits appeal to the public more than those dressed and shown with the paper collars; there is little doubt but that in the near future this artificial way of showing flowers will be discontinued.

An American gentleman who visited the Society's show last year could hardly find words to sufficiently condemn the practice of showing flowers with paper collars.

The most important groups left over from the previous day were from the following exhibitors:—Messrs. CUTBUSH & SONS had a large group arranged on the floor with some tall stands, showing above vases of good blooms beneath.

Messrs. H. Low & Co., Enfield, added some additional blooms to the display made the day before.

Mr. A. F. DUTTON, Iver, Bucks, also made a good display of the American varieties.

It may be of interest to note that some of the most active supporters of the Winter Flowering Carnation Society also support the older Society.

NATIONAL SWEET PEA

JULY 24.—The eighth annual exhibition was held on the above date in the Royal Horticultural Hall, Vincent Square, Westminster. The elimination of the single vase classes was responsible for a smaller show, but their passing was not regretted, for it prevented monotony. The hall and annexes were quite full. Great interest was centred round the various challenge cups, while the stand from Messrs. CARTER & Co. (see fig. 36) attracted much attention from the visitors, as did the arch decorated by Messrs. FELTON & Co.; both exhibits formed distinctly conspicuous features. Visitors were so numerous at times as to make locomotion difficult.

SPECIAL AUDIT CLASS.

This was for fifteen bunches of Sweet Peas, distinct, to be selected from the following varieties:—King Edward VII., John Ingman, Countess Spencer, Helen Lewis, Harcastle Sykes, Dainty, America, Princess of Wales, Mrs. Collier, Jeannie Gordon, Navy Blue, Mrs. W. Wright, Duke of Westminster, Black Knight, Frank Dolby, Dorothy Eckford, Sybil Eckford, Geo. Gordon, Helen Pierce and Cocinea. The 1st prize carried the Sutton Challenge Cup and the Gold Medal of the National Sweet Pea Society—trade excluded. The cup changed hands, for Sir RANDOLPH L. BAKER, Bart. (gr. Mr. A. E. Usher), Ranston House, Blandford, was adjudged the winner in a fine competition. The flowers were large, very fine in colour, and well arranged. The varieties employed were King Edward VII., Dorothy Eckford, Mrs. Collier (very fine in colour), America, Black Knight, Navy Blue, Helen Lewis, Frank Dolby, Mrs. H. Sykes, Sybil Eckford, John Ingman, Geo. Gordon, Helen Pierce, and Countess Spencer (a grand vase). The redoubtable Mr. T. JONES, of Ruabon, proved a good 2nd, the same position he occupied last year. His best bunches were Dorothy Eckford, John Ingman, Mrs. H. Sykes, Helen Lewis, Helen Pierce, Cocinea, King Edward VII., and Dainty; long bouquet wires were pushed up the stems of the flowers, perhaps not against rule, but it is doubtful if all the exhibitors know they can manipulate their blooms in this way, and it is self-evident that the flowers can be more easily and effectively arranged if these means are employed. Last year's champion, Mr. G. Stevenson (gr. to Mr. MCCARTY, Woburn Place, Addlestone) had to take 3rd place, doubtless the unfavourable weather before the show was accountable for this, while Mr. J. Vickers (gr. to Mr. W. H. RAWNSLEY, Alford, Lincs.) was placed 4th.

Class 2 was for 24 bunches, distinct, and again a keen contest resulted; Mr. T. VICKERS, however, proved the victor, with a fine bold display. The varieties employed were Mrs. A. Watkins, Horace Wright, Etta Dyke, Helen Lewis, Cream Spencer, Mrs. W. Rawnsley, Duke of Westminster, John Ingman, Marbled Blue, King Edward VII., Lord Nelson, H. Eckford, A. J. Cook, Queen Alexandra, Emperor, Evelyn Hemus, James Grieve (in perfect colour), Janet Scott, America, Frank Dolby, Sybil Eckford, Evelyn Byatt, Betty and Mrs. W. Wright. Mr. J. T. TUBB, Oakbrook, Seale, Sevenoaks, was 2nd, with fine examples of Mrs. Collier, Helen Lewis, Lord Nelson, Nora Unwin, Countess Spencer and Queen Alexandra; while the 3rd position was awarded Mrs. A. J. MORRIS (gr. Mr. S. Horscroft), Longshaw, Chipstead, Kent.

THE HENRY ECKFORD MEMORIAL CLASS.

Here exhibitors had a distinct surprise, for Mr. F. A. WELLESLEY (gr. Mr. W. Hopkins), Westfield, Woking, stepped in and lifted the cup at the first time of asking, no mean feat, when we remember the names of the other exhibitors in the class. It was won in no unmistakable fashion either. The twelve varieties were John Ingman, Lord Nelson, King Edward VII., Helen

Pierce, Mrs. H. Sykes, Mrs. Collier, Nora Unwin, Miss Audrey Crier, Prince of Asturias, Helen Lewis, Frank Dolby, and St. George; the whole exhibit was most pleasing and well staged. Mr. T. JONES was a good 2nd, having, as his best bunches, John Ingman, Queen Alexandra, Mrs. H. Bell, Miss Audrey Crier, Helen Lewis, Black Knight, and Eta Dyke. Mr. A. E. USHER and Mr. G. STARK taking the other prizes in the order named.

"HORACE WRIGHT" CHALLENGE BOWL.

This trophy is offered to draw special attention to varieties most suitable for garden decoration, and competitors must select their varieties from the following sorts:—America, Beacon, Blush Queen, Countess Spencer, Dora Breadmore, Dorothy Eckford, Flora Norton, Helen Pierce, Janet Scott, Jeannie Gordon, John Ingman, King Edward VII., Lady G. Hamilton, Mrs. W. Wright, Prince of Wales, Queen Alexandra, Romolo Piazzani and Shasta. It is necessary to win the cup three times, but not necessarily in succession. Last year Mr. A. BASILE (gr. to the Rev. T. McMURDIE, Woburn Park, Addlestone) secured the coveted trophy, and on this occasion again inscribed his name on the cup as the result of a beautiful exhibit, the varieties being Countess Spencer, Jeannie Gordon, John Ingman, Dora Breadmore, King Edward VII., Janet Scott, Helen Pierce, Dorothy Eckford, and Mrs. Walter Wright. The stems were very fine and the arrangement good. Mr. E. KEITH was in good form for 2nd place, with fine bunches of Helen Lewis, Miss Audrey Crier, Elsie Herbert and Prince of Asturias.

For six bunches distinct, to include at least three of the following sorts: The Marquis, Princess Victoria, Prince Olaf, Menie Christie, and Hannah Dale, Mr. E. BROAD (gr. Mr. W. H. PROPHET), St. Blagey, Cornwall, was 1st with good examples of John Ingman, Mrs. Hardcastle Sykes, The Marquis, Menie Christie, St. George, Prince Olaf, and Mrs. Collier. Mr. A. E. USHER was 2nd, with equally fine flowers, though lacking in richness of colour.

The class for six bunches produced an enormous competition. Mr. W. J. PROPHET won the 1st prize with George Herbert, Mrs. C. Foster, Evelyn Hemus, Lord Nelson, and Eta Dyke. Mrs. A. TIGWELL was 2nd and Mr. W. E. H. PELLIER, Abbotskerswell, 3rd.

CLASSIFICATION CLASS (OPEN).

This is a class to illustrate the colour distinctions in the Society's classification, and to bring into prominence the best varieties in the several colours. Here, Mr. A. E. USHER proved the victor. His most striking bunches were Mrs. Walter Wright, Mrs. Hardcastle Sykes, America, Horace Wright, Dorothy Eckford, Frank Dolby, Black Knight, John Ingman, Helen Pierce, Jeannie Gordon, and Romolo Piazzani. Mr. CHAS. W. BREADMORE, 120, High Street, Winchester, had a nicely-arranged exhibit for 2nd prize. The most striking varieties were George Herbert, Evelyn Hemus, Lord Nelson, Countess Spencer, and Queen Alexandra, while Messrs. SALTMARSH & SON, Chelmsford, were third with a nice display.

For 24 bunches of Sweet Peas distinct there was a good entry. Mr. C. W. BREADMORE won the 1st prize with a really fine collection, which included bunches of Mrs. C. W. Breadmore, Navy Blue, Spencer, Waved Mrs. Kenyon, Henry Eckford, Mrs. H. Sykes, Helen Pierce, Kathleen MacGowan, and King Alfonso. Messrs. SALTMARSH & SON were awarded the 2nd prize, while Messrs. G. STARK & SON, Great Ryburgh, were placed 3rd.

SWEET PEAS WITH WAVED STANDARDS.

Five classes were offered in this section to draw special attention to the varieties that have waved standards, such as Countess Spencer, Helen Lewis, and others of similar form. In Class 16, which was for 12 bunches, to include at least six of the varieties enumerated in the schedule, the 1st prize being a silver rose bowl. The prize was secured by Mr. A. E. USHER, who staged excellent examples of Evelyn Hemus, Paradise Carmine, White Paradise, Marjorie Willis, St. George, Dudley Lees, Hester, Sutton's Queen, Helen Lewis, Lucy Hemus, Paradise Regained, and King Edward VII. Mr. T. JONES obtained the Silver Vase offered as 2nd prize, with some very choice bunches.

THE BURPEE CHALLENGE CUP.

This cup, value 15 guineas, is presented by Mr. W. Atlee Burpee, of Philadelphia, for a display of Sweet Peas arranged on a table 4 feet by 3 feet and not to exceed 3 feet in height. The class is to encourage the development of the waved or Countess Spencer type. The 1st prize was won by Mr. R. BOLTON, Carnforth, who put up a splendid exhibit and thus secured this handsome trophy. The varieties were Tom Bolton, Countess Spencer, Evelyn Hemus, Mrs. Chas. Foster, John Ingman, Miss Audrey Crier, Nancy Perkins, The Marquis, Mrs. Hardcastle Sykes, and two seedlings. Mr. SILAS COLE was 2nd, having Althorp Cream, G. C. Naud, Pink Countess Spencer, Althorp White, and Gladys Cole, while Mr. A. E. USHER was 3rd.

In the class for six bunches, to include at least one each of Burpee's White Spencer, Primrose Spencer, and Countess Spencer, the competitors staged some attractive exhibits. Mr. SILAS COLE won the 1st prize, with nice, clean specimens of Silas Cole, Countess Spencer,

NON-COMPETITIVE EXHIBITS.

The exhibits of Messrs. J. CARTER & CO., who occupied a large circular space, presented a fine display of baskets, vases, &c., in all the best varieties, the effect being greatly enhanced by the Smilax, Asparagus, and other light foliage employed (see fig. 36). Displays of Sweet Peas were also exhibited by Messrs. WEBB & SONS, Wordsley (Silver-Gilt Medal); Messrs. JARMAN & CO., Chard (Silver Medal); Mr. R. SYDENHAM (Silver Medal); Mr. W. J. UNWIN (Silver-Gilt Medal); Messrs. G. and A. CLARK, LTD., Dover (Silver Medal); Messrs. HOBBS, LTD., Dereham (Gold Medal); Messrs. DOBBIE & CO., Rothesay (Gold Medal); Messrs. G. STARK & SON, Great Ryburgh (Gold Medal); Messrs. E. W. KING & CO., Coggeshall (Gold Medal); Messrs. JONES & SONS, Shrewsbury (Large Silver Medal); Mr. W. J. GODFREY, Exmouth (Silver Medal); Mr. W. DEAL, Kelvedon (Silver Medal); Messrs. H. CANNELL & SONS, Swanley (Gold Medal); Mr. C. W. BREADMORE, Win-



FIG. 36.—EXHIBIT MADE BY MESSRS J. CARTER AND CO AT THE LAST MEETING OF THE ROYAL HORTICULTURAL SOCIETY, AND REARRANGED FOR THE SHOW OF THE NATIONAL SWEET PEA SOCIETY.

Cream Spencer, John Ingman, Lord Althorp, and White Spencer.

For a bunch each of Burpee's White and Primrose Spencer, Mr. A. BASILE obtained the 1st prize with splendid flowers, followed by Mr. T. JONES and Mr. W. HOPKINS in the order named.

SPECIAL DIVISION FOR SMALL GROWERS.

Six classes were relegated to amateurs who do not employ a gardener regularly, and the result was pleasing.

The chief varieties staged in the smaller classes were Helen Lewis, George Herbert, Evelyn Hemus, Frank Dolby, Constance Oliver, Elsie Herbert, and Mrs. Hardcastle Sykes.

FLORAL DECORATIONS.

These classes were as popular as ever, and some very effective arrangements were displayed. Miss COLE, The Vineyard, Feltham, was awarded the 1st prize for the dinner-table arrangement.

chester (Silver-Gilt Medal), Messrs. BAKERS, Wolverhampton (Gold Medal); Mr. H. ECKFORD, Wem (Large Silver Medal).

NEW VARIETIES.

The following varieties were awarded First-Class Certificates or Awards of Merit by the Floral Committee when judged in the trials at Reading College Garden, but it is convenient to append the descriptions here.

Mrs. A. Ireland may best be described as a waved, but far superior, form of Jeannie Gordon. From Messrs. DOBBIE & CO., Rothesay. (First-Class Certificate.)

Paradise Ivory.—A light buff variety with a good waved standard. From Miss H. HEMUS, Upton-on-Severn. (Award of Merit.)

Miss Constance Oliver.—A cream and pink-coloured variety, deeper in colour than Mrs. H. Bell, a very dainty variety. From Mr. W. LUMLEY, Havant. (Award of Merit.)

George Stark.—A very fine scarlet variety, having a good, bold, erect standard, the inflorescence being of large size. From Messrs. G. STARK & SONS, Great Ryburgh. (First-Class Certificate.)

Mrs. H. Bell.—A very attractive cream-coloured flower, edged with pink; it will become very popular. From Mr. R. BOLTON, Carnforth. (First-Class Certificate.)

NATIONAL CHRYSANTHEMUM.

JULY 27.—The annual outing of this Society took place on the above date. By special permission a party of nearly 200 visited the Royal Gardens, Frogmore. Mr. McKellar and his foreman, Mr. Edwards, conducted the party over the gardens, which happened to be just in their prime after the recent rains. The herbaceous borders received unstinted praise. Notwithstanding the heat (75° in the shade) the party walked about the gardens and greenhouses for nearly three hours. The fruit houses, stoves and greenhouses, Rose garden, fruit and kitchen garden all received due attention, and one could not but admire the excellent state in which everything was found.

Lunch was taken at Laxton's Restaurant in Windsor, and was presided over by the president of the Society, Sir Albert Rolitt, supported by his Worship the Mayor of Windsor on one hand and the secretary, Mr. R. A. Witty, on the other.

Sir Albert Rolitt proposed three toasts: (1) the King and Royal Family; (2) the National Chrysanthemum Society; and (3) the Mayor of Windsor.

After lunch the party proceeded by a special steamer, "La Marguerite," as far as Maidenhead, where, after a two-hours' trip, tea was served at the Dumb-Bell Restaurant. The party re-embarked at 6.30, and left Windsor for home at 8.28 p.m., bringing a glorious day to a close. J. W.

SOUTHAMPTON ROYAL HORTICULTURAL.

JULY 28.—The 10th annual exhibition of Carnations, conducted under the auspices of the above Society, was held on this date in the Pavilion of the Royal Pier, Southampton. The building was filled with a general display of flowers, there being, in addition to Carnations, groups of Sweet Peas, Roses, hardy garden flowers, &c. A notable feature was a group of *Dia grandiflora* shown by Miss RASHLEIGH, Netley Abbey, the plants being very large and magnificently flowered. Several new plants were presented for certificate: this distinction was granted to two new Sweet Peas and a yellow self Carnation. The weather was delightful, and many visitors attended the show. The number of entries in the classes for Carnations was not so large as last year, this being accounted for by these flowers being exceptionally early this season.

The classes for Carnations were open to all comers, the only restriction being that trade growers were required to show in the classes in which twelve blooms are required, there being in each section a class for twelve flowers and another for six.

Flakes and Bizarres.—In the largest class there were five exhibitors, the 1st prize being won by Mr. C. H. HERBERT, nurseryman, Acock's Green, Birmingham. He showed only slightly superior blooms to Mr. CHAS. F. THURSTON, Penn Fields, Wolverhampton, who was placed 2nd, Mr. A. R. BROWN, Compton Nurseries, King's Norton, winning the 3rd prize. Mr. HERBERT showed Master Fred, Gordon Lewis, Meteor, J. S. Heddlesley, W. Skirring, Lord Salisbury, Geo. Rudd, Arthur, Sportsman, Robert Houlgrave, Guardsman and Admiral Curzon, and these varieties were representative of those in the other exhibits. Mr. THURSTON had a magnificent bloom of Geo. Melville. The best of two exhibits in the class for six blooms was shown by Mr. JAMES FAIRLIE, Acton, London, W.

White Ground Picotees.—There were the same number of exhibits in this as in the first-mentioned class, the exhibitors being the same.

Mr. BROWN, Compton Nurseries, King's Norton, was adjudged the winner of the 1st prize with W. E. DICKSON, Pride of Leyton, Fortrose Brunette (a refined bloom), Lavinia, Lady Sybil, Myra, Lucy Maud Brown, Thos. William, Lady Louisa and John Smith. Mr. THURSTON was close 2nd, and Mr. HERBERT 3rd.

There were four entrants in the class for six blooms, the 1st prize being won by Mr. FAIRLIE with good examples of Fair Maud, a seedling in the style of Amy Robsart; Little Phil, Somerhill, Grace Darling and Amy Robsart. 2nd, F. W. FLIGHT, Esq., Cornisties, Twyford (gr. Mr. W. Neville).

Yellow-ground Picotees.—Again Messrs. TAYLOR, HERBERT, MATHIAS, BROWN and THURSTON competed, but they had another rival in the firm of Messrs. PHILLIPS & TAYLOR, Bracknell, Berks., who secured the 4th prize. The 1st was won by Mr. BROWN, King's Norton, with refined blooms, all with a richly-colored ground. 2nd, Mr. H. MATHIAS, Medhurst, Hants.

In the smaller class for six blooms, there were seven exhibits; the best was shown by Mr. J. J. KEEN, a local grower. He showed Leonora especially well; 2nd, J. A. FORT, Esq., Kingsgate, Winchester (gr. Mr. G. Cousins).

Fancy Carnations.—Messrs. HERBERT, MATHIAS, BROWN, THURSTON, TAYLOR, and Capt. R. ALBERT, Sherwood Mount, Kenley, were the competitors in the largest class for fancy Carnations, the four first-named winning the prizes in the order in which their names are given. There was not a great deal to choose between the whole of these exhibitors, for all were very fine. Mr. HERBERT had good blooms of Sam Weller, Iris, Eldorado, and Earl King. Mr. MATHIAS showed a very regular set, Highland Lass, Lord Steyne, and Plato being a selection of his best flowers.

In the class for six blooms, Mr. KEEN was successful in competition with five other growers, his blooms being very large and brightly coloured. He showed Elaine, Mandarin, Lord Steyne, Sam Weller, Highland Lass, and Rony Buchanan; 2nd, Mr. FAIRLIE; 3rd, Mr. FORT.

Selfs.—The same competitors as in the class for twelve yellow-ground Picotees contested in this. Mr. MATHIAS winning the premier prize with an admirable dozen, three of which were seedlings, W. H. Parton, Mrs. Flight, Caraba, Miss Willmott, Daffodil, and a pink-coloured seedling being his best blooms. 2nd, Mr. THURSTON, with smaller but highly-refined blooms, especially fine being the variety named after Miss Willmott.

Seven good displays were seen in the class for six blooms of self Carnations, Mr. FAIRLIE having the best in his flowers of Mrs. M. V. Charleston, W. H. Parton, Etina, Jno. Pope, Benbow and Mrs. Flight, &c. Dr. A. H. BEADLES, 38, Silverdale, Sydenham.

UNDRESSED OR BORDER VARIETIES.

A class was provided for twelve distinct varieties of self-coloured or fancy Carnation or yellow-ground Picotees. The schedule called for six blooms of each variety to be arranged in vases with their own foliage. Much the best exhibit was shown by Mr. HAYWOOD MATHIAS, who had Baldu, Highland Lassie, Plato, King Solomon, Agnes Sorrell and others in fine form. 2nd, Mr. A. R. BROWN. There was also a similar but smaller class for six distinct varieties, the best of four exhibits being shown by H. R. TAYLOR, Esq., Oakleigh, Cheam, Surrey; 2nd, Sir R. BAKER, Bart., Ransdon House, Blandford (gr. Mr. A. E. Usher).

Several classes were allotted for varieties of distinct colours. The best vase of a white variety was shown by Mr. A. R. BROWN, who had Snowdrift; the best blush or pink variety was adjudged to be Mrs. Flight, shown by F. W. FLIGHT, Esq. (gr. Mr. Neville); the best vase of a rose or salmon self Carnation was shown by H. R. TAYLOR, Esq., Oakleigh, Cheam, Surrey. This flower was adjudged the premier bloom of a Self Carnation in the section for undressed blooms. Mr. FAIRLIE won in the class for a vase of scarlet self Carnations with the variety Duke of Norfolk. The best yellow self was Cecilia, shown by Mr. A. R. BROWN, whilst Benbow, shown by Mr. FAIRLIE, secured the premier award in the class for buff or terra cotta

varieties. The best vase of a dark self Carnation was shown by Mr. A. R. BROWN, who had W. H. Parton in good form.

Mrs. W. Heriot, shown by C. A. LINZEE, Esq., Alresford (gr. Mr. R. Ransom), won the 1st prize for a yellow-ground Picotee, and the best vase of a fancy Carnation was a variety not labelled, shown by H. R. TAYLOR, Esq., Cheam.

PREMIER BLOOMS.

Bizarre: R. Houlgrave, shown by Mr. C. A. LINZEE. *Flake*: Meteor, shown by Mr. C. H. HERBERT. *Self*: Maud Allan, a new variety, shown by Mr. TAYLOR. *Fancy*: King Solomon, shown by Mr. A. R. BROWN. *Heavy-edged white Picotee*: Lady Sybil, shown by Mr. A. R. BROWN. *Light-edged white Picotee*: Mrs. C. H. Herbert, shown by Mr. HERBERT. *Heavy-edged yellow Picotee*: Togo, shown by Mr. MATHIAS. *Light-edged yellow Picotee*: Leonora, shown by Mr. BROWN.

NOVELTIES.

CERTIFICATES were awarded to Carnation Maud Allan, a yellow self, shown by Mr. H. R. TAYLOR; and to Sweet Peas Kathleen Macgowan, a pale blue or heliotrope variety with large waved standards, and Magnificent, a flower with reddish-orange mottling on a white ground, the white only showing near the margins of the petals. They were shown by Mr. C. W. BREADMORE, Winchester, and Mr. S. MILLER, Newport, I. of W., respectively.

NON-COMPETITIVE EXHIBITS.

Messrs. B. LADHAMS, LTD., Shirley, Southampton, filled a large table with an assortment of hardy flowers, Gallardias being especially fine. Messrs. LADHAMS also showed a separate exhibit of Roses, with Begonias, Gloxinias, and suitable foliage plants interspersed. (Silver-Gilt Medal.)

Mr. E. WILLS, Shirley, Southampton, displayed Ferns and other foliage plants, flowering plants in pots of Lillium longiflorum, and, at the entrance to the Pavilion, an assortment of decorative plants.

Mr. A. F. DUTTON, Iwer, Bucks., exhibited vases of Carnations relieved with trails of Asparagus. The varieties were of the winter-flowering type, and were shown in first-class style. (Silver-Gilt Medal.)

Mr. H. BURNETT, Guernsey, showed beautiful blooms of Carnations in tall glass vases. The stems were of remarkable length and the flowers excellent in every respect. (Gold Medal.)

Messrs. PHILLIPS & TAYLOR, Bracknell, Berks., showed border Carnations in variety. (Silver Medal.)

Mr. JAMES DOUGLAS, Great Bookham, Surrey, showed a border Carnations in superb style, especially fine being The Nizam, Daffodil, Cardinal, Pasha, Harlequin, and Liberté. (Silver Medal.)

Mr. F. G. BEALING, Burgess Street, Bassett, showed a pretty exhibit of Begonias, Heliotropiums, Lilliums, and other flowers in a setting of Ferns, Cocos Palms, Codiaums, &c.

Messrs. TOOGOOD & SONS, Southampton, showed 60 varieties of Sweet Peas, representative of all the best kinds in commerce. (Silver-Gilt Medal.)

Another fine display of these flowers was staged by Mr. C. BREADMORE, Winchester. (Silver-Gilt Medal.)

G. R. PICTON THWAITE, Esq., Glenline, The Avenue, Southampton, showed vases of Sweet Peas.

MISS RASHLEIGH, Abbey House, Netley Abbey (gr. Mr. T. Jenkins), showed a group of *Dia grandiflora*. They were magnificent plants, the largest being in 15-inch pots and carrying 50 flower-spikes each. Some of the inflorescences had as many as six large, richly-coloured blooms. (Silver-Gilt Medal.)

Mr. F. G. BEALING, Burgess Street, Bassett, showed *Celosia pyramidalis* arranged amongst Ferns.

Vases of tuberous-rooting Begonia flowers were staged by Messrs. B. R. DAVIS & SONS, Yeovil. (Silver-Gilt Medal.)

Messrs. W. H. ROGERS & SONS, LTD., Red Lodge Nurseries, Southampton, displayed excellent blooms of Roses in many varieties. (Silver-Gilt Medal.)

COVENT GARDEN FLOWER MARKET.

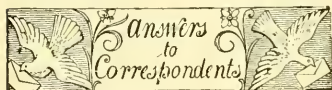
During the next few weeks trade will be very uncertain, and many salesmen will be away for holidays. To ensure supplies all possible from the provinces should be sent as early as possible.

POT PLANTS.

In flowering plants *Lilium* are prominent, and *L. longiflorum* in various sizes is very good. *L. lancifolium* is rather tall. *Fuchsias* are good, but many are from late-rooted cuttings, and though well-flowered, are small. *Marguerites* are not quite so good as usual. The yellow *Chrysanthemums* are still plentiful; some are dwarf and remarkably well-flowered. *Hydrangeas* are good, especially *H. Hortensis* and *H. paniculata*. *Spiraea* from retarded stock are good, but they are not much appreciated. Most growers seem to have large quantities of *Zonal Pelargonium* in flower; they do not sell very readily. Ivy-leaved and show or decorative varieties are also plentiful. *Mignonette* is now nearly over for the season. Small *Petunias* are plentiful, but they are of uncertain quality. Some very good doubles in 4's are seen. Among *Ferns*, *Pteris tremula* in 3's only make about the same price as those in 4's did a few years ago. *Nephrolepis cordifolia* may now be obtained as low as ordinary *Ferries*, but good plants of *N. exaltata* maintain their price. Good *Adiantums* also keep up in price, but several growers have been sending plants that have been grown for some time for cut fronds, and these are sold for any price they will make. *Palms* very but little. Good *Latanias* make better prices even than formerly. *Geonoms* are scarce, but *Coccol Weddelliana* in various sizes are cheaper. *Kentias* maintain good prices, and are likely to be dearer.

CUT FLOWERS.

Supplies are now very uncertain. *Lilium longiflorum* and *L. lancifolium* of best quality have advanced in price. *Roses* now very much in quality: some have good foliage, but in many instances mildew is apparent. *Carnations* are abundant, and though large quantities of the English border sorts are seen, the American varieties are preferred. I tried fresh cut blooms of *Ruby Castle* last week and found that they did not last half so long as blooms of *Mrs. T. W. Lawson*, or other American varieties. Sweet Peas are now of uncertain quality, but some growers are sending in very fine blooms. It is clear in cutting that those who want to make the best prices must cut with long stems and avoid those flowers which are too far advanced. They should be cut before the terminal expanded. *Gladioli* are plentiful. *Isis* are over, but there are some very pretty English varieties. *Gypsophila paniculata* is seen in large wagon loads. *G. elegans* is also plentiful. *A. H. Covent Garden, Wednesday, July 29, 1908.*



APPLE COX'S ORANGE PIPPIN: *L. F.* There is no fungus disease present in the fruits, and the cracking must be attributed to weather conditions, or unsuitability of soil or aspect.

ASTERS: *F. D. & Co.* We are unable to say what is the cause of failure.

BEGONIA LEAVES: *F. Bishop.* There is no insect or fungus disease present. The spots have probably been caused by concentration of moisture on the leaves. Ventilate a little earlier in the morning and syringe the plants before the sun's rays shine upon the roof of the house.

BOOKS: *Hobart.* We know of no English work on the subject of hybridisation of particular plants.

CARNATION: *Exter.* We have failed to find any evidence of the Helminthosporium or other fungus disease in your plant. It appears to have failed through some cultural detail being unsuitable. The plant sent for name is *Teucrium variegatum*.

COVENT GARDEN MARKET PRICES: *H. O. B.* There is no definite system of regulating the prices in the market. All salesmen know what may be expected to arrive, but they cannot estimate the demand. When there is a fair supply prices may be started low, but if the demand is larger than usual, prices may rise. Two weeks ago, for instance, *Delicious* advanced in price late in the morning to fully 6s. per dozen. In respect to foreign importations, the brokers know beforehand what is on the way, and buyers also get some information. Most importations are sold by auction, and are bought by the wholesale dealers. If it is found a few days later that further supplies may fall short, the dealers advance their prices for what they have in stock accordingly, or if they know that large supplies will arrive, they clear out at a small profit, or perhaps at a loss. In regard to *Tasmania* samples, the last consignment for this season arrived about a month ago, but there are still some on the market

which have been kept in cold storage; usually at the end of the season prices depreciate, but this season they have advanced. *Sturmer Pippin* is the only sort of much value on the market at the present time.

CUCUMBER: *S. C.* We frequently receive fruits with leaves growing upon them. An interesting malformation in a Cucumber was illustrated in the *Gardeners' Chronicle* for September 5, 1903, p. 170.

GARDENER'S NOTICE: *H. D.* Kindly read the reply to *De Mal En Pis* and *E. S. S.* in the last issue.

GRAPES AND NECTARINES: *A Constant Reader.* Both vine and Nectarine foliage are badly affected with thrips and other insect pests. Owing to the presence of these destructive agencies the leaves are not able to perform their normal functions, and consequently the fruit is ill-supported, the Grapes being shanked. The skin of the Nectarines is also much disfigured by the thrips. From information contained in your letter it is probable that the border needs to be remade and fresh vines planted. You would do well to obtain a copy of the *Book of the Grape*, by *H. W. Ward*, also of the *Book of Garden Pests and Plant Diseases*, by *R. Hooper Pearson*, both of which are obtainable at this office at the price of 2s. 9d. for the former and 2s. 10d. the latter, post free.

GRUBS IN SOIL: *S. G.* The withered specimens received appear to belong to what are known as surface caterpillars, but which we are unable to determine. The remedies you are using appear to be all that are required.—*H. W.* A species of surface caterpillar, but too withered for determination.

INFLORESCENCE OF WILD CARROT: *C. C.* It is not unusual to find single-coloured flowers in otherwise white inflorescences of the common Carrot and similar umbelliferous plants, but we are not aware that its significance has been determined.

LARGEST EXHIBITION: *A. B. C.* The exhibition of the Shropshire Horticultural Society is certainly the largest non-competitive horticultural exhibition usually held in this country. The Royal Horticultural Society's Shows, held in the Temple Gardens, and Holland House, Kensington, are the largest non-competitive exhibitions.

LILIAM CANDIDUM: *R. S. L. A. D.* The common Lily disease, *Botrytis cinerea*, has killed the stems, but the fungus is not present in the bulb. It would be wise to dust the bulbs with sulphur to kill any mycelium that may be present among the scales.

LOAM: *E. G.* Your loam may be infested with julus worms, but we are unable to find any present in the sample sent for examination. In cases where the soil contains wireworm, millipedes, or julus worms, you might try the treatment with bi-sulphide of carbon which was mentioned in this column last week.

MELON: *J. C.* The plants have been given too much water at the roots. This has caused the fruits to crack very slightly, upon which fungi have settled in the cracks and caused rotting.

NAMES OF PLANTS: *A. C. Bosconoc.* *Carthamus tinctorius*.—*J. K. Dong's.* The flowering Ash received is *Fraxinus Ornus* (*Ornus europaea*).—*G. J. W.* 1, *Omphalodes luteifolia*; 2, *Spergula* sp., too withered for identification.—*A. H.* *Cephalaria tartarica*.—*H. J. P.* 1, *Lantana*, garden-raised variety; 2, *Peperomia*, resediflora.—*J. W. W.* 1, *Asparagus myriocladus*; 2, *Eriobotrya japonica*.—*W. K.* 1, *Linaria* (*Antirrhinum*) *vulgaris*; 2, *Agrimonia Eupatori*.—*J. H. T. W.* 1, *Fuchsia boliviana*; 2, A garden hybrid of *Fuchsia corymbiflora*; 3, *Heliotropium*, garden-raised variety.—*J. K.* We cannot undertake to name varieties of *Carnation*.—*R. H. W.* *Phaius albus*, called *Thunia alba* in gardens.—*Foreman.* 1, *Sigmatostylis radicans*; 2, *Epidendrum prismatocarpum*; 3, *Oncidium leucanthum*; 4, *Sarcantus teretifolius*.—*W. H.* *Cattleya granulosa*; *R. M.* 1, *Chochia* sanguinea; 2, *Promenaea stapelioides*; 3, *Saccolabium curvifolium*; 4, *Selaginella umbrosa*;

5, *Pteris longifolia*; 6, *Pteris aquilina* (common Bracken), which frequently comes up from the Peat in the Orchid pots.—*J. S.* *Tradescantia virginica*.—*W. W.* *Lychnis* sp., but the flower is perished.

PEAR BEURRE DIEL: *G. H. T.* This variety only succeeds perfectly when cultivated in sheltered positions in favourable localities, or upon walls facing to the south or south-west in less favoured localities. We expect the fruits have cracked in your instance through adverse climatic conditions.

PELARGONIUM: *W. H. S.* The plants have been killed by a fungus present in the soil. Leaf-mould should always have a sprinkling of kaint mixed with it before being used for Pelargoniums and similar soft-wooded plants.

PLANE LEAVES: *W. P.* The excrescences on the leaves are small galls produced by minute insects known as *Eriophyes*.

RECORD WEIGHT OF GRAPES: *W. H., Fonhill.* The largest bunch of Grapes we have on record is the white Grape (*Trebbiano*), shown by Mr. Curror, at Edinburgh, September 16, 1875, one single bunch of which weighed as much as 26 lbs. 4 ozs. With regard to Lord Hastings Grapes shown at Shrewsbury last year the weights were not given.

ROSE LEAVES: *Amateur.* These are affected with the common mildew. Flowers of sulphur is a good remedy, if applied either as a powder or mixed with water and syringed on to the foliage. If your rosary has movable lights it would be as well to expose the plants fully to the weather during this month and the next.

ROSES: *D. A. N., Larne.* Your Roses are attacked by a parasite, *Rose-anther*. The fungus which is under observation causes an outgrowth of the parenchyma cells, which produce the cancerous tumours. Cut away all parts and burn them. Protect the plants from frost in early spring. We will name the disease as soon as our research is concluded.

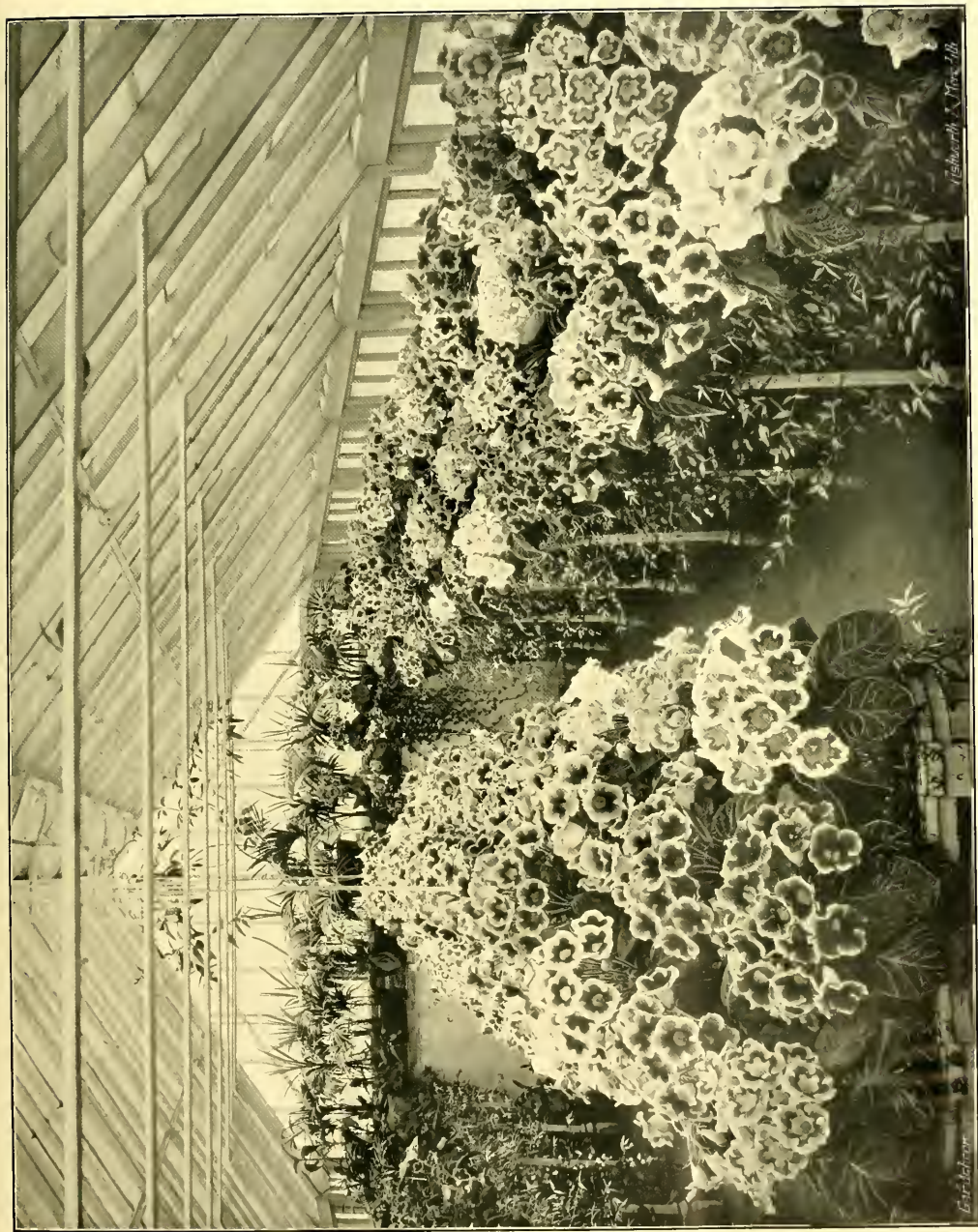
TO DESTROY NETTLES AND IMPROVE THE SOIL OF A BANK: *M. W.* The most effective way of getting rid of Nettles is to fork out the roots and burn them. If this is too big a job, cut the tops off with a scythe or sickle when they are quite young. If you allow the plants to flower and seed, the trouble will be increased. Respecting the bank for flowering shrubs and herbaceous plants, the whole length should be deeply dug in early autumn and exposed to frost, &c., during winter. If the soil is shallow, fresh loam should be added in March, at which time planting should be given attention.

TOMATO FRUITS: *F. E. S. & Co.* There is nothing in the fruit to explain the reason of the splitting. It is probable that it has to do with the supply of moisture and heat. If there is any fungus disease present you will observe black patches on the fruits, and possibly some disfigurement of the foliage. If either condition is noticed, and you will send us specimens we will endeavour to help you in the matter.

TOMATO LEAF: *J. H.* From the miserable specimen received it would appear that your plant is affected with *Cladosporium fulvum*. Cut off any diseased portions and burn them. Ventilate the structure more freely, and syringe the plants with a weak dilution of the Bordeaux mixture or of potassium sulphide.—*H. N. H.* The leaf is too withered for examination.

VINE LEAVES: *E. B.* The leaves are affected with red spider, and there is also some indication of intumescence. Adopt the usual remedies for red spider and take greater care in ventilating the house and supplying moisture in the atmosphere.

COMMUNICATIONS RECEIVED: *A. B.*, County Clare—*A. D. B.*, *Im. D.*, *W. B. H.*, *Enquire*—*W. A.*, *F. J. P.*, *A. B.*, *T. B. D.*, & Co. (too late for present issue)—*Rev. E. S.*, *Estel* *M. E.*, *W. B.* (under consideration)—*A. B. C.*, *H. G.*, *Mrs. D. H. S.*, *W. P.*, *J. C.*, *M. H.*, *F. L.*, *A. C.*, *W. V.*, *A. T. B.*, *J. B.*, *London*, *A. B.*, *N. T.*, *L. L.*, *Laxton Bros.*, *T. H.*, *G. F. T.*, *W. J. P.*, *T. S.*, *J. M.*, *H. R. G.*, *W. B.*, *T. C.*, *J. F. McL.*, *J. K. K.*, *K. & Sons*, *Otto Beyrodt*—*B. L.*, *H. T.*, *R. F.*, *J. T.*, *C.*, *W.*



A HOUSE OF GLONIAS, AS CULTIVATED IN WARSASH HOUSE GARDENS, NEAR SOUTHAMPTON.



THE

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SMALL HOLDINGS AND ALLOTMENTS.

MR. JOHNSTON is, perhaps, a little late in the field with his book on *Small Holdings and Allotments*, but the delay is amply justified by the completeness with which the subject has been treated. Most writers who have set out to explain the complications of this branch of the law have obviously experienced considerable difficulty in deciding whether to treat the subject from the point of view of the lawyer or, alternatively, from that of the layman, and there have been some who, in attempting to make a judicious compromise between the two, have failed to give satisfaction to either class. Mr. Johnston has neatly evaded the difficulty by dealing with his subject from various stand-points in their turn. He discusses the outlook

successfully from the point of view of the Government departments, the County Council, the land owner, the small holder, the tenant farmer and the labourer, following this up by a concise and lucid outline of the law itself.

We would especially direct attention to the introductory chapter, covering nearly 50 pages, in which, from these several points of view, the position created by recent legislation is discussed. In a style which is admirably clear and untechnical, the author lays bare the various difficulties which must be encountered by those who may propose to respond to the invitation put forth under the new Act. Practical warning is given to intending tenants that, when bad seasons arrive (as must inevitably be the case), they must not expect to be shown any great indulgence by the public body (i.e., the County Council), whose tenants they will become. It is further pointed out that among the qualifications needed to assure success are business ability, industry, thrift and adequate capital as well as knowledge of the soil and capacity for organisation and co-operation. There is, in fact, much to agree with in the author's dictum that "Successful farmers cannot be made by Act of Parliament, and there is much inherent talent, besides acquired knowledge, required for growing fruit, raising poultry or managing a herd of cows, as there is for painting an Academy picture."

The author has also a word of sympathy for the landlord, a portion of whose land may be compulsorily taken over by the County Council, only to find it thrown back upon his hands a few years later saddled with a claim for a host of so-called "improvements," many of which may be entirely useless to him for future purposes. Perhaps the following further extract may serve to illustrate the style of breezy common-sense in which the non-technical portion of the book is written. Commenting on the danger of undue optimism, Mr. Johnston says: "You may read in some poultry manual of the hen who is to lay 200 eggs a year, but the hen which may fall to your lot will probably fall lamentably from the high standard set for her. The sow who is to produce for your profit a fine litter, ten or twelve strong twice a year, has before now been found to be barren. It is not every cow who will give you 600 gallons of milk a year—even if you know how to extract it from her, and do you know the value of the butter that you can make from that quantity of milk? The young Apple tree, which is to be in full bearing in three years' time, has a miserable way of then only presenting you with half-a-dozen fruits. Beware how you answer the call of 'Back to the land'!"

The mind of the intending small holder is next disabused of the popular delusion that he will have to pay less than the full price for his farm, or that he will be able to obtain for his own occupation any particular plot of land that he may happen to covet. In the latter connection, we are glad to note that the author avoids a pitfall (previously pointed out in these columns) which has not always been evaded by his fellow-writers, by reminding us that the County Council cannot acquire land compulsorily unless they find themselves unable to acquire, by agreement and on reasonable terms, other land suitable for their

purpose, and, in any case, the Council has no power to acquire compulsorily land for resale to intending small holders. Expert readers may, perhaps, be interested to consider a conundrum which is thus put by the author: "Prices are, in the long run, ever controlled by supply and demand, Glass, well managed, pays, but, supposing half of the applicants for these 144,000 acres intend to devote themselves to that part of the industry, what, for instance, would be the price of Tomatos then?"

The later portions of the book should prove of considerable service to the legal practitioner; the various Acts are set out with voluminous comments and explanatory notes, and these are followed by other statutes, to which reference must necessarily be made from time to time, such as the Local Government Act, 1894, the Lands Clauses Consolidation Act, 1895, and the Land Transfer Acts of 1875 and 1903, together with the rules made thereunder. The various circulars issued by the Board of Agriculture subsequent to the Small Holdings Act, 1907, are also usefully incorporated.

The volume is one which will be read with interest as well as profit by all who, in whatever capacity, are likely to find themselves in practical touch with these matters; intending applicants for land would certainly do well to expend 16s. in the purchase of Mr. Johnston's book, before risking their limited capital. We venture to predict that this volume will come to be regarded as one of the standard works on the subject, and we are especially glad to recognise in Mr. Johnston a member of that growing band of legal writers, whose aim is to interest and instruct rather than to impress their readers with the profundity of their own knowledge or the intricacy of their subject. H. M. V.

NEW OR NOTEWORTHY PLANTS.

THE GENUS DIPELTA.

IN 1877 the late J. Maximowicz founded the genus *Dipelta* on specimens of a shrub collected by the Russian traveller, Dr. Iassekiz, in Shensi,

"*DIPELTA VENTRICOSA (Hemsl.)*—A species tribus bacenis descriptis differt imprimis corolla usque ad basin late infundito-ventricosa. Frutex 2-5 m. altus, habitu foliosus. *Dierollia* specibus nonnullis simillimus, novis pulverulis; rami forgeri graciles, recti, interodios quum foliis brevioribus. Folia opposita, exstipulata, breviter petiolata, ovata, decidua, lanolata vel ovato-lanceolata, 5-15 cm. longa, sed saepius breviora, longe caudato-aeuminata, basi rotundata, margine primom remote minutanti; glanduloso-denticulata, simul ciliolata, supra parcesime strigillosa, subius pallidiora, praecipue scotam venaeque pilosula; vena primarie utriusque circiter 7, 10 aspicunt, ultimis crebre reticulatis; petioli graciles, longiores vix exsertunt. *Pedunculi* axillares et terminales, gracillimi, 1-2 vel pluriflori, brevi sed petiolis excedentes. *Pedicelli* capillares, 1-3 cm. longi, aut bracteolae foreae minute glanduloso-puberuli, bracteolis 6 valde difformibus instructi. *Bractea* dum adscit filiformes, 2-3 mm. longa. *Bracteola* 2 minime infra pedicellum meotum posita, opposita; 4 ample, persistentes, juxta ovarii basin crusta, coalita, nempe 2 exteriores, inaequales, ovales vel ovatae, minores, totum florale et axin spicantes, et 2 interiores laterales, auriculiformes, per andreses ovum excedentes et usque ad 15 cm. longa. *Calycis segmenta* subaequalia, linearia-lanceolata, circiter 8 mm. longa. *Corolla* tubulosa, bilabiata, circiter 3 cm. longa, extra rubro purpurea, intus albo-auratica; tubus latus, rectus, usque ad basin infundito-ventricosus, leviter compressus, antice basi breviter gibbosus, postice basi bicusculatus; limbus bilabatus, labio superiore bilobato, lobis rotundatis subcercis, labio infero paulo longiore intus leviter barbato trilobato, lobis leviter recurvis. *Stamina* 4, didyma, postica 6 lauce brevissime exserta, glabra, filamentis filiformibus corollae basi cauti. *Ovarium* inferum, glanduliferum, 4-loculare; loculi 2 fertiles, uniloculari; 2 steriles, ovula plura imperfecta includentes; stylus filiformis, glaber, stamina aequans. *Fructus* calycis segmentis coronatus et bracteolis acrescentibus appressis abscissus, cum bracteolis circiter 2 cm. diametro, chilo oculo, albidus, circiter 2-3 mm. incola. *Legit.* E. H. Wils n. 3723.

* *Small Holdings and Allotments*. The Law relating thereto, by George Arthur Johnston, M.A., Barrister-at-Law, Edinburgh Wilson. 16s. net.

Western China. It is nearly related to the familiar genus *Drievilla* (Weigela), from which it differs in having a two-lipped corolla and four didynamous stamens, but more strikingly in the bracteoles at the base of the ovary, which are persistent and grow out, forming dry wings to the fruit, from half to three-quarters of an inch across.

three species, and in each case it is dry, like that of the Elm and that of *Dodonaea*.

Of *D. floribunda*, Maxim., there is a figure and description in the *Gardeners' Chronicle* for July 6, 1907, p. 2, by Mr. H. Spooner. It was introduced into cultivation by Mr. E. H. Wilson, who sent living roots to Messrs. Jas. Veitch & Sons in 1902 and in 1904 a supply of seeds,

namely, *D. yunnanensis*, Franchet (*Revue Horti- cole*, 1891, p. 246, with a figure in the text), and *D. elegans*, Batalin (*Acta Horti Petropolitani*, 1898, vol. xiv., p. 174), neither of which is, I believe, in cultivation; but both are represented in the Kew Herbarium.

Messrs. Veitch now send fresh specimens of an apparently undescribed species, collected by



62. *Dipelta ventricosa*
29.7.1908.

FIG. 37.—*DIPELTA VENTRICOSA*.

A, Barren branch of *Dipelta ventricosa*, Hemsl.; B, flowering-branch of the same; C, flower-bud, entire and in section, magn. 2 diam.; D, section of an expanded flower, magn. 2 diam.; E and F, fruit subtended by bracteoles; G, pollen, 300 diam.

With reference to the fruit, Maximowicz must have described it from the notes of the collector, which, in part at least, referred to that of some other plant. The fruit, he says, "is said to be a red, edible berry." We have now fruit of

gathered on Wa Shan, at an elevation of about 4,800 feet. There are specimens of this species in the Kew Herbarium collected at Patung, Hupeh, at an elevation of 3,000 feet. Two other species of *Dipelta* have since been described,

Mr. E. H. Wilson, for which I propose the name *ventricosa*,* as it differs from the other three species mentioned, in having a corolla which is broadly inflated to the base. The name *Dipelta* was given in allusion to the large, shield-

like peltate bracteoles of the original species; but in *D. yunnanensis* and *D. ventricosa* the corresponding bracteoles are ear-shaped and attached by the margin. All the species are very similar in habit and foliage, but there are fruiting specimens in the Kew Herbarium, collected by Dr. A. Henry, 6,558, and Mr. Wilson, 268, which the former describes as a tree 10 to 40 feet high, whereas Wilson gives it the same number as his flowering specimens of *D. floribunda*.

D. ventricosa is a shrub 7 to 15 feet high, with long, straight, slender-flowering branches, and opposite, thin, ovate leaves, mostly 3 to 5 inches long, tapering into a very slender tip. The flowers are solitary or geminate in the axils of the leaves, or in clusters of three to seven at the tips of short branches. They are borne on exceedingly slender stalks, and the larger clusters are only about half as long as the leaves; they are very pretty, but I am not in a position to say what the effect of a full-grown plant is in flower. The individual corollas are about 1½ in. long, and they are two-lipped, with a broad, bulging tube, purple-red outside, and white, with bright orange markings on the lower face of the inside. Mr. Wilson collected it at an elevation of 8,400 feet. *W. Botting Hemley.*

VEGETABLES.

CARROTS.

It is a good plan to make at least two sowings of horned Carrots during July and early August for a supply of young roots during the spring months. The seeds should be sown on land with a south aspect that has been recently cleared of early Potatoes or some other spring crop. The land should be forked, and, if the soil is dry, made moderately firm, by treading. Draw the drills at 10 inches apart, an inch deep, and fully 6 inches wide, so that good broad rows may be had, thus may the plants be protected during the winter months should the weather prove severe. I have for many years adopted this method of growing spring Carrots, and have obtained small, tender, useful roots at a time when Carrots have been in demand. During very cold weather, the rows need covering over with coal ashes, leaf-mould, or some sandy soil to save the tiny roots from injury. Useful varieties for this crop are Early Nantes, Early Short Horn, and Sutton's Champion Horn. In spring, when growth has commenced afresh, the supply of roots may be prolonged by digging them up and placing them in trenches on a cool north border. In this way I have kept them in a sweet and crisp condition for several weeks, and almost till the ordinary early crop was ready.

SUTTON'S HARDY SPROUTING KALE.

Amongst Kales grown in these gardens last winter, I had none to equal the above-named variety. For hardness and productiveness I consider it one of the finest of all Kales, and it should be extensively planted where the demand for winter vegetables is extensive. Last year many of our Kales were killed by frost, also Broccoli and other winter greens, but in a large breadth not one plant of the Kale under notice was killed. The plants are of sturdy habit; the sprouts large, and these are produced in abundance from the bottom to the top of the stem. When cooked, this variety is very tender and of delicious flavour.

CELERY.

Cutbush's dwarf solid red Celery is a very useful, sturdy Celery of good, edible qualities, being sweet and crisp. If planted not too early, the stalks remain firm till late in the spring. The variety suits our soil admirably.

Dwarf Crystal White is another excellent variety. I have grown this kind for several seasons. Formerly I grew the old Sandringham White, which I have discarded. *H. Markham, Wrotham Park Gardens.*

FLOWERS OF SPENSER.

(Continued from p. 65.)

MAPLE.

1. The Maple seldom inward sound.
F.Q., I. i. 9.
2. Her wrinkled skin as tough as Maple rind.
F.Q., I. viii. 47.
3. A mazer wrought of the maple warre.
Shepherds Calendar, August.

Spenser must have been well acquainted with the Maple of English hedgerows, so I do not understand why he should have given it the bad character of "seldom inward sound." All writers from the Romans to Evelyn praise its beautiful hard grain, so well fitted for turning, and in his day and before the wood was sought after for mazer bowls as in the third quotation.

MARIGOLD.

1. The Marigolde and cheerful Rosemarie.
Virgils Gnat, 84.
2. Faire Marigoldes, and bees-alluring Thime.
Muipotmos.

The name was applied to many yellow flowers, but especially to those which were supposed always to have their flowers open to the sun, hence called *solsequium* or *gisalot*.

MARJORAM.

1. Sweet Marjoram and Daisies decking Pryme.
Muipotmos.

The wild British Marjoram was a favourite plant in the herb gardens of Spenser's time, and was a special favourite of the poets, who compared ladies "with margeram gentle, the flower of goodlihead" (Skelton).

MOLY.

1. And sweet is Moly but his root is ill.

Amoretti, xxvi.

Moly is the Onion or Leek. Spenser got the name from Homer, but his description is scarcely true. No part of the Onion or Leek can be described as sweet, except that the flowers are so in a few South European species, of which certainly Spenser had no knowledge.

MULBERRY.

1. With love-juice stained the Mulberry,
The fruit that dewes the poets braine.

An Elegie, 3.

The Mulberry was introduced into England from the South of France long before Spenser's time, but it was not a common tree in gardens. Shakespeare tells us (in *Mid. N.D.*) that love-juice was a drop from some flower squeezed into the eye to ensure constancy in love. Spenser probably gave this character to the Mulberry from its mention by Ovid in the story of Pyramus and Thisbe.

MYRTLE.

1. Beside the same a dainty place there lay,
Planted with myrtle trees, and laurels greene.
F.Q., III. v. 40.
2. Right in the midst of the Paradise
There stood a stately Mount on whose proud top
A gloomy grove of myrtle trees did rise.
F.Q., III. vi. 43.
3. Next did the Myrtle tree to her approach,
Not yet unmindful of her olde reproach.
Virgils Gnat, 28.
4. The Spartan Myrtle whence sweet gum
docs flowe.
Virgils Gnat, 84.
5. Compared with Myrtle and the Bay.
An Elegie, 18.
6. The woode with Paphian myrtles peopled.
Britains Ida, II. 2.
7. While some cool myrtle shade did entertain
him.
Britains Ida, V. 1.

The Myrtle, though abundant in Southern Europe, was very little grown in English gardens in Spenser's time, and his knowledge of it seems to have entirely come from the Greek and Latin authors only.

NARCISSUS.

1. Foolish Narcisse that likes the watry shore.
F.Q., III. vi. 45.

(See Daffodils.)

NUT.

1. And gather nuttes to make the Christmas games.
Shepherds Calendar, December.
2. Sweet is the Nut, but bitter in his pill.
Amoretti 26.

(See Filbert and Hazel.)

OAK.

1. The builder Oak, sole King of forests all.
F.Q., I. i. 8.
2. His stalking steps are stayde
Upon a snaggy Oke.
F.Q., I. vii. 10.
3. As hoary frost with spangles doth attire
The mossy branches of an Oke halfe ded.
F.Q., I. x. 48.
4. But she no more was moved with that
might
Than it had lighted on an aged Oke.
F.Q., IV. vii. 41.
5. Like an old Oke whose pith and sap is
scare,
At puff of every storme doth stagger here
and there.
F.Q., IV. iii. 9.
6. All his steed
F.Q., IV. iv. 39.
7. And in his hand a tall young Oke he bare.
F.Q., IV. vii. 7.
8. As when the flashing Levin haps to light
Upon two stubborn Oakes.
F.Q., V. vi. 40.
9. How often have I scaled the craggie Oke
All to dislodge the Raven of her nest.
Shepherds Calendar, December.
10. And his high head
He with an Oaken girlond now doth tire.
F.Q., VII. vii. 11.
11. Whom als accompanied the Oke . . .
The Oke, whose acornes were our fooode,
before
That Ceres seede of mortal men were
knowne.
Virgils Gnat, 26.
12. Th' Okes deep grounded in the earthly
molde.
Virgils Gnat 57.
13. The durefull Oake, whose sap is not drie,
Is long ere it conceive the kindling fyre.
Amoretti, vi.
14. The skie-bred Eagle, roiall bird
Percht there upon an Oke above.
An Elegie, 31.
15. He that hath seen a great Oke drie and
dead
Lifting to Heaven her aged horie head
Who such an Oke hath seene, let him
record.
Ruines of Rome, 28.

The oak is the recognised symbol of strength and endurance, and as such it is used by Spenser; and there is nothing in any of the passages quoted to show that he had any appreciation of its beauty.

OATS.

1. The Romish Tityrus, I heare,
Through his Mæcenas left his oaten reede,
Whereon he erst had taught his flocks to
feede,
And laboured lands to yield the timely eare.
Shepherds Calendar, October.
2. be thou deigne to heare
Rude ditties, tuncd to shepherdes oaten
reede.
Shepherds Calendar, December.

OLIVE.

1. The fruitful Olive.
F.Q., I. i. 9.
2. Do worship her as Queene with olive gir-
lond crown.
F.Q., I. vi. 13.
3. Like that sacred Hill, whose head full hie,
Adorned with fruitfull Olives all around.
F.Q., I. x. 54.
4. She winnes an Olive Girlond for her mee.
F.Q., II. ii. 31.
5. And both were with one Olive garland
crown.
F.Q., IV. iii. 42.
6. And for her girlond olive branches beare.
Shepherds Calendar, November.

7. Chloris, that is the chiefest nymph of all
Of olive branches, beares a Coronall;
Olives bene for peace,
When warres doth surcease.

Shepherds' Calendar, April.

8. His left the palme tree stout
His right hand did the peacefull Olive wild
And head with Lawrell garnisht was about,
Sudden both Palme and Olive fell away.

Visions of Bellay, 9.

9. She smote the ground, the which streight
forthed did yield
A fruitful Olive tree with berries spreadd,
That all the Gods admired; then all the
storie
She compast with a wreath of Olives
hoarie.

Muioptomos.

It is very doubtful if the Olive was grown
in England in Spenser's day, but it may have
been grown as a curiosity in a few gardens,
and so he may have seen it; but his accounts
are all founded on his knowledge of the tree
in the Latin and Greek writers and in the
Bible.

ORIGANE.

Bathing herself in origane and thyme.

F.O., I. ii. 40.

Origane is the Anglicised form of
Organum, a name that was given to many
plants, but chiefly to the wild Marjoram.
(See Marjoram.)

ORPEN.

Cool Violets, and Orpine growing still.

Muioptomos.

Orpen is the old name for our Houseleek
or Stonecrop. Spenser's "growing still" is
shown in its other names, Sengreen and
Livinglong.

PALM.

1. There he, Lord of himselfe, with palm
bedight,
His looser locks doth wrap in wreath of
vine.

Virgils Gnat, 15.

2. For first the high Palme-trees with
branches faire,
Out of the lowly vallies did arise,
And high shoot up their heads into the
skyes.

Virgils Gnat, 24.

3. His left the Palme tree stout
His right hand did the peacefull Olive wild
Sudden both Palme and Olive fell away.

Visions of Bellay, 9.

4. The Palme that monarchs do obtaine.

An Elgie, 34.

In these passages two different plants are
named. In the first the Palm named is the
Willow tree, of which the catkins were com-
monly called Palme in Spenser's time, and
were used in the decoration of churches on
Palm Sunday. Spenser could have known
nothing of the true Palm except what he had
seen of it in pictures, or read of it in books,
especially, perhaps, the Bible. It was not
introduced into England as a living tree till
long after his time.

PANSY.

1. Fragrant Violets and Pannes trim.

F.O., III. i. 36.

2. The one a Pounce, the other a sweet breer.

F.O., III. xli. 37.

3. The pretie Pawnce and the Cheveseance.

Shepherds' Calendar, April.

Pounce is the old variant for Pansy, and
the name seems to have been applied both to
the wild species and to the garden varieties.

PEAR.

He him caught upon a day
Entangled in a fowling net,
Which he for carrion Crows had set
That in our Pear-tree haunted.

Shepherds' Calendar, March.

—H. N. Ellacombe.

(To be continued.)

BERLIN HORTICULTURAL EXHIBITION.

THE preliminary programme for the great
international horticultural exhibition to be held
in Berlin under the auspices of the Society for
the Promotion of Horticulture in the Royal
Prussian States, has just been issued. The show
will be held in the Exhibition Halls, Zoological
Gardens, from April 2 to 13, 1909, under the
patronage of the Emperor. His Excellency von
Arnim-Crieven, Minister of Agriculture, is the
honorary chairman. In order to give the design
of the exhibition a coherent character, the Hor-
ticultural Society has instituted a public com-
petition for the best scheme relative to the com-
bined structure. It has been determined that
the exhibits of horticultural products shall not
be placed in ordinary rows or groups, but an
attempt will be made "to show by small, self-
contained, impressive, and decorative pictures
what striking paintings, views, and landscapes"
can result from a harmonious combination of
horticulture and art. It is specially hoped there
may be obtained for the decorative division re-
presentations of some parts of house and roof
gardens, decorations of verandas and balconies,
decorations for particular occasions, a decorative
arrangement of ordinary market plants, &c.
Horticultural implements and appliances not yet
on the market or which have been placed on the
market since the year 1906 will be included in
the division for novelties. The programme con-



FIG. 38.—MAIN ENTRANCE TO THE EXHIBITION
HALLS IN BERLIN.

tains 725 competitions for hot-house plants,
greenhouse plants, Conifers, Ferns, Palms, Or-
chids, forced decorative shrubs, Azaleas and
Rhododendrons, Roses, bulbous and tuberiferous
plants, Cactuses and succulents, water plants,
cut flowers, hardy herbaceous plants, exhibits
illustrating the art of binding, pomology or cul-
ture of fruits, vegetable culture, marketing of
fruits and vegetables, nursery stock, and indus-
trial products.

All enquiries respecting the exhibition should
be addressed to the General Secretary's office,
Berlin, N. 4, Invalidenstrasse 42.

CULTURAL MEMORANDA.

GRAFTING ARLIA VEITCHII.

THOSE persons who are not already aware of
the fact, may be interested to learn that Panax
Victoria makes a suitable stock for grafting
Aralia Veitchii and similar species. As is well
known, this Panax is easily propagated from cut-
tings. In using it as a stock for Aralias the union
should be made close down to the roots, for if
made higher a disfigurement would result, from
the fact of the stock swelling more freely than
the scion. T. Coomber.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 84-90.)

0, SCOTLAND, N.

ORKNEYS.—The reason Apples and Pears are
under average is the prolonged period of wet
weather which prevailed whilst the trees were in
bloom, and a poor set of fruit. Other fruits are
suffering from drought at present and cold
north-east and east winds. *William Liddell,*
Balfour Castle Gardens, via Kirknall, N.B.

1, SCOTLAND, E.

ABERDEENSHIRE.—I have never seen Apples a
worse crop than this season, and Gooseberries
are scarce. Strawberries, Raspberries, and Black
Currants, however, are very plentiful. *James*
Grant, Rothiemorman Gardens.

—The bardy fruit crops in this district are
promising, with the exception of Plums and
Pears. Plums are almost a failure, excepting the
variety Victoria. Apples will be an average
crop. The bullfinches and sparrows were very
troublesome early in the spring. *John Brown,*
Delgaty Castle Gardens, Turriff.

BERWICKSHIRE.—Fruit crops here are de-
cidedly good, and rain has come just at an op-
portune time. *J. R. Redpath, Castle Gardens,*
Duns.

EAST LOTHIAN.—Of Peaches, Apricots, Goose-
berries, and other small fruits in many gardens
here there are practically none. Apples, Pears,
Cherries, and Plums are not quite failures, but,
as a crop, each is very poor. Strawberries, on
the contrary, are abundant and fine. The failure
of fruit is undoubtedly due to the intense frosts
and cold winds in the third week of April. *R.*
P. Brotherton, Tynninghame, Prestonkirk.

—The irregularity of the fruit crop in this
district may be said to be mainly due to the
severe frost we had on the morning of April 25,
when the thermometer registered 16° of frost.
At that time Peaches, Nectarines, early Pears,
Gooseberries, Red and Black Currants were in
flower, and many were destroyed. Although
Apricots had already set, they were frosted, and
Raspberries and some early Strawberries suf-
fered. Late varieties of Pears, Gooseberries,
and Currants are very fine, and
the Strawberry crop has been a splendid one.
The Apple crop suffered to some extent from
the frost, for, although not in flower, the centre
of the flower-truss was frosted, leaving only one
or two flowers on each truss, which, where they
have set well, is quite sufficient to form an
average crop. *Wm. Galloway, Gosford Gardens,*
Longniddry.

FIFESHIRE.—Seventeen degrees of frost on
April 24, and the badly-ripened wood of last sea-
son account for the failure of hardy fruit crops
this year. *W. Henderson, Balbirnie Gardens,*
Markinch.

FORFARSHIRE.—Most of the fruit trees and
bushes showed an abundance of blossom; but,
owing to unfavourable weather, they did not set
so well as their appearance when in flower
seemed to promise. The very low temperatures
in April ruined some of the bush fruits, particu-
larly Gooseberries in some gardens; but in
most gardens in this district, they are quite an
average crop. *Thos. Wilson, Glamis Castle Gar-*
dens.

KINCARDINESHIRE.—Owing to excessive rain
and lack of sunshine in 1907, the wood of most
wall trees did not ripen properly, consequently
the blossom came rather weak, and that,
coupled with 20° of frost about the middle of
April, completed the destruction. *John M.*
Brown, Blackhall Castle Gardens, Banchory.

MIDLOTHIAN.—Apricots and Peaches are com-
plete failures, owing to the severe frosts that
occurred when the trees were in bloom. We ap-
plied protection, but 18° of frost is difficult to
exclude. Gooseberries are a heavy crop,
although in many gardens in this district they
are nearly a failure. *Wm. G. Pirie, Dalhousie*
Castle Gardens, Bonnyrigg.

—The fall of snow and 14° frost in the last
week of April destroyed the stone fruits then in
flower, and even the crop of Peaches in the
glass case, unprovided with artificial heat, was

partially destroyed. Pears and Apples are disappointing crops, notwithstanding the trees showed abundant blossom. In a succession of bad fruit seasons this is one of the worst. *James Whytock, Dalkeith Gardens.*

PERTHSHIRE.—The Apple crop in this district

DUMFRIESSHIRE.—Only five out of 32 varieties of Apples are in bearing, and these have average crops. They are Bramley's Seedling, Duchess of Oldenburgh, Lord Grosvenor, Peasegood's Nonsuch and Tower of Glamis. Strawberries are a large crop, and the fruit is of excellent

end of April. Gooseberries and Raspberries are average crops. *Thomas Lunt, Ardgowan Garden, Inverkip.*

STIRLINGSHIRE.—With the exception of small fruits, the crops have been very disappointing. There was a fine show of blossom on all trees, but all set badly. Small fruits are plentiful and of good quality. Strawberries are excellent, with large fruits of superior quality. Our soil is heavy and rich. *Henry Henderson, Bantaskin, Falkirk.*

WIGTONSHIRE.—The fruit crops throughout are disappointing. Apples, Pears, and Plums are below the average. Cherries are very poor. Peaches, Nectarines, Apricots, and Figs almost failures. Strawberries are very good, likewise Red and White Currants, also Raspberries. Black Currants are not more than half the usual crop. *James Day, Galloway House, Garlieston.*

—The trees promised well in April, but on April 24 and 25 we had 16° of frost on each morning. On June 12 we had 1° of frost. *John Bryden, Dunragit Gardens, Dunragit.*

2, ENGLAND, N.E.

DURHAM.—Apples and Pears are about an average quantity. The trees are free from blight, and the foliage is clean of all insect pests. The trees are making good growths, although the season has been very dry. *R. Draper, Seaham Hall, Seaham Harbour.*

—The fruit crop is probably the worst in seven years. Apples and Pears are much below the average and are of poor quality. Small fruits are better, particularly Strawberries, which are good; but quantities have been lost through damp caused by thunderstorms. The cause of failure in Apples and Pears I attribute to a sunless autumn and badly-ripened wood. Sharp frosts were almost nightly occurrences when the trees were in bloom; these, together with cold winds, had much to do with the failure of our fruit crops. *James Machar, Smelt House Gardens, Howden-le-Wear.*

YORKSHIRE.—Considering the dull, wet summer of 1907, there was more blossom on Apples, Pears, and Plums than one expected. Fortunately the cold, wet April of this year kept it back, hence, with some varieties of Apples and Plums, there are very fair crops. Apples Keswick Codlin, Cockpit, Ecklinville, and King of the Pippins are excellent. An orchard of Vic-



FIG. 39.—EXHIBITION HALLS, BERLIN; VIEW OF THE INTERIOR OF HALL NO. I.
(See text on p. 104.)

is a complete failure, the blossom buds being all destroyed with frost in April. Gooseberries, being in flower at the time, were also destroyed. Fruit trees and bushes in general are all very healthy at the present time in this district. *J. Farguharson, The Gardens, Kinsfauns Castle.*

—All small fruits are good in quality and crop, except Black Currants, which are scarce, owing to the severe frost in the third week of April, when we registered in three nights 10°, 15°, and 16° of frost respectively. Wall fruit is also scarce. Plums and Cherries set fairly well, but have dropped badly since. Apples and Pears are exceptionally few. Strawberries are a good crop, and have ripened ten days earlier this year than usual. *T. Lunt, Keir Gardens, Dunblane.*

6, SCOTLAND, W.

ARGYLLSHIRE.—The excessively severe weather in the last week of April severely injured Pear and Plum blossom. Black Currants also suffered badly, and many of the flowers dropped. Red and White Currants are plentiful, and good; Strawberries are excellent in quantity and quality, and Gooseberries abundant. Sweet and Morello Cherries have cropped well. *D. S. Metville, Pollalloch Gardens, Lochgilphead.*

AYRSHIRE.—The severe frost at the end of April destroyed nearly all Plum blossom and much of the Gooseberry and Currant blossom also. Apples and Pears did not set well, although there was abundance of bloom. *William Priest, Eglinton Gardens, Kilwinning.*

—All kinds of fruit promised well here in the early part of the season, and any failure is due to the severe frosts of April 24 and 25, when 14° and 15° of frost were registered on the respective mornings. Insects were troublesome for a time, but, with the use of insecticides and the assistance of the recent heavy rains, fruit trees and bushes are now clean and healthy. *D. Buchanan, Bargany Gardens, Dailly.*

DUMBAROTNSHIRE.—On April 24 and 25 we registered 14° of frost, which considerably injured all early fruit crops, especially that of Raspberries. *D. Stewart, Knockderry Castle Gardens, Cove.*

flavour. *John Urquhart, Heddorn Castle Gardens, Ecclefechan.*

—On bush trees Apples and Pears are almost total failures. On wall trees the crop is light, but the fruits good. Gooseberries are a heavy crop, but Currants are only a fair average, especially Black Currants. Raspberries have cropped well; they never fail here. Plums are but moderate, whilst Cherries are an average crop. *Jas. McDonald, Dryfeholme Gardens, Lockerbie.*

KIRKCUDBRIGHTSHIRE.—In this district Gooseberries, Red Currants, Black Currants, and



FIG. 40.—GENERAL VIEW OF THE EXHIBITION HALLS, BERLIN. THE ROOFED AREA ADAPTED FOR EXHIBITION PURPOSES IS UPWARDS OF 12,000 SQUARE METRES.
(See text on p. 104.)

Strawberries are very good crops, considering the 26° of frost which was experienced on April 26. Apples and Pears are much below the average. *Wm. Skinner, Glenite Gardens, New Galloway.*

RENFREWSHIRE.—Black and Red Currants were very much injured with frost at the latter

torias Plums close here, which cropped heavily last year, is again full of fruit. Some standard trees of Jargonelle and Hesse Pears are also well cropped. Strawberries are the fruit crop of the year, heavy crops being the rule all round. Most of the market growers stick to Sir Joseph Paxton

as their maincrop, although several of them have tried some of the newer varieties. On the whole, fruit trees and bushes are healthy and free from disease; they are consequently laying a good foundation for next year's crops. The sunshine in June warmed the soil more than for nearly two years, and abundant rains have since fallen. *H. J. Clayton, Warfle Bank, Ullestif.*

—All kinds of fruit trees flowered splendidly. Apples will be a very good average crop, but Pears are disappointing. Raspberries and Gooseberries are good crops; Currants (Red and Black) very poor. Peaches and Apricots are good crops; Strawberries could be better. *Geo. P. Bound, Grinston Park, Tadcaster.*

The fruit crops in this district are very uneven. Apples and Plums are average crops; Pears are a very thin crop; small fruits have been good in quality and plentiful, especially Strawberries. It is difficult to account for the failure in some districts; the bloom was abundant, but soft to the touch, and the wood buds, as a rule, were too far forward. We had no severe frosts in May; the wood may have been imperfectly matured after the sunless season of 1907. Maggots are one of the chief causes of failure in Pears. They also attacked Apples and Plums, and their ravages will weaken the trees. *F. Jordan, Warter Priory, York.*

—Apples are an average crop in this district; Lane's Prince Albert, Worcester Pearmain, James Grieve, Domino, Keswick Codlin, and Warner's King are carrying heavy crops, others only moderate. Pears are very poor. Apricots and Peaches are failures; all small fruits are abundant, and Strawberries very good. *A. E. Sutton, Castle Howard Gardens, Weirburn.*

3, ENGLAND, E.

CAMBRIDGESHIRE.—There was an abundance of bloom on both Apple and Pear trees, but a great number of the fruits dropped off, especially the Apples, owing chiefly to a bad attack of the winter moth caterpillar. They denuded some of the young trees in the orchard, and would have done more damage had they not been picked off. Some fruits were completely ruined through the centre. All the trees were sprayed twice during the winter months with the caustic alkali wash. *T. W. Birkinshaw, Hatley Park Gardens, Garmington.*

—Apples here are a good, clean crop, particularly early and mid-season varieties. Pears are good; the varieties Jargonelle, Louise Bonne of Jersey, Marie Louise, Durondeau, and Doyenné du Comice being heavily loaded. Plums are scarce; all bush fruits, including Raspberries, are good and plentiful. Strawberries were abundant and of good quality. The soil of this garden is very light, on a bed of chalk, consequently we benefit by showery weather. *B. Goodacre, Mounton Paddock, Neumarket.*

—The sharp frost (12°) which occurred on the morning of April 23 ruined the Apricot, Damson, and Plum crops, as the trees were in full bloom at the time. Strawberries and Apples were not in flower, and thus escaped injury. The late varieties of Strawberries have been much affected by the drought. The soil is of a heavy loam, with clay subsoil. *W. J. Snell, Wimpole Hall Gardens, Nr. Royston.*

ESSEX.—On the whole, the fruit crop is not so good in quantity as I had hoped it would have been. Apples, Pears and Plums, when in bloom, gave the promise of a good heavy season, but the flowers set badly, and later many fruits, being imperfectly set, dropped. Splendid growth has been made on all fruit trees this season. *A. Bullock, Copped Hall Gardens, Epping.*

—Small birds did so much damage to the buds of Currants, Gooseberries, and Plums in this district that they partly ruined the crops. *W. R. Johnson, Stanway Hall Gardens, Nr. Colchester.*

—Owing to a heavy fall of snow, lasting 18 hours, on April 23 and 24, followed by 11½ of frost on the 25th of that month, Apples, Plums, Apricots, and Nuts suffered considerably. *James Vert, Audley End Gardens, Suffolk Walden.*

—Although the heavy hailstorm which we experienced in the early part of June severely thinned the fruits on some of the heavily-cropped trees of Apples and Pears, the fruit

crops for 1908 will nevertheless be good in this district. Among other varieties of the Apple that are bearing heavy crops of fine, clean fruits may be mentioned King of the Pippins, Norfolk Beefin, and Hambleton's Deux Ans. Gooseberries and Black Currants and Raspberries are immense crops. Strawberries have also been a heavy crop. The Loganberry is bearing freely, and making plenty of growths for producing fruit next year, the large, conical-shaped, dark-coloured fruit possessing a pleasant sap-leigh flavour. *H. W. Ward, Lime House, Rayleigh.*

LINCOLNSHIRE.—Pears are the most disappointing crop this year, although there was an abundance of blossom. But the low temperature prevailing at the flowering period and subsequently (not that there was any sharp frost) seemed too much for them, as the greater number of the fruits dropped off. Apples are a splendid crop, the fruits clean and growing well. Peaches suffered much from the dull, cold weather last year, the wood being soft and devoid of the usual supply of fruit buds, but the trees are growing well, and have suffered less from pests than usual. Plums are a good crop, which is rather surprising after the very heavy cold last year. *H. Vinden, Marlaxton Manor, Grantham.*

—The Peaches and Nectarines, also Apricots outside, are practically a failure, due to insufficiently-ripened wood, the result of last year's dull, sunless summer months, the flowers failing even to properly expand. *F. C. Stainys, The Gardens, Brocklesby Park.*

—Peaches, Nectarines, and Apricots are the only crops below average. I think the wood was not sufficiently ripened last year, so the buds did not mature properly, with the result that there were few perfect flowers on the trees. Strawberries have been very plentiful and good in quality. *F. Barton, Hainton Hall Gardens, Lincoln.*

—Apple crops are good, although a great many dropped off, owing, I think, to the cold and dry months of May and June. Apricots are almost a failure. Plums, on the whole, are good, especially in sheltered places; they are over the average. Loganberries are a heavy crop. Winberries, although only in bloom, are also showing well. *John Hope, Ranchy Hall, Grantham.*

NORFOLK.—The fruit crop in Norfolk promised to be a record one, for although the summer of 1907 was wet, cold, and sunless, some good weather was experienced in September and October, which was very beneficial for ripening the wood of all fruit trees and bushes, and everything promised well. March set in with cold, damp, sunless days, with slight frost by night, which retarded the buds. In the first and second week in April the weather improved with fine, sunny days: the result was a wealth of bloom on Plums, Pears, Cherries, Apricots, Peaches, Currants, and Gooseberries, with the flower clusters of Apples and Strawberries advancing rapidly, until the fatal evening of April 22, when snow began to fall, and continued for 36 hours without ceasing. On the nights of the 23rd and 24th we experienced 8° and 9° of frost, which destroyed most of the advancing bloom except in very sheltered spots. The result is a thin crop throughout. Strawberries and Raspberries have also suffered from drought, and the season is thereby shortened. *Lewis Smith, Shotesham Park Gardens, Nr. Norwich.*

SUFFOLK.—Owing to a very backward spring in this district, Apple and Pear trees were late in coming into blossom, and the flowers were very scarce on some varieties, owing, no doubt, to last season being so cold and sunless, resulting in unripened wood. Another cause of failure in the Apple crop was a plague of caterpillars just at the time the flowers opened, which idled petals and leaves. An orchard near here at one time had not a leaf on the trees: all of them were eaten off. Small fruits and Strawberries have been abundant and good crops. We are still picking (July 20) plenty of Givon's late Profic Strawberry. Peaches, and Nectarines are good on south walls, and there is very little blight this year. *Thos. Simpson, Henham Gardens, Wangford, Suffolk.*

(To be continued.)

PLANT NOTES.

EPISCIA FULGIDA.

THOUGH this, I believe, is the correct name of this pretty Gesneracean plant, it is far better known in gardens and nurseries as *Cyrtodeira fulgida*. When confined to a single stem it forms a Gloxinia-like plant, whose stem is well furnished with leaves oblong in shape and from 6 to 8 inches long. They are of a deep metallic green colour, with the midrib and principal veins of a silvery whiteness, and consequently they stand out in a most conspicuous manner against the darkened surface of the rest of the leaf, which is curiously wrinkled. The flowers, borne on stalks about 2 inches in length, are tubular in shape, with the five-lobed expanded mouth a little more than one inch across, and of a very pleasing shade of bright rosy-scarlet. A succession of these flowers is kept up for a considerable time. To confine the plant to a single stem, the stout runners, which are freely produced, must be kept cut off. If allowed to develop, they form young plants on the points, so that, grown in a suspended basket, a very pretty effect is produced. This *Episcia* was introduced from Columbia about 30 years ago, at which time ornamental-foliaged plants were very popular. A lilac-flowered species, *Episcia chontalensis*, was introduced from Nicaragua by the late Dr. Berthold Seemann in 1867. It is pretty, but less showy than *E. fulgida*. The roots of these *Episcias* are not tuberous, but strictly fibrous.

CROSSANDRA UNDULIFOLIA.

THIS is an extremely pretty warm house plant, and one that flowers at any time during the summer months. It is a member of the large order Acanthaceae, and though the arrangement of the blossoms is much the same as in many of its allies, their colour is, as far as I know, quite distinct from any of them. Like the *Aphelandras* and others of its immediate relatives, this *Crossandra* forms an erect-growing half-shrubby plant, whose upright stems are clothed with ovate-acuminate leaves, about 6 inches long, and of a deep, shining green, with wavy edges. The individual flowers are about 1 inch across and of a rich orange-salmon tint. The flowers are borne in a terminal spike-like head, from which a succession is kept up for some considerable time. It is of easy propagation and culture, for cuttings of the young shoots make roots without difficulty during the spring months, and the young plants thrive in ordinary potting compost. Like most members of the order Acanthaceae, the stoutest cuttings are preferable, as the young plants must not be stopped, for it is the stout, sturdy shoots which bear the finest heads of blossoms. Though a certain amount of heat is necessary to its well doing, this species succeeds better in the intermediate house than in the stove. It is a native of India, and was first distributed by the late Mr. William Bull, of Chelsea, in 1881, under the name of *Crossandra infundibuliformis*. *W.*

AMERICAN NOTES.

ROSE MY MARYLAND.

THIS variety, which was exhibited last season, is apparently an excellent grower. Notwithstanding the intense heat of the past few weeks, young stock, including both grafted plants and others upon their own roots, look exceptionally well, the growth being clean, healthy, and full of vigour, with no sign of mildew or spot.

CATTLEYAS AS CUT FLOWERS.

CATTLEYAS are becoming increasingly popular as summer flowers for funeral decorations, and the reason is plain. When, owing to the great heat, the Roses, Carnations and other popular flowers are soft and poor in colour the flowers of *Cattleya Gaskelliana* and *C. gigas* are at their best, capable of lasting well and giving the greatest satisfaction. The plants make a remarkably fine growth here, and they have a great future before them as market flowers. *H. R. R.*

NURSERY NOTES.

TANGLEY NURSERIES, HAMPTON.

DURING the past year or two Mr. W. H. Page has been a prominent exhibitor of Carnations, Liliums, and other flowers, but though it is only recently that he has exhibited at flower shows, Mr. Page has long been a grower of the Carnation, and he was one of the first to cultivate the variety Miss Joliffe in large quantities for market.

It was to see how Mr. Page cultivated Lis Carnations that I paid him a visit in May, and his nurseries I found full of interest.

The Carnation houses are something over 100 feet long and 30 feet wide. The best flowering plants were from two to three years old. All the plants are grown in pots, the largest recep-

Striped Lawson. Some of the plants were reserved for stock purposes; these had produced flowers of a brighter colour than the ordinary type. Amongst the plants of Enchantress, the white and also the rose-pink varieties have appeared, and many plants have produced flowers of a very deep shade of blush-pink. The centre of one house was filled with plants of the variety Queen Louise; many of the specimens were upwards of 5 feet in height, and they had furnished a succession of flowers since last October, and looked promising for a still further supply of bloom. My Maryland had proved the most prolific bloomer during the winter, and the flowers had been of the best quality. White Perfection is found to be a reliable variety for winter flowering. Amongst crimson-coloured varieties, President Roosevelt was flowering freely; this has given a more regular succes-

the bulk of the stock consisted of *L. longiflorum* giganteum.

Narcissi are another feature of these nurseries. About 660,000 bulbs of *N. ornatus* were forced during last spring. Other varieties are also forced in large quantities, and all the bulbs are raised in the nursery. About 30,000 Roses are grown in large pots for forcing, and many are panted out. The portable or travelling glasshouses are found useful for Roses. Three sections of the Rose beds are covered successively. I enquired if any difficulty was experienced in moving the houses, and was told that they moved easily; the rails are laid in a good bed of concrete. The varieties of Roses most extensively grown are Frau Karl Druschki, Liberty, Mrs. Sharman Crawford, Mrs. J. Laing, Capt. Hayward, and General Jacquiminet. *A. Hemslley*.

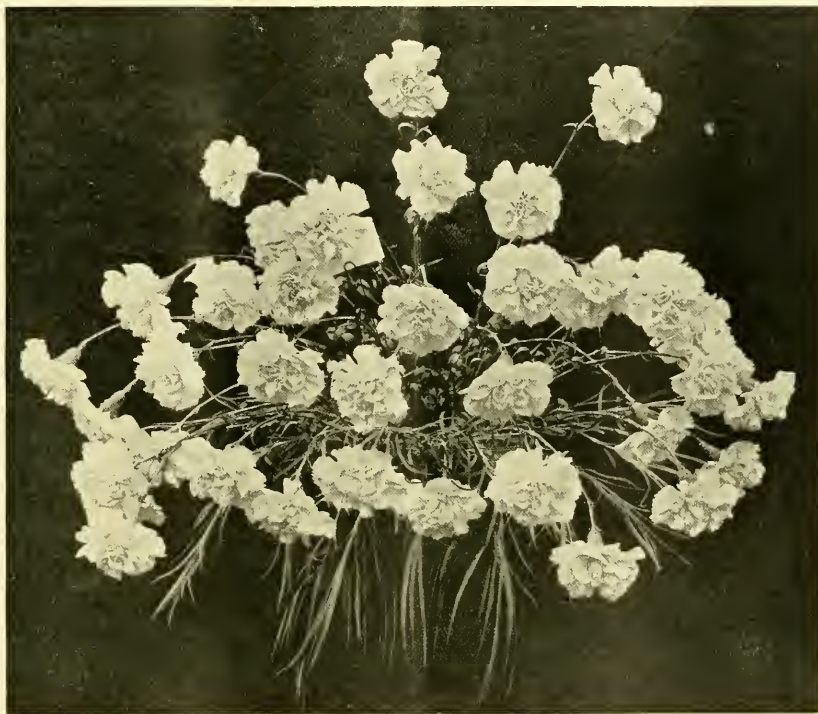


FIG. 41.—A BOUQUET OF CARNATION ENCHANTRESS AS EXHIBITED BY MR. W. H. PAGE, TANGLEY NURSERIES, HAMPTON.

tacles being 8 inches in diameter. The stock consists of more than 50,000 plants, and immense quantities are raised yearly, some for sale and others for succeeding those that are worn out. The oldest plants seemed to be giving the best results, for they were flowering freely, and the blooms were of large size and good in all respects. Two of the largest houses were filled with the variety Mrs. T. W. Lawson, which is a favourite kind with Mr. Page. In a house containing three-years-old plants, my attention was directed to some sports, and Mr. Page remarked that it was only amongst the older plants that he had found variations, not only in the case of Mrs. Lawson, but other varieties also. The white variety of Mrs. T. W. Lawson was of the best type; others of these variations included one which appeared almost identical with Winsor, and there were some which resembled Melody, Prosperity, and

some of blooms than Harlowarden, which is also grown extensively in this nursery. In a house devoted to Britannia I noted a plant which had sported, one portion having produced flowers of a beautiful shade of salmon-pink; it should prove a valuable addition to existing varieties. All the new American sorts are being tried. The potting of young plants into 5-inch pots was in progress at the time of my visit. It may be of interest to note that some of the old plants, which were left out in the open until the end of October last, flowered well after they were taken in, and they were quite free from disease, whilst others, which were housed early, did not entirely escape the rust fungus.

Liliums are another great feature at Mr. Page's nursery, and upwards of 100,000 bulbs of *L. longiflorum* are grown annually. All those in flower, when I saw them, were from retarded bulbs. The variety formosum was very fine, but

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Burlingtonia.—The plants of this genus are amongst the most beautiful of small-flowered Orchids. They are easily grown, have a free-flowering and compact habit of growth, and the flowers are capable of lasting some weeks in beauty if kept free from damp. These dwarf epiphytes thrive best in small baskets, or pans, and the plants should be suspended from the roof rafters in an intermediate temperature, such as the Cattleya house affords, where, owing to the amount of light and air available the plants usually make satisfactory progress. With regard to the rooting medium, an ordinary mixture of Osmunda root, or Polypodium fibre and Sphagnum-moss suits these plants well. The drainage should be ample, and each plant

surfaced with clean chopped sphagnum-moss. During the season of growth a very free supply of water is necessary, but when the plants are resting this may be greatly diminished, yet not altogether withheld, for if allowed to get dry at the roots, the plants will make but weak growths in the following season. Small white scale is the worst insect enemy, and it is very difficult to thoroughly eradicate, though it may be kept in check by timely sponging with some safe insecticide.

Zella rubescens (peduncularis).—This species is a charming, compact-habited, dwarf-growing plant, and one that flowers during the dull winter months. The plants grow best in shallow pans, or baskets suspended in the intermediate house. As new roots are about to be made from the base of the young growths fresh rooting material may be afforded those that are in need of it. Make use of a similar compost to that advised above for Burlingtonias, supplying liberal drainage, so that water may be applied freely when the plants are in full growth and developing their little pseudo-bulbs.

Heating apparatus.—The present month affords a suitable time for the overhauling of the heating apparatus, putting the same in good working order ready for winter. A careful examination should be made of all joints, and any that leak must be made good. The valves and air traps should be examined and made easily removable. Boilers that are old and worn should be replaced with new ones while the weather is favourable for such work being done without much risk of injury to the plants. If boilers are left until they completely break down, there is always the risk of this happening during severe weather in winter. As I have pointed out already in these columns, I prefer the sectional type of the many good boilers now on the market.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq.,
Keir, Perthshire N.B.

Pancratium fragrans.—Many bulbs are now showing for flower, and a number of them may be placed in a cooler atmosphere, such as that of a warm greenhouse, which, serving to retard the flowering, will prolong the season of bloom. During the time they are in the cooler atmosphere water must be only sparingly given, in order that they may not suffer from the changed conditions. As soon as the plants have flowered they should be removed into heat again, and any that require to be reported should be given attention. A suitable compost is one similar to that recommended for Nerines, but the loam in this case may be a shade heavier in texture. As a rule, *Pancratiums* are best grown singly in 6 or 8-inch pots, but if cultivated for exhibition purposes in pots of larger size, two or more bulbs must be put together, taking care to select bulbs that flower at the same time, otherwise they will not be satisfactory, for the bulbs cannot be induced to flower at the same period unless it is natural to them. *Pancratiums* require free waterings during the period of growth, therefore the pots should be well drained in every instance.

Crinum Moorei.—In order that this *Crinum* may flower in autumn the plants should be kept all the season in a cool greenhouse and treated much in the same manner as described in last week's Calendar for Nerines. When repotting is necessary, use a richer and heavier soil than for Nerines, but *Crimums* succeed best if not disturbed frequently. Shake out the bulbs carefully, and put one large bulb in an 8-inch pot. Place them in an intermediate house until growth is completed; then dry them off and place them in a greenhouse, withholding all water. Repotting should not be done until the plants have flowered.

Show and decorative Pelargoniums.—Plants that have done flowering if not turned out-of-doors should be placed in a position exposed to full sunshine. Water should be very sparingly given at this period, decreasing the supply until it is withheld altogether. After that stage has been reached the plants should be laid on their sides for a period of rest until the wood is quite ripe, after which time old plants should be pruned hard back. Younger plants should have the wood left rather longer so as to form larger plants next year. If young stock is desired, the present is a good time to take a batch of cut-

tings; they will root quickly at this season. Select firm, ripened wood for the cuttings, and insert them in sandy soil, making them firm. Place them in an unheated frame fully exposed to the sun. As soon as they have rooted they should be potted off singly into 3-inch pots, using as a compost good fibrous loam, leaf-soil, and enough sand to keep the whole porous. A few very small bones may be added, these being more lasting and better than dung. In potting make the soil moderately firm. The pots must be well drained, as *Pelargoniums* in autumn and winter will perish if water persists in the pot. They should be kept rather on the dry side, and during the winter water should be very sparingly given. As soon as growth becomes active after repotting, the point or top of the shoot should be pinched out so as to induce the shoot to break and throw out three or four side growths. These side growths as soon as long enough to handle should be carefully tied down to the side of the pot, so as to form a compact bushy plant. *Pelargoniums* being very subject to green fly, the house should be fumigated on its first appearance. If there is not a house that can be devoted to the plants, place them on a shelf close to the glass in a greenhouse, or in an unheated frame fully exposed to the sun.

Chrysanthemums.—Plants cultivated for supplying large blooms are now setting their flower buds, and all buds should be secured by the middle of August. Great care should be exercised in removing the wood buds around the flower bud, destroying them gradually, at different times, down from the flower bud. At this date the plants should be top-dressed with a compost much the same as that used for potting, adding a favourite artificial manure. From this date onwards feed the roots at regular periods, but feeding must be discontinued before the plants are housed in September.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady VANTAGE, Lockinge Park, Berkshire.

The propagation of Zonal Pelargoniums and other bedding plants must soon be given attention. *Pelargoniums* may be rooted in boxes placed out-of-doors. Early and well-rooted cuttings, if hardened by exposure before being placed under glass for the winter, always give the best results. The more tender plants, such as *Coleus*, *Iresine*, and others, will require to be rooted in a frame or pit kept somewhat close for a few days and shaded from sunshine. Cuttings should always be selected from healthy plants, choosing only the best varieties, and from moderately well-ripened and firm parts of the plants. Cuttings of young, immature stems are apt to decay, but shoots that are very old and dried make roots with the greatest difficulty. A few of the lower leaves should be taken off, and the stems cut immediately under a joint. Sharp, sandy soil is the best, and the holes should be made with a blunt-pointed dibber rather thicker than the cuttings to be inserted. Press the soil gently but firmly round the base of each cutting, firm enough to prevent the cuttings coming out readily when gently pulled with the finger and thumb. The receptacles for containing the cuttings should be covered with glass. When roots have been made the little plants may be separated singly or as desired.

Plants in tubs.—Sweet Peas are very suitable subjects for cultivation in tubs placed close to the mansion or dwelling-house. In a somewhat shaded position the colours of the flowers last longer. Close attention is necessary to watering and feeding the roots, and to the removal of all decayed flowers before seeds form. Clumps from 8 to 10 feet in height, if well flowered, are very attractive. *Aloysia citrodora* is esteemed for its fragrance, and when well cared for assumes considerable proportions. Cuttings rooted here in 1892 have long since attained the limit in size imposed by the necessity for housing them in winter, being 12 feet in height, with a diameter of 8 feet and of pyramidal outline. Slight winter protection alone is necessary, and all growth is made in the open. The plants being now in full flower, are abundantly supplied with water and occasional stimulants. The Myrtle is another favourite for cultivation in tubs, and is much admired in the month of

August when in full flower, especially if the specimens are, say, 10 feet in height and 6 feet in diameter. Cuttings rooted here six years ago are nearly that size, and they are now in full bud. Myrtles should be firmly potted in rich, loamy soil with leaf-mould and sand. Scented-leaved *Pelargoniums*, like the Ivy-leaved varieties, are attractive as pyramids. The specimens should be such as measure from 7 to 8 feet in height and 3½ feet in diameter. When they have attained these dimensions the prunings are useful for mixing with cut flowers, to which they add a most pleasant odour.

Campanula carpatia and the variety *alba* are very useful at this season as border or rock plants, the profusion of their flowers at the present time being a feature worthy of remark. The hardness of this species is in its favour, and the stock may be easily increased by division, by seeds or by cuttings, but cuttings inserted early in spring are to be preferred if a limited stock only is required. If potted out into sandy soil in a cold frame, they will soon make roots.

Spanish Broom.—*Genista hispanica* is a very effective feature in the borders or shrubberies at this season; the effect is especially good when the *Genista* is associated with *Prunus pissardii*. Plants may be easily raised from seeds, which are produced in great quantities and should be gathered before they are quite ripe. Let the seeds be grown in the open ground, but they may not appear above the soil until the following spring.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NUNBURGHOLME, Watlington, Oxfordshire.

Vines against walls.—A very warm, sunny season is absolutely necessary to ripen out-of-door Grapes, and these conditions are seldom obtained. The foliage is ornamental, however, in every season. In order to give the Grapes a chance to ripen proper attention should be given to the shortening and thinning of the growths, stopping the shoots at one leaf beyond each bunch, and the laterals and sub-laterals also at one leaf. A little attention can be given to moderately thinning the bunches so much the better. Leading shoots for extension and for covering bare wall space may be allowed to extend 5 or 6 feet before being stopped. Keep a sharp look-out for mildew, and immediately it is seen dust the leaves with flowers of sulphur. A good watering with liquid manure will be helpful to vines growing in a hot or dry position, and bearing a moderate crop of fruit.

Strawberries.—As soon as the fruit has been gathered from young plants that will be cultivated another season, let the plants be cleared of all runners and damaged and useless leaves, cleaning the ground of weeds at the same time. If the beds are dry, raise the ground by means of the hose-pipe, to encourage a fresh growth, that the plants may become furnished with healthy foliage before winter. If the plants have suffered badly from mildew, remove the mulching or other refuse to the fire heap, but I do not advocate the removal of too much foliage, as this tends to weaken the crowns. Dust the beds over with a mixture of soot and lime. Let old plants which are exhausted be cleared from the ground without delay that the soil may be broken up or planted with winter Broads of similar crop. Runners that were layered as recommended in a previous Calendar will now be rooted and ready for planting out. Early varieties should be planted as soon as possible, for provided the weather is favourable and the soil in good condition the present is the most favourable season to make new beds. If the ground was prepared as recommended in the Calendar for July 11, insert the plants at distances of 1 foot apart in the lines and allow 2 feet apart between the rows. A few plants should be put out at 1 foot apart each way on a warm border, and if frames be placed over them next spring they will give good returns for little trouble. All planting should be completed by the end of August if possible.

American blight.—Keep a sharp look-out on the fruit trees for this pest, and rub over the affected parts with a stiff brush dipped in methylated spirits. In bad cases, and especially if the trees are not bearing crops, syringe the trees with a strong insecticide, repeating the application again when necessary.

FRUITS UNDER GLASS.

By I. COOMER, Gardener to Lord Llangattock,
The Hendre, Monmouthshire.

New Peach borders.—There is much to be gained by planting trees as early in the autumn as is practicable, therefore it is advisable to prepare the borders in ample time. Good drainage is important, and for this reason the bottom of the trench should be concreted, and covered with a layer, 9 inches or a foot in thickness, of stone, or brick rubble. On the top of this place thin turves, with the grass side downwards. A drainage tile drain should be placed in the trench, and slightly sunk in the concrete. The compost should consist of rich fibrous turf, roughly broken, and mixed with crushed mortar rubble, finely-crushed bones, and wood ashes, made, if possible, from charred green wood, more or less liberally, according to the texture of the loam. The last-named should be used in a tolerably dry condition, and be well consolidated. The compost should be from 2 to 2½ feet in depth, and the borders may be formed wholly inside, or outside, or the roots of the trees may be allowed to ramify in both inside and outside borders. The borders may be wholly formed in one season, or upon the piecemeal principle, as is desired; but this will be in a measure controlled by the construction of the house and the position that the trees will occupy. The kind of trees to be used, whether standard or dwarf specimens, will be governed also by the build of the house. Order the trees well in advance of the planting season, and remember that it is a good plan to have them growing for a season or two against an outside wall before planting them indoors.

Fig trees in pots.—Early forced trees that have been gradually hardened since maturing their second crop of fruit, by free ventilation and exposure to sunshine, may now be placed out-of-doors in a sheltered position in full sunshine. The pots should be plunged in a bed of ashes, or tree leaves, and each should be examined occasionally to see that the drainage is in perfect condition. Copious supplies of water will still be needful, but do not apply manure or manure water. Young trees that were afforded a shift into larger pots, as advised in a previous Calendar, should now be placed in similar conditions to the early-forced trees, provided the roots have made satisfactory progress. Trees now fruiting must be kept under glass until the fruit is gathered, when these trees also should be carefully hardened and placed in the open.

Late-fruiting Fig trees in borders.—Keep the growths well thinned out and regularly stopped. This is especially important in the case of such robust growers as Negro Largo, otherwise the fruit will be of a colour unsatisfactory, and the wood will fail to mature. The fruits should also be thinned. Apply a top-dressing, or waterings with liquid manure to the roots, and water the borders as often as required. Syringe the trees with clear water every afternoon when closing the house for the day. As soon as the fruits commence to colour, it will be necessary to discontinue syringing the trees, and extra care must be taken to ventilate the house a little early in the morning, increasing the amount during the hottest part of the day, thus preventing condensation of moisture upon the fruit.

Strawberries.—The plants should be rearranged in order to place them more thinly that the leaves may have room to properly develop. Move each plant once every week to prevent the roots from penetrating the bed of ashes, and remove runners as soon as they can be grasped by the fingers. Attend closely to watering, using clear water until the soil is well filled with roots, when mild liquid manures should be occasionally given. Syringe the plants overhead in the evening of fine days. In cases where wire gauze has not been employed to prevent the ingress of worms, these pests may become troublesome, and the use of clear lime water may be necessary to remove them.

Bananas.—Young plants that have been tubed or planted out a sufficient length of time to have made numerous roots should be given diluted drainings from the cow-shed, or suitable artificial manures. Keep the atmosphere moist and hot, and apply abundant waterings to the roots. Any plants which have

fruited in tubs should be thrown away, unless they are required for propagation, but those planted out in borders, and are not exhausted, should be cut down, and suitable suckers selected for cultivation under the same conditions.

Winter Cucumbers.—About the second week in August is a suitable time for sowing seeds of Cucumbers for fruiting in winter. Sow the seeds singly in 3-inch pots, filled with a fine, moderately moist compost of loam and leaf-soil. Plunge the pots in a hot-bed in a house having a temperature at night of 70° and a moist atmosphere. The seeds will not require watering until after the plants are through the soil, when the pots should be placed in a light position near the glass. As soon as a rough leaf has expanded the plants will be ready for being shifted into 6-inch pots. They should be ready for planting out about a month after the time that the seeds were sown. For the final planting fresh fibrous loam and flaky leaf-soil, with a little sand added if the loam is heavy, should be formed into small hillocks, resting on thin tubes placed on a bed heated with hot-water pipes. After the soil has become warmed through, a plant should be planted on each hillock.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS,
Aldenham House, Elstree, Hertfordshire.

Potatoes.—I never remember to have seen the Potato crop, including early, mid-season, and late varieties, look more promising that it does this season. With a continuance of fine weather, not only should the crop be heavy, but it may be expected that the quality will be of the highest. All varieties should be lifted immediately the growth is completed. A mistaken idea exists that unless the tubers are thoroughly ripened, so much so that the skins cannot be easily rubbed off, the crop is not ready for lifting, the consequence being that in many cases disease attacks them and a very great proportion of the crop becomes useless. I have proved over and over again that the rubbing of the skin, though a little unsightly at the time, does not impair the keeping qualities, as in a very short time the rub becomes healed, and the tubers are none the worse.

Late Peas.—Every attention should be paid to these, so that the season may be prolonged as late in the year as possible. Fortunately, we now have varieties with robust constitutions suitable for late cropping, and when grown under proper conditions, they seldom fail. The most essential requirements are to deeply till the soil, apply abundant moisture at the roots, spray the tops during hot weather, thoroughly mulch the ground, thin the plants to a sufficient distance apart, and, in many cases it is often necessary during a wet period, and as the season advances, to pinch out the points of the growth after a satisfactory quantity of flowers has set. For some years past we have relied principally on two varieties, namely, Wells's Masterpiece and Autocrat. The first-named variety is a magnificent Pea, possessing a fine constitution; it is seldom attacked by mildew, is very prolific, and, above all, has excellent quality. This variety often continues to bear well into November. Autocrat seldom fails in any season or locality.

Onions (spring sown).—By August 20 these should have practically completed their growth, and it should be borne in mind that the earlier and more perfect the ripening, the better will be their keeping qualities. The chief reason why large specimens frequently fail to keep satisfactorily is owing to imperfect ripening, and not sufficient care being taken to prevent them being bruised. Should dry weather continue, one more good soaking of water should be given at the roots, which should be sufficient.

Sowing Onion seed.—Preparations should now be made for getting the ground in order for sowing the Tripoli varieties, and where it is intended that the bulbs should finish their growth where they are sown, the ground should be such as was recently trenched deeply, and it should be heavily manured. Instead of this, I prefer to sow the seed on deeply-dug ground which was liberally manured for a previous crop, give the surface a thorough dressing of soot and wood ashes, and transplant the seedlings to their permanent quarters early in spring. In any

case, the surface should be made very firm and broken down to a fine tilth, and the seed should not be sown before the middle of the present month (about the 20th inst. for choice), otherwise a very large percentage is certain to run prematurely to flower. Splendid varieties for this sowing are White Emperor and White Leviathan, both of which are distinct. The first-named variety, though not quite as large as White Leviathan, is fully ten days earlier. For succession, Lemon and Blood Red Rocca are each good, and, if lifted in time, will keep well.

Radishes.—Continue to sow these in small quantities about every ten days. Select a shady, cool spot in the garden, and damp the surface daily.

Aubergines.—Plants growing in pots and now coming into bearing, should have a liberal supply of manure water and the foliage thoroughly syringed with tepid water twice a day. The fruits of these plants ripen better if the plants are kept in an intermediate house, but in this case care must be taken to keep the atmosphere in a moist condition, in order to prevent attacks of red spider. Although during hot weather in August Aubergines can often be satisfactorily grown in cold pits or frames, and even in the open, it is advisable, owing to the variable climate and the uncertainty of the crop, that, wherever possible, they should be cultivated and ripened in heated houses. The purple variety is generally considered superior for culinary purposes, but the white one is very ornamental, and it is therefore advisable to grow both. The demand for this vegetable is becoming greater year by year, and in order to supply our markets large quantities are annually imported.

Endive.—Continue to plant out good breadths of this as the plants become ready, allowing a distance of 12 inches apart. Make another good sowing of seeds of two or three varieties on a south border.

THE APIARY.

By CHLORES.

Queens.—Many beekeepers raise queens, and some sell them, but I wonder how many really understand queen-raising. There is the temper of the bees, as well as the prolific breeding capacity of the queen to consider, together with the industry and hardness of the strain. Further, what about the males; are they descended from bees noted for longevity and honey-gathering power? These and other points are necessary to consider when raising the best kind of queen.

Queen cell containing dead worker bee.—When a hive that had swarmed was being examined to see if the young queen was laying, a sealed queen cell was discovered and duly removed. To the beekeeper's amazement, a worker was discovered in it. The head was foremost, and it is evident that the worker was helping itself to the "royal jelly" left after the hatching of a queen, and the other workers, finding the cell occupied, sealed it over.

The caps of honey jars.—Some beekeepers have been advised to leave off the caps of the honey bottles, after the honey has been bottled, so as to allow the air bubbles to rise and be skimmed off.

I think it would be better to cap at once, for there is always the fear of fermentation arising when the honey is exposed in this manner.

To get bees from roofs and hollow walls.—A little while ago a swarm took up its residence in the roof of a porch. The people were in a state of panic, for no one would venture out by the front door, and many friends were notified of the danger. I was sent for, and asked to overcome the difficulty. The procedure is simple. Make sure that there is only one entrance or exit; over this place a Porter bee escape, and just above put a weak stock of bees, either in a straw skep or on three frames. The swarm can only go out foraging, but cannot return to their old quarters, and will soon join those above in the hive. If the bees have been in the roof for some considerable time, it will take about a month to clear them, but if they have only just settled there, then three or four days will suffice. Whilst the operation is in progress, frequent examination must be made to discover if the bees are using some other entrance than the old one where the escape has been placed.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of Plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturalists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, AUGUST 12—Taunton Fl. Sh. (2 days).

SATURDAY, AUGUST 15—Sandiway and Dist. Fl. Sh.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—62.4°.

ACTUAL TEMPERATURES:—
LONDON:—Wednesday, August 5 (6 P.M.): Max. 76°; Min. 57°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London—Thursday, August 6 (10 A.M.): Bar. 30; Temp. 63°; Weather—Overcast.

PROVINCES:—Wednesday, August 5 (6 P.M.): Max. 60° South-west Ireland; Min. 54° North-west Scotland.

SALES FOR THE ENSUING WEEK.

FRIDAY:—
New and rare plants and seeds from New Zealand. Choice imported and established Orchids. Orchids in flower and bud, at 67 & 68, Cheapside, E.C.

Plants and Skin Irritation.

Complaints are periodically made on the subject of injuries sustained by handling various plants which contain juices or other substances that produce inflammatory or other disagreeable symptoms on the skin. In some years these disagreeable effects are more noticeable than in others, and it seems tolerably clear that, in the case of some of the offending plants at any rate, a hot, sunny summer tends to accentuate the evil. A plant which is the cause of part, at least, of the trouble is *Rhus radicans*, or, as it is sometimes called, *R. Toxicodendron*. It is grown in a fairly considerable number of gardens in Britain, but instances of trouble arising from it are somewhat rare and scattered. In its native home, North America, it is well known as a dangerous plant, under the name of Poison Ivy, and a stranger does well to learn to readily distinguish it from the somewhat similar and very common Virginia Creeper, especially as both plants are not infrequently to be found growing over the same tree. Even in America its virulence seems to vary according to climatic and other conditions, and, furthermore, some people are far more sensitive to its effects than others. Indeed, we have been informed on reliable authority that at the time when the plants are in flower there are people who are compelled even to leave the districts where the plants are common, doubtless owing to the poison being contained in, or conveyed on, the pollen grains. There are, however, fortunately, not many who are as sensitive as this would imply, although the evil effects consequent on incautiously handling the plants are everywhere recognised in America, and we have on several occasions witnessed them ourselves. It is, then, a curious fact that in this country the plant should be relatively

innocuous, save under exceptional circumstances as already indicated. The poisonous principle resides in the juice or latex present in the leaves and stems of the plant, but the composition of the juice plainly varies according to the condition under which the plant is growing. In the south-east of England we have heard of more cases than elsewhere, and perhaps this is to be attributed to the hotter and more continental type of summer which prevails in this part of the country, for cases of poisoning seem to be less frequent in other districts, and to be almost unknown in the north.

Another species, not uncommon in America, and apparently even more dangerous than *R. radicans*, is *R. venenata*, known locally as the Poison Elder. Some of the species that inhabit the warmer parts of Europe are also injurious in their natural habitats, although they are not generally regarded as endowed with bad qualities when grown in this country. The Wig tree, *R. Cotinus*, as well as *R. Coriaria*, which are both natives of the Mediterranean region, are looked on with suspicion in the south of Europe. The latter plant is unquestionably dangerous, and produces an erysipelas-like affection of the skin of persons who gather the leaves for the sake of the tannin they contain.

Some of the best-known examples of the poisonous qualities of the genus are met with in those species which, like *R. vernicifera*, furnish the well-known lacquer varnish used by the Japanese. The juice is so dangerous that its nature is not as yet fully understood, but the poisonous substance, formerly called urushic acid by Dr. Yo-hida, is probably a phenol, to which the name of Laccol has been given by Bertrand, a French chemist, who has devoted much time to its investigation. The varnish results from a chemical change in this laccol produced by a ferment, also present in the juice, when the two substances are exposed to the oxygen of the air.

Another group of plants which is endowed with analogous disagreeable qualities is furnished by some of the *Primulas*. The two species which enjoy a bad reputation in this respect are *P. obconica* and *P. sinensis*. The latter plant, however, is rarely productive of bad effects, although we have received complaints respecting it from time to time. There is a more general agreement as to the *P. obconica* deserving its evil name. But just as in the case of the *Sumachs*, or species of *Rhus*, so also with this plant, different persons exhibit very different degrees of susceptibility. Some interesting experiments were made at Prague a few years ago which very clearly showed this. Portions of leaf petiole and the peduncle of the inflorescence bound on the wrist or arm for a short time, produced very marked effects upon one of the investigators, whilst in the case of another subject hardly any result was obtained. It was clearly shown, however, that repeated application of the stimulus did not confer any immunity, such as might, perhaps, on analogy have been anticipated. Indeed, the contrary appeared to be the case.

The injurious substance is contained in the glandular hairs that occur on the epidermis of the plant, and perhaps in the more pointed hairs also, as the extraction of the

contents of the glands and the smearing of the yellowish mass thus obtained on the skin was followed by the characteristic symptoms that are so well known. It was also discovered that the injurious substance is insoluble in water, but is readily soluble in strong spirit, and this indicates how the unpleasant effects of handling the plant may be obviated. By rinsing the hands first with spirit, and then washing with soap in a stream of water, the symptoms may be almost entirely prevented, and even when they have already begun to manifest themselves, the alleviation is considerable. It thus becomes clear that it is of little use to wash the hands in water only, since this will not remove the poisonous substance, and it is to be hoped that those who are sensitive to the action of the secretion will give the methylated spirit method a trial. Seeing that the degree of susceptibility differs so widely, it will probably happen that some people may still suffer, even from the small traces that remain after treatment with the spirit, but it may be expected that the majority will derive considerable benefit from its use.

Some persons suffer from handling the bulbs of Roman Hyacinths, though the evil consequences usually are merely temporary. It is believed that the cause of the trouble in this case lies in the presence of needle-like crystals, or raphides, of calcium oxalate which occur in the dried-up cells of the scales. These easily penetrate the skin, and may set up a troublesome irritation. It is, however, doubtful whether the physical injury alone accounts for the unpleasant effects, and it may be that the needles really serve to inoculate the skin with some deleterious substance. Such is almost certainly the case in connection with some other plants, the *Arum*, for example. The juice of the tuber, if filtered, is said not to produce any effect if placed upon the tongue, whereas if the cut surface of the rhizome be directly applied, a tingling sensation makes itself felt in the course of a few minutes and gradually increases until considerable pain is experienced. This seems to be due to the introduction of a poisonous substance into the tissues, and not to be solely attributable to the irritation caused by the raphides. The matter is worth more extended investigation, as very little is known about it at the present time.

OUR SUPPLEMENTARY ILLUSTRATION represents *Dendrobium Brymerianum*, "Gatton Park variety," for which Sir JEREMIAH COLMAN, Bart., Gatton Park, Reigate (gr. Mr. W. P. BOWEN), received an Award of Merit at the meeting of the Royal Horticultural Society on April 14 this year, and which is one of the most highly developed forms yet seen. The species was introduced in 1874 by Messrs. HUGH LOW & CO., from Burmah, and few Orchids have been better welcomed by Orchidists, although the supply for a good many years was very limited. The typical form was invariably good, and the branched fibrillation on the lip, which forms the chief attraction of the flower, well-developed. But in the *Gardeners' Chronicle*, January 28, 1888, p. 104, the late Professor REICHENBACH describes *D. Brymerianum* histrioticum, which had been imported from Upper Burmah, and was appearing in many gardens. As with some other Orchids, this was an inferior presentment of the original species so far as the cultivator was concerned, for its flowers

were small, the fringe of the lip but poorly developed, and the flowers addicted to self-fertilisation, thus failing to expand, which rendered them florally worthless, though of scientific interest. It was probably this form which caused the species to have been confounded with *D. crinitum*, illustrated in the *Gardeners' Chronicle*, 1908, p. 184. The variety *histrionicum* has practically disappeared from gardens, and the more recent importations, out of which the Gatton Park variety appeared, have fortunately been of the best type, with large bright yellow flowers. *D. Brymerianum* thrives well with *D. clavatum*, *D. fimbriatum*, and others of the same section, all of these requiring warm moist quarters at the growing season, and a cooler resting period, during which water should be given but sparingly.

THE LATE MR. RICHARD LOWE.—Some interest arises from the death of Mr. RICHARD LOWE (see ante p. 78) on account of the fund raised for his benefit, which was administered by the Wolverhampton and Staffordshire Auxiliary of the Gardeners' Royal Benevolent Institution. Mr. TOM B. DOBBS, who succeeded Mr. LOWE as the hon. sec. of this auxiliary, being supported by Messrs. POSSER, JONES & CO., who initiated the scheme, and Mr. WM. JOHNSON, manager of the Metropolitan Bank, Wolverhampton. A meeting of the committee responsible for the management of the fund met recently, and a decision was arrived at as to the disbursement of a balance of £31 1s. 8d. The details of accounts are open to the inspection of subscribers on application to the Metropolitan Bank. We may add that Mr. LOWE's original premises in Queen Square, Wolverhampton, are now occupied by Messrs. TOM B. DOBBS & CO., landscape gardeners and rustic workers, who took over the business in 1892. Previously, the Messrs. DOBBS were engaged in the business of Messrs. HURST & SOX, London.

THE ROYAL SCOTTISH ARBORICULTURAL SOCIETY.—The present issue of the *Transactions* of this important Society is of permanent interest to all persons connected with forest management, and who may wish to see its aims brought home to the people of this country in a similar manner to that common in Continental countries. The Society holds periodical meetings for the transaction of business, the reading and discussion of papers, the exhibition of new inventions, specimens of forest products, and for the advancement of forestry in all its branches. Prizes are given to young students with the view of encouraging them to study and to train themselves in habits of careful and accurate observation; and the Society offers annual prizes and medals for essays on practical subjects, and for inventions connected with appliances used in forestry. Such awards have been granted continuously since 1855, and have yielded satisfactory results. The Society has strongly urged the creation of a British school of forestry, and with a view of stimulating public interest in the matter, a forestry exhibition, chiefly organised by the council, was held in Edinburgh in 1884. The Society in 1890 instituted a fund for the purpose of establishing a Chair of Forestry at the University of Edinburgh, and a sum of £584 has since been raised by the Society and handed over to the university. Aided by an annual subsidy from the Board of Agriculture, a course of lectures has been delivered at the university without a break since 1889. The Society has drawn up a scheme for the establishment of a State model or demonstration forest for Scotland. The Government has acquired the estate of Inverliver in Argyllshire, and this, it is

hoped, may prove to be the first step in a scheme of afforestation by the State of unwooded lands in Scotland. For the past 29 years excursions have been made to various parts of Scotland, England and Ireland. In 1895 a tour of 12 days was made through the forests of northern Germany; in 1902 a tour of 17 days was made in Sweden, and in the summer of 1904, the Forest School at Nancy and forests in the north of France were visited. The hope is expressed that landowners may be induced to afford facilities to their foresters for participation in these tours. The contents of the present volume include an article on "Trees of Western America," by F. R. S. BALFOUR; "A Scheme for Establishing a National Industry of Forestry," "The Cultivation of Hardwoods," by J. BOYD; "Impressions of Forestry in the Schwarzwald," by J. F. ANNAND; and "Continental Notes—Germany," by BERT RIBBENTROP, C.I.E. The articles on tours afford instructive reading to anyone interested in tree planting and afforestation, and who is unacquainted with Continental systems of forest management. The text is helped by some good figures of injurious insects and diseases. We learn that the membership is well maintained, and is at the present time 1,212. The president of the Society, Sir KENNETH J. MACKENZIE, Bart., of Gairloch, makes an appeal to country gentlemen, factors, gardeners, foresters, land stewards, nurserymen, farmers, and others, urging them to become members. The hon. secretary is R. C. MUNRO FERGUSON, M.P., Raith House, Kirkcaldy; and the secretary and treasurer, Mr. R. GALLOWAY, S.S.C., 19, Castle Street, Edinburgh.

IDEAL HOME EXHIBITION AT OLYMPIA.—We are asked to state that practical illustrations of cottage gardening and bee-keeping are to form one of the most prominent features of the Ideal Home Exhibition at Olympia, which is being organised by the *Daily Mail*. The large annexe, which covers over an acre of ground, is to be converted into "a corner of England." There will be a real model cottage, standing in a series of gardens laid out by a landscape gardener. One of the gardens will be on the French plan, and the system of growing vegetables under cloches and frames will be shown. Skilled operators will give practical demonstrations of the treatment of the soil and various other processes, whilst bee culture will also be shown by experts. In all, there will be over 20 operators, including those from the Studley Horticultural College, who will demonstrate every phase of garden work.

GOOD SUMMER CARNATIONS.—Three Carnations that have stood the summer heat well this season in America are White Perfection, Beacon (red), and Winsor (pink). In one of the largest establishments these fine varieties have produced splendid flowers when others have failed to have anything like a respectable appearance. All three will be largely planted again this season.

STATE AID TO AGRICULTURE IN AMERICA.—An example of the assistance afforded to the farming community of the United States, says the *Agricultural News*, by the Government Department of Agriculture is mentioned in a recent British Consular Report. Less than ten years ago the Department spent about £2,000 on the introduction into the country of the cultivation of durum Wheat. This variety of Wheat is especially suitable for growing in districts where the rainfall is slight. At the present time the annual value of the durum Wheat crop of the States is about £6,000,000.

CRATÆGUS IN MISSOURI.—Dr. C. S. SARGENT has just published another of his important monographs on the distribution of species of *Cratægus*. The present paper, which is printed in advance from the 19th Annual Report of the Missouri Botanical Garden, is devoted to the species that occur in that State. The author regards this instalment as a preliminary study, since the area of the State has not as yet been by any means completely explored, as far as this genus is concerned, and it is evident that many other species remain to be discovered. The results of Professor SARGENT's work are very striking, for of the species described nearly all are as yet unknown beyond the State boundaries, although doubtless, as further knowledge accumulates, the proportion of purely endemic forms may diminish. The *Crus-galli* group, with 37 endemic species, is the largest in point of numbers, whilst the *Virides* also form a somewhat large contingent, in which, however, the proportion of endemic species is rather smaller. An interesting point in distribution is the comparative absence of the *Tomentosæ* group (13 species), though members of it form important constituents of the *Cratægus* vegetation of neighbouring territories. The memoir contains descriptions of a considerable number of new species, and, needless to add, it forms a very important addition to the literature of this interesting genus.

FRENCH AGRICULTURISTS IN ESSEX.—Our French friends are paying much attention to English agriculture. We learn from the *Essex County Chronicle* of July 24 that, on Thursday, the 23rd ult., a party of 30 agriculturists, headed by M. JOURDAIN, Professor of Agriculture in the School of Somme, visited the seed farms of Messrs. J. K. KING & SONS, in the Coggeshall district. The party inspected at the seed farm at Purley a splendid crop of Globe Marigolds that excited their admiration. There were extensive trials of pedigree Wheats, numbering 75 varieties, and of Oats and Barley, 47 varieties. At Robin's Bridge Farm crops of Peas were inspected, of which 205 different lots were observed. The collection of Sweet Peas included 164 varieties. Afterwards visits were made to Oak Farm, Hill Farm, and Hazell's Farm.

THE SOCIETY OF AMERICAN FLORISTS.—The dual convention of the Society of American Florists and the Canadian Horticultural Association this year will be an interesting event. Held at Niagara Falls, New York, and Niagara Falls, Ontario, respectively, at the same dates in the middle of August, there will be fraternal visits between the two societies, while the popularity of Niagara Falls will ensure a very large attendance from both sides of the line.

HOPS.—A report issued by the Board of Agriculture and Fisheries states that in Kent the crop is reported to promise well in all districts, though the bine has suffered somewhat from cold nights. There is at present very little vermin, and in most parts not much washing has been necessary; mould is said to be troublesome in some gardens. In Ilants Hops are looking well, and over the greater part of the Hop area no washing has been required. In Sussex the prospects from the present appearance of the bine are favourable. In Surrey Hops are strong in bine, and so far promise well. In Worcester the bine is fair, but washing to destroy aphids has been general. In Hereford the prospects are reported to be good; the bine is vigorous and of good colour; washing has been necessary in a few plantations only. In Salop the crop is reported to be looking well.

FRUIT PRESERVED IN BRINE.—According to a Report by the British Consul at Naples, a new agricultural product, which has reached very important proportions as an export, consists of Cherries preserved in the following manner. They are first placed in the fumes of sulphur and then packed in casks with very strong brine. The chief place of export is to the United States, where, as they pay no duty, they compete with the home-grown fruit. On arrival the fruit is sorted out, the best being sold for the purpose of flavouring some of the various stimulants which, under different names, form the speciality of American bars, the second best are preserved in brandy in the usual way, and the remainder are used for the general purposes of confectionery. The extraordinary expansion of the trade may be judged by the following figures:—1904, £2,783; 1906, £14,584; 1907, £30,125. The figures for 1905 are not available, as the export of Cherries was in that year not placed under a separate head in the returns, but it will be observed that the increase in 1907 over 1906 was more than 100 per cent.

leaves which turn a brilliant red in the autumn. The seed pods are seen in abundance on the small branches of the tree, and contain three seeds about the size of a coffee bean, greyish-white in colour. As the autumn advances the pods dry up, exposing a cluster of three seeds. These are picked during November, and at once stemmed and made ready for use. They are steamed, and the white exterior of the seed, which is the vegetable tallow, or "Piyiu," is thus removed. A small brown seed remains, which is ground in the Chinese millstone, boiled, made into cakes, and placed in a press, and a light brown oil extracted from the kernel. This oil is known as "Tze-yiu" or vegetable tallow-seed oil, and is used by the natives as a burning oil, and also for adulterating other more valuable oils. The refuse is used as a fertiliser. The tallow is collected, melted, and put into large tubs, which serve as a mould. Blocks of wood are put into each cake, to which ropes are attached and serve as handles. In this form it is brought to the market at Hankow. The seeds, as first picked, yield in weight about 28 per cent.

by the addition of water and other oils, and most of the Hankow shippers have found it necessary to remelt all the tallow in the presence of the native seller, and so remove any foreign matter. During 1905, according to the Customs returns, 20,000,000 lbs. were exported from Hankow, while in 1906 the amount increased to 27,000,000 lbs. Up to November 15, 1907, nearly 27,000,000 lbs. had been exported. *Journal of the Royal Society of Arts.*

INTRODUCTION OF PLANTS INTO UGANDA.—All plants which are introduced into Uganda for purposes other than for food are required to be fumigated before admission into the territory. They are only allowed to be imported at certain places appointed by the Governor, and arrangements for the fumigation are made there. The disinfection is conducted at the risk of the owner, and no compensation is given for any damage that may arise in consequence of the operation. *Der Handelsgelehrter.*

CARPENTERIA CALIFORNICA.

THIS beautiful flowering shrub is not hardy in all parts of this country, but in favoured localities it will survive the winter and flower well in the open, when it forms a pleasing addition to the more common subjects in the garden. The photograph from which our picture was reproduced was sent us by Mrs. Dukinfield Scott, who states that several plants weathered last winter in her garden at Oakley, Hants, without showing any signs of damage.

NOTES FROM A "FRENCH" GARDEN.

SINCE we replaced the lights on the Melons the plants have grown more freely, but, unfortunately, in a few cases, the fruits which were hardened by the cold, are cracking. The last batch of Melons, planted at the end of June, have greatly improved, since in place of the cloches, we put frames and lights over them. In this batch of plants we have selected the first fruits which appeared; as later ones might not have time to come to maturity. We have found that to grow Melons under cloches, as is the custom round Paris, is impracticable here, unless at about the beginning of July we are able to use the frames and lights from the earlier batch of Melons. The system may be successful in a well-sheltered garden, though the cold nights at the end of June are very detrimental to their growth.

The chief work now is to plant Endive Batavian Green, which forms an important winter crop. At present, we are planting the last batch of Cauliflowers among the Endive, or by themselves in well-prepared ground in which Spinach will be a catch crop. We are preparing the ground for the last batch of Batavian Green and Autumn Spinach. All available ground is well dug and heavily manured for the main batch of Spinach and for the "Lamb Lettuce" (*Valeriana Locusta*), which will be sown in a fortnight's time.

All the outdoor crops planted early in July require watering, which, however, must be done judiciously in cases where the plants are not growing freely.

Many "marâchers" near Paris cultivate a piece of ground where there is no special water supply. Early in the season they plant an early batch of Potato "Hainault," a variety which has short foliage and even-sized tubers. Before clearing the Potatoes they plant Endive between the rows, and in August, after having hoed and levelled the ground, they sow between the salads a row of Spinach, which occupies the ground until the following spring. This plot is generally manured with the vegetable refuse from the ordinary garden, as it is the rule to clean all



[Photograph by Mrs. Dukinfield Scott.]
FIG. 42.—CARPENTERIA CALIFORNICA FLOWERING IN THE GARDENS
AT OAKLEY, HANTS: FLOWERS WHITE.

ENGLISH WALNUTS.—The English Walnut crop, says the *Globe*, will this year be a very heavy one. On one of the farms that last year won the King's Cup for root cultivation in East Berks, there are 41 large Walnut trees, the crops on which are heavier than have been the case for over a quarter of a century. On farms such as this the crop is usually sold by auction as it stands, the buyers having to gather them, and in years gone by over £100 has been obtained for the yield from these trees.

CHINESE VEGETABLE TALLOW.—The vegetable tallow tree, known to the local Chinese as the "Mu-Tze-Shu," is found in the mountainous and hilly sections of the province of Hankow. The trees grow in large numbers through the valleys in a semi-rocky soil, and on the mountain sides to an altitude of 2,500 feet. The tree, according to the American Consul at Hankow, is of medium size, with heart-shaped

of vegetable tallow, and about 40 per cent. "Tze-yiu." The vegetable tallow sells in the market at from 27s. 6d. to 30s. per "picul" of 133 lbs., and the vegetable tallow-seed oil at 25s. per "picul" of 133 lbs., very small quantities, however, of the latter oil being brought to Hankow, as none is exported. The vegetable tallow is used by the Chinese principally in the manufacture of candles, it being of greater consistency than the other oils used for the purpose, and only a small quantity of the white wax is needed. The vegetable tallow industry of Hankow is one of considerable extent, most of the tallow being shipped to Europe. None has been exported to the United States since the early part of 1906, and that consignment was made as a sample. The tallow is said to mix readily, and European firms find use for large quantities in the manufacture of soaps and candles. Great care must be exercised in buying it in Hankow, as much of it is adulterated

vegetables in the shed and never on the site where they were grown.

As the horticultural year starts in August, it may be interesting to give the quantities of seeds required in a "French" garden containing about 400 lights, 20,000 cloches, and two acres of ground.

Radishes, "Early-French Breakfast, White Tipped," 1 peck of seeds. *Carrots*, Early French, 1 lb.; Bellot, 1 lb. *Cos Lettuces*, Green of Paris, 4 ozs.; White of Paris or Blonde Maréchère, 4 ozs.; *Endive*, La Rennaise, 4 ozs.; La Ruffec, 4 ozs. *Melons*, 1,500 seeds three years old. *Or-heart Cabbage*, 4 ozs. *Cauliflowers*, 1 oz. *Celery Green*, $\frac{1}{2}$ oz. *Spinach* Monstrous and Vercoff, 1 peck. *Lamb Lettuce* (Green of Etampes), 2 ozs. *Cabbage Lettuce*, Little Black Gott, 4 ozs.; Passion, 4 ozs. *Paul Aquatics*, Mayland, Essex, July 27.

BALDERSBY PARK, THIRSK.

THIS fine Yorkshire domain was in former years in the possession of the Devonshire family, from whom it was purchased by Mr. Hudson, a great railway magnate. From Mr. Hudson it passed into the possession of Lord Downes: the present owner, John Brennand, Esq., bought it from this nobleman six years ago. The estate is a distance of about five miles from the town of Thirsk and the same number of miles from Ripon.

The front of the residence is built in the Elizabethan style of architecture of stone obtained from a local quarry. It is believed that it occupies the site of a much older building, for traces of a former habitation have been found in the course of recent alterations necessitated, unfortunately, by a fire which destroyed much of the mansion three months after the present owner obtained possession.

The main front faces south, and at either end of the front of the building are two small Italian gardens with fountains.

The walls of the mansion are clothed with large specimens of *Ampelopsis* *Vitichii*.

On the west side is a lawn, to the north of which are two large beds planted with *Roses*, and in front of these are three large flower-beds, at the present time planted with *Lobelia cardinalis*, *Lobelia compacta*, Mrs. Clibran, *Alonsoa incisifolia*, and *Blue Ageratum*.

There is also a sunken garden surrounded by balustrades in stonework. There are beds in this sunken garden, some of which are filled with *Violas* and *Begonias*, the centre beds being permanently planted with *Roses*. There is also another sunken garden further from the Hall that forms a fine feature. A series of terrace banks form the boundary on the Park side, the top being planted with *Penzance* *Briars* and other rambling *Roses*, which give a fine touch of colour to the landscape in summer time. The boundary on the side nearest the house is formed by a solid stone wall having a balustrading on its summit: against this wall are planted *Roses* and *Ampelopsis*, and although this garden has not been made more than three years, the plants have already made considerable growth, and promise soon to entirely cover the stonework. There are two long oblong flower-beds in this sunken garden, planted with *Begonias* and *Nemesia strumosa*.

Leading in a westerly direction is a path that approaches a spot known as the children's playground. Some fine old shrubs form a suitable background to a long ribbon border. This is planted with *Blue Violas*, *Pelargoniums* *Flower of Spring* and *Paul Crampel*, white *Anemones*, the golden variety of *Pelargonium* *Harry Hieover*, &c.

At the back of the mansion is a long walk that leads to the River Swale. By the side of the path is a border of shrubs, amongst which are many choice varieties of *Rhododendrons*. By the river is a magnificent specimen of the

copper-coloured *Beech*, and other trees have recently been removed in order that a view of this fine tree may be the better obtained. On the east side of the building is a tennis lawn, surrounded by a shrubbery and several flower-beds. Two of these beds are planted with *Pelargonium* *Henry Jacoby*, and *Stocks*: the largest bed is filled with *Roses*. Before we leave this portion of Baldersby Park, mention must be made of a path $\frac{1}{4}$ miles in length that is bordered on one side by shrubs and on the other by herbaceous plants backed by a line of shrubs. *Delphiniums* and *Foxgloves* are intermingled with the shrubs, whilst the flower-border contains plants of perennial species that furnish a succession of flowers.

The park in front of the residence contains some very large Oak trees: an old veteran that has lost its top has a girth of 42 feet at a distance of 3 feet from the ground. The trunk is hollow, and as many as 11 persons have partaken of tea at the same time within the cavity. The stem is now bound with iron bands. These old Oaks are said to be remains of the ancient forest which existed at this part. A tree still in perfect condition measures 37 feet

divided into six compartments, all, save the conservatory-like central division, being devoted to the culture of fruit. The structure is built on the wire tension system, and in consequence the interior is very light, there being no obstructing rafters. At the eastern end a partition separates an early and a late Peach house, the latter being the first entered. It is planted with *Barrington*, *Sea Eagle*, *Crimson Galande*, *Golden Eagle*, *Dymond*, *Stirling Castle*, and *Royal George* Peaches, and *Humboldt*, *Stanwick* *Elruge*, *Pineapple*, *Lord Napier*, and *Dryden* *Nectarines*, which represent an admirable selection. The early house is planted with *Grosse Mignonne*, *Early Rivers*, *Royal George*, and *Peregrine* Peaches, while of *Nectarines* there are *Cardinal*, *Violette Hâtive*, *Lord Napier*, and *Downton*. Opening from the early Peach house is a structure built on the other side of the wall, and therefore facing north, that is devoted to the culture of cool Orchids. A pretty feature is the Fern-covered wall, the plants—*Adiantums*—being planted in a compost held in position by wire netting. The next division is the conservatory to which reference has already been made. It accommodates several ornamental-leaved plants, including very large and healthy



FIG. 43.—BALDERSBY PARK, NEAR THIRSK, THE RESIDENCE OF JOHN BRENNAND, ESQ.

round at 3 feet from the ground. The park also contains some very large *Beeches* and *Sequoia* (*Wellingtonia*) *gigantea*. There is a lake in the park, in which are two crescent-shaped islands planted with shrubs and bulbous plants. Near the lake is an obelisk, the history of which is not known, but it is of great age. There is another similar monument near to the home farm. A cricket ground and a recently-built pavilion are for the use of the employees on the estate.

The pleasure gardens and grounds at Baldersby are extensive and well adorned with flower-beds and borders, the fine old park, with its noble trees, giving dignity to the surroundings. But, fine as these are, the chief attraction of this estate to the gardener lies in the splendid walled-in kitchen garden and the ranges of glass-houses therein. This garden has an area of more than four acres and is divided into eight square portions by paths, and there is a path 6 feet in width all around it, separated from the wall by a border of perennial plants. On the north side of the garden is a continuous range of fruit houses, 118 yards in length. It is

specimens of *Cycas revoluta* and *Encephalartos*; also *Livistona chinensis* and *Kentia Forsteriana* and *Belmoreana*. The wall is covered with tile "pockets" that are planted with varieties of *Begonia* *Rex*, *Hoya carnosae*, and *Ferns*, the whole having a charming appearance. The next house or division is devoted to *Pears*, with late-fruited *Peaches* and *Nectarines* against the wall. This opens into a structure devoted to the culture of *Plums*, where choice varieties of this stone fruit are grown. The wall at this spot was covered with a remarkable *Pear* tree when the house was built, and it was allowed to remain. It bears no fewer than 22 distinct varieties, and many of the grafts were freely fruited when we saw it. The last division is 47 yards long and 5 yards wide; many of the trees, including *Apple*, *Pear*, *Plum*, and *Cherry*, are in pots, the majority being freely fruited.

Facing this fine fruit range are the bothies and potting shed. The young gardeners' apartments contain a properly-appointed kitchen, a sitting-room, and bath-room, in addition to the bedrooms, &c. The south wall of the

bothies and potting shed have against it lean-to vineries, including early, mid-season, and late houses. In front is a row of heated frames. What may be termed the main block of plant-houses is now reached. It comprises seven modern glass-houses, all in the best possible condition and with the latest improvements in plant structures; the largest houses are 75 feet in length. The whole block is heated with three "Trentham" boilers; the stake-hole has at the back a tunnel which holds about 25 tons of fuel. The ground about the glass-houses outside is covered with concrete, which enables the place to be kept in trim order.

The first house, on the west, is divided into a vinery and two Peach houses. One of these latter divisions is planted with trees of the late-fruited Golden Eagle and Sea Eagle varieties. We also noticed in this house well-grown plants of Hydrangea, Hortensia, and its variety Mariesii. The next division is an early Peach house, the variety group being Royal George, with Violette Hâtive Nectarine. The vinery was planted last year with young vines, and until the canes furnish the structure it is used for pot trees of Apples, including Lady Sudeley and Beauty of Bath; also Pears Brockworth Park and Pitmaston Duchess. The next house is devoted to Carnations. It is in two sections; one contains varieties of tree Carnations, and others of the winter-flowering type, including Duchess of Portland, which is a reliable kind at Baldersby, being free in flowering and of good quality; others which do well are Britannia, Robert Craig, Floriana, Enchantress, Lady Bountiful, and Nelson Fisher; the other compartment contains Carnations of the Souvenir de la Malmaison type, in all of the best kinds. The plants were in vigorous growth and gave promise of an abundance of flowers. The next is a Melon house in two divisions, but only one is a crop of these plants, and all these have recently been planted. The other part was cropped with Tomatoes, the variety being Brotherston's Al, a Tomato that does well in Yorkshire, it being largely in evidence at the recent Yorkshire Gala, where it was awarded all the premier prizes offered for this fruit. The next house is divided into two compartments, one being a propagating house; the other containing Melons, the varieties favoured being Hero of Lockinge, Gunton Scarlet, and a seedling, the result of Lord Derby & Fensmore Orange. Number 5 house is a similar structure to the last-named, the first compartment being used for the culture of Codiaums (Crotons) and Dracenas, the other is planted with Melons. The next plant-house has three divisions; two are filled with Orchids, the other with border Carnations in variety, including Sir Richard Samuelson, Francis Samuelson, Alceste, Uriah Pike, Helmsman, and Sir R. Buller. No fewer than 3,000 plants of Carnations are cultivated. One of the Orchid houses is a Cattleya house, with C. gigas, C. Mendeli, &c., all in good health; the other has, besides Cattleyas, plants of Dendrobium, Calanthe, and Cypripedium. Some fine specimens of Dendrobium Wardianum were noticed. The first division of the next house is utilised as a plant stove, some of the inmates being Vandas in variety, Caladiums, a good strain of Streptocarpus, Begonia Gloire de Lorraine, Dracena Victoria and Pandanus Veitchii. The other division was filled with greenhouse flowering plants such as Calceolarias, Pelargoniums, Asilbes (Spiraeas), including the new pink-flowering varieties; Hippeastrums, Marguerites, Liliums, &c. This house is always gay with flowers, and in summer time the roof is covered with Bougainvillea, Abutilon, Solanum jasminoides, Streptosolen Jamesonii, Tacsonia exoniensis, and Passiflora, whilst hanging baskets have trailing sprays of Asparagus Sprengeri.

Against the walls surrounding the kitchen garden are planted a few trees, the top of the wall having a glass coping extending 2 feet; the glass can be removed, if need be, in the summer months. Close to the long range of glass-houses is planted against this wall a tree of King of Tompkins' County Apple. It has an especially favoured spot, and so fine are the Apples produced by this tree that they might easily be mistaken for orchard-house fruit; indeed, Apples from this tree are said to have been disqualified at the autumn fruit show of the Royal Horticultural Society, the judges supposing

them to be grown indoors. Other fruit trees trained on this wall are Pears: Pitmaston Duchess, Doyenné du Comice, Beurré Superfin, Doyenné Boussoch, Clapp's Favourite, Margaret Marillat, Souvenir du Congrès, Triomphe de Vienne, Marie Louise d'Ucle, Louise Bonne de Jersey, Marie Louise, and Victoria. Plums: Kirk's, Cox's Golden Drop, Monarch, Bryanston's Gage, Pond's Seedling, Grand Duke, Count Althann's Gage, and Jefferson. Gooseberries, the north walls are Morello Cherries, Gageberries, and Currants. This latter fruit has been available for the past two seasons as late as Christmas. There are good crops of all kinds of vegetables, the soil being a rich loam overlaying clay, beneath which is sand and gravel.

The fruit room has double walls and two roofs, the floor being of concrete. This structure has, in all respects, an equable temperature, and is admirably adapted for its purpose. Near the gardener's house, which is a fine building adjoining the public roadway, is a scroll bed, having a row of Lobelia compacta var. Mrs. Clibran, Echeveria, Pelargonium Flower of Spring, and in the bays scarlet-flowered Begonias, the back portion being furnished with Tagetes and Begonias. The gardens and grounds are in the care of Mr. J. E. Hathaway, who is to be congratulated upon their excellent appearance, and especially upon his skill as a plant and fruit cultivator.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

NEED FOR A TRIAL OF EARLY TRUMPET DAFODILS.—There is need for a trial of early sorts of Narcissus of such varieties as can be had in flower in mid-winter, by gentle forcing under glass. I am willing to send my moiety in yellow trumpet kinds because, after all, a good winter flowering trumpet daffodil that may not find favour with a Narcissus committee in April, may at Christmas fetch 4d. or 6d. each bloom in the west end of London. There is much more money in the early bloom than in the April one at a glut. I am sure it is not unreasonable to ask for this trial, which could be conducted in the R.H.S. gardens at Wisley. There should also be got together for trial all the popular market sorts from different parts, such as Horsfieldii, Sir Watkin, Emperor, &c. They should be potted up, to compare the difference between bulbs obtained from districts south of London, also from north and south Ireland, from north and south England, and from the Channel and Scilly Isles, in order to note the difference between bulbs from Holland and bulbs from the United Kingdom. For instance, I have myself had experience of N. Horsfieldii, by potting some big soft bulbs in size proportionate enough to produce two or three blooms, as against medium-sized hard, well ripened ones. The result was that the latter bulbs came into flower fully ten days earlier than the other, each one giving two to three blooms, while the former that were earlier grown only gave single blooms. Wm. Baylor Hartland, And Cairn, Cork.

THE CONDITION OF BURNHAM BEECHES.—With all due respect to the members of the committee who recently reported on the condition of the old Pollards in Burnham Beeches, I think they have overlooked the true cause of the decay and death of so many of these trees during the last few years, and the obvious fate of the remainder. The report suggests that the felted scale (Cryptococcus fagi) alone is the indirect (if not direct) cause of the bad health into which such a large number of trees have fallen. Possibly the scale may have hastened the decay of a few trees, but it has never yet been proved that this insect can lead to fatal results in an otherwise healthy tree. That Beech does occasionally die with the scale on their stems is true; but trees also die on which no scale can be found, and I am not aware that any figures exist to show that the mortality amongst scale-infested trees is greater than amongst those which are free from the pest, although the latter undoubtedly causes the death of patches of bark on which the woolly accumulations have been lying for many years. But the real cause of the decay of the old Beeches in question is more probably old age than anything else.

The normal life of a Beech tree seldom exceeds 300 years, and the average tree succumbs before it reaches 200 years, chiefly from storms or parasitic fungi. The approximate age of the old Pollards in Burnham Beeches has never been estimated, as no sound wood remains in their butts enabling the annual rings to be counted; but the limbs and branches which were thrown out after their last pollarding show an age of over 200 years, as I have ascertained from windfalls, and it is obvious that the original stems are much older, probably as old again at the very least. The process of pollarding undoubtedly lengthened their lives, by decreasing the effect which storms exert upon taller trees; but even so, a time must come when natural decay will assert itself, and there is little doubt that that time has arrived. In the past large numbers lost their branches by wind, but this process has been arrested by bracing the limbs together, and supports placed under the more horizontal growths. Many limbs, therefore, which would have fallen under natural conditions, have been retained in position, and have lost their vitality or vigour while still attached to the stump or butt, instead of falling to the ground before that stage of decay had been reached. This has probably given many trees a sickly appearance, which they would not have possessed had the branches fallen in the ordinary way, for it must be remembered that these trees have been gradually disappearing for many years, and their general condition differs very little from what it was 20 years ago. Whether anything can be done to prolong the lives of the more interesting specimens is doubtful, but there is little doubt that those standing on what is known as "the plain" suffer from the treading and hardening of the ground during the summer months, when visitors and picnic parties are most numerous. Mulching and artificial manuring suggest themselves as the most promising measures for arresting their decay, and these remedies should be particularly useful on the drier and poorer parts of the wood where assistance is most needed. A. C. Forbes.

DETERIORATION OF STOCK.—It is not an uncommon occurrence to find that men who are admittedly good gardeners, experience great difficulty in growing good plants from stock which has been in their possession for a considerable time. That this is not due to want of attention or skill on their part could be proved, but the fact is that, despite the good attention, the plants are not capable of building up a robust constitution. This is due in most cases to deterioration of stock consequent on propagating from plants which have been unduly forced into growth and luxuriance by liberal feeding. I could cite instances of Potatoes, Onions, Salvars, Chrysanthemums, Begonias, and other plants, which, owing to repeated propagation from the same stock, not only lack vigour, but show also a tendency to lowered regenerative capacity. The case of Chrysanthemums may be cited. These are, in the ordinary methods of cultivation for the production of large blooms, subjected to gross feeding, with the result that the wood becomes hard, the plants refuse to throw up useful basal cuttings or produce fasciated growths that are unsuitable for the purpose. The result is that the cuttings which are chosen, and the old plants resulting from stem cuttings are always slow to produce basal shoots. This, year by year the cuttings become more difficult to get and difficult to strike. Is it any wonder, then, that being rushed along in heat, and perhaps hardened off quickly, they should not only lose vigour, but likewise the power of regaining vigour by the absorption and assimilation of plant food? The floral results then prove disappointing. That this occurs greatly as a result of liberal feeding I have no doubt, for I can recall a case where gross feeding was discontinued for the specific purpose of regaining vigour in the stock, and the result was that in the following season good, useful cuttings were thrown up from the base of the plant in greater profusion than had been known for years. It is a well-recognised fact that vegetables deteriorate if grown continuously on the same ground, and the obviation of this by rotation of crops is well-known universal. The Potato requires change of soil as well as of site, and the benefit of changing sets with others is

now often acted upon. It is recognised that liberal feeding is essential to success as judged by size, but when we know that this feeding weakens the constitution we must find some means of renewing the vigour which has been lost. Happily means are near at hand. We should keep plants especially for stock. Grow them well, give them ample room, good soil, sufficient sunshine, careful watering, and grow them in a natural manner without subjecting them to the hard feeding given to other plants. This may be done in the case of *Chrysanthemums* by striking cuttings in the usual way and afterwards growing them outside. If earlier cuttings are

the selection of cuttings. Where they know deterioration to have set in, they should grow plants especially for stock purposes, and on no condition should they allow the propagation to be carried out by an inexperienced man. Moreover, they should see that plants obtain a fair start from the cutting or seed stages onward, so that there is no need to hurry them along under unnatural conditions, for time lost cannot be regained even in plant culture. The importance of vigour in stock cannot be too strongly insisted on, for greater vigour means greater immunity from the ravages of pests and from the harmful effects of bad weather. The stronger the

old, when they betray their origin by sending up numerous leaders, or else assume the character of a branch stuck in the ground. There is really no excuse for dealing thus with a tree so easily raised from seed as *Sciadopitys*. *F. M.* speaks of the seeds as being "comparatively dear"; but the price quoted for them in *J. Rafn's* catalogue this year—18s. per kilo (= 2 lb.) and 1s. 6d. per 100 grammes (= 3½ oz.)—seems to me comparatively cheap. *Herbert Maxwell, Monroith.*

—The note by *F. M.* on p. 81 of your last issue on a method of propagating the Umbrella Pine of Japan recalls a very interesting statement made to me some years ago by the late Mr. Hermann Herbst, of Richmond. Before commencing business on his own account, Mr. Herbst was for some time propagator to the late Mr. John Standish, of Ascot, who received the plant from Mr. Robert Fortune about the same time (1861) as it was sent home to his firm by Mr. John Gould Veitch, and, as all who knew Mr. Herbst were aware, he was not only a clever propagator, but a skilled plant grower as well, so that a conversation with him was always interesting, and often very instructive. Walking round his houses with him one day and talking about plants difficult to increase readily, he told me of a "happy hit" which he had made with the *Sciadopitys* soon after it was put into commerce by the Messrs. Veitch. I do not remember the time of year when he obtained his stock, but that hardly matters so much as the point of his statement, which was simply this:—Early in the following January he put the plants into strong heat, and rooted the young, succulent shoots as soon as they were large enough to handle. He stated that they rooted very readily, and that in this way he soon obtained a larger stock of plants than was possessed by the Messrs. Veitch. I have never had an opportunity of putting this method to the test. *Senec.*

ONCOCYCLUS IRISES AND COLD STORAGE.—

In continuation of my note in your issue of June 20, and in answer to Mr. Jenkins' enquiries on p. 32 (July 11), may I add that the rhizomes with which I experimented were newly-imported roots of such kinds as *Lortetii*, *lupina*, *atropurpurea*, and *Bismarckiana*. I only packed up a rhizome of two of each, and hardly expected any flowers. However, the first to flower was *lupina*, which bloomed on May 31, followed by two more flowers of this species, and one each of *atropurpurea* and *nigricans*. The flowers were certainly somewhat small and the foliage slender, and I therefore intend another year to plant the rhizomes about a fortnight or so earlier; that is, about the middle of February, unless the weather is too unfavorable. At present (July 14) the plants are growing vigorously, and I shall endeavour to ripen them off with the aid of glass as soon as they show signs of going to rest. I shall then hope to be able to lift good healthy roots, somewhat more acclimatised to their present surroundings than when they arrived from the East last August. *W. R. Dykes.*

IRIS NEPALENSIS.—This *Iris* is a curiosity in more ways than one. In the first place its root-stock is unlike that of any other *Iris*, consisting of a bud in a sheath of remains of old leaves, from which depend persistent roots like those of a Juno *Iris*. Coming from Nepal, it requires abundant moisture in summer and dry conditions in winter. Last autumn, when the leaves withered, I lifted the root in a mass of soil and dried it off, without disturbing it by shaking it out of the earth. I replanted it in peat and leaf-soil at the beginning of March. The leaves appeared on May 30 and the first flower on July 9, followed by a second from the same spathe five days later. The individual flower only lasts a few hours, is extremely delicate in texture and of a pale lavender shade. *W. R. Dykes.*

THE MEETING OF ROYAL HORTICULTURAL SOCIETY ON TUESDAY LAST.—This meeting was a striking instance of the little value that attaches to horticultural exhibitions on days immediately following a Bank Holiday. Seldom, indeed, has the attendance at these shows been less satisfactory. *Fellow.*

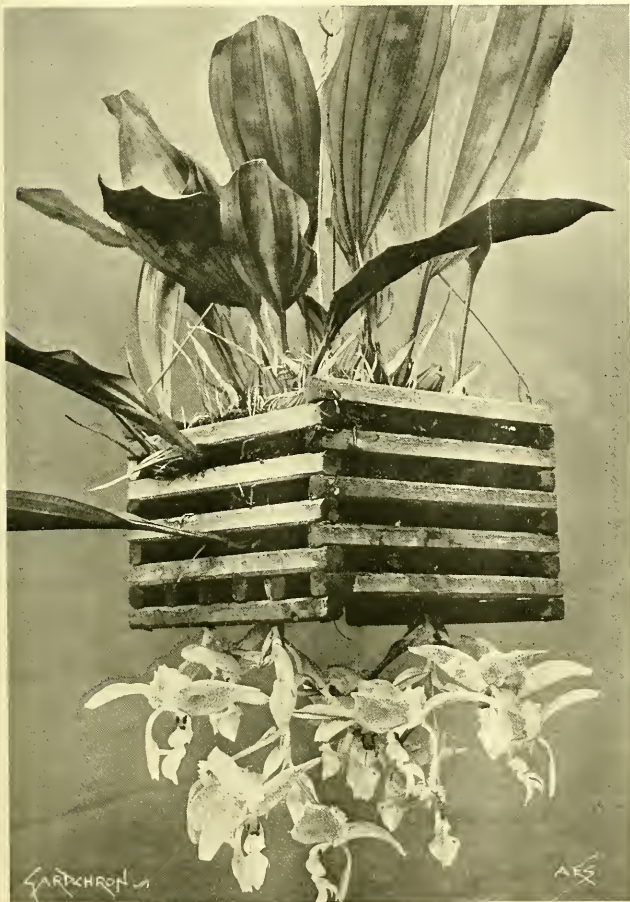


FIG. 44.—*STANHOPEA OCLATA* AS IT FLOWERED IN THE COLLECTION AT KEW GARDENS LAST SEASON: FLOWERS LEMON-COLOURED WITH LILAC SPOTS.

desired they may be taken up and potted or plunged in some cool house. I feel confident that this plan would impart vigour to the stock. In the case of Strawberries, healthy runners could be chosen and planted out, pulling off any fruit that forms and reducing the number of runners to four or five. I have known plants received from a neighbour's garden do better than the general stock, although there had been no apparent difference at the start. This I ascribe to the change of condition, for no two men grow plants exactly alike, and plants seem to like a change. Gardeners should be more careful in

plant the more readily will it respond to good treatment. *William F. Rowles.*

SCIADOPITYS VERTICILLATA.—Similar advice to that given on p. 81 upon the propagation of this interesting Conifer appeared in the *Field* some months ago, and I felt bound at the time to enter a protest against what I considered mischievous advice. Planters have suffered too much in the past from being supplied with Conifers propagated from grafts or cuttings (especially those of the Cypress group). The evil is not apparent until the trees are several years

SOCIETIES.

ROYAL HORTICULTURAL

AUGUST 4.—A meeting of the Committees was held on this date. The exhibition was very small, and visitors were extremely few, doubtless owing to the show being held on a day following the most popular Bank Holiday of the year.

Several novelties were presented to the FLORAL COMMITTEE, who granted two Awards of Merit, and the ORCHID COMMITTEE one First-Class Certificate, one Award of Merit, and one Botanical Certificate.

Floral Committee.

Present: W. Marshall, Esq. (Chairman), and Messrs. H. B. May, Jas. H. Walker, E. H. Jenkins, T. W. Turner, E. J. Bowles, W. Howe, J. Douglas, R. Hooper Pearson, H. J. Jones, Chas. Dixon, G. Reuthe, J. T. Bennett-Pöe, Chas. E. Shea, Chas. E. Pearson, and W. P. Thompson.

A group of *Phlox decussata* in variety was shown by Messrs. T. S. WARE, LTD., Ware's Nursery, Feltham, Middlesex. They were remarkably good spikes of bloom, one of the varieties being a fine white flower of recent introduction. It was labelled *Freiherlein von Lassburg*. There were also seen the lovely *Coquelicot*, *Flambeau*, *Esperance*, *Lady Napier*, *Miss Pemberton*, *Leonard di Vinci*, and others. (Silver Banksian Medal.)

Messrs. KELWAY & SON, Langport, Somerset, displayed about 100 varieties of their strain of *Gladioli*. Amongst such varied and beautiful kinds it is difficult to enumerate all of merit, but we may select *Langport White*, *Lady Rachael Bruce* (yellow, with deeper-coloured lip), *Baden-Powell* (salmon-red, with yellow blotch), *Wolfe*, *Ian Kelway* (mauve, with a red mark on the lower petals), *Lord Errol*, *Huish Beauty* (rose, with a yellow lip), *Lago*, and *Lord Courtney* (a distinct rose-coloured flower, with a white stripe on the petals and a white lip). (Silver-Gilt Banksian Medal.)

Messrs. WEBB & BRAND, nurserymen, Saffron Walden, showed double-flowered *Hollyhocks* in variety. They had spikes of flowers at the back, and in a setting of ordinary *Asparagus* foliage, round baskets with single blooms set in mossy *Saxifrage*. All the varieties were of merit, the blooms being richly coloured and very much doubled, so that each appeared like a big rosette. The best, with their colours, are as follow:—*Apple Blossom* (pink), *Miss Lizzy King* (yellow), *alba superba* (white, exceptionally fine), *Venus* (salmon), *Mrs. Carl Meyer* (a very delicate pink shade), *Walden Primrose* (yellow), *Luna* (creamy yellow), and *Black Knight* improved (maroon). (Silver Flora Medal.)

Messrs. H. B. MAY & SONS, Upper Edmon-ton, filled a large table with flowering plants and Ferns. They showed batches of *Campanula isophylla* in white and blue varieties, a group of *Lapagerias* in both red and white varieties, and a large batch of *Ixoras*, as small not plants, all freely flowered. (Silver Flora Medal.)

Messrs. JOHN K. KING & SONS, Coggeshall, Essex, showed a pretty exhibit of *Sweet Peas*. (Silver Banksian Medal.)

Messrs. BARR & SONS, King Street, Covent Garden, London, W., showed 14 varieties of *Eucalyptus* in small pots, the plants having been raised from seeds sown in January last. The species included *E. ficifolia*, *E. Globulus*, *E. citriodora*, *E. rostrata*, *E. occidentalis*, *E. calophylla*, *E. amygdalina*, *E. erythronema*, *E. Gunnei*, *E. botroides*, *E. cordata*, *E. urnigera*, and *E. coccinea*.

Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, displayed boxes of *Dahlias*, both Cactus and single-flowered varieties, against a background of hardy flowers in vases. The garden flowers embraced *Lupinus*, *Dracopetalum virginicum*, *Helienius*, *Spiraea*, *Centaurea glastifolia*, herbaceous *Phloxes*, *Chrysanthemum maximum*, &c. (Bronze Banksian Medal.)

MR. GEO. REUTHE, hardy plant specialist, Keston, Kent, showed a selection of hardy plants in flower. There were also many sprays of flowering shrubs, including the fragrant *Magnolia fuscata*, *Rhododendron camelliflorum*,

Desfontainia spinosa, *Berberidopsis corallina*, *Embothrium coccineum*, *Buddleia variabilis* var. *Veitchiana*, and *Paliurus aculeatus*.

Messrs. WM. BULL & SONS, King's Road, Chelsea, showed *Caladiums* as small plants bedded in pans, with moss. At the back was a row of *Aralias*.

A few vases of border *Carnations* were staged by W. A. WATTS, Esq., Bronwylla, St. Asaph, N. Wales. Mr. W. DEAL, Kelvedon, showed a variety of *Iberis* labelled *Snow Queen*. Vases of flowers of *Buddleia variabilis* var. *magnifica*, with a number of spikes of *Agapanthus umbellatus* were shown by Messrs. HUGH LOW & CO., Bush Hill Park, Enfield. Two pretty *Antirrhinums* were shown by Messrs. DOBBIE & CO., Rothsay, N.B., and Mark's Tey, in Moonlight and Brilliant. Both are shades of carmine, the former being also heavily marked with yellow.

AWARDS OF MERIT.

Rose Paula.—A dwarf-habited Tea variety, in flower greatly resembling *Maréchal Niel*, but with shorter petals. The blooms are very pretty in the bud stage. Grown for bedding purposes, the plants are generally about 18 inches high. Shown by Messrs. PAUL & SON, Cheshunt.

Carnation Countess of Pembroke.—A border variety of good form, the flowers being almost white, but slightly suffused with rose. Shown by Mr. T. CHALLIS, Wilton House Gardens, near Salisbury.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), de B. Crawshaw, J. Wilson Potter, R. G. Thwaites, A. McBean, H. A. Tracy, W. H. White, W. Boxall, and H. Little.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Flora Medal for a very interesting group, the best novelty in which was the handsome *Vanda amena* var. *Sanderae*, which received an Award of Merit. The pretty *Laelia monophylla* was represented by a fine specimen with nine orange-scarlet flowers, and among other rare and attractive species were *Galeandra lacustris*, *Epidendrum campylostolax*, the curious, green-flowered *E. rigidum*, a dwarf form of *Eria acervata*, the rare *Dendrobium bellatulum*, *Phrysophion Loddigesii*, *Sarcanthus Williamsonii*, *Pescatorea cerina*, a batch of *Cypripedium Godfreyae leucocanthum*, *Lycaste leucantha*, &c. Of hybrids noted were several *Cypripedium Rothschildianum* crosses, C. Mars (lo grande x *Rothschildianum*) being a very distinct and fine form.

Messrs. ARMSTRONG & BROWN, Tunbridge Wells, secured a Silver Flora Medal for a good group, in which the hybrids of *C. Rothschildianum* were finely shown, the *C. callo-Rothschildianum* *Orchidhurst* variety, being a noble plant, with two spikes of flowers, in which both the parents were clearly indicated; the broadly extended petals, blotched with chocolate-purple, well distinguishes it from other varieties of this cross. *C. Bella*, Westfield variety, a very pretty and graceful hybrid; *C. Patrocinii* (*Mastersonium* x *Gowerianum*), a large flower of fine substance; *C. glaucophyllum*, *C. niveum*, *C. vexillarium*, and an interesting cross between *C. vexillarium* and *C. Argus*; a fine form of *C. Maudie*; two examples of *Bulbophyllum Godseffianum*, *Cattleya Warscewiczii* *Sanderiana*, and *Platyphyllum filiformis*, with a number of its graceful flower-spikes.

Mons. MEERTENS, Mont St. Amand, Ghent, was awarded a Silver Banksian Medal for a small group, including two forms of *Odontoglossum amabile*, a good, large-flowered *O. percutum*, *O. Wiganianum*, and a very effective white-flowered *Odontoglossum*, spotted with deep claret colour, supposed to be a cross between *O. Hallii* and *O. ardentissimum*.

H. S. GOODSON, Esq., Fairlawn, Putney (Mr. G. E. Day), showed *Brasso-Cattleya* *Plato*, *Fairlawn* variety, and *Cattleya Atalanta* var. *Goodsoniae*.

R. G. THWAITES, Esq., Chessington, Streatham (gr. Mr. J. M. Black), showed *Cattleya superba alba*, which had already received a First-Class Certificate; two plants of his new *Odontodia Thwaitesii*, *Odontoglossum Thwaitesii* (*Harryanum* x *ardentissimum*), and *Sophro-Cattleya Warmhamensis* var. *J. M. Black*, which secured a First-Class Certificate. Mr. Jas. DOUGLAS, Great Bookham, sent a

curious little Orchid from tropical Africa, with white flowers.

Herr OTTO BEYRDOT, Marienfelde, Berlin, showed *Cattleya Harold* var. *Hildegard* (*Gaskelliana alba* x *Warscewiczii* Frau Melanie Beyrdot), an attractive white flower with rosy-mauve front to the lip.

AWARDS.

FIRST-CLASS CERTIFICATE.

Sophro-Cattleya Warmhamensis var. *J. M. Black* (*C. amethystoglossa* x *S. grandiflora*), from R. G. THWAITES, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. J. M. Black). A charming dwarf Orchid with a comparatively large, deep crimson flower having a claret shade, and much darker than the original form. The disc of the lip is yellow, the side lobes are streaked with red, and the front is ruby red.

AWARD OF MERIT.

Vanda amena var. *Sanderae* (*Roxburghii* x *carula*), from Messrs. SANDER & SONS, St. Albans. A very handsome and interesting natural hybrid, and probably the reverse cross of the original, the seed in this case coming from *V. carula*, and hence the larger and more handsome flower. The fine inflorescence bore many flowers, thick in texture, fine in shape, and with a cream-white ground colour, the veining being followed by a broad violet-coloured reticulation; the lip is violet in colour with a claret-coloured tinge; the apex has short, diverging lobes.

BOTANICAL CERTIFICATE.

Lidostachys Whytei, from Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White). A graceful species from Uganda. The decurved racemes each have several wax-like white flowers with pointed brown-tinted spurs.

CULTURAL COMMENDATION.

To Mr. G. G. Whitelegg (gr. to J. BRADSHAW, Esq., The Grange, Southgate), for *Lycaste tricolor albens*, with 29 pretty green and white flowers. The type was also shown well-bloomed. The species is most floriferous and compact in growth. It is a native of Guatemala.

Fruit and Vegetable Committee.

Messrs. JAS. VEITCH & SONS, LTD., King's Road, Chelsea, showed a large collection of Fruit trees in pots. These were Figs, Gooseberries, Plums, Peaches, Apples, and Pears; a well fruited, and each was a goodly-shaped tree. The *Char Plum* was carrying very large crops; *Marquis of Downshire*, *Royal George*, *Prince of Wales*, and *Thos. Rivers* Peaches were all good. A tree of the last-mentioned variety was exceptionally fine, and occupied a prominent place in the centre. Amongst the Apples we noticed good examples of *Washington*, *Chas. Ross*, and *Gascogne's Scarlet*; the best Pears were *Souvenir du Congrès* and *Dr. Jules Guyot*. The Figs represented most of the best kinds, and the *Gooseberries* were *Whinham's Industry*. (Silver-Gilt Banksian Medal.)

Messrs. JAMES CARTER & CO., 237 and 238, High Holborn, London, displayed about 50 varieties of Dwarf or French Beans. The plants had been lifted on the day of the show from the firm's trial grounds at Mortlake and placed in 7-inch pots. The collection embraced the ordinary, the stringless, and the wax-podded types, also many new seedlings as yet not in commerce. Varieties most freely cropped were *Golden Wax*, *Canadian Glory* of the stringless type, *Wythes' Early Gem*, *Longsword* (a fine large pod), *Rifleman*, *Sion House* (later maturing than many of the others shown), *Seedling No. 249*, *Holborn Wonder* (stringless), *Leonard's Stringless*, and a Japanese variety labelled *No. 66*. (Silver Banksian Medal.)

Mrs. W. H. PLOWDEN, 16a, Chapter Street, Westminster, staged a number of preserves, consisting of jams, jellies, and fruits preserved whole. They appeared very tempting. (Silver Knightian Medal.)

FRUIT AND VEGETABLE COMMITTEE AT WTSLEY.

JULY 31.—A meeting of this body took place at Wtsley on the above date, under the chairmanship of Mr. A. H. Pearson, 10 other members being present. About 40 varieties of early Potatoes were inspected, several test roots of each

being lifted. In some cases the stocks were not true. The best roots lifted of all the stocks proved to be of that popular variety Sir John Llewellyn. Others especially good were Ringleader, Sharp's Express, and Victory, the first-named of these being good in samples from three diverse sources. Awards of Merit from the Midlothian Early, a well-known kidney variety, and to a very early, flatish, round variety named Courteen Seedling. This award was made specially because of its fitness for frame and pot culture, the haulm being very short. The stocks of Potatoes were planted on April 7. The later varieties promise a heavy crop, and will be examined by the Committee in September. Parsley, of which there are numerous stocks, more or less diverse, each being represented by two rows, have generally done well. Several varieties were voted three marks. They will all be examined again, when the characteristics of each are fully developed, to test their distinctness. To one variety, Massey's Dwarf Curled, an Award of Merit was given, as, whilst so good, it was the most distinctly curled variety in the trial. Numerous stocks of round or turnip-rooted Beet were examined: some had very irregular tops; others had handsome roots, but badly-coloured flesh. An Award of Merit was given to Sutton's Crimson Globe. A similar award was made to a dwarf French Bean temporarily named Seedling Dwarf. The variety is a marvellous cropper, and is especially good for early forcing and for outside borders. The stock was sent by Messrs. James Carter and Co. Later, several handsome Melons were tasted, but none merited an award. A few had a common demerit: the outer half inch of flesh was hard, while the inner flesh was soft and pulpy.

The Committee also inspected the span-roofed vineery, where there is now fruiting probably the largest collection of Grapes in the kingdom. Many of the vines, though but two years planted, were carrying superb bunches. If the Council sanction the proposal, as it is hoped will be the case, some 40 distinct varieties of Grapes may be shown at Vincent Square a few weeks hence.

CRAWLEY & DISTRICT FLOWER SHOW.

JULY 22.—The fifth annual exhibition promoted by the Crawley and District Gardeners' Mutual Improvement Association took place on the above date in glorious weather at Ifield Lodge, by the kind permission of Mr. E. B. Lehmann. In all respects the exhibition, both in regard to the horticultural and the industrial departments, was excellent, and the arrangements in connection with it were of a most complete and satisfying character. There was ample evidence of the growth and importance of the exhibition, and the non-competitive exhibits were a special feature. The entries showed a marked increase on previous years and the competitors in the horticultural section numbered 46.

ST. AUSTELL COTTAGE GARDENING.

JULY 28.—The sixty-first exhibition of this Society took place on the above date in the Market House. The show was remarkable not only for the large number of entries, but also for the high standard of the exhibits generally, especially of vegetables. There were seven classes for Sweet Peas, for which 68 competitors entered. Mr. E. A. P. Broad, of St. Blazey, won in the premier class for 18 distinct varieties.

Mr. C. A. HANSON, of Fowey, showed a well-grown bunch of Muscat of Alexandria Grapes, and this exhibitor won the 1st prize in the class for a collection of fruits.

Mr. W. H. HITCHENS, of Trevarick (gr. Mr. Wright), secured the 1st prize for 12 Carnations and Picotees. The same gentleman staged 150 plants of Carnations and Picotees not for competition.

Messrs. TUPLIN, Newton Abbot, displayed a trade exhibit of Carnations and hardy plants.

The need exists for a better place in which to hold the show so as to give more room for the inspection of the exhibits. Another matter for comment is that many of the exhibits are not labelled, and as a consequence the educational value of the show is in a great measure lost. H. W.

MIDLAND COUNTIES SWEET PEA.

JULY 29.—The officers and workers responsible for the first show of this Society are to be congratulated upon the splendid exhibition of Sweet Peas held in the spacious Drill Hall, Wolverhampton, on the above date. The quality of the flowers was surprisingly good, especially of those staged by Mr. S. Coe, gardener to Earl SPENCER, K.G., Northampton; by Mr. T. JONES, of Ruabon, and Mr. W. MARPLE, of Penkridge. The competitive classes were accommodated on four tables, each 80 feet long by 6 feet wide, placed down the body of the hall with a division in the middle to facilitate access to different parts of the building. This was much appreciated by exhibitors and public alike. Tables decorated with Sweet Peas were arranged near one end of the hall, and the non-competitive groups were placed against the side walls, each exhibitor being allotted 20 feet run of staging. There were upwards of 50 exhibitors and about 400 entries were staged in the 41 classes, 19 of which were special classes, the prizes being provided by 15 seedsmen.

OPEN TO MEMBERS OF THE SOCIETY.

The premier class was for 24 varieties, distinct, for which five prizes, including the Silver Medal of the National Sweet Pea Society, were offered. There were some very fine blooms in the 1st prize collection, which came from Earl SPENCER, K.G., Northampton (gr. Mr. S. Coe). The flowers were large, of great substance, borne on strong stems and well arranged. The varieties were Lord Athorp, Countess Spencer, Gladys Cole, G. C. Ward, Lady Athorp, Earl Spencer, John Ingman, Prince of Asturias, Mrs. Hardcastle Sykes, Sra. Esm. Elsie Herbert, Miss Lavinia Spencer, Lady Sarah Spencer, Frank Dolby, Silas Cole, Athorp Cream, Helen Lewis, Miss Delia Spencer, Athorp White, and five unnamed seedlings. 2nd, Mr. C. W. BREADMORE, Winchester, with a meritorious display. 3rd, Messrs. G. STARK & SON, Great Kyburgh.

In a class for 12 varieties, distinct, Messrs. G. Stark & Son were placed 1st with exquisite flowers of Enchantress, Improved Dorothy Eckford, Beauty of Fife, Paradise Ivory, Frank Dolby, Menie Christie, Special H. Lewis, J. S. C. W. BREADMORE, George Herbert, Mrs. H. Bell, A. J. Cooke, and Jeannie Gordon. 2nd, Mr. W. S. HESLINGTON, Littlethorpe, Ripon.

(TRADE EXCLUDED.)

In a class for 18 varieties there were five exhibits, and the one that gained the highest award came from Mr. C. BARNATT, Mancroft Road, Tettenhall, who had a splendid lot of flowers beautifully arranged. The following varieties were of outstanding merit: A. J. Cook, Lord Nelson, Mrs. Hardcastle Sykes, Helene Pierce, Hannah Dale, Komolo Piazza, Sybil Eckford, King Edward VII., Dorothy Eckford, George Herbert, Jeannie Gordon, Prince Olaf, and Nora Unwin. 2nd, W. LEONARD S. LOAT, Esq., Cumnor Place, Oxford (gr. Mr. Jas. Webb).

The last-named exhibitor took the lead in a class provided for 12 varieties, distinct, having good examples of Sybil Eckford, Jeannie Gordon, Crissie Unwin, Helen Lewis, Prince of Asturias, Countess Spencer, Frank Dolby, Mrs. Collier, Duke of Westminster, Agnes Eckford, and John Ingman. 2nd, Mr. W. S. HESLINGTON.

Nine varieties, distinct.—In this class there were 11 good exhibits, and of these Mr. W. KENDRICK, Tettenhall, was placed 1st with good flowers of Helen Pierce, Countess Spencer, Sybil Eckford, Etta Dyke, John Ingman, Frank Dolby, Mrs. Hardcastle Sykes, A. J. Cook, and Elsie Herbert. 2nd, Mr. V. E. LOWE, Shrewsbury.

In a class for 12 varieties, to be grown within five miles of the exhibition hall, there were seven entries. E. J. FORSYTH, Esq., The Dell, Tettenhall (gr. Mr. H. Butt), won the 1st prize with exquisite flowers of Mrs. Hardcastle Sykes, Lord Nelson, John Ingman, Queen Alexandra, Prince Olaf, Helen Lewis, and Henry Eckford. 2nd, Mr. T. DAVIES, Grange Road, Tettenhall.

Six entries were made in a class provided for six varieties, distinct, having waved standards. The 1st prize was awarded to Mr. W. MARPLE, Summer House, Penkridge, who had superb flowers borne on strong stems. The varieties were Mrs. Hardcastle Sykes, White Spencer, John Ingman, Mrs. C. Foster, Audrey Crier, and Paradise.

SINGLE BENCH CLASSES.

Twelve classes were provided for these, and in the majority of them competition was very keen and the flowers of a very high standard of excellence. The most successful exhibitors were Mr. THOMAS JONES, of Ruabon, and Mr. W. MARPLE, of Penkridge. Mr. JONES staged the winning flowers in the following classes: Scarlet or crimson, King Edward VII.; orange, Henry Eckford; yellow or buff, Clara Curtis; maroon, Black Knight; and striped, flaked, or mottled, Helen Pierce. Mr. W. MARPLE was awarded 1st prizes in the undermentioned classes: White, Nora Unwin; bluish or pink, Paradise; and fancy, Sutton's Queen. Other 1st prize winners in this section were W. L. S. LOAT, Esq. (gr. Mr. Jas. Webb), and Mrs. EVANS, Newbridge Crescent, Wolverhampton (gr. Mr. R. Maybury).

DECORATIVE CLASSES (TRADE EXCLUDED).

Six tables, each measuring 8 feet by 4 feet, decorated with Sweet Peas, were before the lady judges, who awarded the 1st prize to Mr. W. MARPLE for a pleasing display of pink flowers relieved with sprays of Schiedea and fronds of Adiantum cuneatum. 2nd, Mrs. F. C. WOODWARD, Wolverhampton.

The last-named exhibitor brought the best epergne of Sweet Peas, and Mr. W. JONES, Tettenhall, had the best arranged bowl of similar flowers.

SPECIAL PRIZES.

Messrs. Baker offered prizes in two classes, one for 12 varieties and the other for six varieties. There were nine exhibits in the first class, and seven exhibits in the second class. Mr. W. MARPLE showed the best collection of 12 varieties, having handsome flowers borne on strong stems. The varieties were St. George, Janet Scott, Queen Alexandra, Mrs. Collier, Lord Nelson, Jeannie Gordon, Phenomenal, Countess Spencer, Dora Breadmore, Helen Lewis, Nora Unwin, and John Ingman. 2nd, Mr. T. JONES.

In the class for six varieties Mr. T. DAVIES, Grange Road, Tettenhall, was placed 1st with excellent flowers of Countess Spencer, Nora Unwin, Dorothy Eckford, &c.

Prizes offered by Messrs. Alee, Burpee & Co. were for six varieties of the Countess Spencer type, and some very fine flowers were exhibited. The 1st award went to Mr. W. MARPLE, whose flowers were Constance Oliver, White Spencer, Countess Spencer, Primrose Spencer, John Ingman, and Elsie Herbert. 2nd, Mr. T. JONES.

Mr. Henry Eckford's prizes were for 12 varieties shown in 12 vases. Three prizes were offered in each class, and some very fine flowers were shown.

Miss H. Hemus offered prizes in two classes, for the best vase of either Evelyn Hemus, Paradise Carmine, Paradise Ivory, White Paradise, or Paradise Regained. The 1st prize was well won by Mr. W. MARPLE, who had grand flowers of Evelyn Hemus. 2nd, Mr. W. S. HESLINGTON.

Mr. Robert Sydenham offered prizes for nine varieties. Mr. T. JONES was placed 1st. He had superb flowers of Mrs. Hardcastle Sykes, Mrs. Collier, Frank Dolby, Countess Spencer, Helen Lewis, and King Edward VII. Mr. R. Sydenham also offered prizes for the best vases of Miss Millie Maslin and Herbert Smith. The 1st prize in each class went to Mr. W. MARPLE and Mr. T. JONES respectively. The last-named exhibitor won the 1st prize in a class for six varieties provided by Mr. W. J. Unwin.

Messrs. Webb's prizes were for nine varieties, and the 1st prize was won by ALFRED ASHWORTH, Esq., Horsley Hall, Gresford (gr. Mr. H. Shaw).

In a class for six varieties in which the prizes were provided by Mr. Horace J. Wright, there were four entries. Mr. W. MARPLE won the 1st prize with splendid flowers of St. George, Primrose Spencer, Queen Alexandra, Phenomenal, Helen Lewis, and Nora Unwin.

Special prizes were also offered by several other seedsmen.

NON-COMPETITIVE EXHIBITS.

Messrs. DOBBIE & Co., Rothsay, had an assortment of new and old varieties of Sweet Peas arranged in vases and tall Bantam stands. The most noteworthy were St. George, E. J. Castle, Princess Victoria, David Cuthbertson, James Grieve, Nora Unwin, Evelyn Hemus,

Prince Olaf, Helen Lewis, John Ingman, and Countess Spencer. (Silver Medal.)

Messrs. W. H. SIMPSON & SONS, Birmingham, had a prettily arranged group, in which the varieties Elsie Herbert, King Edward, Frank Dobby, Olive Bolton, Sutton's Queen, Mrs. Charles Foster, Mrs. Hardcastle Sykes, Queen Alexandra, Mrs. Henry Bell, A. J. Cook, Henry Eckford, and St. George were shown. (Gold Medal.)

Mr. ROBERT SYDENHAM, Birmingham, had rustic stands decorated with Sweet Peas of good quality. (Silver Medal.)

From Messrs. JONES & SONS, Shrewsbury, came a large number of well-grown varieties. (Gold Medal.)

Messrs. G. STARK & SON, Great Ryburgh, sent a collection of the more notable varieties. (Silver Medal.)

Mr. JOHN E. KNIGHT had a large collection displayed in vases and bamboo stands, relieved with Asparagus and Gypsophila. (Silver Medal.)

Messrs. BAKER'S, Wolverhampton, in an artistically-arranged group showed the best of the old varieties and quite a number of recently-introduced varieties. (Gold Medal.)

Mr. C. W. BREADMORE, Winchester, sent a group of well-grown varieties. (Gold Medal.)

Messrs. T. B. DOBBS & Co., Wolverhampton, had vases, baskets, and bouquets of Sweet Peas. (Silver Medal.)

BISHOPS STORTFORD HORTICULTURAL.

AUGUST 3.—The annual show of the above Society was held on August Bank Holiday, and a large number of visitors attended. The displays of fruits and vegetables were excellent, but Roses appeared to have suffered from the great heat. The best blooms came from the gardens of T. E. CROFT, Esq., Stanstead Abbots, Ware, Herts., and easily secured the 1st prize. Some splendid Phloxes were seen. The 1st prize for a collection of 12 distinct kinds was awarded to Mrs. W. GEE, Elmhurst (gr. Mr. W. Wilkinson). The collection contained a new variety named W. Wilkinson, to which a First-Class Certificate was awarded; the colour is rose with a white centre. Collections of herbaceous flowers are generally a feature at this show, and those staged this year were no exception to this rule. Messrs. PAUL & SON, Cheshunt, again secured the 1st prize with a grand display in the class for 24 distinct kinds. Their Phloxes were very fine, also Scabiosa caucasica alba, Chrysanthemum King Edward, Aconitum pyrenaicum, and Platycodon grandiflora.

The best group of plants arranged for effect was staged by Mr. Vert (gr. to the Rt. Hon. Lord HOWARD DE WALDEN, Audley End, Saffron Walden). He utilised Codium (Crotons) grandly coloured, Lilium auratum, Dracena Lindenii, and other foliage plants, tastefully arranged. Begonias in pots were very good, some fine varieties being staged, evoking strong competition. The premier award was made in favour of JOHN BARKER, Esq., M.P. (gr. Mr. G. Beech), The Grange, Bishops Stortford. Miss E. SPENCER, Stanstead, won the 1st prize in the class for table decorations. She utilised Ruby Castle Carnation, and grasses in low glasses. Mrs. VERT, Audley End, was 2nd with a beautifully-arranged table of Odontoglossum crispum lightly disposed.

Fruit was well shown in most classes; the best collection was shown by Col. ARCHER HOBLOUN (gr. Mr. Harrison), Hallingbury Place, Bishops Stortford. The exhibit contained grand bunches of Muscat of Alexandria and Muscat Hamburg Grapes, also good Peaches, Nectarines, and a Melon.

Vegetables occupied a considerable space, and were generally of good quality; the premier award for a collection of 12 varieties was secured by J. B. BALFOUR, Esq. (gr. Mr. Jeffries), Moor Hall, Harlow, Essex.

Groups of plants and cut flowers contributed by well-known growers not for competition form a leading feature of the show. In these exhibits there were excellent specimens of most of the hardy plants now in flower, as well as of species that need cultivation indoors.

MARKETS.

COVENT GARDEN, August 5.

[We cannot accept any responsibility for the subjoined prices. They are furnished to us by the principal vendors, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the sample, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Ed.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d.	s.d.
Alstromerias, per doz. bunches	20-30	
Asters, p. dz. bchs.	20-30	
Calla aethiopica, per dozen	26-40	
Carnations, per dozen blooms	10-16	
best American	10-16	
various	0-9-16	
—second size	0-9-16	
—smaller, per doz. bunches	10-12-0	
—Malmaisons, p. dz. blooms	60-90	
—border varieties, p. dz. bunches	30-60	
Catleyas, per doz. blooms	8-10-00	
Corymbid, per doz. bunches	16-26	
Cypripediums, per dozen blooms	20-26	
Eucharis grandiflora, per doz. blooms	40-50	
Gaillardias, per dz. bunches	16-26	
Gardenias, per doz. blooms	16-30	
Gladioli Colvizi vars., per doz. bunches	60-90	
—Brecheinies, per doz. spikes	16-26	
Gypsophila per doz. bunches	20-30	
Iris, per dozen bunches	30-60	
Lilium auratum	10-16	
—candidum	20-30	
—longiflorum	20-30	
—lancifolium	20-30	
—alba and rubra	20-30	
Lily of the Valley, p. dz. bunches	60-90	

Cut Foliage, &c.: Average Wholesale Prices.

	s.d.	s.d.
Adiantum, emmentum, p. dz. bchs.	40-60	
Asparagus plumosus, long trails, per doz.	80-120	
—medium, per bunch	10-20	
—Sprengeri, per doz. bunches	0-9-16	
Berberis, per doz. bunches	26-30	
Croton leaves, per bunch	10-13	
Cycas leaves, each Fern, English, per dozen bunches	20-30	
—French, per dz. bunches	10-30	

Plants in Pots, &c.: Average Wholesale Prices.

	s.d.	s.d.
Ampelopsis Veitchii, per dozen	60-80	
Aralia Solandieri, per dozen	40-60	
—larger	90-120	
—smaller	60-120	
Araucaria excelsa, per dozen	120-300	
Aspidistras, p. dz.	15-20-40	
—variegated	30-40-20	
Asparagus, p. dz.	10-12-0	
—plumosus	90-120	
—Sprengeri	60-90	
—Festiva, p. dz.	90-120	
Calceolarias, p. dz.	60-80	
Campylobasis isolifolia, Blue, per dozen	40-60	
—white, per doz.	40-60	
Clematis, per doz.	80-90	
Cocos Weddelliana, per dozen	180-300	
Crassulas, per dozen	80-120	
Crassulas, per dozen	180-300	
Cyperus alternifolius, per dozen	40-50	
—latus, per doz.	40-50	
Pracinas, per doz.	0-20-40	
Eryas, per dozen	0-10-20	
Eunymus, per doz.	40-90	
Ferns, in thumbs, per 100	60-100	

Plants in Pots, &c.: Average Wholesale Prices (Cont'd.)	s.d.	s.d.
Rhodanthe, per dz.	40-60	
Roses, Ramblers, each	20-50	
—hybrid, per petal, p. doz.	90-180	
Scabiosas	20-30	

Fruit: Average Wholesale Prices.

	s.d.	s.d.
Apples (English), per half sieve	20-40	
—Australian, 30-40		
—New York Pippin	80-110	
—Turner Pippin	8-10-00	
Apricots (French), per box	0-9-10	
—per sieve	40-50	
Bananas, bunch:		
—No. 1 Canary	60	
—No. 2	60-76	
—Satra	80-90	
—Guineas	100-120	
—(Claret)	50-76	
—Jamaica	50-76	
—Loose, per dz.	0-9-18	
Cherries (English), per ½ sieve	60-110	
—apoclon	60-110	
—Flemish	60-110	
—Turks	50-76	
—Waterloo	40-66	
—Black Eagle	50-66	
—Ambers	40-60	
Cranberries, case	80-90	
Currants (English), red, per ½ sieve	30-40	
—white, per ½ sieve	40-50	
—black, per ½ sieve	60-76	
—(French), black, ½ sieve	60-76	
Dates (Tunis), doz.	40-46	
—boxes	40-46	
Figs (English), per box	20-60	
—(Guernsey), p. doz.	20-80	
Gages (French), per ½ sieve	30-60	
—per box	0-8-16	
Goshieries (English), ½ sieve	20-40	
Grape Fruit, case	80-120	

Vegetables: Average Wholesale Prices.

	s.d.	s.d.
Artichokes (French), per dozen	16-19	
Beans, Broad, per bushel	0-3-0	
—(English), runners	0-3-0	
—Guernsey, p. lb.	0-3-0	
—Carlet, per basket	30	
Beetroot, per bushel	13-16	
Cabbages, per tally	16-20	
—Greens, p. bag	10-16	
Carrots (French), per bunch	0-2-0	
—per tally	50-60	
Celery, per roll	16	
Celeriac (French), per dozen	20	
Chicory, per lb.	0-3-0	
Chow Chow (Szechuan), per dozen	30	
Cucumbers, per roll	16-20	
—per dat	50-60	
Endive, per dozen	10-16	
—French, per dozen	90-100	
—bundles	10-16	
Leeks, 12 bundles	10-16	
—Leeks (English), per dozen	0-8-10	
Marrow (English), per tally	30-40	
Mint, per dozen bunches	10-16	

REMARKS.—Home-grown Tomatoes are arriving in much larger quantities than last year, and the quality is of the past week. Prices for these have fallen considerably. Kentish Cherries are realising good prices, especially Bigarreau Napoleon. English Plums are coming in, and cheap. There are large consignments of French varieties. During the past week some very fine Washington Navel Oranges arrived from Natal and realised high prices. E. H. K., Covent Garden Market, Wednesday, August 5, 1908.

Potatoes.

	s.d.	s.d.
Kent's Snowdrops	46-50	
—Sharpe's Express	39-40	
—Puritan's Express	36-40	
—Bedfords	33-40	
—Puritan's	33-40	
—Essex	30-36	
British Queens	36-40	

REMARKS.—Trade remains very quiet. Edward J. Newborn, Covent Garden and St. Pancras, Aug. 5, 1908.

COVENT GARDEN FLOWER MARKET.

Holidays disorganise all trades, but none more than the flower business. Cheap hardy flowers are selling fairly well, but the London florists generally are experiencing a dull

season, many of their customers being on holiday. Many of the growers and salesmen are themselves also taking holiday, and the market, in consequence, presents a deserted appearance. There will not be any considerable improvement until the second week in September. Orders received from the provinces constitute the chief trade.

CUT FLOWERS.

Some growers of Sweet Peas inform me that they have done fairly well this season, but all say prices are much lower than in previous years. Those who have kept to the most distinct shades of red, mauve, pink, and purest whites, have done best; my attention recently was directed to Nora Unwin variety, but I cannot recommend it for the present season in plantations. Dorothy Eckford, this latter variety having much more substance in the petals. Frank Dolly may prove a useful mauve variety, but Lady Grisel Hamilton will remain a favourite, and it will require something exceptionally good to displace Miss Willmott from public favour, for, in addition, to the pleasing shade of colour, I know of no other Sweet Pea which keeps better after it is cut. There has been a great drop in the prices for Chinese Asters, for they are over plentiful, many being received from abroad. *Gypsophila paniculata* is now well in flower. *G. elegans* is also very good. *Saponaria vaccaria* of the rosy-pink variety is also extensively grown. Border Carnations are abundant, but they are not so much appreciated as the American varieties, their value is about half that of a few years ago. Prices for the best American varieties are very low. *Roses* vary considerably; the best blooms are sold fairly well, but supplies of smaller blooms have been excessive. *Gladioli* of various sorts are good and cheap. *Gaillardia*, *Scabiosa*, the large single white *Chrysanthemum*, and *Statice* of various sorts are at their best. *Lavender* is a prominent feature, and street hawkers buy this in preference to other flowers. *Gardenia*, *Eucharis*, and *Stephanotis* are not abundant.

POT PLANTS.

It is now very uncertain what may and may not be procured. Rambler *Roses* in various sizes have been very good, but few Hybrid Perpetual *Roses* are seen. *Fuchsias* are in flower, and *Chelidonium* are good, but there is no demand for them. Many *Coels* are cleared out at prices which can barely pay for the pots and soil. *Lilium longiflorum* is more plentiful than last year. *Lilium* I noted some extra fine plants of *L. rubrum*; good ivy-leaved varieties are not over plentiful. *Foliage plants* vary but little, except that growers who had not stands partially filled with bedding plants have them now occupied with *Furra*. A. H. Covent Garden, Wednesday, August 5, 1908.

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Aug. 1, is furnished* from the Meteorological Office:—

GENERAL OBSERVATIONS.

The weather.—Over the United Kingdom generally the weather was fine, warm and dry. Frequent slight falls of rain were, however, experienced on our extreme western and northern coasts, and on some occasions the showery weather extended over considerable portions of Ireland, Scotland and Wales, as well as some parts of northern and central England.

The temperature was slightly below the average in Scotland, the north-west of England and the north of Ireland; elsewhere it was above the normal. The highest reading was 82° in the middle of the period, in the north-western parts of the Kingdom the thermometer did not reach 75°, and in the north of Scotland it did not reach 70°. But at many places in eastern, central and southern England the maximum readings on the 28th were above 80°, the highest value reported being 83° at Glaston and Ruislip. The lowest readings were observed mainly on July 29 and August 1. In some parts of Scotland and southern England the sheltered thermometer on one or other of those occasions fell below 40°, and in Scotland (E. Balmerhol) it fell to 35°, the surface of the ground a slight frost occurred on the night of the 28th in several parts of Scotland and central Wales, the exposed thermometer going to 32° at Balmerhol, to 30° at Llangamarch Wells and to 31° at Crathes.

The mean temperature of the sea.—Around Ireland and on some parts of our north-east coasts the sea water was cool, about 50° to 55° Fahr., but on the south and west coast of Great Britain generally it was somewhat warmer.

The rainfall was very deficient over the country generally, many stations in eastern, central and southern England recording no rain during the week, and on the north-west and west of Scotland, however, about half the average quantity was recorded.

The bright sunshine was generally in excess of the average, but in most of the northern districts the excess was small, and in Scotland N. there was a slight deficiency. Over the major part of the Kingdom the duration was very large, more than 60 per cent. of the possible amount being recorded in the Midland Counties and in England S.W., and more than 70 per cent. in England E. and S.

THE WEATHER IN WEST HERTS.

Week ending August 5.

Another warm, dry and sunny week.—The days again proved very warm, the highest temperature of the thermometer screen on each day not exceeding 70°, and on two of them rising as high as 82°. On the other hand the nights were, as a rule, very cool. For the first time of the year, on the coldest night the thermometer exposed on the surface of the lawn fell to within 4° of the freezing-point. Both at 1 and 2 feet deep the ground is at the present time about 3° warmer than in the season of 1907. No rain has now fallen for more than a fortnight, and no rainwater at all has passed through the bare percolation gauge for several days. The record of bright sunny days is now 14, and the number of hours of the mean daily duration amounting to as much as 14½ hours, which is five hours a day in excess of a seasonable quantity—making this the brightest week as yet of the present

summer. Calms and light airs again prevailed. The mean amount of moisture in the air at 3 p.m. was 8 per cent. less than a seasonable quantity for that hour.

JULY.

Seasonable in temperature and rather dry.—Taken as a whole this proved a July of about seasonable warmth. During the first week and the last ten days the weather remained warm, but during the intervening fortnight there did not occur a single unseasonably warm day. On the warmest day of the month the temperature in the thermometer screen rose to 88° and on the coldest night the exposed thermometer fell only to 40°. The latter is, with two exceptions, the highest extreme minimum reading I have recorded in July during the 22 years over which my records at Berkhamsted extend. Rain fell on 14 days, and to the aggregate depth of 2½ inches, which is slightly in defect of the mean for the month. No rain at all fell during the last 12 days. The sun shone on an average for 6½ hours a day, or for as nearly as possible its usual duration in July. The winds were a rule light, and in no hour did the mean velocity exceed 15 miles—direction W.S.W. The average amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by 3 per cent. E. M., Berkhamsted, August 5, 1908.

GARDENING APPOINTMENTS.

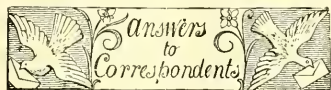
Mr. R. DOE, for 3 years Gardener to the Earl of Suffolk, Charlton Park, Malmesbury, as Gardener to MARTIN J. SUTTON, Esq., Holme Park, Sonning, Berkshire.

Mr. F. DEANEY, Gardener to A. H. FULCHER, Esq., Redenham Park, Andover, and 6 years previous Gardener at Scotsburgh House, Rickmansworth, Herts, as Gardener to G. E. GRIBBLE, Esq., Biddesden House, Andover, Hants.

Mr. H. WELLS, for the past 13 months Inside Foreman in The Gardens, Perry Hall, Birmingham, as Gardener to H. H. JOY, Esq., Olton Hall, near Birmingham.

Mr. A. HOUGH, for the past 14 years Gardener to the late Mrs. W. H. ELLIS, Ansty Grange, Leicester, as Gardener to FRANCIS N. ELLIS, Esq., Debdale Hall, Mansfield, Notts. (Thanks for 2s. 6d. sent for R.G.O.F. box.)

Mr. E. C. HENK, Foreman at Hopedene Gardens, Holford, Yorks, as Gardener to E. A. MARY, Esq., Holmbyre, St. Mary, Surrey, as Gardener to E. A. MARLOW, Esq., Preston Deanery Hall, Northamptonshire.



ASTER: J. J. T. There is no fungus disease present, and it is impossible for us to determine the cause of failure.

BEECH LEAVES: E. W. K. The spots on the leaves are caused by a mite called Phytomyces. They were at one time considered to be fungi until shown to be a minute kind of gall.

BLACK HAMBURG GRAPES: *Anxious*. From the few particulars you have given regarding the Black Hamburg vines it is difficult to give positive reasons for their differing from each other with respect to their fruiting and manner of growth. If the vines were of the same age and of a similar degree of health when planted, and the borders throughout are of like formation and dimensions, it is singular that the vines should exhibit such diversity of character, provided they are all of the same kind of Hamburg, and are all growing on their own roots. It is well known that, if a vine is inched or otherwise worked upon another variety, the work itself considerably alters its character—in some instances improving it. Your vines may represent two distinct varieties, possibly the true Black Hamburg, which is commonly grown, and Mill Hill Hamburg. The latter, under some conditions of culture, makes very gross growth, its leaves being large and its wood difficult to thoroughly mature as compared with the true Black Hamburg. Old vines of Mill Hill Hamburg yield perfectly black berries of ordinary size, but the variety is less satisfactory whilst the vines are young.

CARNATIONS: J. S. and X. Y. Z. The roots appear to have been watered off, or to have decayed at the point where the plants were layered. From the specimens themselves, it is impossible to determine the exact cause. The soil may contain wireworms.—W. J. R. Your flowers appear to be varieties of what are known as 'Marguerite' Carnations, a type which is very easily raised from seeds, and one which has great garden value.

CELERY LEAF SPOT: A. W. The spots on the leaves are caused by a fungus known as Septoria. The diseased leaves should be burnt, and the plants syringed with the Bordeaux mixture.

CREOSOTE BOARDS: J. B., Latham. The introduction of freshly-creosoted boards into a vinery or Peach-house may have detrimental effects upon the crops. If creosoted boards are to be used, they should be exposed in the open air for some weeks before introduction into the houses.

CUCUMBER LEAF SPOT: L. H. The spots do not appear to be caused by the spot mould. As no fungus is present, probably the failure is from the presence of excessive moisture.

DIANTHUS: *Correspondent*. No. 4 is a form of *Dianthus plumarius*, the garden Pink; it is not so deeply fringed as the wild form. (5) This may be *Dianthus superbus*, which does not flower before August. The flowers are white or rose coloured, but they were too much faded to be recognised with certainty.

FOXGLOVE: A. B. The common Foxglove (*Digitalis purpurea*) is generally considered a biennial plant, although it may occasionally live for a longer period. In these circumstances, the judges can hardly be blamed for disqualifying an exhibit of Foxgloves in a class which excluded any but perennial plants.

FRENCH GARDEN: J. D. We cannot undertake the responsibility of advising you in regard to the offers you have received. So much depends upon the probity and conscientiousness of the person with whom you would enter into a kind of limited partnership. As neither business is yet established, there should be some guarantee for the safe investment of the money.

GARDENER'S DUTY: H. G. We do not know of a rule by which a foreman or journeyman cannot be considered on duty after 6 p.m. The rule in most gardens is that some of the journeymen have to be on duty during the whole of the evening. The day's work is supposed to terminate at the usual time for the workmen in that particular garden to leave their duties, and any duty that has to be performed after that time should be considered extra to the day's work, and be paid for.

GAS WATER: W. P. We do not think that gas water is of sufficient garden value to recommend it for watering crops in a diluted condition.

GREENHOUSE IN WINTER: W. G. T. It is impossible to give you a precise answer owing to the fact that you have not stated the dimensions of the greenhouse. If the subjects in the house are ordinary greenhouse species, and you provide the structure with means of maintaining an atmospheric temperature of 40° during severe frost in winter, this will suffice, but what amount of water apparatus and boiler power will be necessary must depend upon the number of cubic feet of space to be heated.

HELIXE SILESTRIOLI: E. C. C. D. This mail-growing plant is the sole member of the genus, and is a native of Corsica and Sardinia. It belongs to the N. O. Urticaceae, and, in common with most plants of that order, the flowers are small and insignificant. It much resembles the general appearance of our native *Silphio europaea*, but the leaves are more deeply lobed. The plant has not been long grown in gardens in this country, but its culture is spreading, as it forms a valuable subject for carpeting the surface of a pot or bare places on the floor of a plant house.

NAMES OF PLANTS: J. M. Please send the *Sedums* when the plants are again in flower. It is next to impossible to name them in their present condition. The *Nierembergia* is infested with a mildew, but it has nothing to do with the fungus that causes the spot disease of Cucumbers.—H. G. 1 and 2, *Crepis* species, probably *C. virens* and *C. hiemalis*; 3, *Eccremocarpus scaber*; 4, *Equisetum arvense*; 5, *Veronica sp.*; 6, *Lotus corniculatus*.—W. B. *Echium vulgare*.—E. W. R. 1 and 3, *Lonicera japonica* var. *flexuosa*; 2, *L. japonica* *italiana*; 4, *Rubus odoratus*; 5, *Asclepias tuberosa*.—Vitis. 1, *Liana ensifolia*; 2, *Epilobium angustifolium* album; 3, *Clematis vitalba*; 4, *Veronica incana*; 5, *Sedum spurius*; 6, *Helenium pumilum*.—J. P. *Liastris spicata*; 2, *Franco appendiculata*; 3, *Atragene alpina*; 4, *Lathyrus*, not in flower; 5, *Nepeta Glehoma*; 6, *Campanula pumila*.

alba; 7, *C. gargarica*.—*A. B. H.* You should have numbered each specimen; a numbered list is quite insufficient: we have, however, done our best; 1, *Polygonum compactum*; 2, *Linaria* sp., no flowers remained; 3, *Gentiana Regillii* alba; 4, *Campanula nitida*; 5, *C. pusilla*; 6 and 9, specimens withheld; 7, *Dianthus cruentus* var.; 8, *Zygadenus elegans*.—*C. O. V.* 1, *Senecio Jacobaea*; 2, not recognised; 3, *Betula nigra*; 4, *Campanula rotundifolia*; 5, *Prunella vulgaris*; 6, *Galium mollugo*.—*A. C. Bartholomew.* 1, *Pentstemon* sp.; 2, *Gentiana cruciata*; 3, probably *Brachycome iberidifolia*. *E. C. C. D.* *Veronica Lyallii*.—*J. T. J.* *Michauxia campanuloides*, a biennial species. —*A. J.* *Castanea Sativa* (perhaps var. *prolifer*). The Spanish Chestnut varies greatly in minor details of leaf.—*Dyfanus.* *Indigofera Dosua*.—*C. S.* 1, *Adiantum fulvum*; 2, *Jacobinia (Justicia) carnea*.—*E. H.* *Hyoscyamus niger*; *Henbane*.

NETCANE EARLY RIVERS: W. C. The skin is shrivelled owing to exposure to bright sunshine whilst condensed moisture was on the fruits. You must ventilate the house early in the morning, that the fruits may become dry before the sun gains much power. A fruit to every 9 inches or one foot of space is considered a satisfactory crop, but many cultivators crop their trees much more freely and endeavour to keep the trees in a healthy condition by supplying them with a greater quantity of nutrition than would be given were the crop less plentiful.

PEACH LEAVES: M. W. The leaves are affected with the Shot-hole fungus (*Cercospora circumscissa*). Next season spray the trees with the ammoniacal solution of copper carbonate just when the leaves are expanding, and repeat the spraying at intervals. This is prepared by taking of copper carbonate 1 ounce, carbonate of ammonia 6 ounces, and water 16 gallons. Mix the carbonate of copper and the carbonate of ammonia, and dissolve it in about a quart of hot water. When thoroughly dissolved add 16 gallons of cold water.

CROSS BETWEEN BLACK CURRANT AND GOOSEBERRY: H. W. K. A hybrid between the Black Currant and Gooseberry was described in the *Gardeners' Chronicle*, September 3, 1892. We reproduce the illustration that accompanied that description at fig. 45, and it will be seen that your plant presents some interesting features in which it differs from the former hybrid. The fruits are somewhat similar, except that in the 1892 hybrid they were somewhat hairy (though this character was accidentally omitted in the figure), but whereas in that specimen the general resemblance was rather towards the Currant, your hybrid is decidedly inclined to the habit of the Gooseberry. This is shown by the smaller leaves, and especially by the presence of numerous prickles or thorns, which were absent in the former examples. The green shoot has an unmistakable odour of the Black Currant, and the flavour of the latter is also perceptible in the fruits, which are very little larger than good-sized Currants.

PEARS: E. W. The Pears are affected with the ordinary Pear scab, *Pseudocaulis pyrinum*, a disease difficult to eradicate if once it is held (*Gard. Chron.*, Nov., 1885, figs. 155, 156). Gather and burn all diseased fruits. In the early spring spray with sulphate of iron. When fruit is set, apply Bordeaux mixture.

PEAS: J. W. The specimens afford no clue to the cause of failure. There must be some local cause, due to faulty treatment or otherwise.

PLANE TREE: W. P. You might spray the trees with an insecticide, but it is very difficult to treat large trees successfully.

RED CURRANTS: Ethel M. E. There is nothing at fault in the cultivation, for we do not see how this would affect the setting of the crop. Climatic conditions were evidently favourable to the proper fertilisation of the flowers, therefore most of the fruits had their proper number of developed seeds. You do not state what variety you cultivate, but perhaps it would be possible to choose a variety which usually develops few seeds, as is done in the case of Tomatos and many other fruits.

SHRUBS FOR A NORTH-WEST WALL: B. L. Of those you name, *Schizophragma hydrange-*

oides and *Spiraea Lindleyana* are quite hardy and capable of flowering well in the Midland counties. *Bupleurum fruticosum* is rather tender and shy in blooming; *Choisya ternata* grows freely, but only flowers satisfactorily after hot summers. It is, however, worth growing, for the sake of its handsome, glossy, green foliage. *Eriobotrya japonica* is not hardy. The undermentioned shrubs are hardy and likely to answer your purpose:—*Hamamelis arborea*, a Japanese Witch Hazel, bearing small flowers composed of narrow, wavy, golden-yellow petals and claret-coloured calyces in February; *H. mollis* is another species of much merit. *Prunus triloba*, one of the loveliest of spring flowering shrubs, is perfectly hardy. Its semi-double rose-pink flowers wreath the long, slender shoots on which they are borne. *Indigofera Gerardiana* produces a wealth of rose-purple pea-shaped flowers in July quite distinct from everything else. *Staphylea Coulombieri* bears flowers similar to those of the better-known species

sporum solani). Cut away any diseased foliage and fruit and burn them. Afterwards spray the plants occasionally with potassium sulphide. This is made by employing 2½ gallons of water and one ounce of potassium sulphide. Dissolve the potassium sulphide, or liver of sulphur, as it is often called, in a quart of hot water, then make it up to 2½ gallons with cold water. It should not be allowed to come into contact with paint, or it will turn it black. *Correspondent.* Tomato fruits frequently crack owing to improper regulation of the cultural conditions; the property, therefore, in such cases is not likely to be hereditary. The skins may, however, crack owing to the presence of fungus or from some other cause. It is best to take no risk, and we should therefore recommend you to save your seeds from fruits of the most perfect form, having solid flesh, good flavour, few seeds, and which have not cracked their skins. **TULIP ROT: S. W.** The bulbs are originally rotted by a mould named *Botrytis*, which in



FIG. 45.—HYBRID BETWEEN BLACK CURRANT AND GOOSEBERRY.

S. celchica, from which it differs by reason of its larger flowers borne in longer racemes. *Xanthoceras sorbifolia* is an uncommon shrub from China, with small white flowers blotched with purple at the base. They are borne in erect racemes. *Halesia tetrapetala* (Snowdrop tree) bears great quantities of snow-white drooping flowers in April and May. *Exochorda Albertii* is by no means well known. It is very handsome and quite hardy; the flowers are single and white. *Azara microphylla* is remarkable for its long, flat, arching shoots and tiny, deep-green leaves and great profusion of small, sweet-scented, greenish-coloured flowers. *Akebia quinata* is of free growth and produces pale, purple flowers in March and April. *Escallonia Philippiana*, a small white-flowered species from Valdivia, and *E. Langleyensis*, a hybrid between the last-named species and *E. sanguinea*, should be included. Both are hardy, and blooming freely. *Elaeagnus pungens aurea* is one of the showiest and hardiest of evergreen shrubs. *Buddleia variabilis Veitchiana* is a grand plant, with long spikes of bright mauve flowers.

SILVER LEAF: F. W. Appears to be the silver leaf disease, but we are unable to recommend a remedy.

TOMATO: R. R. Lancaster. Your plants are affected with the Tomato Black Rot (*Macro-*

your specimens is succeeded by the common blue mould on the leaf tissues. We would recommend the burning of all the diseased bulbs, and sterilising the soil. Bulbs should not be planted on the same patch for a year or two afterwards.

VINES: Enquirer. To vaporise vines with the X.L.-All vaporising compound after the Grapes are colouring would probably leave a distasteful flavour on the fruit, though it would not otherwise cause injury to the vines. Vines, while making growth, should not have their leaves syringed during the time they are exposed to powerful sunshine. Up to the time the blossoms expand, syringing of the leaves should be done on fine days early in the morning, before the sun gains much power, and again early in the afternoon when the house is closed for the day, but after the flower-buds open the amount of atmospheric moisture necessary should be created by damping the ground surface and paths inside the house.

COMMUNICATIONS RECEIVED.—J. O'B.—S. B., Berlin.—T. J.—W. A. S.—W. E. G.—J. J. W.—W. Batchelor (under consideration)—W. B.—W. J. W.—H. A.—H. C.—J. McG.—Reader.—E. B.—A. S. R.—W. S.—H. S.—T. L.—A. D.—J. C. & Co.—W. & R.—W. C.—H. W.—R. P. B.—T. C.—F. J.—T. S.—F. M.—F. B.—Dr. A. B.—R. T. H.—R. B. V. & Co.—Rev. D. R. W.—E. M. N.—C. T. D.—T. S.—Sir E. G. L.—H. W.—F. K. Darmstadt.—G. W.—G. B.—W. R. C.—D. P.—J. T.—T. & Co.—T. S. G. S.—H. R. G.—E. V. A.—W. S. B.—T. C.—T. E.—W. E. B.



From a drawing by Mr. Worthington Smith.

DENDROBIUM BRYMERIANUM, "GATTON PARK VARIETY"; FLOWERS YELLOW.



THE

Gardeners' Chronicle

No. 1,129.—SATURDAY, August 15, 1908.

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leaves known as *Septoria Lycopersici*. It was discovered by Spegazzini as long ago as 1884 in the Argentine, the home of the Tomato. Soon after the introduction of this fruit into Australia, the disease appeared there also, and it followed the Tomato wherever it was introduced subsequently. Thus it is known in Italy, France, Germany, Scandinavia, and has arrived now in England. Whether it is going to stay here and be allowed to spread will depend upon the importance the reader attaches to this report.

From the following experiments it can be gathered how virulent the disease is in its attacks, and how quickly it is capable of effecting complete destruction.

Diseased parts of a leaf were placed into a small bottle containing water. The germination of the spores of the fungus present took place within six hours. This water, containing spores in abundance, was sprayed on a healthy Tomato plant on August 11. On August 16 the first spots were noticed, and by August 20 the whole plant was attacked. The disease did not confine itself to the leaves in my experiment, the stem, the shoots, the calyx, and the young fruits were also attacked, showing spots of the same appearance as on the leaves.

magnification with a pocket lens the observer can recognise in these decayed patches a number of very minute, inky-black, raised pustules (see fig. 46b and c). These pustules are the fruiting portions of the fungus, being small black conceptacles filled with numerous long, needle-shaped spores, which are divided in from five to twelve divisions (see fig. 46b). When the spores of the fungus are ripe, they are shed and contaminate the whole house, including even the wood, glass, wire and stakes.

One of the main points in curing a disease is the application of common-sense to the particular circumstances, and now that the story of the fungus is told, the measures I suggest for use against it may be improved upon by cultivators with experience gained in combating similar diseases.

If a whole house is infected, pull up all plants and burn them immediately, outside the house, using plenty of straw, &c. Take care not to carry the diseased plants about too much, or the spores will be disseminated. Next remove systematically about 6 inches of the top soil from the borders, and mix it well with quicklime—to every five barrowful of soil add one barrowful of lime. This soil may safely be put back again after the lime

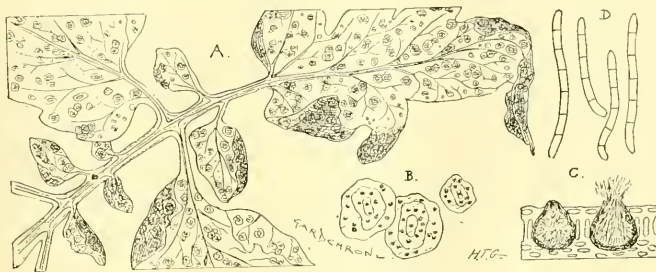


FIG. 46.—SEPTORIA SPOT ON TOMATO LEAF.

A, affected leaf; B, magnified portions of leaf showing pustules; C, cross-section of leaf, through pustules, magn.; D, spores, magn.

SEPTORIA SPOT.

A NEW FUNGUS DISEASE OF TOMATOS.

WITHOUT wishing to unnecessarily alarm the growers of this important fruit, I must call their attention to the appearance of a new pest which is likely to become the most serious and destructive among Tomatos unless preventive measures are adopted.

In July last year, I was asked to investigate a leaf-disease of Tomatos that in Gloucestershire has destroyed a crop of out-door Tomatos within a very short time. The disease was investigated and subsequently the results were published in Vol. xv., No. 2, May, 1908, of the *Journal of the Board of Agriculture*. This year the disease has made its reappearance, attacking seedling plants and fruiting plants indoors. The leaves of the affected plants become discoloured in parts, till they reach, finally, a greenish-black tint, when they hang limp from the plant. In a short time the plants are killed.

There is a fungus present on the disease I

Within five days from spraying, ripe spores were produced on the infected plant, and after twelve days the plant died. The plants used for experiments were strong, healthy specimens about 3 to 4 feet in height; others not inoculated for comparison bore a number of good fruits.

I append a short description of the fungus, and suggest "Septoria spot" as a popular name to distinguish this disease of the Tomato from any other.

When the disease is first noticed, it is on account of a number of scattered, concentric spots of a blackish-green colour appearing on the surface of the leaves. Soon these spots enlarge (see fig. 46a) and new ones appear, thus they become confluent, and finally larger patches of dark tissues are noticed, which eventually are distributed over the whole leaf, which becomes totally black. These spots are due to the growth of a fungus within the tissues of the leaf. When growing, the fungus absorbs the contents of the plant cells and these discolour and collapse, thus the visible spots of blackened tissues. Under

has been allowed to slaken. Any wires and props used in the house should be drawn through fire to kill the spores adhering to them. The paths, woodwork and glass inside the house should be attended to also. The paths should be drenched and the woodwork and glass washed with a 4 per cent. solution of sulphate of copper.

If a water-tank is in the house, mix the water (calculating its quantity) with the necessary quantity of sulphate of copper and use it for washing. This will kill the fungus spores in the water. Afterwards empty the tanks and refill with clean water.

Plants once attacked can be saved only if sprayed as soon as the first signs of the disease are noticed. For that reason one must be on the look-out for the small spots which first appear. They can be noticed on quite healthy, dark green leaves. If such signs are seen, the plants should be sprayed immediately with a 3 per cent. solution of the Bordeaux mixture early in the evening, every alternate day for two weeks. The finer the spray falls upon the plant the better, and the less

is wasted. The spraying of Tomato plants with a 4 per cent. solution of the Bordeaux mixture has resulted in injury to the leaves, and should not be practised.

When planting Tomato plants scatter some pulverised lime round the stem. It having been found that the disease is spread by means of Tomato seeds, seeds from infected areas should not be used unless they are immersed for one hour in a 5 per cent. solution of sulphate of copper. H. T. Güssow, London Botanical Laboratory, 44, Central Hill, Norwood, S.E.

NEW OR NOTEWORTHY PLANTS.

ASPARAGUS FILICINUS.

ALTHOUGH this plant was described by D. Don in his *Prodromus Flora Nepalensis*, p. 49, as long ago as 1825, it does not appear to have been cultivated in Europe until 1898, when a form of it was introduced into the Botanic Gardens at Florence. It has also been grown by Sir Trevor Lawrence, and exhibited by him at a meeting of the Royal Horticultural Society (see fig. 48), while the specimens shown in our illustration at fig. 47 were received from Mr. Willy Müller, of Naples.

This species was originally collected by Buchanan-Hamilton in Nepal, but has since been found in many localities extending from Burma to the Western Himalaya, and thence northwards to Mongolia. It is erect in habit and attains a height of nearly 4 feet, having horizontally spreading branches. The slender, flattened phylloclades are about $\frac{1}{2}$ inch long and are borne in clusters of about five, as shown in fig. 47. The greenish-white flowers are seated on slender pedicels about twice as long as the phylloclades.

The form known in gardens as var. *Giraldii* (fig. 48) is characterised by its large, broad, glossy green phylloclades, usually borne in groups of five, and the solitary green flowers produced on very slender pedicels much longer than the phylloclades. The flower buds are brownish. This form has been collected in China in the province of Shensi by Pere Giraldi and in Szechuen and Hupeh by Dr. Aug. Henry.

The species is a very variable one, and three varieties of it are enumerated in Hooker's *Flora of British India*, vi. 315, but the variety *Giraldii* has larger phylloclades than either of these. C. H. W.

FRUIT TREES ON WALLS.

THE crop of fruit from wall trees is, this year, very meagre. Peaches and Nectarines in these gardens were in full bloom on April 21st, when snow fell heavily, and this was followed by 7° of frost at night-time. To obtain the best results from trees against walls, it is necessary, in many districts, to have a glass case or removable lights, so that they can be taken off, especially the front ones. These shelters are, in addition, useful for the culture of vegetables in the early part of the year. The Peach wall in these gardens is about 250 feet long and 15 feet high; the dull season last year was detrimental to the well-ripening of the shoots of the trees planted against this wall, and the trees were attacked with mildew and leaf-curl. When this was apparent, they were sprayed with "Medela," and this stopped the spread of the mildew on the wood, and, to some extent, the leaf-curl also. This specific was tried on Black Currants for mildew with good results; it was applied in both cases after the fruits were gathered. For exposed positions on walls we find Apple and Pear trees trained on a

cordon system more profitable than Peaches and Nectarines, but the trees need root pruning and lifting about every two or three years. Figs are even more profitable than Apples or Pears; trees planted here against a south wall always yield a crop; Brown Turkey succeeds best. The soil is very heavy in texture, and before the trees were planted a large trench was dug out, the bottom concreted, and the hole filled in with richer, lighter soil. Although these Fig trees received no protection in winter, they have fruited well this season. The shoots of out-door Fig trees should be trained thickly, as they protect each other from the effect of cold winds. In the spring some of the longer useless growths are cut clean out from the base of the tree. If the fruits are required early, the shoots should be stopped at the second leaf, but this will mean losing the fruits on that shoot for next season. The other shoots should be allowed to develop five or six leaves if the tree is strong, but these should not be stopped too early, as this will induce the young fruits to develop this autumn, only to be cut back by frost in winter. St. Johns is useless on walls in the open here. Violette Sepor develops an excessive amount of wood, and no amount of root pruning or stopping of the shoots will induce fruiting. Negro Largo ripens too late, but fruits that do mature are

scarlet, and the growth has the same vigorous habit as "Miss Willmott," which is now too well known to need a description. It is many years since I saw the large exhibition specimens of Verbenas in pots, but my memory is fresh on the point of their beauty. It has been suggested that the Verbena lost vigour through being propagated in heat, but I think it more than probable that the selection of fine flowers without regard to habit of growth has had more to do with this loss of constitution. The vigorous growth of the two varieties referred to should bring the Verbenas into general favour again. A large collection of colours is not desired, but there is room for a white, also a purple-coloured variety having the same habit as Miss Willmott; this beautiful variety sells freely in the market, and the market prices vary from 6s. to 15s. per dozen. Mr. Sweet grows it in very fine condition; also the scarlet variety named King of Scarlets, which I believe to be the same as Miss Willmott's "Warley." It is hardly necessary to state that these varieties are equally suited for bedding as for pot culture. I have not yet seen much of the scarlet kind used for bedding, but the pink variety forms one of the most beautiful of flower beds. The chief difficulty in the culture of Verbenas is in keeping the stock clean and healthy during the winter. The best method, according to my



FIG. 47.—*ASPARAGUS FILICINUS*, FROM SPECIMENS RECEIVED FROM MR. MÜLLER.

good in size and flavour. Even on east walls, Brown Turkey does well: it withstood 20° of frost without protection, and ripened a good crop of fruits. The covering of Fig trees in winter tends to make the shoots tender and unable to resist the cold springs after they are uncovered. Cherries are a very uncertain crop in any position on clayey soils, but the crop this year has been the best for several seasons. The roots need to be kept close to the surface of the soil, otherwise the tree gums and crack, and their growth is very slow. Morello Cherries generally give good returns. Plums are good; unfortunately, we have not many wall trees. Kirk's, Golden Drop, Jefferson's, and Gages are all good. A. B. Wadd, Paddockhurst Gardens, Sussex.

FLORISTS' FLOWERS.

THE VERBENA.

THE fine pink variety Miss Willmott has been cultivated for two or three years, and has proved a most useful market plant. Warley is another good variety, and, like the one already mentioned, was raised by Miss Willmott. The flowers of Warley are coloured a rich crimson-

experience, is to raise them from cuttings in August. These will root best on a hot-bed that has been made some time, and is therefore not too hot, but with a falling temperature. Cuttings struck in August have time to become established before the winter arrives. Some growers depend upon spring-struck plants and keep them in pots through the summer. They require a position in winter free from frost, but one that is cool and fully exposed to the light. If kept cool and dormant, they will start into growth freely when placed in warmth about the middle of February, and will soon furnish new shoots for cuttings. The stock plants should be dipped into some insecticide before starting them in heat, as this will ensure clean cuttings, which will root freely if inserted in an ordinary propagating pit. The plants should be removed from the pit before they become spindly. Later the tops may be taken off the longest shoots, and these will furnish a further batch of cuttings. In growing Verbenas in pots, the main requirements are a rich compost, a light, airy position, and regular stopping of the shoots until they have made bushy plants. Three or more plants may, if required, be grown together in one pot. When the flowering pots are well filled with roots, manure may be applied freely. A. Hensley.

NOTICES OF BOOKS.

* THE PERFECT GARDEN.

THE leading note of this book is that of colour grouping; and combined with this matter are practical hints on economical management, and the culture of all the principal flowers, fruits and vegetables.

The book commences with a prologue on dream gardens, a phantasy in which rambler and other climbing Roses and Sweet Peas figure largely, together with brief references to gardens in Cornwall and Holland with which the author was enchanted. The first chapter is entitled the "Soul of the Garden." According to the author, a beautiful garden represents the sum of idealised human effort on practical lines. We wonder how much of this ideal is represented in the works of the best landscape gardeners, without mentioning those of the ordinary practitioners of the craft? In gardens, he states, is expressed what the flower lover is unable to express in painting or in poetry. In a sense, we are all

tions of owners and their gardeners. As a matter of course, the author does not favour in the least degree the employment of tender exotics in the flower garden, but bestows his commendations on hardy perennial plants, at the same time expressing a fear that the present system of massing these plants according to colour will result in similar uniformity and formality to the bedding-out system they were chosen to supersede. As yet, however, there does not seem to be any danger of this undesirable alteration taking place. The author favours the methods pursued at the Royal Gardens, Kew, with hardy plants, that is, fairly wide planting in masses.

It is suggested that the owners of gardens should take charge of the floral arrangements in their gardens with the view of introducing an improved system; but first they must disabuse their minds of the idea that artistic flower gardening can be picked up as easily as a dropped stitch in Limerick lace; on the contrary, it needs earnest and intelligent study, and they must know their plants and the best modes of

Bryanstone House, Dorset, that is, with a broad border planted with hardy subjects with climbing plants on the terrace-retaining wall.

Exterior hedges and various kinds of fences are discussed; and the folly of making a rockery in a part of the garden which is not suitable for such a feature, is pointed out. Much useful information is afforded about laying out a new garden in a chapter entitled "The Conquest of the Wild." In the chapter "Colour for all Seasons," simplicity in the planting is rightly insisted on, as being the chief factor in art, and it should be the "Soul of the garden." In flower-gardening we are told that colour should be the first consideration, system and design being separate things, and colour unites them. We see in this phrase a wish to return to the bedding-out effects of former years, which the author deprecates.

There are chapters on summer-flowering plants, the colours being classed; others follow on autumn, winter and spring-flowering subjects. Coloquially, perhaps, Zonal Pelargo-

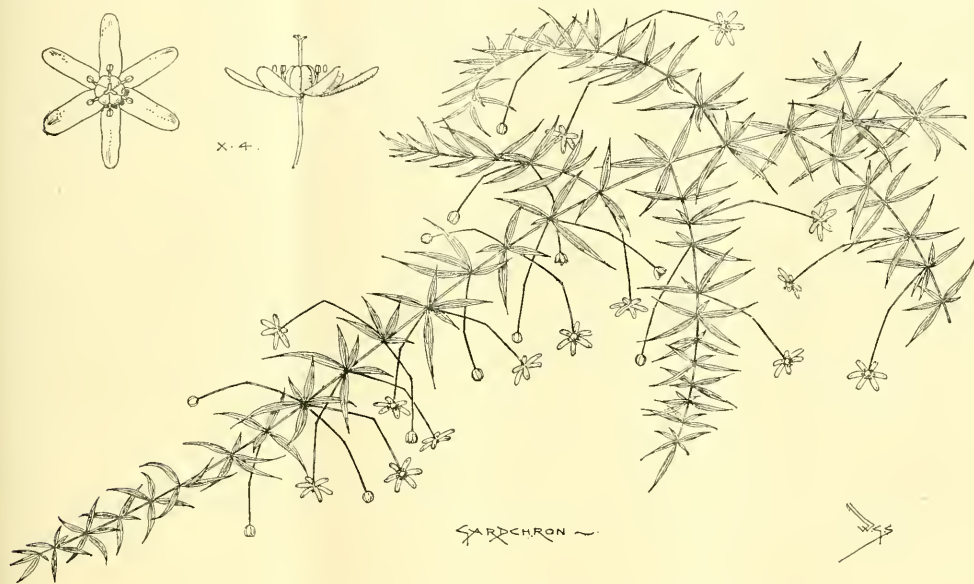


FIG. 48.—*ASPARAGUS FILICINUS* VAR. *GIRALDII*, AS EXHIBITED BY SIR TREVOR LAWRENCE, BART.

gardeners to-day; and cultured persons talk of gardening as they talk of books, paintings and music. A knowledge of gardening is a part of education; but the making of a garden tests the depth of education.

In regard to design and the home-made garden, the author states that we have been swayed by design; which is to the landscape gardener what the crown is to the monarch, the symbol that impresses the multitude. The landscape gardener's plan is not our garden—the garden of our dreams, but a kind of foster child, that we may entertain affection for some day. However, there are gardens in this country so beautiful and so satisfying to our minds which the fortunate owners would not exchange for any other in any part of the world. And these are mostly the works of landscape gardeners, added to by, probably, genera-

employing them. We trust the head gardeners will do all that is in them to keep to the fore and not abrogate their functions through lack of ability. Many of them have taken lessons from the fine displays of hardy plants at the R.H.S. meetings, and at Shrewsbury, Edinburgh, York, and other towns.

If changes must be made, the author advises that these should be in the nature of experiments carried out in a "reservation." He observes that a person who may be totally unacquainted with the Elizabethan, Italian, French, and Dutch schools of garden design, could make a beautiful and productive garden. We should add that he might compass something satisfactory enough in a way if he had a knowledge of plants, their habits and preferences in the matter of soil, aspect, &c. We are told in what manner formality may be excluded from a garden surrounding a dwelling built on a hill; how, if a terrace be made on the garden front, the wall may be masked by plants, as, for instance, at

numms are Geraniums, but as the correct botanical names are used for most of the other plants, why not for these? A little slip occurs on p. 119, where Watts is named, instead of Mr. Holman Hunt, as being the painter of the celebrated "Light of the World." Roses of most kinds and varieties are treated of in a lengthy chapter, great stress being laid on those ephemeral rambler Roses that mostly make a big show for a short time in the summer, and are no more seen till the next one. The author recommends in the planting of Rose beds with dwarf Roses, to employ one colour per bed.

There are remarks on flowering bulbs, corms, and tubers; on fruit culture out-doors and under glass, select lists being given in reference to the cultivation of fruit in all parts of the country. There are many illustrations in the book, the reproductions from photographs being especially good. The professional gardener, no less than the amateur, will find that the book contains useful matter of a suggestive character. *M.*

* *The Perfect Garden*, by Walter P. Wright. Demy 8vo., pp. 406. Published by Grant Richards, 7, Carlton Street, London, S.W.

FLOWERS OF SPENSER.

(Continued from p. 104.)

PEAS.

The vaulting Poets found nought worth a pea.

Shepherds Calendar, October.

"Not worth a pea" was in Spenser's time and long after a common proverb of worthlessness. As a delicate vegetable it was very little, if at all, known in his time.

PENTHIA.

The Gods pitying this paire of lovers trew,
Transformed them there lying on the field
Into one flower that is both red and blew;
It first growes red, and then to blew doth fade,

Like Astrophel, which therein was made.

And in the midst thereof a Star appears,
As fairly formed as any star in skyes;
Resembling Stella in her freshest yeares,
Forth darting beames of beantie from her eyes:

And all the day it standeth full of dew,
Which is the teares, that from her eyes did flow.

That beaube of some Starlight is cald by name,

Of others Penthia though not so well;
But thou where ever thou doest find the same,

From this day forth do call it Astrophel.
Astrophel, 181-190.

In all Spenser's works there is no flower described at such a length and so minutely as this; yet it is impossible to identify it. There is no such plant-name as Starlight or Astrophel, and there is no Greek or Latin name like Penthia. The Aster and Speedwell have been suggested, but they are mere guesses. (See Astrophel.)

PERCELAINE.

Fat Coleworts, and comforting Perseline.
Muioptomos.

Perceleine is an obsolete form of Parsley, Purselaire or Parsnip; but most likely Parsley.

PINE.

1. The sayling Pine. *F.Q., I. i. 8.*

2. Here also grew the rougher-rinded Pine,
The great Argoan ships brave ornament;

Decks all the forest with embellishment.
Virgils Gnat, 27.

Spenser probably never saw any Conifer except the Scotch fir, for the large number now grown in England have come to us since his day. By "sayling Pine" he means to show its use in shipbuilding.

PINKS.

1. Bring hether the Pincke and purple Cul-lambine.

Shepherds Calendar, April.

2. Her lovely eyes lyke Pinckes but newly spread.

Sonnet, 64.

(See Carnations.)

PLATANE.

And the Platane round. *F.Q., I. i. 9.*

The Platane is the Plane tree; it is not a native tree but is said to have been introduced into England by Bacon. If that is so, Spenser may have seen young trees; but his knowledge of the tree was probably only derived from Greek and Latin writers, especially Pliny. The epithet "round" may apply to the pretty globular fruit; but it is doubtful.

POPLAR.

1. The Poplar never dry. *F.Q., I. i. 9.*

2. And in her hand a Poplar branch did hold.

F.Q., II. ix. 37.

3. Least that the Poplar happily should wear
Her brothers strokes.

Virgils Gnat 28.

4. Alcides' speckled Poplar tree.

An Elegie, 13.

All the passages have more reference to the classical account of the Poplar than to the English species. The "never dry" of the first passage certainly refers to the legend that the sisters of Phaeton were turned into Poplars and were perpetually weeping for his death (Ovid, Metam. II.).

POPPY.

1. Dead sleeping Poppy.

F.Q., II. vii. 52.

2. Dull Poppy.

Muioptomos.

Spenser could not have been a great observer of the British wild flora if he could find no better epithet for the Poppy—the most brilliant and pure-coloured of all European plants—than "dull" and "dead." But it is very possible that it was not so abundant in his days as it is now. Turner, describing it in 1548, does not mention it as wild, but says "it groweth sowed in gardines."

PRIMROSE.

1. She is the pride and primrose of the rest.

Colin Clout, 350.

2. Primroses greene.

Shepherds Calendar, April.

3. She is the Rose, the glory of the day

And mine the Primrose in the lowly shade.

Daphnada, 231.

There were green Primroses in Spenser's day as there are now, grown occasionally as curiosities, but I should scarcely think that Spenser would have chosen them for the coronet of "faire Elisa." I suppose he referred to the fresh green leaves.

QUEEN APPLES.

1. Queene apples and red cherries from the tree.

F.Q., Canto VI.

2. Then would I seeke for Queene-apples un-ripe.

Shepherds Calendar, June.

I am unable to identify these with any known variety of the Apple. It may only mean the earliest fruit.

REED.

And on a broken reed he still did stayer

His feeble steps. *F.Q., III. xii. 11.*

The reed is the recognised emblem of weakness and instability.

RHODODAPHNE.

Fresh Rhododaphne and the Sabine flowre.

Virgils Gnat, 84.

Spenser copied this name from Pliny. It is the Oleander, of which he could have had no personal knowledge.

ROSE.

1. Wyde was the wound, and a large luke-

warm flood

Red as the Rose, thence gushed grievously.

F.Q., II. viii. 35.

2. No other tire she on her head did weare,

But crowned with a garland of sweet

Rosiere. *F.Q., II. ix. 10.*

3. The Prince by chance did on a lady light,

That was right faire and fresh as Morning

Rose. *F.Q., II. ix. 36.*

4. Ah! see the Virgin Rose, how sweetly shee

Doth first peepe forth with bashful

modestie. *F.Q., VI. xii. 74.*

5. Upon a bed of Roses she was layd.

F.Q., II. xii. 77.

6. As hee that hath espide a Vermeil Rose

To which sharp thornes and breeres the way

forestall. *F.Q., III. i. 46.*

7. Amongst the Roses grow some wicked

weeds. *F.Q., III. i. 49.*

8. She bath'd with roses red and violets blew.

F.Q., III. vi. 6.

9. Fair Canace as fresh as morning Rose.

F.Q., IV. iii. 51.

10. As roses did with Lilies interlace.

F.Q., V. iii. 23.

11. Like as a tender Rose in open Plaine.

F.Q., V. xii. 13.

12. She mote perceive a little purple mold,

That like a Rose her silken leaves did faire

unfoid. *F.Q., VI. xii. 7.*

13. A Virgin brydes adorned head
With Roses dight and Goolsds and daffa-
dillies. *Colin Clout, 338.*

14. Whose beautie shyneth as the morning
cleare,

With silver dew upon the Roses pearling.

Colin Clout, 506.

15. Upon her head a Cremonsin coronet

With Damaske Roses and Daffadillies set.

Shepherds Calendar, April.

16. The red Rose medled with the White ylere,

In either cheek depeincten lively clere.

Ibid.

17. Girlonds of Roses and Soppes in Wine.

Shepherds Calendar, May.

18. And round about he taught sweete flowres

to grow

The Rose engrained in pure scarlet die.

Virgils Gnat, 84.

19. And lie like Gods in Ivory beds arrayd,

With rose and lilies over them displayed

Hymnes, 285.

20. Sweet is the Rose, but grows upon a breere.

Amoretti, xxvi.

21. Fayre, when the rose in her red cheekes

appeares. *Amoretti, lxxxi.*

22. White as the Rose, before the chaunge

Which Venus blood did in her leaves im-

presse. *Daphnada, 108.*

23. She is the Rose, the glory of the day.

Daphnada, 231.

24. And kisse thy lips like faded leaves of rose.

Astrophel, 158.

25. The rose and lillie have their prime,

And so hath beautie but a time.

An Elegie, 137.

26. And compast all around with Roses sweet.

Clorinda, 70.

27. Her ruddy cheekes like unto Roses red.

Amoretti, lxv.

28. The roses rainging in the pride of May.

Muioptomos.

29. A bower appareld round with divers roses,

Both red and white.

Britains Ida, Can. ii.

30. Few roses round about were scattered.

Ibid., Can. iii.

In all these thirty passages there is nothing to show that Spenser had any deep affection or even admiration for the Rose; nothing like the delight with which Chaucer and Shakespeare speak of it. In many of them the Rose is merely a colour, especially the colour of a lady's cheek; in others it is the accepted poetical type of beauty. In one passage only—No. 15—is a special Rose indicated. Yet if the poet had any special Rose in his mind, it could scarcely have been either of our British wild Roses, beautiful though they are; he must have been thinking of some of the foreign garden sorts, of which many were cultivated in English gardens in his day.

ROSEMARY.

1. She secretly would search each dainty lim,

And throw into the well sweet Rosemaryes.

F.Q., III. i. 36.

2. The Marigolde and cherulef Rosemarie.

Virgils Gnat, 84.

3. The knotted rush-ringes, and gilt Rose-

maree.

Shepherds Calendar, November.

4. Colde Lettuce and refreshing Rosmarine.

Muioptomos.

Though a foreign plant, chiefly from Southern France, the Rosemary was a favourite in English gardens from its easy growth and pleasant, abiding scent. The last quotation shows that Spenser knew the right derivation of the word; it is *ros marinus*.

RUE.

1. Th' aged Nourse, her calling to her bowre,

Had gathered Rew and Savine.

F.Q., III. ii. 40.

2. Feede ye henceforth on bitter Astrofel,

And stinking Smallege, and unsavere Rew.

Daphnada.

3. Ranke-smelling Rue.

Muioptomos.

Rue is the accepted symbol for long-enduring bitterness. *H. N. Ellacombe.*

(To be continued.)

JAPANESE IRISES.

THE species of *Iris* indigenous to Japan are not numerous, but as is the case in so many plants that have become favourites with the Japanese, the forms of one species are overwhelming in number, and it is now common usage, in gardens, at least, to regard Japanese Irises as beginning and ending with *I. laevigata*.

There are several species that can well be grown in English gardens, and their omission from collections of hardy flowers is due in some measure to the common belief that all grassy beardless Irises need sites very near to water.

species (*I. sibirica*) has its finest form in Japan. There is much to learn in the cultivation of the rarer Japanese Irises, whilst in the case of older species there is much to unlearn. The familiar *Iris laevigata* or *Kämpferi*, for instance, grows well enough for a year or two, but in some gardens finally disappears after some such period.

SPECIES AND VARIETIES.

I. ALBO-PURPUREA.—A rare Japanese species of merit that thrives best with its root-stock just below the water-level. It is a lovely plant of the *laevigata* type, but the leafage is purplish near the root-stock—a character shown in the

beautiful. I attempted to grow *I. albo-purpurea* for a long time in the plant border, entirely ignorant of its moisture-loving character; the plants made a little growth, but were evidently unhappy. An importation from Japan put me on the right track. A bluish loam one always associates with submerged conditions, and the presence therein of a water beetle showed the clumps had been under water for years. My strongest plants are now covered with half-an-inch of water always.

I. DELAVAYI.—Although a Yunnan species, this *Iris* is now commonly cultivated in Japan, and may fittingly be grouped with Japanese species on cultural grounds alone. It has narrow, grassy leafage 2 feet long, and tall, slender stems 4 feet high, bearing four to six flowers that are coloured a rich violet, and have small spots of white on the falls. The close resemblance of the flowers of *Iris Delavayi* to those of the bulbous *I. reticulata* is extraordinary; in colour and shape they practically agree, and one may well describe them as enlarged *I. reticulata*. I have noted the species in various gardens in Great Britain under varied conditions, and the finest specimens were by waterside—their roots in 6 inches of soil above the water level. They enjoy liberal feeding always, and the species should prove one of the best grassy Irises for waterside grouping; its novel colouring and exquisite form attracts attention at once. It flowers in July.

I. ENSATA.—A rampant-growing, grassy *Iris*, that proves none too good for the choice plant-border. Forms of it are numerous, and of these *ALBA* and *OXYPETALA* are best. The leaves are in a loose tangle a yard long, and often many yards in area. The flowers are produced on stout, flexuose stems, much shorter than the leaves, and are often quite hidden by them. They are coloured shades of lilac, but are quite inferior to the Asiatic species *Guldenstäediana* for gardens; the petals are narrow, lined with green, the lip petals only being attractive. A series of hybrids between this species and many other grassy Irises contained some pretty flowers that should prove very useful. They were growing in the late Sir Michael Foster's garden, and had been established for years. I do not know of any hybrids raised in Japan.

I. GRACILIPES.—In many respects this *Iris* is one of the best "finds" in recent years. It belongs to a little group, of which *tectorum*, *japonica*, and *cristata* are examples, and has perhaps the slenderest growth of any *Iris*. The flowers last in good condition throughout May and June, and the foliage is a very attractive patch always. *I. gracilipes* (see fig. 49) is representative of all that is good in dwarf Irises, and if it could be depended upon to survive our worst winters, would speedily become popular. It has many branched, running rhizomes, broad, fan-shaped tufts of grassy leaves 6 inches high, and very slender flower-stems, that are produced separately from the leaf-growths. The flowers are circular in outline, as large as a florin, and are perfect models of *I. tectorum* on a small scale. The petals are coloured palest lavender, and are tinted with yellow at the bend of the blade. It is an ideal rock-plant for a rather dry site in the south-western counties; for the remainder of Britain it must have frame protection. It flowers in May, and my experience shows the plants dislike disturbance exceedingly, and should only be moved when in a state of growth.

I. JAPONICA (I. CHINENSIS).—This is a delightful *Iris* for the greenhouse, that flowers in the winter season. It has broad leaves in fan-shaped tufts, a running rhizome and slender wiry flower-stems that persist for a long period. The flowers are as large as a crown piece when well grown, and are produced in relays throughout winter. Each flower lasts just one day, and a few days generally elapse before another develops. They are coloured palest lilac, and



FIG. 49.—*IRIS GRACILIPES*: FLOWERS LAVENDER COLOUR WITH SLIGHT YELLOW MARKINGS.

This belief has proved a great drawback to the cultivation of *Apogon* Irises, but Japanese species, embracing plants for the flower garden, the cool-house, the rock-garden, and the water-garden need very careful individual treatment, and those that are really water-loving need moisture in moderation only. Those who have not tried all the Japanese Irises will find them a very interesting group. Each species is abundantly distinct from the others, and the collection consists solely of plants that are exceedingly attractive, even the commonest Asiatic

seedling stages. It grows 2 feet high and produces its flowers in twos from slender sheaths. They are coloured pale sky-blue, and have broadly lanceolate "fall" petals 6 inches long, the standards being just two-thirds this length. Rarely have I seen such a splendid *Iris* and such an elegant flower. The "finish" of petal and delightful poise baffles description—it must be seen to be fully realised.

Var. carulea differs in the diffused blotches of a deeper blue that occur in quantity on the surface of the petals, and it is singularly

have prettily fringed petals tinted with gold at the bend of the blade. This pretty Iris has a peculiar fascination for amateurs, who cannot help being struck by its singular beauty. It is a little difficult to establish, and may not flower for two or three years, but when it reaches flowering stage, it does not relapse. This plant usually succeeds better under the haphazard treatment of the amateur's greenhouse than under more skilled and attentive culture. In my Kew days I had two specimens of *Iris japonica*—one a splendid specimen of luxuriant growth, but which never flowered; the other a veritable starveling, that eventually flowered itself to death. The vigorous specimen had abundance of water always; the flowering specimen was dry for weeks at a time. A Japanese friend writes: "It does not flower until it has done growing." Presumably the end of the growing season is here meant, but, under cultivation, a debilitated specimen is invariably the most floriferous. Quite young growths should be severed and grown on till they reach flowering strength. Disturbance of an old plant invariably kills it. A few degrees of frost cannot harm the plants, but the hardness of individual specimens varies. G. B. M.

(To be continued.)

The Week's Work.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Violets.—Plants cultivated for flowering in unheated frames during winter should now have their runners layered as advised in a former Calendar. Cut out all the thin and useless runners, leaving only one central one, and placing stones upon this to keep it in position. See that the layers are not allowed to suffer for want of water, but apply occasional waterings with liquid manure, which, if given in the evening, may be watered over the plants. If the leaves are affected with red spider, syringe them thoroughly, holding the syringe low down in order to apply the water on the under surface of the leaves.

Rhododendron (Azalea).—Plants that have set their flower-buds may be placed out-of-doors in a position sheltered from winds, standing the pots on a base of ashes, or on slates in order to prevent worms getting into the drainage material. Whilst these plants are out-of-doors they must be frequently examined in order to see that the roots are not suffering from want of water. The surface soil often appears darr, when the centre of the mass containing the roots is dry. Applications of weak Peruvian guano water may be made twice each week during the next month.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. FROBER, C.V., C.I.E., Westonbirt, Gloucestershire.

Cattleyas.—Such brilliant weather as we have had recently is very favourable to Cattleyas. The late summer, autumn, and early winter-flowering kinds, are consequently further advanced in growth than is usual at this season. Many of the latter are forming pseudo-bulbs, whilst the earlier kinds are flowering. As I pointed out in a former Calendar, it is from this stage onwards, until the season's growths are fully completed, that more root moisture is needed than at any other season. If possible, the plants should be given more ventilation and exposure to the sun's influence than hitherto, these conditions being necessary to enable them to thoroughly harden and consolidate their new pseudo-bulbs. In some gardens this is more easily accomplished than in others, for a grower who has several divisions devoted to this genus will find it a fairly easy matter to allot portions exactly suitable for his plants, whilst another, with but a single structure, must collect his plants together and provide for them as best he can in the one house.

Long-bulbed section.—*Cattleya bicolor*, C. Harrisoniae, C. granulosa, and their hybrids, C. Pittiana, C. Iris, C. Ashtoniana, C. Mrs. Pitt,

C. Clarkiae, and C. Ella, are all charming members of this group, which flower at about the present season. After the flowering period, and when the pseudo-bulbs are fully complete, occasional waterings only will suffice to keep the pseudo-bulbs plump and the foliage healthy. Excessive dryness of the rooting materials, however, must not occur, otherwise the roots will soon perish. The repotting of this section is best performed whenever roots are being made from the base of the youngest growths, and this often happens immediately after the plants cease to flower. Make use of efficiently-drained pots, and a compost of a porous nature, using similar ingredients as previously advised for Cattleyas. Plants of that desirable natural hybrid *Laelio-Cattleya elegans* and its varieties also flower at this time. All those I have mentioned belong to the long-bulbed section, and their cultural requirements are similar.

Cattleya Gaskelliana and C. gigas.—Most plants of these summer-flowering species have passed the flowering stage, and the earliest plants of their hybrids as C. mollis, C. Lord Rothschild and the gorgeous and fragrant C. Hardyana have finished blooming, as many others have done. The present season is the most suitable time to supply new rooting material to those that require it. A cluster of new roots proceeds from the base of the youngest growth almost directly after the flowering period. These soon take a hold upon the new compost afforded, and the

foliage will not shade the fruits. The shoots that are retained should be those which are short-jointed and firm in texture. Thin the fruits to three or four on each shoot. Allow the leading shoots to extend if space permits, as these growths, when well ripened, produce the finer fruit. Old trees carrying heavy crops and that are planted in well-drained borders should be mulched and fed with liquid manure or some other stimulant until the fruits show signs of ripening, after which stage the supply of moisture must be decreased, as an excess of liquid would cause the fruits to split. Care must be taken not to overfeed young trees that are growing freely, or gross and unfruitful wood will be the result. Syringe the trees occasionally on warm afternoons to prevent red spider, and when the fruits are at their ripening stage, tie them in muslin bags, or cover the trees with suitable netting to protect them from wasps.

Raspberries.—As soon as the berries of summer-fruiting varieties are gathered, the old canes should be cut away and the young ones required for fruiting next season thinned out to about eight of the strongest: if it is required to thin them still further this can be done next spring. Thin out the canes of autumn-fruiting varieties, remove any suckers that appear, and give liberal applications of liquid manure during dry weather.

Apricots.—The earliest of these fruits will now



FIG. 50.—A TOPICAL FLOWER-BED IN THE QUEEN'S PARK, KILBURN.

[Photograph by E. Barnes.]

plants become well established before winter sets in. Root disturbance, however, should be avoided as much as possible, and over-potting strictly guarded against, especially in the case of *Cattleya gigas*, as root-bound plants of this shy-flowering species are always more productive of flowers than others. The success or failure to flower these plants satisfactorily depends largely on the autumn treatment. They must not be allowed to remain dry at the root for any length of time, but should be given a moderate supply of water until such time as the growths have become fully matured and root action has ceased. The aim should be to prevent secondary growths. Should, however, a few break away, as is nearly always the case, it need cause no alarm, and no difference should be made in the treatment of the plants.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Dowager Lady NUNBURNHOLME, Water Priors, Yorkshire.

Fig trees.—Remove all weak and useless shoots to prevent overcrowding of the principal branches, also any suckers that grow from the base of the tree should be taken away. Fasten the young shoots well against the wall, so that

be ripening, and protection should be given them from birds and wasps, as well as from woodlice and earwigs. The fruits can be protected from birds by the use of netting. The other pests are best entrapped with hollow Bamboo canes, &c., before the fruits ripen. These trees, like Peaches, should be kept thinly trained, and all laterals not required for laying in should be kept closely pinched to induce the formation of spurs. If the trees have been syringed occasionally on hot days and the roots mulched and watered, no more water will be necessary after the fruits approach the ripening stage, until they have been gathered. All the trees should then be liberally watered with liquid manure when growing in hot or dry positions, or when vegetables or other crops are planted on the borders. Exception should be made, however, in the case of newly-planted trees. These should have the points pinched out of the leading shoots to encourage more sap to flow into the weaker ones.

Plums.—Plum trees have been badly attacked by aphid this season. Remove all sub-laterals from wall trees, nail in the leading shoots, and wash the trees with soapy water. If the crop has failed, or the tree has already been cleared off fruit, syringe the trees with some insecticide.

THE FLOWER GARDEN.

By W. Fyfe, Gardener to Lady Wantage, Lockinge Park, Berkshire

Pillar Roses.—Most of the late varieties have now completed their flowering. It is time, therefore, to examine the bushes and remove at least a portion of the old growths that there may be more space for the young shoots and that these latter will be the better exposed to sunshine. Many of the Wichuraiana Roses and Penzance Briars, such as Meg Merrilies, seed so freely that the removal of the seeds is necessary in order that the plants may make free growth. Among suitable varieties to associate with Crimson Rambler are Dorothy Perkins, Lady Gay, Wichuraiana rubra, Helene, Fildicé Perpetue, Hiawatha, and Psyche. Earlier sorts include Carmine Pillar, Una, Longworth Rambler, Flora, Splendens, and Leuchstern.

Delphinium.—It is advisable not to allow Delphiniums to remain in the same position for a longer time than two years. After the lapse of this period the quantity and quality of the flowers decrease. The plants may be lifted and divided at any time between this date and the end of October. Small pieces with two or more crowns attached, if planted in deep dug, liberally-manured soil, will commence to grow at once, and make nice plants for returning to the herbaceous borders next March. Apply top-dressings of short manure, and cover the crowns of the plants with coal ashes.

Agapanthus umbellatus.—When large plants established in tubs commence to develop their flower stems they should be given occasional applications of liquid manure. Although the Agapanthus is of comparatively easy cultivation, its free-flowering qualities depend in a large measure upon the treatment given the plants during winter. They need merely to be kept secure from frost, and the roots should only be given sufficient water to keep the leaves in a fresh condition. The plants may remain for years in the same tubs, succeeding well in strong loam with plenty of drainage material, confinement of the roots being favourable to free flowering. The blue Agapanthus, if grown in large tubs and the tubs are plunged out-of-doors, has a very fine appearance with its luxuriant foliage and bold umbels of flowers. The white variety is much less free in flowering, and it loses its foliage altogether during the winter season.

Summer bedding.—During the present month should be taken of any alteration or improvement it will be desirable to introduce into the arrangements for next year. Provided the beds and borders are to remain of the same sizes, it will be a comparatively easy task to propagate the number of plants that will be required. If annuals are raised at about the present season for the purpose of wintering in a cold frame and flowering early next year, it is desirable not to have the plants of too large a size before the advent of winter.

FRUITS UNDER GLASS.

By T. Coomber, Gardener to Lord Langatock, The Heudre, Monmouthshire.

Peach and Nectarine trees in pots.—Trees that have supplied an early crop of fruit and have already completed their growth may be removed to a sheltered and sunny position out-of-doors, where they may be expected to perfectly mature their fruit. Remove any superfluous shoots that may have been overlooked on previous occasions, and keep the leaves free from red spider by frequently syringing them. Pot trees very soon exhaust the soil of its nutriment, notwithstanding that manures are applied from time to time; therefore, any trees that require a shift should be repotted, and the operation should be commenced as soon as the leaves are nearing maturity, and before the roots become inactive. Pots selected for young, free-growing trees should be large enough to admit of a thin layer of fresh compost being placed round the old balls of soil, and each pot should be thoroughly well drained. Carefully turn the trees from their pots, remove the corks and any soil that does not contain roots, disentangle the outside fibrous roots and shorten long roots that are devoid of fibres. The compost may consist of fibrous loam three parts and wood ashes one part, with some finely-crushed lime rubble

and a little bone-meal added. The compost should be in a moderately dry condition when used, and be rammed firmly into the pot, keeping the roots sufficiently low in the pot to admit of a thin layer of compost being placed over them and still allow sufficient space for watering. Following the operation of repotting, the trees should be shaded from bright sunshine for about one week, syringing them frequently, and subsequently plunging the pots in a bed of ashes in a situation fully exposed to sunshine. Syringe the trees in the afternoon of fine days until the leaves have fallen, and give very careful attention to affording water to the roots.

Selection of trees.—If trees are required to give an immediate return, it will be necessary to select those which are already established in pots, and are well furnished with healthy wood that promises to yield fruit next season. In order to secure such trees, it is necessary to select them early in the autumn. In other cases, where immediate returns are not expected, trees that have been prepared for potting by transplantation and yearly root prunings may be employed. These should be carefully lifted at about the time the leaves are falling and put into pots only sufficiently large to conveniently contain their roots. If these are successfully cultivated next season, and repotted in the following autumn, they will yield good crops of fruit in 1910.

Late-fruiting trees.—Peach and Nectarine trees cultivated in pots for supplying late crops of fruit should be assisted with applications of liquid manure up to the time the fruits commence to ripen, syringing them frequently during the same period. The syringing must be discontinued whilst the fruit is ripening, but it should be resumed directly the crop has been gathered.

THE KITCHEN GARDEN.

By E. Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, Hertfordshire.

General work.—The work will not be so pressing now as it has been recently, for most of the crops cultivated for winter supply will be fast maturing, and later crops are sown or planted in their winter quarters. The ground should be cleared of all weeds and rubbish, which should be consumed on the smother fire, and everything made to appear as tidy and workmanlike as possible, for there is no reason why the kitchen garden should not only be a source of profit, but also pleasing in appearance. Should dry weather continue, liberal waterings should be given to many of the growing crops, so that these may be enabled to complete their growth and yield abundantly.

Endive.—Where salads are in demand all through the winter, there is no more desirable plant to cultivate than Endive, but to ensure a continuous supply it is important that frequent small sowings be made during the next three or four weeks, the last being made in an unheated frame. Continue to put out plants raised from earlier sowings as they become ready, selecting a site facing either to the south or west, and composed of rich soil. The plants should be put at distances from each other of 12 to 15 inches each way, and frequent waterings may be required during the next few weeks.

Lettuce.—This crop should be treated much in the same manner, selecting for sowing those varieties which have proved to be most hardy. The finest Cos variety known to me is Hick's Hardy White. A good variety of Bath Cos is also desirable, but this requires more time and is not so good in quality. For a Cabbage variety one of the best is a true stock of the old Hammersmith, this being one of the hardest Lettuces ever raised.

Globe Artichokes.—Cut the heads of these immediately they become of sufficient size. If they are more abundant than is required for present use, put them with their base in water and in a cool place. In such conditions they will keep for a fortnight, provided the water is changed occasionally and small pieces cut off the stem of the Artichoke. The plants may be given occasional drenchings with liquid manure from the farmyard; they will then continue to produce fresh heads until quite late in autumn.

Parsley.—Make a liberal sowing in an unheated frame during the next few days, and if possible on a disused hot-bed. Plants raised

from a sowing made at this time and in these conditions frequently prove valuable during severe weather in winter. Thin out and transplant Parsley that has been raised by late sowings in the open. It is a good plan at this season to plant a row at the foot of a south wall or close fence, putting the plants 6 inches apart from each other.

Sorrel.—This vegetable is more generally appreciated than formerly. The same plantation, if well made in the first instance, will last in good condition for a number of years. The flowering shoots should be cut off, and help to the roots may be afforded by applications of liquid manure or some chemical manure specially suited for vegetables.

Cabbage.—Make a liberal sowing of seeds on a site having a southern aspect.

THE APIARY.

By CHLOEIS.

Foul brood.—Of all diseases among bees "foul brood" is the most common and difficult to deal with. The disease has become very common, since queens have been so largely imported. The first point a beginner can detect is the disagreeable odour which is noticed as soon as the bees are removed. The cappings over the brood, which should, in a healthy state, be nicely rounded and convex, are indented and perforated with small holes and the comb of a distinct coffee colour. If any doubt exists, take a match and insert one end in a cell, and on withdrawing same the contents of the cell will adhere and have a ropy look. It is the larvæ that are attacked by the disease, and soon die in the cells and rot. The disease is caused by a germ, and therefore the beekeeper himself cannot too carefully disinfect himself and appliances before examining healthy stocks. In the early stages of the disease its spread can be fairly easily prevented. The remarks on cure only apply to a really strong stock, for if the colony be weak it is best to destroy it, and all that has been in the hives, including frames and comb quilts, and then thoroughly disinfect the hive by painting it all over with a solution of strong carbolic acid; when the smell has evaporated, the hive may be used again. Before painting the hive with acid, it ought to be washed well with boiling water. If the stock be strong, then shake the bees off the combs and confine them in a well-ventilated straw skep for 48 hours. Fit up some frames with foundation, and shake out the bees on a cloth and let them run into their new home. Burn the cloth and straw skep at once. Give the bees good syrup, and confine them on about five or six frames, keeping them warm by supplying good quilts.

Wasps.—In some parts of the country wasps are a great source of worry to the beekeeper as well as the gardener. The weak hives are first attacked, and if a little aid be not given the inmates, they will soon be robbed of all their stores, for the wasps descend upon such hives in great force. The entrances must be closed so that one bee only can enter or leave at a time. A beekeeper, whom I met, was so troubled by the attack of wasps that he tried every known device, and at last fed the bees on syrup containing whisky. He said his bees then fought furiously, and repelled the attacks. Whether this is true or not I do not know, for the man was a stranger to me, but undoubtedly a keen beekeeper.

Uniting bees.—Where late swarms or casts are considered too weak to winter successfully, then two or more stocks must be united so as to form a colony for next year. Bring the colonies to be united gradually together, about a yard nearer each evening, i.e., if the bees have been on the wing during the day. When the hives are close to each other, decide which hive is to hold the bees, then puff smoke into the entrance of each stock, and permit the bees to gorge themselves; this done, remove the quilts and puff in a little smoke again between the combs, and as you lift out the frames flour each lot of bees with the flour dredger and place the frames alternately, keeping all brood in the centre and destroying all but one queen, if the others are not required elsewhere. By dusting the bees with flour all of them have the same scent, and they generally unite without further trouble.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to return any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but no cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, AUGUST 15—Sandiway and Dist. Fl. Sh.

TUESDAY, AUGUST 18—
Roy. Hort. Soc. Com. meet, British Gard. Assoc. Ex. Council meet. Brighton Fl. Sh. (2 days).

WEDNESDAY, AUGUST 19—
Shropshire Hort. Soc. Exh. at Shrewsbury (2 days). Hemel Hempstead Fl. Sh.

THURSDAY, AUGUST 20—
Roy. Hort. Soc. of Aberdeen Sh. (3 days). Oxford Autumn Fl. Sh.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—61.7°.

ACTUAL TEMPERATURES:—
LONDON.—Wednesday, August 12 (6 P.M.): Max. 67°; Min. 49°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, August 13 (10 A.M.): Bar. 29.9; Temp. 60°; Weather—Overcast.

PROVINCES.—Wednesday, August 12 (6 P.M.): Max. 62° Bury St. Edmunds; Min. 54° Scotland, East.

SALES FOR THE ENSUING WEEK.

MONDAY NEXT—
Trade Sale of Dutch Bulbs at 10. Lilium Harrisii, L. longiflorum, Narcissus, Palm seeds, &c., at 5, at 67 and 68, Cheapside, E.C., by Protheroe & Morris.

THURSDAY NEXT—
Trade Sale of Dutch Bulbs by Protheroe & Morris, at 67 and 68, Cheapside, at 10.

The recent appearance in the London drug market of some fourteen bags, each weighing, it was said, three-quarters of a hundred-weight, containing unknown roots from Colombo, has drawn fresh attention to the fact that such unknown articles of commerce are frequently introduced in this way, and, finding no buyers, as in this case, are lost to commerce. The "roots," which were so classified in the broker's catalogue, proved to be those of *Coscinium fenestratum*, a Menispermaceous climbing plant of Ceylon and Southern India. It is noted for its bright greenish-yellow colour when freshly cut, as well as for its very broad medullary rays. It is sometimes known as False Calumbia, and has been used as a substitute for true Calumbia, which is the root of *Jateorhiza Columba*, a climber of the forests of Mozambique. Both in India and Ceylon the root of the *Coscinium fenestratum* has been spoken favourably of by many writers on medicinal products, and it is said to be now official in the Indian Addendum of the Pharmacopœia, besides which, the yellow colouring matter is used as a dye. A letter in a recent issue of our contemporary, "The Chemist and Druggist," written by an

authority on drugs, comments on the practice that prevails at the English drug auctions of consigning new, or unknown products, which fail to find buyers, to the rummage sales, or the dust destructor. "While the Hamburg shippers and German drug houses," he says, "are careful to get supplies of out-of-the-way drugs, in this country it is quite a matter of chance for a new, rare or unrecognised product to even get catalogued correctly, so that new products, whether drugs or other articles, get but little chance of being known or tried." New uses are constantly being found for products that a few years ago were considered of no value, and it is, therefore, important that an expert opinion as to

so that when roasted, as they usually are before being sold, they are perfectly wholesome. The tree belongs to South America and the West Indies, but it has long been established in India, the bulk of the shipments received in England having been obtained from Bombay. Large quantities of these so-called nuts are now annually exported from the East Coast of Africa, namely Zanzibar, Inhambane, Beira, Quillimane and Delagoa Bay to European ports. The Bombay shipments to England mostly come in the shelled form, that is, the kernels are removed from the outer shell, which is hard and woody. It is further stated that Madras is now sending to England large quantities of these shelled and



FIG. 51.—RHODODENDRON [RHODOTHAMNUS] KAMTSCHATICUM: FLOWERS CARMINE PURPLE, FROM SPECIMENS EXHIBITED BY MR. G. REUTHE.

the sources and properties of unknown articles should be obtained before these are offered for sale. It could then be determined whether the article could be turned to any good purpose, or whether its use was only as a substitute for any other well-tried substance.

Bearing upon this subject is the increase that has recently taken place in the importation of Cashew nuts, the fruit of *Anacardium occidentale*. As edible nuts they have hitherto been but very little in demand in this country, their unpopularity being probably due to a great extent, to the presence of an acrid juice between the shell and the kernel itself. This, however, is dissipated by heat,

blanched kernels. Considering that these Cashew nuts realise in the Mincing Lane market from 19s. to 24s. per cwt., there is apparently a new development of their use springing up.

A reference to the Cashew nut would not be complete without noticing the peculiar habit of the plant in the production of its fruit. The so-called nut, which is kidney-shaped and covered with a hard shell, is borne at the top of a pear-shaped, fleshy receptacle or swollen stalk, which, when fully grown, has a reddish tint and is edible, having an agreeable, acid taste, the acrid juice only surrounding the kernel.

OUR SUPPLEMENTARY ILLUSTRATION is from a sketch by Mr. WORTHINGTON SMITH of *Rose Refulgens*, to which an Award of Merit was granted by the Floral Committee of the Royal Horticultural Society on June 23 last. It is a hybrid Sweet Briar, probably crossed back again upon a *Rose*, as the foliage has little resemblance to that of the Sweet Briar, and the flowers are large, being $3\frac{1}{2}$ inches in diameter. The purplish-crimson blossoms are produced in clusters, the individual blooms often numbering twenty in one truss. The flowers are the more ornamental by reason of the golden-coloured stamens, and a whitish ring round the centre of the petals. A large plant furnishes a fine effect, and, owing to its vigorous growth, the variety is adapted for planting as single bushes or in

BOTANICAL MAGAZINE.—The issue of this work for August contains illustrations and descriptions of the following plants:—

CESALPINIA JAPONICA, tab. 8207.—This species was figured in the *Gardeners' Chronicle*, November 3, 1888, p. 513, from specimens obtained from the Coombe Wood nursery of Messrs. JAMES VEITCH & SONS, before the species was distributed. Since Mr. GEORGE NICHOLSON wrote the note which accompanied the illustration on that occasion, the species has been in cultivation at Kew for many years, and Mr. W. WATSON, now writing in the *Botanical Magazine*, states that the plant is only hardy in sheltered positions in the south of England, and that the plant from which the present plate was prepared is one of a group established in

distributed in the North-western Himalaya, 8,000 feet from Hazara, where it was first collected by Dr. J. L. STEWART, and Kashmir, where it was originally obtained by Mr. V. JACQUEMONT, to Kamaon, where it was first seen by Dr. T. THOMSON. The species is very closely allied to *I. atropurpurea*, which is met with, as a rule, at a slightly lower elevation, since it extends to Indo-China, and is believed to occur also in Southern China. The plant forms a shrub of considerable size, with branchlets at first sparingly beset with adpressed hairs, which soon become glabrous. The leaves are alternate, $1\frac{1}{2}$ to 2 inches apart and 7 to 8 inches in length, including petiole. Leaflets, 5 to 9, varying occasionally to 11. The flowers are produced in axillary racemes 3 to 8 inches long and bearing



FIG. 52.—*EUCRYPHIA CORDIFOLIA*: FLOWERS WHITE.
(See "Botanical Magazine.")

rows for hedges. The foliage and shoots are handsome, the former being of a rich dark green colour, and the latter having ruby-red prickles. The plant to which the Award was granted was shown by Messrs. WM. PAUL & SONS, Waltham Cross.

ROYAL HORTICULTURAL SOCIETY.—A meeting of the Committees of this Society will be held on Tuesday next, August 18, in the Royal Horticultural Hall, Vincent Square, Westminster. In the afternoon a lecture on the "Cultivation of Figs in Pots" will be delivered by Mr. JAMES HUDSON, V.M.H.

a recess under the south wall of the Temperate House at Kew, where it has grown practically uninjured by frost for about five years. One of the largest specimens in cultivation is in the garden of Lord BARRYMORE, at Fota, near Cork, and this plant flowers freely every year. The present description is by Mr. T. A. SPRAGUE, who states that the racemes are much laxer in *C. japonica* than in *C. separia*, which it most resembles, and the pedicels are longer, whilst the uppermost petal has red markings, which apparently do not appear in *C. separia*.

INDIGOFERA HEBEPETALA, tab. 8208.—This plant is described by Lt.-Col. PRIN. It is widely

20 to 40 flowers each. The corolla is dark crimson, and the wing-petals and keel-petals rose-coloured. Mr. BEAN states that the plant from which the plate has been prepared is one of the many species bequeathed to Kew by the late Mr. G. C. JOAD in 1881. At Kew the shoots die back to the ground if the plant is grown in the open. Every year, however, slender erect or sub-erect stems, about 4 feet in length, are sent up from the root-stock, and these flower freely during August and September. It is suggested that if the plants were grown against a wall they would probably survive the winter.

EUCRYPHIA CORDIFOLIA, tab. 8209.—This

species is a native of Chile, and was described and figured in 1797 by CAVANILLE, who was responsible for the genus. The systematic position of the genus has always been doubtful, but Dr. OTTO STAFF, the author of the present description, states that, pending a more comprehensive examination of the genus, it seems expedient to follow C. GAY, who, in 1846, made *Eucryphia* the representative of a new order—*Eucryphiaceæ*. LONDON gives 1878 as the year of introduction of this species into English horticulture, but G. DON has a paragraph containing directions for its cultivation as early as 1831, and Dr. STAFF adds that it remained practically unnoticed until 1897, when it flowered in Messrs. VEITCH'S nursery at Coombe Wood, and a figure of it was published in the *Gardeners' Chronicle* (now reproduced at fig. 52). Mr. BEAN states that the species has never succeeded at Kew, even planted against a sheltered wall. Therefore, unless in the south and west of Ireland, the west of Scotland, Cornwall, and similar localities, the species will need to be cultivated in a temperate house.

RHODODENDRON KAMISCHATICUM, tab. 8210.—Mr. J. HUTCHINSON states that this species is found abundantly in the islands and along the coasts in the neighbourhood of Behring Strait, and that it has been in cultivation for at least 100 years, but, owing probably to the difficulty of its cultivation, it is still comparatively rare. It is an undershrub about 6 inches high, and its branchlets are clothed with long hairs; the leaves are annual, sessile, $\frac{1}{4}$ to $\frac{1}{2}$ inches long, and $\frac{1}{2}$ to 1 inch broad. Flowers are solitary, terminating short branchlets. The corolla is carmine-purple, about $\frac{1}{2}$ of an inch long, and $\frac{1}{2}$ inch broad. Mr. W. J. BEAN states that the species is quite capable of withstanding any degree of winter cold it is likely to experience in the British Isles, but it is deciduous, and, like many other deciduous plants from North Asia, is excited into growth early in the season, being therefore liable to have its young growths injured by late spring frosts. It is a species that requires moisture even more than other Rhododendrons. At Kew it has succeeded best when grown in a mixture of peat and silver sand, to which a certain spongy consistency has been given by adding a little chopped sphagnum-moss. It should be given a position where it is shielded from early morning sun in spring, though otherwise fully exposed, and where the soil is naturally or artificially kept always moist. The illustration at fig. 51 has been prepared from specimens shown by Mr. GEORGE REUTHE at the R.H.S. meeting held on June 9 last, when the species was given an Award of Merit.

POLYSTACHYA LAWRENCEANA, tab. 8211.—This species was originally described in the *Gardeners' Chronicle*, August 5, 1893, p. 150, by Dr. KRÄNZLIN. It was discovered in the Upper Zambezi district by Mr. JOHN BUCHANAN, who sent plants to Mr. JAMES O'BRIEN, and the original description in these pages was prepared from specimens which flowered in the collection of Sir TREVOR LAWRENCE, Bart., at Burford, Dorset. The flowers are yellowish-green, with a rose-pink lip. The present description is by Mr. R. A. ROLFE.

THE ROYAL BOTANIC SOCIETY.—The 69th anniversary meeting of the Royal Botanic Society of London was held on the 10th inst. at the Gardens, Regent's Park, the chair being taken by Mr. C. BRINSLEY MARLAY, vice-president and treasurer of the Society. The reports of the Council and auditors were passed, and the following Members of Council re-elected:—Lord BREADALBANE, Lord HOWE, Mr. C. BRINSLEY MARLAY, Sir WILLIAM DUNN, Colonel HUGH FORTESCUE, Mr. H. J. GREENWOOD, Mr. MONTAGU HUTTON, and Captain J. SPARKS. The chairman announced

that the number of new Fellows elected had been greatly in excess of the previous year. The Duke of TECK and Mr. C. BRINSLEY MARLAY were re-elected president and treasurer respectively. Commenting upon the outlook the report says: "There is no section of the Society's work in which there is not every indication of a period of approaching prosperity. The Society is happy in having a united Council. The friction arising from inequality of privileges and differences as to the amount of subscription is being done away. The amended regulations as to the use of the Gardens by Fellows and their friends have met with unqualified approval. In 1907 only 42 new Fellows were elected. Up to July, 1908, 60. Fellows and members had been proposed for election. Almost as many visitors had visited the Gardens up to July, 1908, as visited them in the whole year 1907; and from all quarters the opinion has reached the Council that the Gardens were never more beautiful or better kept than they are at present."

ANGLESEY INDUSTRY ASSOCIATION.—We learn from the *North Wales Chronicle* that a meeting of the executive council of this association was held at Llangefni on the 31st ult. Mr. ROBERT SYDENHAM, of Birmingham, attended by request and addressed the members on the possibilities of cultivating bulbs for commercial purposes in Anglesey. He said that first of all they should satisfy themselves as to the suitability of the soil. He gave instances of the success of the industry in many parts of England, but said that British cultivators could not successfully compete with Holland in regard to the cheaper varieties. A number of specimens were submitted for Mr. SYDENHAM'S inspection by Lady BOSTON and others, and he also examined samples of the local soil. The latter he pronounced to be excellent, and the bulbs well developed. Colonel COTTON made a detailed statement respecting his experiments in bulb growing on a small plantation. Sir RICHARD WILLIAM BULKELEY, Bart., said he was astonished to hear from Mr. SYDENHAM that the profit on the cultivation of bulbs in some instances was 200 per cent. The great difficulty in Anglesey would be in respect to distribution and collection. He would like to know whether the profit from the sale of bulbs alone would compensate the owner for the cost of cultivation. An industry for the sale of the flowers would be surrounded with difficulties in Anglesey because of the distances to the chief markets. Mr. SYDENHAM stated that in Holland cultivators made fortunes out of bulbs, but they did not sell flowers. It was resolved that a report of the experiments made, and of the opinions expressed by Mr. SYDENHAM, should be included in the annual report. The council then considered the question of school gardening and other subjects.

ALBERT GALLOWAY.—The death of Mr. ALBERT GALLOWAY is announced in the American papers. He was one of the best known Carnation growers in the vicinity of San Francisco. A native of England, he had resided in California for the last ten years. Mr. GALLOWAY was 40 years of age and had no family. He died at his home at Fruitvale, Cal., on July 12.

M. EUGENE DRAPS, the eldest son of M. DRAPS-DOM, the well-known Brussels nurseryman, whose excellently cultivated stove and greenhouse plants are usually so greatly admired at the Ghent Exhibitions, has commenced business on his own account as a nurseryman at 30, Chaussée de Forest, Brussels.

DR. HERMANN KARSTEN, formerly Professor of Botany at the Berlin University, died on July 13 at the age of 91 years.

MR. ARTHUR CALDERBANK has been appointed instructor of horticulture at the Agricultural College, Holmes Chapel. For some years Mr. CALDERBANK has been gardener to Mr. W. J. CROSSLEY, M.P. Mr. CALDERBANK is chairman of the Altrincham Gardeners' Improvement Society, and holds a seat on the Hale District Council.

SALE OF FUCHSIAS.—The large plants of *Fuchsia* in the Zoological Gardens at Clifton, near Bristol, have lately been disposed of by auction, as, owing to requirements of space, room could not be provided for them. Some of the specimens were more than twenty years old, and included the varieties *Rose of Castile*, Dr. Shaw, *Murenka*, and *Gustave Doré*.

RETARDING PLANTS.—It is announced that M. PHILIPPE DE VILMORIN will give an address on "The Retardation of Flowering Plants and the Preservation of Flowers by the Application of Cold" at the international congress of the refrigerating industries to be held in Paris, on October 5-10, 1908.

ROOF GARDENING IN NEW YORK.—New York quick to adapt itself to altered conditions, has become a city of layers, says the *Gardeners' Chronicle of America*. At the bottom is the subway, then come the cellars, above these the ground-floor stores, then the offices, the flats, the restaurants, and on the roof the gardens. Health faddists sleep upon the roof, children play upon them, and women have their afternoon tea and lounge upon them. Gardening on the roof is becoming an art, at which not only gardeners but amateurs are expert. In past seasons but few plants survived the bright sunshine for longer than a fortnight; but now, by carefully choosing the exposure, providing hedges in boxes, and other kinds of screens, flowering plants and vegetables are made to grow on the roofs. Roof gardens no longer consist of an *Indiarubber* plant and a rocking chair. They are luxuriously furnished and screened from the sun by gay canopies and awnings. Instead of being made of tin, which intensified the sun's glare, the roof is either tiled or thickly strewn with sand or pebbles. Just off Stuyvesant Square a man is raising all the vegetables he requires, including his summer Corn (Maize), Lettuces, Carrots, Spinach, Onions, and Parsley, in deep boxes placed on a roof. An apartment hotel in Fifty-fourth Street possesses a roof made attractive with boxes filled with scarlet *Pelargoniums* around the high sides. On the south side a very high wall is covered with *Ampelopsis*. A good plant for a hedge on a roof is found in *Privet*, when planted in deep boxes. Other species of plants, besides *Pelargoniums*, that, with due care in screening from the sun's rays in hot weather, can be made to furnish plenty of bloom for a length of time, are *Petunias*, Sweet *Alyssum*, *Aloysia citrodora*, *Lobelia erinus*, *Musk*, *Coleus* in variety, dwarf *Nasturtium*, *Heliotrope*, *Auricula*, and *Lavender*. Doubtless many more will be found to do well as time goes on. The wind is as trying for roof plants as sunshine, and it has to be guarded against. In the hot month of August flowers incline to get scarce in the States, and it is especially so in New York City, and more foliage plants should be planted to take their places when the flowering season has passed. We remember to have observed in a much-exposed situation in Lord ARMSTRONG'S garden at Cragside, Northumberland, quadrangles formed of glazed walls, without roofs, within whose shelter plants both tender and hardy grew very satisfactorily, unharmed by wind or sunshine. If our memory serves us rightly, these walls were 10-12 feet in height, and consisted of iron framework glazed with large panes of glass.

MONS. FRED BURVENICH.—On July 26 a large number of Belgian horticulturists and pupils and friends of M. F. BURVENICH assembled in the Casino at Ghent, in order to present him with a testimonial on the occasion of his golden jubilee as State lecturer and principal teacher of arboriculture and vegetable culture at the Ghent School of Horticulture. M. COLLUMBIEN, speaking in the name of the organising committee, warmly congratulated M. BURVENICH on the celebration of his golden jubilee, laying great stress on the services rendered by him to arboriculture and vegetable culture during the half-century of his professorship. Gardeners had received invaluable aid from his numerous works containing theoretical and practical instruction. There was none in Ghent who, during a period extending over 50 years, had given such instructive lectures. The speaker referred to the many useful works for which M. BURVENICH was responsible. M. COLLUMBIEN concluded his speech by offering to M. BURVENICH a bust of himself in bronze, a life-like work, by M. GEORGE MINNE, at the same time handing him an address on which were appended the signatures of all the subscribers. M. BURVENICH expressed his thanks to all those who had taken part in the presentation. M. BRAFFORT conveyed to M. BURVENICH the congratulations of the Department of Agriculture. The proceedings were followed by a luncheon at 2 o'clock, at which M. BRAFFORT presided. Many telegrams of congratulation were read, and the president of the committee, on rising to propose the toast of "The King," announced that H.M. LEOPOLD II. had nominated M. FRED BURVENICH "Chevalier de l'Ordre de la Couronne du Congo." M. ARTHUR DE SMET, in the name of the Chambre Syndicale, offered M. BURVENICH a magnificent gold medal in recognition of the great services rendered by him to horticulture, whereon M. BURVENICH spoke of the merits of the Chambre Syndicale, which, he said, had contributed in a great measure to the development of horticulture in Belgium.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 84-90.)

(Continued from page 106.)

4. MIDLAND COUNTIES.

BEDFORDSHIRE.—Apples are not so plentiful as the quantity of blossom promised; indeed, some varieties are bearing no fruits, but others have over an average crop of very good quality. Pears on walls are bearing good clean fruits; but pyramid trees are bare of a crop. Plums on walls are an average quantity and good. Apricots are scarce, and Cherries are very few. Bush fruits in this district vary. Raspberries are plentiful and good, Gooseberries an average quantity, but Black and Red Currants are below an average crop. Strawberries have been very plentiful and good. Our soil is a heavy loam overlying clay. F. J. Foster, Cranfield Court Gardens, Woburn Sands.

—Notwithstanding the unfavourable weather experienced during the past spring, and especially on April 23 and 24, when fruit trees and bushes were covered with 8 inches of snow, we have every reason to be satisfied with the fruit crop in this district on the whole. Strawberries have been an exceptionally good crop, but Black Currants are below an average one in quantity. George Mackinlay, Wrest Park Gardens, Ampthill.

BUCKINGHAMSHIRE.—The fruit crops in orchards about this district are very light indeed, for few of the trees produced much blossom, and many none at all. The trees are clean and healthy, and very promising for 1909. W. Hedley Warren, Aston Clinton Gardens, Tring.

—The spring of 1908 was full of promise for a full crop of hardy fruits of all kinds. Cold winds and frost at night-time during the month of March kept the flower-buds backward, and all was well until the disastrous snowstorm on the night of April 24, which spoiled the Apple and Pear crops. Gooseberries were in flower at the time and the embryo fruits were ruined. Pear and Apple buds were chilled, and on standard trees in the open orchard they failed to expand and dropped off. Our best crops are on pyramid trees. Grenadier, Bramley's Seedling, and Lane's Prince Albert Apples are all very good. Chas. Fay, Dromore Gardens, Maidenhead.

DERBYSHIRE.—The Apple crop is a very irregular one. Most trees of the Codlin type, together with Devonshire Quarrenden, Lane's Prince Albert, Cellini Pippin, Dumelow's Seedling, and a few other varieties are heavily cropped, while other varieties have scarcely a fruit. Plums and Damsons are almost a failure, but the few fruits seen are very good. Pears in common with Apples, are an irregular crop, but on the whole, they are not much under an average quantity. Continuous rains spoiled the last fruits of a heavy crop of Strawberries, but they did much good to all other fruits, as the previous drought had begun to tell severely on all crops. J. C. Tallack, Shipley Hall Gardens, Derby.

—In this district the crops may be described as good. The weather in late spring was favourable for the trees when they were in bloom, the orchards then presenting a pleasing picture, especially the Apple trees, which are now well loaded with fruits, which promise to be of good size and best quality. Gooseberries and Currants escaped the late spring frosts, and are good crops. The Loganberry is being extensively planted everywhere; the strong soil here favours its rapid growth. I have plants of it in my garden planted 18 months ago that have made growths this season 8 and 9 feet long, and they promise to be double that length before they finish growing. Bailey Wadds, 181, Uttometer New Road, Derby.

—We experienced an exceptionally good May, the month being quite free from east winds and severe frosts; as a consequence, the foliage of the trees is very healthy. The fruit crops generally in this district are much above the average both in quantity and quality. F. G. Mills, Lanside Home Farm, Glossop.

HERTFORDSHIRE.—Some of the fruit crops in this district are much under the average in quantity, especially Apples and Pears, but the few fruits of these are of excellent quality. Plum, Peach, and Nectarine trees are all carrying good crops. Most of the small fruits are good, especially Raspberries, Gooseberries, and Currants; some of the bushes are breaking with the weight of the fruit. In some places Strawberries have been a poor crop, but here the early varieties have furnished excellent fruit; whilst the late varieties are suffering from the excessive rains, and many of the berries are decaying on the plants. Givon's Late Prolific Strawberry withstanding was better than Filbasket of Latest of All, and the fruits are large and handsome, with a good flavour. C. E. Martin, The Hoe Gardens, Welwyn.

—Although Apples promised an exceptionally good crop, they are not plentiful, owing to many falling when very young. The fruits, however, are very clean, this being especially noticeable in the case of trees that were sprayed thoroughly last winter. We have a light crop of Pears, probably due to the combined effects of last year's heavy crop and the unfavourable autumn weather for ripening the wood. Peaches and Nectarines are a fair crop; Cherries very good; Strawberries without exception, have been a splendid crop. Of small fruits, Raspberries are heavily cropped with fine fruits. H. Frim, Hatfield House Gardens, Hatfield.

—The shoots made by hardy fruit trees last season were insufficiently ripened, and this is one of the chief causes of scant crops. The heavy snowfall last April minimised the effect of frost upon the blossom to a great extent. F. W. Gooch, The Gardens, Edge Grove, Watford.

—Apples are looking remarkably well, and of this fruit there are good crops of most varieties, and the trees are very clean. Pears are

thin, but Cherries of all kinds are extra good. Bush fruits are all good, and Strawberries were never a better crop, the variety British Queen being very fine and of excellent quality. Edwin Beckett, Aldenham House Gardens, Elstree.

—We have a heavy crop of Apples here, but Pears are much under the average. The same remark applies to Apricots, which, in common with Pears, suffered from late frost when the trees were in bloom. Carter's Prolific Raspberry is bearing a heavy crop, also the Loganberry. The crops of Strawberries have been very good, including the varieties Royal Sovereign, Filbasket, Guntun Park, Leader, Givon's Late Prolific, and Waterloo. Hy. Farr, Trent Park Gardens, New Barnet.

—Apple and Pear trees flowered well, but did not set their fruits, and this remark also applies to Peaches and Cherries. The weather at the time of flowering was favourable, but the temperature of the soil must have been lowered considerably by the melted snow after the great snowstorm, and this circumstance probably caused the fruit to set badly. Plums do not appear to have been injured. C. R. Fielder, North Myms Park Gardens, Hatfield.

—The fruit crops in this district are generally well up to the average. Apples are a good crop, but Pears are somewhat scarce. All small fruits are abundant, and the bushes are very clean. Of Nuts there are scarcely any, with the exception of Walnuts, of which we have a fair crop. William Poole, Hadham Hall Gardens, Ware.

LEICESTERSHIRE.—The anticipation early in the season of an abundance of all fruits has not been realised. Apples are perhaps the best crop, the most reliable kinds being Newton Wonder, Lane's Prince Albert, Northern Greening, Bramley's Seedling, Stirling Castle, Belle de Pontoise, Lord Grosvenor, and Seaton House. Plum trees are only partially cropped on walls. Apricot trees did not flower owing, no doubt, to a lack of sunshine in 1907. Gooseberries and Black Currants are failures. Red Currants are small and scarce; they were much damaged by frosts in April. Raspberries and Strawberries have given a full crop of good fruits. D. Roberts, Prestwold Gardens, Loughborough.

—The very profuse flowering of Apples has not been followed by such a heavy crop as was expected. Dry, bright weather at the time of flowering was very favourable to caterpillars, and much of the blossom fell early. Cherries also suffered from caterpillars, which is quite an unusual circumstance. Gooseberries fell off, owing to frost, before the flowers opened. Raspberries have done well, and Strawberries are a very heavy crop. Latest of the Latest, Dr. Hogg, The Countess, Royal Sovereign, and Waterloo being the best varieties this season. W. H. Divers, Belvoir Castle Gardens, Grantham.

NORTHAMPTONSHIRE.—The fruit crops here are generally under an average quantity. We have no Gooseberries owing to late frosts. Red Currants are scarce, whilst Black Currants are about half a crop. Early Apples, such as varieties of the Codlin type, are plentiful, but late Apples are scarce. Pears are a medium crop, and many of these fruits are much damaged by cold winds and the Pear maggot. Silas Cole, Althorp Park Gardens, Northampton.

—Strawberries have been the heaviest crop I have ever had. Lane's Prince Albert Apple is always satisfactory in these gardens, and this year the trees are carrying a heavy crop. Apricots and Gooseberries are almost failures. W. Batchelor, Stoke Bruerne Park Gardens, Towcester.

—The fruit crops in general are very inferior to those of ordinary seasons. There was, however, a fine show for all fruits, but owing to late snow, followed by blight, in the case of Apples and Pears, they are failures. Late frosts ruined the Walnut crop. Thos. Masters, Lower Shuckburgh, Daventry.

NOTTINGHAMSHIRE.—In the spring there was a great promise of abundant crops of Peaches, Nectarines, and Apricots, but on the morning of April 24, 8° of frost were registered, which completely destroyed the prospect. All small fruits are splendid crops. Strawberries are the best I have known for many years. Apples are also good, but Pears are not more than an average number. White Heart and Black

Tartarian Cherries are good, and Morellos promise well. The foliage of all trees is vigorous and very clean. *James B. Allan, Osberton Gardens, Worksop.*

OXFORDSHIRE.—Strawberries have been an extra good crop, and the berries of the best quality. This remark also applies to Raspberries and Black and Red Currants. Gooseberries dropped freely after setting, but the fruits that remain are of good quality. Cherries have also dropped in quantity. Peaches and Nectarines were never better. Although many Apples have fallen, there are plenty left. Pears set very well, and, although many are cracking, they are otherwise good in quality. *A. W. Perry, Middleton Park Gardens, Bicester.*

—Generally the fruit crop in these gardens is a good one. The trees are maintained in a healthy fruiting condition by a periodical examing of the roots for the purpose of keeping them as near to the surface of the soil as possible, and thereby preventing them entering the chalk strata. Pears on walls are a good clean crop, also Morello Cherries. Some varieties of Plums cropped heavily. Apricots are scarce, but there is a good crop of Peaches. Apple trees on the Paradise stock are carrying heavy crops of fruit, which have necessitated much thinning; on old standard trees the fruits are small. Seldom before have Strawberries proved so good and plentiful in this district, Givon's Late Prolific suiting our soil. Raspberries are abundant, and Gooseberries of some kinds are full crops. Black Currants bear particularly fine fruit in this neighbourhood, and they are plentiful. *W. H. Clarke, Aston Rowant Gardens, Wallingford.*

—Apricots last year were so heavily cropped that our trees did not flower this season. There was also no blossom on many trees of Apple, Plum, and Pear. After such a cold summer as last year one could scarcely expect fruit buds to form. The foliage of Cherry and Apple trees has been much disfigured by caterpillars. *A. J. Long, Wyfold Court Gardens, South Oxford.*

The fruit season of 1908 will be remembered for an almost complete failure of the Gooseberry crop. Raspberries are plentiful and of good quality. Currants of sorts are by no means so plentiful as is usual in these gardens. *J. Broadfoot, Shotover Gardens, Wheatley.*

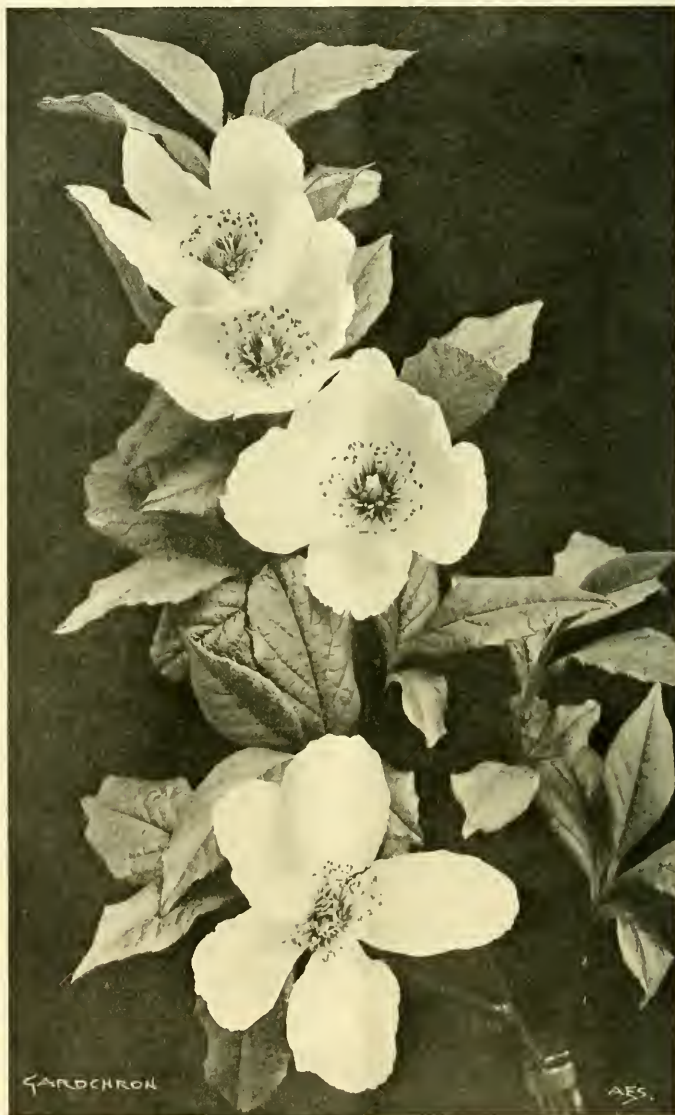
SHROPSHIRE.—Owing to severe frosts in May the early flowering Apples are a thin crop, but the later flowering varieties, such as Jubilee, are plentiful. Most of the trees on the Paradise stock are bearing a heavy crop of good clean fruits. The same remark applies to Pears and Plums; on sheltered trees and late flowering varieties there are sufficient fruits. Apricots and Peaches suffered greatly from the frosts of May, and are very scarce. Strawberries are a splendid crop, in fact, the best for years past. Other small fruits are an average crop only, Gooseberries, especially, being very few. *A. Daggart, Moor Park Gardens, Ludlow.*

—From the soft, unripened condition of the wood at pruning time, I expected poor returns from the fruit trees this season, and this is the case. The Apple crop is very thin, even in the case of free-cropping varieties. Pears on south and west walls, and on pyramid and bush trees are a poor crop. Plums are a medium crop; but Cherries are good. Peaches and Nectarines are much below an average quantity. Figs on wall trees are satisfactory. Amongst bush fruits, Gooseberries, Raspberries, and Red Currants are excellent. Strawberries have been abundant and of good quality. All our fruit trees were sprayed during the winter, and are now clean and healthy. Our soil is of a close, tenacious character, resting on a clayey subsoil. *Chas. Roberts, Halston Gardens, Oswestry.*

Fruit trees of all kinds appear remarkably healthy, and are making good growths. Peach trees in particular. The bloom on trees was irregular and not at all general; then, on April 25, frost ruined the Peach and Pear bloom, although protected, and Potato haulm 3 inches high close under the wall was cut down. I did not consider the individual blooms at all strong, which was not to be wondered at after the cold, wet summer of the previous year. However, things promise well for another year if the autumn is favourable. *John Taylor, Hardwicke Grange Gardens, near Shrewsbury.*

STAFFORDSHIRE.—There was an abundance of blossom on all kinds of hardy fruit trees. Apples, Cherries, and Strawberries all set grand crops; the fruits of the latter were not only produced in quantity, but were also of good quality. Pears are thin but good in quality. Bush fruits promised well, but the heavy fall of snow experienced just at the time the fruits were

situated lies low, and therefore we suffer greatly from late frosts, which this year destroyed many Gooseberries. Currants are an excellent crop. Some varieties of Apples, such as Bess Pool, Lane's Prince Albert, Golden King, Cox's Pomona, and Worcester Pearmain, are well fruited. *A. Cheney, Shenstone Court Gardens, Lichfield.*



[Photograph by E. J. Wallis.]

FIG. 53.—STUARTIA MALACHODENDRON, AN ORNAMENTAL DECIDUOUS SHRUB: FLOWERS WHITE.

setting reduced the crop very much, especially in the case of Black Currants and Gooseberries. *Geo. Woodgate, Rolleston Hall Gardens, Burton-on-Trent.*

—The district in which these gardens are

WARWICKSHIRE.—All kinds of fruit trees flowered freely, and had it not been for the cold, ungenial weather experienced during both the flowering and the setting periods, we should have had full crops, but this is not so. Plums

do not amount to even a moderate crop, and the same may be said of Pears. Apples have fared better, but the set of fruit upon many of the trees has fallen far short of what was expected at the time of flowering. Some trees are heavily laden, some have few fruits, and others none, and this appears to be general around this neighbourhood. Cherries seem to have fared better, and especially Morellos, which are very promising. Strawberries were plentiful, and they rank as the best fruit crop of the year. Black and Red Currants and Raspberries have given fairly good returns, and, judging from what I can see in my own place, I think the Loganberry has come to stay, although I am not quite satisfied with the flavour of the fruit. In this opinion birds seem to agree, as they do not appear to eat them whilst there are other fruits about. There is a small Apple orchard at Barton Hall near here, the country residence of J. Roderick, Esq. There are many varieties of Apples in this orchard, and amongst them is a long avenue of Bramley's Seedling. They are standard trees, with fully-developed heads all around, reaching down to the ground, and they are now heavily laden with fine promising fruit. With the exception of a little thinning occasionally of internal shoots, these trees are allowed to grow quite naturally. Such is their superior condition of culture, that I question if it much better lot of fruited trees could be found in any of the overseas fruit-growing districts of the world. At Barton Hall there are 4½ acres of fully-grown Walnut trees; these, too, are heavily laden with clusters of fine healthy fruit, having from three to nine nuts in each cluster. W. Miller, Berkswill.

(To be continued.)

STUARTIA MALACHODENDRON.

This ornamental shrub is a native of North America, and has been known as *S. virginica*, being found in Virginia as well as in others of the United States. It is a showy-flowered species, and forms a fine ornamental shrub for gardens; in favoured spots in this country it will grow to a height of from 6 to 12 feet. The leaves are oval in shape, being acute at both ends; they are light green in colour and pubescent beneath. The flowering season in this country is July and August, but in its native habitat it flowers during May and June. The stamens are purple and spreading, which distinguish this species from others.

In planting, a moist situation should be selected, for the roots must never be allowed to become dry, and the soil should have incorporated with it a considerable quantity of peat. The site should be a sheltered one, for the shrub is likely to suffer if exposed to cold winds, and more so than from low temperatures. The species was illustrated, from a sketch, in these pages October 6, 1877, p. 433, our present illustration at fig. 53 being from a photograph by Mr. Wallis.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

MITES ON POT PLANTS.—When pot plants are found to be in an unsatisfactory condition of growth, under normal cultural conditions, and the presence of mite or other insect pests is suspected, either dipping or spraying with some approved insecticide should be practised. This is best done in the evening, as the specific will not so readily evaporate from the foliage as in the day-time. I have found the XL-All liquid insecticide the most efficacious, but clear foot water is also effectual if frequently used, and in some cases better than any other preparation. Quassia extract I have also proved to be very good. A small winglessful of XL-All liquid to two gallons of water is a safe and effectual quantity for use. Where plants have been infested with mites, causing their growth to be unhealthy and stunted, I have noticed a marked improvement in a few days after using one or other of the above preparations. On the wall trees of Plum and Morello Cherry, I have found the foliage early in the year to be attacked with a minute insect which has turned the leaves a

silvery tint, almost like a slight attack of the silver-leaf disease. My remedy in that case has been to syringe the foliage in the evening with a solution of soft soap and washing soda, using 4 lb. of soft soap and 2 lb. of soda dissolved in three gallons of boiling water; a quart of this solution to two gallons of water is a safe and effectual cure. F. Street, The Gardens, Ardwell, Wigtownshire, N.B.

THE WAR ON RATS.—In order to obtain accurate information regarding the nature and extent of the damage done by rats within the United Kingdom, my committee has prepared a schedule of questions which they desire to place into the hands of all those who are in a position, from their own experience, to give valuable information concerning temporary or permanent rat plagues in their districts, the damage inflicted by rats, the steps taken by them—individually or in co-operation with others—for preventing such damage, the means chosen for that purpose, and the results obtained. As the only means of gathering important knowledge of that kind is by favour of the Press—short of undertaking the appalling task of sending the questions to every one likely to suffer, or to have suffered, loss through rats, that is, to every householder in the country—my committee venture to hope that you will permit an appeal to your readers to support the society by asking for a copy of the schedule and returning it with such information as they may be able to impart. A. E. Moore, Secretary, Society for the Destruction of Vermin, 95, Wigmore Street, London.

RENANTHERA COCCINEA.—A plant of *Renanthera coccinea* flowering in June in Mrs. L. C. Joad's garden at Patching, Worthing. It had an inflorescence about 2 feet long and 2 feet wide, bearing 55 flowers fully out. This Orchid I think, rather shy in flowering; it has flowered here five times in 26 years. The plant is 14 feet long, growing on a piece of wood fastened to a rafter in the fernery. I enclose a photograph.—[Unsuitable for reproduction.—Ed.]—Charles Hack, Patching Gardens, Worthing.

ISMENE CALATHINA.—It may not be generally known that this pretty bulbous plant is improved in health by being planted out-of-doors after flowering, where it should remain till frost destroys the leaves. The bulbs should then be lifted and placed under the stage in a warm house and kept dry. By this method of treatment the bulbs increase in size and vigour, and develop two or three flower-spikes. As these develop early, the bulb would, in any case, be greatly weakened if it were dried off immediately after flowering. F. M.

GRAFTING THE DOUBLE-FLOWERED VARIETY OF GYPSOPHILA PANICULATA.—As this variety is somewhat difficult to raise from cuttings, growers have had to adopt another method of propagation. This is by grafting, and it is surprising what a large quantity of plants can be secured from one or two stock plants in a short period, provided proper attention is given to the operation. The plant or plants from which the grafts are to be taken should be carefully lifted, potted and placed in a warm temperature, for little success is obtained if the grafts are taken from plants growing in the open garden. To secure roots for stock plants, carefully all reserve plants of the species, and cut off all the available pieces of roots. These need not be more than 3 or 4 inches in length, whilst pieces considerably thicker than the grafts can be utilised. When the shoots to be employed as grafts are about 3 inches in length they are ready for working, and can then be grafted on to roots which correspond to them in thickness. If the roots are much thicker than the scion it is advisable to cut notches in them in a triangular form about 1 inch long, and the graft should be similarly prepared and made to fit therein. All the newly-grafted portions should be laid in damp moss until it is convenient to pot them, and for this purpose an ordinary compost is suitable. A closed case with a temperature of 60° to 65° is necessary for their accommodation, and into this some such material as coconut fibre or leaf-mould should be introduced for flugging purposes. After the union has taken place the plants should be removed from the case, and in a week or two they will furnish other grafts or scions from their top shoots. W. B. Little, 21, Haverfield Gardens, Kew.

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

AUGUST 4.—*Present:* E. A. Bowles, Esq., M.A., F.L.S. (in the chair); Messrs. Fawcett, Bennett-Poe, Douglas, Holmes, Masse, de B. Crawshaw, Fraser, Shea, Saunders, and Chittenden (secretary).

“*Black-eye*” of *Carnations*, &c.—MR. MASSEE, V.M.H., showed flowers of various species of *Dianthus*, including *Carnations*, affected by the fungus *Ustilago violacea*, which develops its spores in the anthers of different species of *Caryophyllaceæ*. The fungus is common to wild plants belonging to the order, but is less common on cultivated plants. The mycelium is perennial in the tissues of its host, and therefore plants are best destroyed; affected plants can only be attacked when in the seedling stage or in the young shoots, and nothing can be seen of the fungal attack until the fruiting stage is reached in the anthers of the host. It is then known by the blackish dusty mass of spores in the centre of the flower.

An uncommon fungus.—MR. HOLMES, F.L.S., showed numerous specimens of the curious saprophytic fungus *Gaster Bryantii*, which had occurred in a dry border recently manured with farmyard manure in his garden at Sevenoaks.

Listrostachys forcipata.—MR. DOUGLAS, V.M.H., showed a plant of this rare and beautiful little Orchid, bearing several of its curious delicate white flowers, the perianth of which is apparently but one cell in thickness. The plant is a native of dense forests in Buea, Cameroons, at an elevation of 4,200 feet. (See Kranz in *Engl. Jahrb.* xix. 254; *Flora Trop. Afr.* viii.) A Botanical Certificate was unanimously recommended for this plant.

“*Wheat-ear*” *Lychnis alba*, &c.—MR. FRASER, F.L.S., showed specimens of this plant, having the bracts usually below the flower repeated again and again, the flowers themselves being almost aborted, the sepals being much laciniated. Similar peculiarities are produced in certain plants through the attacks of *elworm*. MR. BOWLES, M.A., showed a similar peculiarity in *Dianthus superbus*, the plant bearing the inflorescence having been taken from a plant showing the same peculiarity exhibited by Canon ELLACOMB last year.

Sweet Peas dying.—MR. FRASER also showed Sweet Peas with prematurely yellowed foliage. The root had been attacked by the fungus *Thielavia basicola*, a species of which is apparently very common this year.

Salix undulata.—MR. FRASER also showed two specimens of Willow shoots cut from the same bush at different periods in the year. In April the ovary was completely glabrous; but in August the ovary had become pubescent—a character typical of *S. undulata*.

Variation in plants.—MR. SHEA made some observations upon this subject, exhibiting variegated leaves of a Sunflower. Last season one side (that towards the magnetic north pole) had shown variegated leaves, the remainder of the foliage being normal. He had saved seeds from that side of the inflorescence, and the seedlings were weaker and bore variegated leaves throughout, while seeds from other parts of the inflorescence produced normal plants. MR. SHEA said that he had observed in other cases flowers of a beautiful vibrant blue, others of a pinkish tinge, and others again streaked and splashed with both colours. All the flowers of some shoots were of one colour, of others the two colours were restricted to separate flowers, and in others the whole of the flowers were of both colours intermingled. It was noticeable that there were no intermediate shades of colour.

Variation in Delphinium “Caroline Queen.”—From Messrs. VEITCH, Chelsea, came inflorescences of this *Delphinium* showing some flowers of a beautiful vibrant blue, others of a pinkish tinge, and others again streaked and splashed with both colours. All the flowers of some shoots were of one colour, of others the two colours were restricted to separate flowers, and in others the whole of the flowers were of both colours intermingled. It was noticeable that there were no intermediate shades of colour.

Varieties of Epilobium hirsutum.—Mr. BOWLES, M.A., showed specimens of the normal form of *E. hirsutum*, a very hairy form, with deeper flowers, from South Europe, a form with white petals and rose-stamens, a form with white petals and stamens the ovary, however, showed the usual red tinge), and a virescent form.

Ants and aphides.—The following communication was received from the Rev. H. E. BISHOP, M.A., Middleton Vicarage, King's Lynn:—"Some Gooseberry bushes are trained on a north wall in my garden. During the wet weather I noticed that many shoots were encrusted with sand and lime (somewhat in the manner of the case of a caddis worm), and on breaking this away we were surprised to find the shoot covered with aphides and the ants busy among them. After examination we came to the conclusion that the ants had constructed the cases to prevent the aphides being washed away by the rain. The piece broken away was repaired the next day. The upper leaves seemed to serve as a roof, and the sand built round left a clear passage way round the aphides. Since the settled fine weather the casings have been completely cleared away." Mr. CHITTENDEN observed that he had seen a similar thing in a greenhouse, where the ants constructed a covering over aphides on the stem of a Cineraria.

SCOTTISH HORTICULTURAL.

AUGUST 4.—The monthly meeting of this association was held at 5, St. Andrew Square, Edinburgh, on the above date. Mr. Whytock, the president, was chairman, and there was a good attendance of the members. Mr. C. Comfort, Broomfield, Davidson's Mains, read a paper on "Modern Gardening Appliances." The paper was of a very comprehensive nature, bringing within its scope almost every conceivable implement and appliance (of which Mr. Comfort had an excellent collection) used by the gardener in the pursuit of his calling.

Some interesting plants were exhibited at the meeting, and the adjudicating committee awarded a First-Class Certificate to a new early-flowering Chrysanthemum named "Rob Roy," raised by Mr. WM. ROBERTSON, Pilrig House Gardens, Leith. Some seedling Cananans, the result of crossing border kinds with "Malmaison" varieties, were shown by Mr. R. VALLANCE, Cardean Gardens, Meigle, Perthshire. The interesting point in connection with this cross is that single-flowered varieties rarely appear, whereas when border Cananans are crossed with border varieties the majority of the seedlings are single. Specimens of the "sleepy" disease of Tomato were shown by Miss BURTON, Polton, and Mr. R. CAIRNS, Murieston, Mid-Caldor; the new Sweet Pea "Mrs. Bieberstedt" by Messrs. BELL & BIEBERSTEDT, Leith; Raspberries "Hornet" and "Superlative," by Mr. W. G. PRIDE, Dalhousie Castle Gardens, Midlothian, to show the superiority of the former to the latter in so far as it leaves the "core" more readily when it is pulled; Rambler Rose "Tausendschön," Phlox "Tapis Blanc," and flowers of white (annual) Asters, with very long stems, from plants sown in the open ground, and not transplanted, by Messrs. TODD & Co., Edinburgh. Mr. LITTLE, Saughton House Gardens, Edinburgh, had an exhibit of Sweet Peas; and Mr. JOHNSTONE, Hay Lodge, Edinburgh, one of Fuchsias.

Three new members were elected. The paper for the next monthly meeting, on September 1st, will be by Mr. Thomas Fender, Cultoquhey, Crieff, on "The Pleasures and Penalties of Vegetable Judging, with Suggestions as to Improved Methods of Staging."

ROYAL HORTICULTURAL OF IRELAND.

AUGUST 5.—Associated with the customary annual exhibition of this important Irish association was held the second provincial show of the National Sweet Pea Society. The venue was the Royal University, and to accommodate the various exhibits several rooms had to be requisitioned, with the unfortunate result that the spectacle was poor in comparison with what it would have been had space proved available in

one large hall, but the quality in some of the classes was most creditable. The section devoted to Sweet Peas was extensive, and some magnificent blooms were contributed from various parts of Ireland, but the Edwards' Provincial Trophy was won by an English exhibit from Mr. T. STEVENSON, Woburn Place Gardens, Addlestone, with a superb collection. Practically all the classes were contested with keenness. The arrangements were well carried out by the secretary, Mr. Edward Knowlind. The National Sweet Pea Society was officially represented by its secretary, Mr. Chas. H. Curtis, and Mr. Horace J. Wright.

THE GENERAL EXHIBITION.

Considering the date of the show, the Rose exhibits were good, especially in those classes where Messrs. HUGH DICKSON, Belfast, and ALEX. DICKSON & SONS, LTD., Newtownards, were the contestants. The former firm's set of 72 blooms were bright and fresh. Some of the best examples were Hugh Dickson, Etienne Louis, Her Majesty, Ben Cant, and Bessie Brown. In Messrs. A. DICKSON & SONS' 2nd prize collection Frau Karl Druschki, Mildred Grant, and Mrs. John Laing were notably good. In the class for 12 blooms the positions of the prize-winners were maintained, substantially the same varieties being included. Messrs. A. DICKSON & SONS, LTD., staged alone in the class for 24 blooms of Tea Roses, and received the 1st prize. In the class for a table of Roses arranged for effect, Mr. HUGH DICKSON won the 1st prize, and Messrs. A. DICKSON & SONS the 2nd, both having exhibits of conspicuous beauty. Roses shown by amateurs were fairly numerous, and, in some instances, meritorious. Messrs. W. H. CALVERT, J. S. B. SARNOR, R. J. C. MAXNELL, T. F. CROZIER, A. PANTON, and S. S. MILLER, the Hon. Mrs. BARRY, and Dr. O'DONEL BROWNE were prominent prize-winners.

The class for a collection of hardy cut flowers was a splendid one, both Captain LEWIS RIAL, Bray, and the Rt. Hon. Lord PLUNKET staged excellently. For 12 hardy annuals of distinct kinds, Dr. O'DONEL BROWNE was a good 1st prize-winner with examples showing excellence of culture: the flowers were bright, fresh, and effectively staged. The 2nd prize was won by the Hon. Mrs. BARRY, who also showed well. There were several exhibitors in the class. Asters in vases were attractive, and the blooms shown by Mr. H. J. B. CLEMENTS were beautiful samples. Carnations and Picotees were not so well shown as might have been anticipated, but Mrs. TACKBERRY, and Messrs. A. ARMISTRONG and H. CARROLL had good blooms.

For 24 Cactus Dahlias, Mr. R. H. STUBBER was an easy 1st prize-winner with a clean, even set of the leading varieties; 2nd, Mr. C. M. DOYNE. For six varieties of the same flowers, shown in vases, Mr. W. ROSS was awarded the 1st prize.

Cut blooms of double tuberous-rooting Begonias were superbly staged, the 1st prize collection of 36 blooms, shown by Mr. G. C. STAPLETON, being almost perfect; Mr. R. H. STUBBER was awarded the 2nd prize. For 12 blooms, Mr. T. F. CROZIER and Mr. R. J. C. MAXNELL were 1st and 2nd respectively, and again the blooms were excellent. There were classes for cut blooms of single and double Zonal Pelargoniums, as well as for plants in pots, and in each case Mr. ERNEST BEWLEY showed the premier examples.

Exhibits of fruits and vegetables were shown fairly largely, but, except in the classes for Currants, there was nothing of outstanding merit. Black and White Grapes and other choice fruits helped to render attractive the room in which this section was staged.

SWEET PEAS.

The classes for Sweet Peas were very numerous, and sub-divisions were made for Irish growers, for amateurs only, and for all comers, and in every case the average quality was high. The blooms being fresh, bright, and of good substance, while the number of coarse stems, which very nearly succeeded in making even the Sweet Pea ugly, were few. As has already been said, Mr. T. Stevenson (gr. to E. MCCARTY, Esq., Woburn Place, Addlestone, Surrey) won the handsome Challenge Trophy presented by Mr.

Ernest J. Edwards for competition amongst amateur growers at the provincial exhibitions of the N.S.P.S. Twelve varieties were called for, and the winning set was excellent in every respect. Mr. King (gr. to Lord DUNLEATH) was 2nd, and Mr. J. Reid (gr. to G. T. RICHARDSON, Esq.) 3rd. There were no fewer than nine competitors in this class.

Messrs. A. Dickson & Sons, Ltd., offered a very handsome bowl, open only to Irish growers, for 12 distinct varieties of Sweet Peas. The competitors numbered no fewer than 21, and almost all of them staged strongly. The place of honour was handsomely won by Mr. E. COWDY, Greenhall, Longhall, who had beautiful bunches of Mrs. Hardcastle Sykes, Prince of Asturias, John Ingman, Marjorie Willis, Evelyn Hemus, the Marquis, and Yellow Spencer, among others. Mr. King was worthily placed 2nd with Sutton's Queen, King Edward VII., White Spencer, Helen Lewis, St. George, and Queen Alexandra as his best varieties. The 3rd prize went to Miss OSBORNE, Dardistown Castle.

In the class for six bunches, distinct, Mr. Davies (gr. to Mrs. GOODBODY, Obelisk Park, Blackrock) won the 1st prize with the varieties Etta Dyke, Countess Spencer, Helen Lewis, Mrs. Hardcastle Sykes, King Edward VII., and Queen Alexandra. The 2nd and 3rd prizes were won by Messrs. H. J. R. DIGGES, Donnycrow, Dublin, and A. PHIPPS, St. Anne's, Terenure, in the order named. The National Sweet Pea Society's Silver Medal was included in the premier prize in this class.

For three bunches of Sweet Peas, distinct, Messrs. J. HALL, Moy, Co. Tyrone, and F. V. WESTBY, Dundrum, were awarded the 1st and 2nd prizes respectively, the winner showing beautiful bunches of Helen Lewis, Countess Spencer, and Dorothy Eckford. With the exception of the Edward's Trophy Class, the preceding were restricted to Irish growers.

Four competitors staged in the Special Audit Class for 15 bunches, distinct, Mr. KING's exhibit being placed 1st, MARK McDONALD'S, Esq., Portlerry, Co. Down, 2nd, and Mr. Caster's (gr. to Mrs. WEST, Bray) 3rd: the varieties shown were excellent.

MESSRS. H. J. B. CLEMENTS, Celbridge, J. MILNE, Naas, and MITCHELLSON were the successful exhibitors in a class for 13 bunches, distinct. The last-named exhibitor showed splendidly in a class for six bunches, distinct, the varieties being Helen Lewis, Clara Curtis, Mrs. Henry Bell, Purity, John Ingman, and Mrs. Hardcastle Sykes; the 1st prize was worthily awarded this exhibit.

The open classes, apart from those restricted to single bunches, were disappointing, owing to a lack of competition. Mr. C. W. BREADMORE, High Street, Winchester, was the only exhibitor in the Classification Class for 18 bunches, distinct, and he received the 1st prize. Mr. BREADMORE was again successful in the class for 12 bunches of distinct varieties having waved standards, showing George Herbert, Kitty Crier, Etta Dyke, Elsie Herbert, Audrey Crier, Mrs. C. Foster, Primrose Waved, Marjorie Linzie, and King Alfonso, amongst others.

The single-bunch classes, open to all comers, were keenly contested, and many magnificent bunches were exhibited. The prizes were principally allocated to growers whose names have previously been mentioned.

NON-COMPETITIVE EXHIBITS.

As is customary at exhibitions of this character, the groups of plants and flowers contributed by trade and other growers not for competition added very substantially to the interest and beauty of the display. Among those who staged exhibits of Sweet Peas were Messrs. A. DICKSON & SONS, LTD., Newtownards; and Mr. C. W. BREADMORE, Winchester; and Mr. R. BOLTON, Carnforth; and Messrs. HOGG & ROBERTSON, Dublin, all of whom staged the finest varieties in meritorious condition. Messrs. J. CARTER & Co., High Holborn, arranged a varied group, comprising excellent flowers and vegetables; Messrs. W. DRUMMOND & SONS, Dublin, staged principally hardy flowers in a handsome group; Messrs. A. DICKSON & SONS, LTD., contributed beautiful examples of Phloxes, Pentstemons, Pyrethrums, and many other hardy plants; Messrs. W. WATSON & SON, Dublin, sent *Kochia scoparia*,

Asparagus Sprengeri, Roses, Sweet Peas, and Carnations; while Messrs. HOGG & ROBERTSON, Dublin, arranged a magnificent collection of Gladioli. Messrs. W. KAMSEY & SON, Ballsbridge, staged excellent Begonias, Roses, Liliums, Sweet Peas, Palms, and Crotons; Mr. W. Usher (gr. to Mrs. KEITH, Brennaunston, Cabintee) showed beautiful Tydæas, Caladiums, and Palms.

MIDLAND CARNATION AND PICOTEE.

AUGUST 6, 7.—The 18th annual exhibition was held as usual in the Botanical Gardens, Edgbaston, Birmingham. Owing to the very trying season there was a great falling-off in the number of entries in all the classes except those reserved for amateurs. The impression one gained of the Carnation flowers generally was that, in addition to being shown in smaller numbers than in some previous years, the quality was well below the Birmingham standard. One exhibitor—Mr. W. H. PARTON—secured eight 1st and 2nd prizes out of ten entries in the section devoted to undressed flowers.

Sweet Peas were well shown, and to a certain extent made up for the weakness of the Carnations. The non-competitive group of Roses and hardy herbaceous flowers from the nurseries of Messrs. GUNN & SONS, of Olton, will be long remembered as one of the firm's best efforts at Edgbaston. The Gold Medal awarded was richly deserved.

DRESSED FLOWERS ON STANDS.

Self Carnations.—Only four exhibits were staged in this, the leading, class for 12 self Carnations. The 1st prize was won by Mr. C. F. THURSTAN, Penn Fields, Wolverhampton, who showed splendid flowers of Daffodil, Carabas, Ed. Kenyon, W. H. Parton, Mrs. Flight, Sir Galahad, Miss Willmott, Mrs. Eric Hambro, Sir Bevis, Pink Pearl, Ensign, and Mrs. L. E. Best. 2nd, Mr. A. R. BROWN, King's Norton, whose best flowers were Daffodil, W. H. Parton, Cecilia, and Milton.

In a smaller class for six self Carnations, the Rev. C. A. GOTTWALTZ, Hadzor Presbytery, Droitwich, beat seven competitors. The varieties consisted of John Pope, Daffodil, Helen Gotwaltz, Hadzor, Major Galton, and Miranda. 2nd, Mr. F. W. GOODFELLOW, Walsall.

Twelve yellow-ground Picotees.—The leading award in this class went to Mr. A. W. JONES, Stechford, who put up a splendid stand of the following varieties: Lady Gascoigne, Agnes, Sunbeam, Ida, Goblin, Lady Halford, Astrophel, Sophie Western, Leonora, Penelope, Lucy Galton, and J. Brocklehurst. Mr. C. F. THURSTAN, who was placed 2nd, had smaller flowers of good quality.

The Rev. C. A. GOTTWALTZ just managed to beat Mr. F. W. GOODFELLOW in the smaller class for six yellow-ground Picotees. Each exhibitor showed superb blooms.

Twelve fancy Carnations.—Mr. A. W. JONES took the lead in this class, having superior blooms of the following varieties, viz.: Lord Steyne, Billy Barlow, Sam Weller, Erl King, Queen Bess, Mandarin, Professor Cooper, Liberté, Babastes, Lara, R. A. Rowberry, and Highland Lass. 2nd, Mr. A. R. BROWN.

In a class for six fancy Carnations there was very little to choose between the Rev. C. A. GOTTWALTZ and Mr. HARRY SKELLS, Walsall, who were placed 1st and 2nd respectively. The flowers in each stand were beautifully fresh and of considerable merit.

Twelve white-ground Picotees.—Mr. A. R. BROWN took the lead with shapely flowers of Maud Brown, W. E. Dickson, Fair Maiden, Mrs. Chaundy, Lavinia Fortrose, Brunette, Miss Evelyn Cartwright, Duchess of York, Linda, Lady Sybil, and Polly Brazil. 2nd, Mr. C. F. THURSTAN.

Twelve flakes or bisarres.—Mr. C. H. HERBERT was 1st with a good set for twelve flakes, and for six blooms Mr. W. DERRY, Edgbaston, was 1st with a nice lot of flowers except Sportsman, which was past its best.

SINGLE BLOOMS.

Twenty-six classes were devoted to these, but competition was poor in most of them, there being only just a few more than half the number of the flowers staged in 1907. The most successful exhibitors were Mr. A. R. BROWN, Mr. C. H.

HERBERT, Mr. C. F. THURSTAN, and the Rev. C. A. GOTTWALTZ.

UNDRESSED FLOWERS.

Twelve self Carnations.—The five exhibits in this class made a good display and afforded a relief to those shown in boxes. They were staged in the usual way of three from front to back in a space not exceeding 24 inches by 20 inches. No wire was allowed except a mere support not to come beyond the base of the calyx. Tier staging was employed and vases of uniform size provided. Mr. W. H. PARTON, Hollywood, secured 1st prize with excellent flowers of Mrs. Guy Sebright, Daffodil, W. H. Parton, Bridgemoor, Sappho, Mrs. F. W. Flight, Cassandra, Britannia, Benbow, Much-the-Miller, Miss Willmott, and Sir Bevis. 2nd, Mr. C. H. HERBERT, whose best flowers were W. H. Parton, Daffodil, and Conrad.

For six self Carnations, Mr. C. J. WHITE, Walsall, beat six competitors. With the exception of John Pope all the blooms in this stand were good. 2nd, Rev. C. A. GOTTWALTZ, with smaller flowers, Ethel Brown being the weakest in the set.

Twelve fancies or yellow-grounds.—Mr. W. H. PARTON won 1st prize with a handsome lot of flowers. His best examples were Voltaire, Cavalier, Lord Steyne, Liberté, and Merlin. 2nd, Mr. A. R. BROWN.

For six fancies or yellow-grounds, the Rev. C. A. GOTTWALTZ and Mr. HARRY SKELLS were placed in the order named.

FLOWERS SHOWN IN THREES.

Twelve selfs, yellow-ground Picotees or fancies.—The flowers which gained 1st prize for Mr. W. H. PARTON was one of the finest set of trebles ever staged at Birmingham. They were large without showing the slightest tendency to coarseness, beautifully fresh and well set up. The varieties were as follow: Voltaire, Galileo, Liberté, R. A. Rowberry, Lord Steyne, Merlin, Ronny, Buchanan, Lucifer, Sappho, Sam Weller, Daffodil, and King Solomon. 2nd, Mr. A. R. BROWN, whose best flowers were Lord Steyne, H. J. Cutbush, and Margaret Thurstan. 3rd, Mr. A. W. JONES.

In a similar but smaller class for six flowers Mr. G. D. FORD won the 1st prize.

SINGLE VASE CLASSES.

Six classes were provided for these, but competition was disappointing in some of them. The most successful exhibitor was Mr. W. H. PARTON, who secured four 1st prizes for (1) white, with Hildegard; (2) rose, salmon, or scarlet, with Bridgemoor; (3) yellow, with Daffodil; and (4) dark Carnation, with W. H. Parton.

Mr. A. R. BROWN won the 1st prize in the class for yellow-ground Picotees with Lucy Galton, and in that for a yellow or buff-ground fancy variety, with Lord Steyne.

AMATEUR CLASSES.

Competition in the five classes reserved for amateurs who do not grow more than 300 plants was very keen, there being no fewer than 15 exhibits in one class and 13 in another.

Mr. J. D. WILLIAMS, Smethwick, won 1st prizes in the classes for (1) six white-ground Carnations or Picotees, dressed; (2) six fancy or yellow-ground Carnations or Picotees, dressed and six fancy or yellow-ground Carnations or Picotees, undressed.

Mr. F. S. FORD, Tysleye, and Mr. J. T. SMISTER, Donstone, Uttoxeter, secured the 1st prizes in the two remaining classes.

AWARDS.

First-Class Certificates were awarded to:—*Carnation Mrs. C. H. Herbert*, a light purple-edged Picotee, from Mr. C. H. HERBERT, Acocks Green; *C. Lady Gascoigne*, a light rose-edged Picotee, from Mr. A. W. JONES, Stechford.

PREMIER FLOWERS (DRESSED).

Bisarre Carnation Admiral Curzon, shown by Mr. C. H. HERBERT; *Flake Carnation Gordon Lewis*, shown by Mr. C. F. THURSTAN; *heavy-edged, white-ground Picotee Mrs. W. H. Twist*, shown by Mr. F. W. GOODFELLOW; *light or wire-edged, white-ground Picotee Mrs. C. H. Herbert*, shown by Mr. C. H. HERBERT; *heavy-edged, yellow-ground Picotee Togo*, shown by Mr. HAYWARD MATHIAS; *light-edged, yellow-*

ground Picotee Mrs. Brocklehurst, shown by Mr. A. W. JONES; *yellow-ground fancy Carnation Erl King*, shown by Mr. A. W. JONES; *self Carnation Daffodil*, shown by Mr. C. H. HERBERT.

PREMIER FLOWERS (UNDRESSED).

Self Carnation W. H. Parton, shown by Mr. W. H. PARTON; *fancy Carnation Lord Steyne*, shown by Mr. A. R. BROWN; *yellow-ground Picotee Mrs. W. Heriot*, shown by Mr. C. H. HERBERT.

SPECIAL MEDALS AND PRIZES.

The Birmingham Botanical and Horticultural Society offered two medals to the exhibitors gaining the greatest number of points in the large classes, and two medals to the most successful exhibitors in the smaller classes.

The Silver Champion Medal was won by Mr. A. R. BROWN with 132 points, and the Bronze Medal by Mr. C. F. THURSTAN with 107 points. The Rev. C. A. GOTTWALTZ won the Silver Medal in the small classes with 100 points, the Bronze Medal being awarded to Mr. F. W. GOODFELLOW with 53 points.

The Carnation Society's Silver Medal, offered to the most successful exhibitor in the single bloom classes (dressed flowers) and the single vase classes (undressed flowers) was won by Mr. A. R. BROWN.

The Bronze Medal, to the most successful exhibitor in the amateur classes, was awarded to Mr. J. D. WILLIAMS.

SWEET PEAS.

Special prizes were offered by Mr. Robert Sydenham for 13 varieties. Eight good exhibits were staged. The 1st prize was won by Mr. T. JONES, Ruabon, with a handsome lot of long-stemmed flowers; 2nd, Mr. J. HAYCOCK, Wrexham; 3rd, Mr. E. DEAKIN, Hay Mills.

Mr. T. JONES won 1st prizes in classes provided for single vases of (1) Miss Millie Maslin; (2) Herbert Smith; and (3) Primrose Countess Spencer.

Mr. JOHN HAYCOCK, Wrexham, had the best vase of White Countess Spencer.

HONORARY EXHIBITS.

Messrs. GUNN & SONS, Olton, Birmingham, had an imposing exhibit of Roses and hardy flowers. The group had a frontage of about 50 feet, and the flowers were arranged with great skill. Nearly half of the entire exhibit consisted of Roses in great variety, displayed in vases, baskets and tall stands, over which large arches, clothed with huge trusses of Dorothy Perkins, were a feature. The hardy flowers comprised handsome bunches of Lysimachia clethroides, Veronicas, and a rich selection of Phloxes, &c. (Gold Medal.)

Messrs. W. H. SIMPSON & SON, Birmingham, sent a large collection of Sweet Peas, in which Dudley Lees, Helen Lewis, Sutton's Queen, Mrs. Hardcastle Sykes, Frank Dolby, and Helen Lees were meritorious varieties. (Silver-Gilt Medal.)

Messrs. ROBERT SYDENHAM, LTD., had a large assortment of rustic silver stands decorated with Sweet Peas. (Silver-Gilt Medal.)

Mr. S. MORTIMER, Farnham, Surrey, had flowers of show and Cactus Dahlias in great variety. (Silver-Gilt Medal.)

BRITISH GARDENERS' ASSOCIATION (LONDON BRANCH).

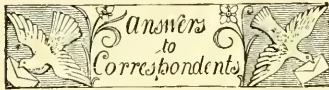
AUGUST 8.—A profitable and instructive outing of members of the above branch took place on the 8th inst., when Finsbury and Waterloo Parks were visited under the guidance of their superintendents. On reaching Finsbury Park the party was met by Mr. J. Melville, and conducted through the principal parts of the park. The landscape effects in this park are rendered more charming by the excellent display of choice plants in both beds and borders, and seldom, if ever, has the park appeared in better condition than at the present time. The party next proceeded to Waterloo Park, where they were met by Mr. F. J. Phelps, under whose kindly offices as guide a pleasant hour was spent. The propagating department in both parks was visited by permission of the chief officer, and was much appreciated. The visitors were then shown a portion of the bedding in Highgate Cemetery grounds, which are under the care of Mr. J. H. Witty.

Obituary.

JOHN WHITEHURST.—We regret to record the death of Mr. John Whitehurst at the Gardens, Oak Hill, East Barnet, Hertfordshire, on July 24. Mr. Whitehurst, who was in his 75th year, had been head gardener to Charles Baring Young, Esq., and to Charles Edward Baring Young, Esq., at Oak Hill for upwards of 40 years. Deceased was greatly esteemed by all who knew him.

ENQUIRY.

Can any reader inform me which is the largest glass structure in the world used for plant cultivation? What is the interior measurement in cubic feet? *W. A. S.*



ABNORMAL GLOXINIA: A. J. D. The flower presents an example of doubling, through some of the stamens becoming petaloid.

APPLE BRANCH INJURED: W. S. B. The damage has been caused by the larvæ of the Wood-leopard moth, which was present in the centre of shoot you sent. In such cases the grub may be destroyed by running a piece of stiff wire down the burrow or by mixing a few drops of some strong poison, such as caustic acid, in water, and pouring the solution in the burrow. Be careful to use a vegetable and not a mineral poison, or you will cause injury to the tree.

BANANA: J. W. Bananas are certainly fruits, but they do not all contain seeds.

BEGONIA: T. E., Windsor. The black spots on your Begonia leaves are the sporangia of *Pilobolus rotundus*, a fungus which grows on dung. When mature, the sporangia are forcibly ejected, and attach themselves to anything which comes in their way.

BOTTLING GREEN PEAS: W. S. To bottle green Peas shell the Peas, put them into dry, wide-mouthed bottles, and shake them together so that they may lie in as little space as possible; cork the bottles closely, and seal the corks. Bury the bottles in the driest part of the garden, and take them up as they are wanted. They ought to keep good for some months. Or try this recipe. Choose Peas which are large and fully grown, though not old. Put them into perfectly dry, wide-mouthed bottles, shake them down, cork securely, and cover the corks with bladder. Tie a wisp of hay round the lower part of the bottles to prevent their knocking against each other in the pan, put them side by side in a large saucupan, and pour into it as much cold water as will reach to the necks of the bottles. Put the saucupan on the fire, and let the bottles remain standing in the water for two hours after it has reached boiling point, then take the saucupan off, but do not remove the bottles until the water is cold. Seal the corks, and store in a cool, dry place.

CITHAREXYLUM QUADRANGULARE, &c.: A. H. Rhiphantimus cyanocarpus and *C. quadrangulare* are distinct species. The change in the colour of the leaves of *Mutisia decurrens* is due to the extra amount of sunlight experienced this summer. This plant loves a cool, moist, well-drained soil and protection from the sun during the hottest part of the day. If you are unable to give temporary protection it would be best to transfer the plant to a position not exposed to the direct mid-day sun.

FIG LEAVES: J. J. W. The injury to the Fig leaves is by no means rare, but it is not caused by disease. The yellowish stripes and patches are due to disturbances of the normal functions of the plants. It is generally started by

drought on grounds poor in lime. The trees should be well watered with clear water until the fruits have set, and then given a good drenching with liquid cow manure to which a quantity of lime water has been added. If you attend to the watering in this way the malady will not occur.

FUNGUS ON BRIAR: Anxious. Your Rose plants are attacked by the Orange rust fungus, *Uredo roseæ*. All that can be done to check the disease is to burn the infested shoots and leaves and to spray the plants with potassium sulphide.

GARDENER DISMISSED: Reader. You had better consult a solicitor.

HORTICULTURAL FUEL: Nemo. At the prices quoted in your communication, coke would be more economical to use in your sectional boiler than anthracite. Should you, however, require to maintain a fairly high minimum temperature at night in your glasshouses, say 65°, during the winter and early spring months, it would be advisable to have some anthracite to make up the fire with last thing at night, as by so doing a good heat can be assured for nine or ten hours following, or longer, according to weather conditions. In reply to your second question, we should advise you to only sterilise your Tomato borders when cleared of the crop, and to defer the application of the basic slag for a month or six weeks later. Should you use the preparation mentioned to sterilise the soil, it will not be safe to set your Chrysanthemum plants therein for a month or five weeks afterwards. Carbo-nicetyl may be used for the same purpose, and it will be safe to put your plants in the soil in a week or ten days after it has been sterilised. It should be used as follows: Half-pint carbo-nicetyl in three gallons of water, well distributed over the soil, and allowed to remain for one or two days, the soil being then flooded two or three times in order to wash the carbo-nicetyl into the soil after which (when the soil is drained) the house will be ready for planting.

MORELLO CHERRIES: D. P. The prices for these Cherries in Covent Garden market varies, as does the value of all fruits, according to the sample and the demand. They have been realising from 4d. to 6d. per lb. wholesale for best fruits. To-day (11th inst.) we are informed that they have a slightly increased value. See our weekly market report in the present issue.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time: they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. Correspondents not answered in one issue are requested to be so good as to consult the following numbers.

PLANTS: *E. V. A. 1.* *Epilobium hirsutum*; *2. E. montanum*; *3. Gasteria verrucosa*, figured in *Bot. Mag.*, tab. 837, as *Aloe verrucosa*; *4. Polygonum persicaria*; *5. Hieracium aurantiacum*; *6. Chenopodium polyspermum*.—*W. H. Y.* *Epipactis latifolia*.—*F. J. 1.* *Phystogesta* (syn. *Draccephalum*) *virginiana*; *2. Lycium sinensis*, known popularly as the Tea plant.—*Novit.* *1. Catalpa bignonioides*; *2. Tropaeolum tuberosum*; *3. Ceanothus azureus*.—*W. H. Y.* We cannot undertake to name varieties of Roses.

PEAS: Constant Reader. Your Peas are affected by a fungus called "Root rot" (*Thielavia basicola*), which seems to be epidemic this season. (See *Gardener's Chronicle*, June 8, 1907, p. 361, fig. 153.) Nothing can save the crop, and the soil should be well sterilised before any other crop is planted.

PELAGONIUM CUTTINGS: C. O. V. It is a matter of convenience. The cuttings can be rooted successfully by either method, and you should practise that which the better suits the circumstances of your garden.

PELAGONIUM DISEASED: W. B. and W. J. C. The injury is due to a bacillus (*B. caulicola*). It makes short work of Pelargoniums if it is once established, and you seem to have it bad enough. Destroy by fire at once all plants that are attacked, and use for cuttings those tops only that are quite free from disease. Pot five to six cuttings into 5-inch pots and do not water them until the third day afterwards. Keep on the look-out for the disease and destroy any plants that go black. Mix a little lime with the soil used for potting, and avoid using any soil in which diseased plants have been cultivated.

PRONUNCIATION OF PLANT NAMES: D. B. You will find a list of the principal plant names, with directions for their pronunciation, in the Appendix to Nicholson's *Dictionary of Gardening*. The subject will shortly receive attention in our own columns.

RHODODENDRON: Pink Pearl. By neither hand lens nor microscope can we detect anything unusual on your Rhododendron leaf. Was the wrong leaf sent?

RHODODENDRONS AND CATTLE: W. H. Y. Sheep and cattle do not generally injure Rhododendrons, but as they will attack almost any kind of vegetation under certain circumstances, it is advisable to protect the plants from them. They would be likely to injure the cattle if eaten in considerable quantities.

ROOTING OAK-SHOOTS: E. B. You appear to have done the best you could in attempting the task of rooting the shoots, but we should not have used the moss at the base of the cuttings. If you have any of the greenery left, try rooting a few of the green or soft-wooded shoots under a bell-glass. The acorns had better be allowed to mature as much as they will and then be sown at once, but success is doubtful.

SCUM ON POND: J. T. The green scum on your pond is probably one of the Algae. It can be readily removed by skimming the surface with a net made of sacking. The pest is also killed by diluted Bordeaux mixture, but care must be used with this substance if fish are present in the water. The operation should be repeated at intervals of a few weeks.

SEEDLING CARNATION: Box Rd. The white flowers you describe as having been raised from seeds obtained from the variety *Enchantress* appear very satisfactory, but whether the variety has any commercial value or not, we cannot tell without a knowledge of the general habit of growth and constitution of the plant. If you think that the variety is better than most white tree Carnations already in commerce, you should submit specimens before the Floral Committee of the Royal Horticultural Society. You might exhibit three plants in pots and some selected cuttings.

SOPHORA MOORCROFTIANA: Rev. T. A. H. This species forms a low, much-branched spinescent shrub, 2 to 4 feet in height. The flowers are white with a cup-shaped violet-blue calyx. It is figured in the *Botanical Magazine* under its synonym *S. vicifolia*, tab. 7883.

TRAY FOR VEGETABLES: W. R. C. We know of no standard size for a tray on which vegetables are exhibited at flower shows, but certain sizes may be cited in particular schedules. A diagram of a stand for showing vegetables was given in our issue for July 20, 1907, p. 60.

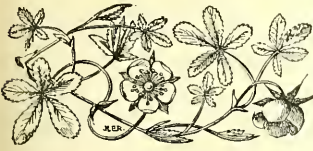
TRUSS OF RHODODENDRON: H. E. S., New Zealand. The term truss is generally used in the case of Rhododendron to describe a single inflorescence. As we interpret class 47 of the schedule you send we understand it to mean one inflorescence of each of 12 varieties.

COMMUNICATIONS RECEIVED.—*M. L. D.*—*A. D.*—*Str. C. D.*—*C. B.*—*N. E. B.*—*C. F.*—*G. W.*—*Ashford*—*G. H.*—*P. B. H. S.*—*Department of Agriculture, Jamaica*—*A. P. B.*—*Jno. L. D.*—*J. G. M.*—*R. C. F.*—*W. E. G.*—*T. T. L.*—*Canon E.*—*F. M.*—*T. H.*—*H. F. L.*—*A. T. B.*—*H. A.*—*W. A.*—*S. C.*—*R. P.*—*C. T. D.*—*A. C.*—*W. E. B.*—*F. W.*—*O. S.*—*W. P.*—*T. G.*—*C. H. W.*—*T. G.*—*F. W.*—*H. J. P.*—*J. Y.*—*Sons*—*W. U.*—*F. G.*—*B. L.*—*G. M.*—*Brookfield, Devon*—*S. O. Y.*—*M. C.*

Supplement to the "Gardeners' Chronicle."



HYBRID SWEET BRIAR "REFULGENS"; COLOUR OF FLOWERS
PURPLISH CRIMSON WITH WHITE CENTRE.



THE

Gardeners' Chronicle

No. 1,130.—SATURDAY, August 22, 1908.

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AUTUMNAL FLOWERS.

THE desire for common flowers is one of the features of present-day home life facilitates the carrying out of decorations in the house, however extensive they may be, because the wealth of material is so abundant and varied and much of it so beautiful that autumnal floral decorations may well vie with those of any other season. It is true that, as no Rose, or hardly any, to be quite correct, is without its thorn, so autumn has its drawbacks, the worst of which is, perhaps, the numerous insects, which, while extracting a living from outdoor flowers, render many of them of little service to the decorator. This is especially the case with the large number of Composite flowers which, being fertilised by insects, remain only a short time fresh when cut, and therefore call for great care on the part of the flower-gatherer to select young flowers only, a precaution well understood with reference to spring flowers, but less practised in autumn, when it is equally, if not more, important. But to insect agency is not solely due the short life of many flowers in autumn. Some droop almost as soon as cut, and others shortly after being arranged. Mention may be made of Pentstemons, single Helianthus, double Dahlias, and Salpiglossis as markedly possessing this regrettable tendency. Probably it is a feature of most autumn flowers, though not so soon apparent as in those species mentioned, but these serve to emphasise

a condition which, I fear, many garden-decorators fail to appreciate, viz., the need of placing the cut stalks in water as quickly as convenient after being gathered. This is demonstrated by such a badly lasting flower as the Pentstemon, which, if placed at once in water, lasts for days, but if kept out of water for an hour or two is past recovery. The application is clear. Don't keep any flowers when cut out of water, but always place the stalks in receptacles filled with that liquid until the flowers are required to arrange in vases.

All through autumn, bold and elevated masses of bloom and foliage can be provided without having to depend on one or two plants, and if for no other reason, though there are others, the general character of autumnal decorations should be massive rather than slim, though the elegant habit of many of the plants of the season enables one to attain that end without sacrificing the gracefulness which is an attribute that is always expected in floral decorations.

Flowers of outstanding merit will include Gladiolus, of which alone there is an almost endless variety. Straw-coloured varieties of gandavensis should not be overlooked, nor the old Lemoinei, the novel Princeps, Hollandais, and the brightly-coloured Childsi and Golf's seedlings. These are all easy to grow, and may be increased to any extent from seeds or by the spawn, which is found at the base of the corms when lifted. With an abundant stock, one does not hesitate to cut the whole plant including foliage and flower, but if the spike only is cut, then the blades of Iris Pseudo-acorus may be used with them or those of Montbretia crocosmiflora. Tall-growing Montbretias also afford splendid material for decorations. Some of the finer varieties are now cheap enough to procure in quantity, such, for instance, as Etoile de Feu, Volcan, and Chrysis, 5-foot lengths of these being usual in even light soil. Not the least valuable property of Montbretias is that they will associate well with almost any other kind of flower. The use of Phloxes is usually demurred to on account of their stiffness; but that is mostly a matter of detail, for, provided fresh, thinly-grown spikes are employed and receptacles of bold design used, there are few flowers handsomer, probably none, than the old variety, paniculata alba. The colours are, as a rule, lovely, e.g., Sheriff Ivory, James Hamilton, Iris, Eugene Danzanvilliers, Boule de Feu, and many others. I retain in cultivation a few old varieties, such as Madame Mousset, Bridesmaid, and Bryan Wynne, which are less lumpy than newer kinds, longer stemmed, and the colours equally effective. Anemone japonica has of recent years developed into many varieties, but it is strange that one of the most effective grown here is a form given me by the late Miss Frances Hope, of Wardie, very many years ago. Queen Charlotte, Whirlwind, Lord Ardilaun, and Profusion are desirable kinds. The so-called doubles I do not care for. For making up extra large compositions, Bocconia microcarpa is quite indispensable, and for associating with it, Galtonia candicans, which should be regularly raised from seed to keep an abundant supply. Astilbe rivularis, A. Davidiana, and A. chinensis vars., with the ripened, snuff-coloured spikes of A. Aruncus; Spiraea palmata elegans, and Solidago cana-

densis and S. Shortii are all useful. There is not a large choice of blue flowers, but the now well-known Anchusa italica Dropmore variety may be named, and the very lovely and novel variety known as Opal. Butterfly Larks-pur and Stock-flowered Larkspurs, the salmon-coloured and white varieties, are also essential. Pentstemon heterophylla is charming, and so are blue Sweet Peas. Single Hollyhocks seem never to have reached the position to which their merits entitle them. Old plants produce abundance of not too lengthened nor too corpulent shoots. They have to be stripped of leaves, and then they stand well in a cool apartment. Many years ago, the double varieties were used for decorating dinner tables, and were considered to be choice—an indication of how far we have progressed since then. Single Hollyhocks are really pretty, arranged on the cloth, and they have the merit of being so little known that many people fail to identify them.

There is a wealth of unsuspected charm in the tall-growing Antirrhinums, that is, the section in which the spikes run up to 5 and 6 feet high, with colours distinct and softly tinted. Those who are still unacquainted with these cannot too soon introduce a selection; the seeds must be sown in early spring, and from July till late autumn they provide beautiful flowers in almost unlimited quantity. I would like to also say a good word for the tall-growing Clarkias, white, pink, and salmon, which are altogether charming. Godetias are generally well known, but by far the prettiest of these, in my opinion, is the lovely pink G. Schaminii fl. pl. Very useful in autumn is the tall-growing Gypsophila transylvanica, one of the good things for which I am indebted to Miss Willmott. It seems almost, if not quite, identical with G. Rokejeki, the individual flowers being like those of G. Stevensii, but the general aspect of the inflorescence is greatly superior. Stems may be cut several feet in length, and these are fully furnished with side shoots, displaying each its quota of neat little flowers.

The autumn is doubly kind in giving us trailing plants, both flowering and fruiting. What so gay as the scarlet flowers and purple fruits of Tropaeolum speciosum? Then there is the glorious purple Clematis Jackmanii, and others only less desirable of the same section, the white-sprayed C. Flammula and the common C. vitalba. Where Tamus communis can be secured, the long trails furnished with glowing fruits may be used most effectively, and within everybody's reach is the Canary creeper, one of the most useful of autumnal flowers. I say nothing of the coloured foliage, the low-growing plants, Marigolds, Tunica saxifraga, Schizostylis, Verbenas, Carnations, Tritomas, Lobelia cardinalis, Asters, Lilium tigrinum (of which splendens is probably the most effective), Helianthus, Rudbeckia speciosa, californica and japonica, and many other common plants.

A word or two on what may be called the odds and ends that can sometimes be obtained. Never neglect these. Though not to be recommended for general use, there are many flowers and leaves that may be used occasionally, which serve to break down the uniformity which a too rigid adherence to a few flowers entails. Quilled Asters, old-fashioned Dahlias, and many other species may be utilised in this way. B.

FLOWERS OF SPENSER.

(Concluded from page 124.)

RUSHES.

1. fresh flowrets dight
About her necke, or rings of rushes plight.
F.Q., II., vi. 7.
2. The knotted rush-ringes.
Shepherds Calendar, November.

SAFFRON.

And Saffron sought for in Cilicia soyle.
Virgils Gnat, 83.

Though Spenser speaks of the Saffron Crocus as if it were only found in Cilicia, which he copied from Pliny and other Roman writers, it was cultivated in England as an article of commerce long before his time, and gave its name to Saffron Walden, Saffron Hill and other places.

SALLOW.

a little broke did pas
Of muddie water, that like puddle stanke,
By which few crooked sallows grew in ranke.
F.Q., IV. v. 33.

Sallow is one of the many old names for the Willow.

SAMNITES.

Mortal Samnitis. *F.Q., II. vii. 52.*

Given by Spenser as one of the poisonous plants of Proserpina's garden. It has not been identified.

SAULEGE.

The wholesome Saulge. *Mutopotmos.*

Saulge is an old form of Sage, a plant of the highest reputation for medical purposes in, and long before, Spenser's time.

SAVIN.

She gathered Rew and Savine.
F.Q., III. ii. 49.

Savin is another name of the Juniper. (See Juniper.)

SAVORY.

Sound Savorie, and Bazil hartie-hale.
Mutopotmos.

A well-known pot-herb; formerly in much higher repute than now.

SETUALL.

Drink-quickning Setuale.
Mutopotmos.

According to Gerard and Parkinson, Setuall or Setwall is the wild Valerian.

SMALLAGE.

Stinking Smallage. *Daphnaida.*

Smallage or Smallache is an old name for Parsley.

SOPS IN WINE.

1. Bring Coronations and Sops in Wine.
Shepherds Calendar, April.
2. Girlonds of Roses and Soppes in Wine.
Ibid. May.

Sops in Wine is now an entirely disguised flower name; but it is mentioned by Chaucer and Bacon as well as by Spenser. It is the common garden Pink, and so is well joined with Carnations.

STRAWBERRY.

1. They all three together went
To the greene wood to gather strawberries.
F.Q., VI. x. 34.
2. Her goodly bosome, like a strawberry bed.
Amoretti, 64.

The Strawberries of Spenser's time were only the wild wood Strawberries transplanted into the garden; but from the description given of them, it is evident that, so grown, they improved rapidly.

TETRA.

Cold Coloquintida, and Tetra mad.
F.Q., II. vii. 52.

Spenser names this among the poisonous plants of Proserpina's garden. I cannot identify it, and can only suppose that it was a word invented by himself from the Latin *tetra*, i.e., horrible, offensive, etc.

THYME.

1. Bathing herself in Origane and Thyme.
F.Q., I. ii. 40.
2. Faire Marigold and Bees-alluring Thyme.
Mutopotmos.

Our common wild Thyme. We may thank Spenser for inventing such a good epithet as "bees-alluring."

TOBACCO.

Whether yt divine Tobacco were
She found and brought it to her patient
deare.
The sovereign weede betwix two marbles
plaine
She powdered small and did in peeces breze.
F.Q., III. v. 32.

Tobacco was one of the earliest introductions into Europe after the discovery of America, and it at once was looked on as a heal-all, and was called *Herba Sancta*, or *Sana Sancta*, or, as by Spenser, the Divine Herb. It was at once grown successfully in European gardens and in England; but it could not compete with the American produce, not because it was inferior, but because, as Gerard describes it, "According to the English proverb, Far fetch and dear bought is best for ladies."

VERVEN.

Veyne-healing Verven, and hed-purging Dill.
Mutopotmos.

It is difficulty for us to understand how our common Vervain or Verbena could have been credited with so many virtues as it was, first by the Greeks and Romans, then by the Druids, and then by many medieval writers. But in Spenser's time its reputation was fast vanishing, so that Gerard refused to mention such "old wives' fables."

VINE.

1. The Vine-prop Elme. *F.Q., I. i. 8.*
2. In green Vine-leaves he was right fily clad.
F.Q., I. iv. 22.
3. Over the which was cast a wandring Vine.
F.Q., II. ix. 24.
4. A Porch with rare device
Arch't over head with an embracing vine,
Whose bounches hanging downe seemed to
entice
All passers-by to taste their lusher wine,
And did themselves into their hands incline,
As freely offering to be gathered;
Some deepe purpurled as the *Hyacinthe*,
Some as the *Aubine* laughing sweetly red,
Some like faire *Emeraude*, not yet well
ripened.
F.Q., II. xii. 54.
5. Forth she brought the fruitful Vine.
F.Q., V. vii. 11.
6. Her deede were like great clusters of ripe
grapes,
Which load the branches of the fruitful
Vine;
Offering to fall into each mouth that gapes,
And fill the same with store of timely wine.
Colin Clout, 600.
7. His looser locks doth wrap in wreath of
Vine.
Virgils Gnat, 15.
8. And over them spred a goodly wilde Vine.
Shepherds Calendar, August.

The vine was probably much more grown in England for the production of wine than it is now. But in all these passages the reference is to the vine of the Latin authors. Spenser certainly never saw a vine propped by an Elm, or such a vine as he describes in No. 4.

VIOLETS.

1. Fragrant Violets and Paunces trim.
F.Q., III. i. 36.
2. She bathed with roses red and violets blew.
F.Q., III. vi. 6.

3. The Lily fresh, and Violet belowe.

Virgils Gnat, 84.

4. Bay leaves betweene
And Primroses greene
Embellish the sweet Violet.
Shepherds Calendar, April.
5. Of sweete Violets therein was store,
She sweeter than the Violet.
Shepherds Calendar, August.
6. Coole Violets, and Orpine growing still.
Mutopotmos.

Our common sweet wild Violet.

WALNUTS.

1. And on the other side a pleasaunt grove
Was shott up high full of the stately Tree
That dedicated is to Olympick Jove.
F.Q., II. v. 31.
2. How have I wearied with a stroke,
The stately Walnut tree, the while the rest
Under the tree fell all for nutes at strife.
Shepherds Calendar, December.

The Walnut introduced by the Romans was a familiar tree in Spenser's day. He got the idea of its being dedicated to Jove from its Latin name *Juglans*, i.e., *Jovis glans*.

WILLOW.

1. The Willow worne of forlorne Paramoures.
F.Q., I. i. 9.
2. To win a Willow bough, whilst other
wears the Bayes.
F.Q., IV. i. 47.
3. The utmost top of some soft Willow.
Virgils Gnat, 11.

Our common waterside Willow. (See also Palms.)

WOODBINE.

1. Others the utmost boughs of trees do crop,
And brouze the woodbine twigs that
freshly bud.
Virgils Gnat, 11.
2. As your worke all about
With woodbynd flowers and fragrant Eglantine.
Amoretti, 71.

Woodbine was a general name for almost every climbing plant, and so may mean the wild *Convolvulus* or the Honey-suckle or the wild *Clematis* or any other such plant. It cannot be certainly tied down to any.

YEW.

1. The Eugh obedient to the benders will.
F.Q., I. i. 9.
2. Long he them bore above the subject plaine,
So far as Eughen bow a shaft may send.
F.Q., I. xi. 19.

(See also Heben.)

This completes the list of plants and flowers named by Spenser. But there are a few passages in his works connected with the subject which are worth quoting.

GARDENS.

- To the gay gardins his unstaid desire
Him wholly carried, to refresh his
sprigites;
There lavish Nature in her best attire
Pours forth sweet odours and alluring
sights;
And Art, with her contending, doth aspire
To excell the natural with made delights;
And all that faire or pleasant may be found,
In riotous excess doth there abound.
Mutopotmos.

There doth most daintie Paradise on ground
Lies the most offer to his sober eye,
In which all pleasures pleasantly abound
And none does others happiness envie;
The painted floweres, the trees upshooting
hye,
The dales for shade, the hills for breathing
space,
The trembling groves, the Cristall running
by,
And, that which all faire workes doth most
aggrace,
The art, which all that wrought, appeared
in no place.
F.Q., II. xii. 55.

—H. N. Ellacombe.

CAMPANULA RADDEANA.

This ornamental species belongs to the same group as *C. medium*, which is characterised by having additional calyx-lobes or appendages, as they are usually termed, alternating with the normal ones, and similar in shape, but strongly reflexed on the calyx-tube. It is a native of Borshom, in the Caucasus, and was first described

stems are slender and slightly angular. Leaves ovate or ovate-cordate deeply toothed, glabrous. Inflorescence pyramidal, with alternating branches. Flowers blue, nodding, about an inch and a half long. This species appears to have been first cultivated in this country, at Kew (*Gard. Chron.*, 1906, xl., p. 23), where it was raised from seed obtained from the Tiflis

THE ROSARY.**WEeping STANDARD ROSES.**

FAIRLY good plants of Weeping Roses may be obtained the second year from budding, provided specially selected, stout, straight, well-rooted Briars, capable of receiving four to six



FIG. 54.—*CAMPANULA RADDEANA*: FLOWERS BLUE.

by Frautvetter in the *Bulletin* of the St. Petersburg Imperial Academy of the Sciences, vol. x. (1866), p. 395. Unlike the Canterbury Bell (*C. medium*), this is a perennial species, and it is easily propagated by division. The plants are much branched from the base, and they grow only about 6 inches high in the wild state, but more than a foot high under cultivation. The

Botanic Garden. Colonel Beddome, who probably has the richest collection of cultivated Campanulas in existence, describes *C. Raddeana* (*Journ. R.H.S.*, xxxii., p. 214) as a valuable species for the rock-garden. The plant was granted an Award of Merit by the Floral Committee of the R.H.S. when shown by Mr. G. Reuthe on June 23 last. *W. Botting Hemsley.*

buds, are used as stocks. August is the best time to insert the buds, and the earlier in the month the better. Most of the evergreen Wichuraiana Roses are suitable for cultivating as weeping plants, and these include such beautiful varieties as Minnehaha, Dorothy Perkins, Lady Gay, Alberic Barbier, Alice Garnier, Evangeline, Ferdinand Roussel, Galaxy, Paul

Trancon, and W. K. Harris. Those classed simply as Ramblers are not all suitable for the purpose. Tausendschön, Philadelphia Rambler, Crimson Rambler, Trier, and Blush Rambler are not to be recommended, their growths being too coarse and rigid. Weeping standard Roses require very careful attention during the first season after they are worked, for the long shoots are very liable to break off if subjected to strong winds. A lath should be attached to each shoot, and this should be well secured to the main stem until the grafts have made a firm hold upon the stock. The following spring each strong shoot should be cut back to within a foot of the stem, and all weak growths should be pruned to two or three buds. The shoots as they appear during the second season should be induced to fall gracefully away from the stem; for this purpose three pieces of thin lath, each about a foot long, that have been thoroughly soaked in water, should be attached beneath the growths to the stem, endeavouring to produce an arch. A well-balanced head is easily formed, for as the shoots are placed during this second season's growth so will they remain. For the third year little or no support is required, and a symmetrical head may be expected to form naturally. Minnehaha makes the most perfect weeping standard owing to its very long shoots, which produce loosely-formed sprays of rich pink-coloured, double flowers. The richly-pinked single-flowered Hiawatha is another valuable variety, producing huge trusses of crimson flowers that are much enhanced by a conspicuous bunch of golden stamens; the flowers are long-lived. The variety Paul Trancon makes a charming weeping plant, its shiny green, leather-like foliage being persistent throughout the winter, and producing its pretty rose-coloured, tea-scented flowers in great abundance from June to November.

NEW MINIATURE STANDARD ROSES.

MINIATURE standard Roses are admirably adapted for bedding purposes, where they may be used to relieve dwarfer plants. They appear best when associated with low-growing members of their own class, and should be planted at rather wide intervals over the whole bed. They also form charming subjects as pot plants for a dwelling-room or for grouping. A valuable feature is their continuity in flowering, for if treated under glass and properly cultivated they will produce a third, and even a fourth, crop of flowers during one season, and two or three bloomings when grown outside under ordinary conditions, with a slight pruning after each flowering. The stock used for these small standards is the *Manetti*, and stocks are especially grown for this purpose, being usually from 2 to 3 feet high. The class of Rose suitable for this system of culture is a somewhat limited one, being confined to the dwarf *Polyantha* varieties of lesser growth, such as *Annie Muller*, *Baby Dorothy Perkins*, *Mme. N. Levasseur*, *Eugène Lamesch*, *Léonie Lamesch*, *Mrs. W. J. Cutbush*, *Princess Ena*, and *Schneewittchen*. *Wm. Mallett*.

THE ROSE SEASON IN SCOTLAND.

IN south-western Scotland Roses have not been quite so numerous this year as in former seasons, but they have, in many instances, been quite remarkable for their exquisite texture and marvellous dimensions. Those that have achieved almost nothing in the flowering direction up to this period (July 29) are, for the most part, varieties of recent origination, whose first tender shoots were seriously injured by exceptionally severe visitations of frost on the confines of May. The only new varieties that have already flowered effectively here have been *Isabelle Milner*, one of the loveliest of all Roses, a variety of wonderful fulness and perfect sweetness of aspect and fragrance; *W. E. Lippiat*, a highly effective crimson Rose; *Elizabeth Barnes*, of richer and deeper colour than

Mme. Abel Chatenay; and *Nance Christie*. Perhaps the very loveliest of the Irish Roses bears the name of "Peggy," one of the many inspirers of Robert Burns. *Avoca* is just beginning to unfold its crimson flowers, but *Harry Kirk*, though its golden flowers have been long and patiently awaited, has not yet appeared. It promises, however, to be very effective during the autumnal months. A plant of *Hiawatha*, the most strikingly distinctive of the glossy-foliaged *Wichuraiana* hybrids, not more than 3½ feet high, has developed 250 flowers.

Another remarkable achievement in my garden is that of the Irish Rose *Margaret Dickson*, which, after climbing assiduously for years through an exceedingly lofty Hawthorn hedge, has flowered this season at the height of 21 feet. *Caroline Testout* is also very aspiring, and its magnificent flowers are invariably commanding in their effect. Of the many Hybrid Teas and Hybrid Perpetuals, the finest this season have been (in addition to those already mentioned) *Clara Watson*, *Viscountess Folkestone*, *La France*, *Clio*, *Papa Gontier*, *Captain Hayward*, *A. K. Williams*, *Horace Verne*, *Duke of Edinburgh*, and its velvety derivative *Prince Arthur*, *Lady Helen Stewart* (one of the sweetest of crimson Roses), *Duke of Albany* (with wonderful colour), *Hugh Dickson* (with splendid texture and charming fragrance), and *Gloire Lyonnaise*. On the walls, my finest Roses have been *Bouquet d'Or*, *Mme. Georges Bruant*, and that lovely Hybrid *Noisette*, with its odorous, drooping flowers, *Mme. Alfred Carrière*.

Last year I described *J. B. Clark* in these columns as "an exceedingly large, open-hearted Rose." This grand variety, with its splendid dark-shining, plum-shaded complexion, is, I am glad to record, much fuller in the centre this season: its colour, as I have indicated, has also been much deeper and more impressive, and I cannot but regard it as a valuable acquisition. *David R. Williamson*, *Manse of Kirkmaiden*, *Wigtownshire, Scotland*.

NOTES FROM A "FRENCH" GARDEN.

THE principal work now consists in cleansing the beds, gathering the Melons when ripe, and watering. The seedling Carrots sown a fortnight ago are growing freely; to have them ready for pulling by October they will require daily waterings during hot weather. The Melons, except the last batch planted at the end of June, are all in the open, and care must be taken to remove useless growths in order that the fruits may receive all the nourishment possible. They now require copious waterings.

We have sown a batch of Cabbage and Lettuce, the latter of the Little Black Götte variety. They will be planted at the end of August, in beds prepared to accommodate three rows of cabbages. They will be set in groups of four plants to each cloche at the end of September. A batch of Carrots (Early Parisian) can now be sown in sandy soil in the open; though there is not a ready market for this batch, young tender Carrots are always welcome in a "French" cuisine. The ground for the last batch of Batavian Endive should be prepared at the earliest opportunity, as they must be well rooted by the end of August to produce a satisfactory result.

We are now preparing a seed-bed for the sowing of a dwarf strain of the Ox Heart Cabbage; the seeds will be sown at the end of August, and it is preferable to sow two or three-years-old seeds, as the seedlings from these are not so liable to bolt into flower. This variety has done well at Mayland this spring. It is the earliest Cabbage in the market.

We are now sowing a batch of Onion of the variety Little Paris Market. We have dug the ground well, and have incorporated with the

soil a layer 2 inches thick of well-decayed manure. The seeds are sown thinly, and the germination is hastened by light but frequent waterings, as the bed must always be damp. For this sowing it is preferable to select seeds as new as possible.

All the lights used in the culture of the Melons have been brought into the shed; those with broken glass have been put on one side, and during wet weather they will be repaired, as no opportunity must be lost to put all apertures in working order ready for next January.

Where a "French" garden is contemplated it is time to lay the necessary pipes for the water supply. To obtain 2,500 gallons of water per hour it is necessary to lay a main pipe 3 inches in diameter, running parallel with the position of the future hot-beds. The side pipes should have a diameter of 2 inches and be placed 70 feet apart, which will allow 65 feet for five frames and 5 feet for a path. The hydrants should be 1½ inches in diameter and 24 feet apart. When the water cannot be had from the main a tank 20 feet high and holding at least 5,000 gallons, supplied with a 2 horse-power motor, should be constructed. This quantity will keep a "French" garden of 2 acres well supplied with water. *P. Aquatius, Mayland, Essex, August 7.*

FREESIAS.

FREESIAS are such charming flowers both in scent and appearance, that it is surprising we do not see them taking a more prominent place in every greenhouse. The probable reason is that many people have tried them with ill-success, and therefore regard them as an unsatisfactory crop for anything except a cut flower supply of comparative unimportance. Though very easy to grow, *Freesias* require some care in management, and it is because their requirements are not always understood that so many people fail with them. How often one sees a pot of these plants with numerous flabby and straggling leaves hanging over the edges of the pot and a few straggling blossoms supported by stakes, the effect of which is to spoil entirely the natural gracefulness of the plant.

Those who are potting up *Freesia* bulbs during the next few weeks should bear in mind that the *Freesia* is a semi-aquatic plant, and should be treated as such if the best results are to be obtained. The bulbs, of which the largest should be selected, should be potted in nothing smaller than a 5-inch pot, and the compost should consist of one part each well-rotted cow manure and leaf-mould to two parts of rough fibrous loam, with a good handful of sharp sand to every pot. A piece of fresh turf laid upside down over the crock at the bottom of the pot will assist in keeping the roots cool and moist. The bulbs may be planted an inch deep, no more than four or five in a pot, and the soil pressed firmly around them. After potting place the pots in the open with some covering handy—a sheet of galvanised iron is excellent—to put over them during heavy rains or continued wet weather. The covering should be raised well above the pots, so as to admit plenty of light and air, and should be removed in fine weather. It will be better for the bulbs and will save watering if the pots are plunged up to their rims in ashes, the latter being kept constantly moist but not allowed to become sodden underneath the pots.

If the bulbs are potted during August or at the beginning of September, the growth should be well advanced before it is necessary to move the pots indoors. A few chilly nights will do no harm, but frost must be prevented,

and as soon as there is fear of this the pots should be put into a cold frame, the lights being removed whenever weather permits and the plants kept as hardy as possible. After a few days there a few of the strongest pots may be taken indoors and placed in a very gentle heat, 50° to 55° Fahr. being quite enough so long as there is sunshine during the day, when, of course, the temperature will rise without doing harm. Plenty of air must be given, and a little ventilation at night, but preventing cold draughts, is beneficial so long as the weather is mild. As the days get shorter and less sunny, a slightly higher temperature may be allowed, but the plants need watching, and at the first sign of weedy growth the heat should be

cate that the plants are suffering from cold, just as a delicate flabby appearance will show too much coddling. The chief things to remember in *Freesia* culture are that they require plenty of moisture with efficient drainage, an abundance of air, and a moderate temperature. They absolutely refuse to do their best when hurried.

Freesias can be grown from seed, and the writer has had finer blooms and stronger plants under this method than by any other, but the present season is not the best for seed sowing. Whether grown from bulbs or seed, however, *Freesias* can be had with foliage as stiff as that of *Gladiolus*, and flowers quite capable of supporting themselves. *East Sussex.*

others with flowers whose colouring is disliked by many. There are no markedly bad white *Iris* *Kämpferi*; all the art shades of lavender, lilac, pale blue, and deep blue are distinctly good, but among the so-called reds, purples, splashed, and parti-coloured flowers there are but few to admire, the flowers being generally inferior. We may copy Japanese gardens in every detail, skirt out waterways with *Irises* in approved Japanese fashion, but we cannot reproduce the Japanese climate that so well maintains the plants in good health in their native country. There is evidence of this in every garden in which *I. levigata* has formed part of an important scheme. In the first year or two there is a glimpse of success, but afterwards,



FIG. 55.—*IRIS LEVIGATA* (KÄMPFERI).

JAPANESE IRISES.

(Concluded from page 136.)

I. LEVIGATA (I. KÄMPFERI).—For garden purposes *Iris levigata* is a group of garden forms derived from one species now widely known as *Iris Kämpferi*—the Japanese Flag. There are perhaps a hundred forms grown in Japan. French and Dutch growers have produced a few others, but in no case is a standard of nomenclature recognised, and many fine *Irises* are lost in a maze of nondescript forms for lack of generally-recognised names by which they may be distinguished. For the present, it must suffice to say there are single and double forms in plenty, floriferous and non-floriferous forms, some with attractively-coloured flowers, and

in most cases, a gradual collapse that spells unsuitable culture. There must, in fact, be no attempt to grow *Iris levigata* in the black *once* characteristic of the Japanese *Iris* garden; our cold winters would tax the plants severely in such material, and experience teaches there is nothing to heat 9 to 12 inches of rich loam between the plant's root-stock and high-water level. In such a position they undergo a certain amount of ripening ere winter sets in, and long experience with broad areas of Japanese *Iris* convinces me that a submerged condition of the root-stock is not conducive to success. Shade they cannot endure; persistent laying of their roots by active water represses free growth, and sour, water-logged soil induces a species of fungus to form

modified. *Freesias* need to be kept near the glass, and coddling in any form is to be avoided. This, probably, is the cause of most failures.

The earliest bulbs should begin to show for bloom in November or December, but if they are later nothing will be lost. When the buds appear, a weak solution of liquid manure, made from cow or sheep-droppings, may be given twice a week and will greatly aid the plants. Artificial manures are best withheld, for although some may be beneficial, the writer has had unhappy experience with one or two kinds, even when applied in the most careful fashion. To keep up a succession of bloom fresh pots may be introduced once a fortnight from the frame until it gets too cold to leave any outside at all. A purplish look on the leaves will at once indi-

on the leaves and rhizomes, giving them a rusty appearance that marks the beginning of the end. There is also much to be said for biennial lifting and replanting. I have noticed a marked change in the health of perfectly acclimatised plants of *Iris lavigata* when they have occupied the site for three years, and this has led me to lift every plant that has flowered well for two years, break it up and replant it in soil that has been sweetened by a few weeks' exposure to air, and enriched by a liberal dressing of rotted manure—preferably that from oxen. March is a good time for this operation—autumn less good, because the plants lie dormant through the worst of the winter and occasionally suffer loss on this account. A faithful copy of Japanese *Iris* gardens could not exist in this climate for many years, whilst a modification,

restivation and the "blood-stained" spathes have earned for the variety the names *hematophylla* and *sanguinea*—names which are at present in general use. Hybrid derivations of this variety are *Blue King* and *Snow Queen*. The former is structurally between *orientalis* and *coreana*, and may prove to be a hybrid between these two. It has rich, purple blue flowers of wonderful refinement. *Snow Queen* is a valuable border plant, presumably derived by crossing *orientalis* with a form of *lavigata*. It has large flowers, the blades of which are orbicular, the standards broad and erect. It is pure white throughout, save for a little suffusion of yellow at the bead of the blade. These forms of *I. sibirica* are good border plants, easy to grow and flower, and they make imposing clumps under quite ordinary border culture.

can recommend planting *Iris tectorum* in poor soil at its highest point and where shade at midsummer is ensured. *Album*, a rare white form (see fig. 57), and *lilacinum*, which differs but little from the type, are the only varieties I have seen. G. B. M.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp 84-90.)

(Continued from page 133.)

5, SOUTHERN COUNTIES.

BERKSHIRE.—Strawberries have been excellent in quality and very plentiful. Raspberries have also been produced in great quantity, and they



FIG. 56.—*IRIS TECTORUM*.

on cultural grounds solely, may be expected to outlive the planter.

I. sibirica.—The easternmost forms of *Iris sibirica* differ widely from the type. They are splendid border plants, whose flowers are fairly large, and there is none of that weedy character that has rendered *I. sibirica* unpopular.

Var. coreana is a tufted plant with rigid, grassy leaves, pale violet flowers with narrow, erect standards, and orbicular blades delicately pencilled with white.

Var. orientalis is an old inhabitant of gardens. It has lax leaves in spreading tufts, stout flower spikes with characteristic ruddy spathes, from which are produced pretty violet flowers with large, drooping orbicular blades as large as a penny. The crimsoned tips of the flowers in

I. tectorum (*I. TOMIOLOPHA*).—A fascinating *Iris*, with running rhizomes, broad sickle-shaped leaves in fan-shaped tufts and zig-zag flower-stems supporting pale blue reflexing flowers, generally splashed here and there with darker blue. They exceed 4 inches in diameter when well grown, and have toothed, white, horny crests in place of the beard of *Pogon Irises*. I have seen grand clusters of flowering plants in western England, but have not seen such good specimens in the eastern counties. The species cannot withstand summer drought or winter wet, but will grow where path and border adjoin, among stones that define the edge, or at the base of a large boulder in the rock-garden. Frosts cannot harm it if the site is dry in winter. If the open garden is naturally wet in winter, I

are of first-class quality. Black, Red, and White Currants are all heavy crops, and the bunches are of large size. Sweet Cherries proved a bad set on account of a heavy snowstorm at the flowering period. F. Caff, Charters Gardens, Ascot.

—The Apple crop in this district is generally below the average in quantity, although there are instances of trees carrying a good crop. In these gardens they are much below an average number. Plums also are very scarce, the blooms being damaged by frost and snow at the end of April. Gooseberries are quite a failure. Strawberries have been abundant, but were very soon over. J. Howard, Benham Park Gardens, Newbury.

DORSETSHIRE.—Despite very wintry weather experienced during the fourth week in April,

when many wall fruit trees were in full bloom, the general fruit crops are satisfactory. Apples are a good average crop, but the choicer dessert kinds, such as Cox's Orange Pippin, which failed absolutely last season, have excellent crops. Pears are a poor crop, and, in particular, on trees against east walls. These suffered from the severe weather which we experienced hereabouts on the morning of April 24, when we registered 7° of frost. This was preceded by several hours of rain and snow. The same frost was also accountable for the partial loss of the Plum crop. Sweet Cherries, which succeed only indifferently in this county, are better than I have ever known them. Morellos are also good; Peaches and Nectarines are an average crop, but Apricots are almost nil. The excellent promise of a Gooseberry crop was also destroyed by the frost on April 24. Other bush fruits, including Raspberries, are good. The Strawberry crop is the most satisfactory for several years. *T. Earton, Castle Gardens, Sherborne.*

—The Apple crop promises to be a very good one, and the fruits are of fine quality, especially since the advent of rains. Pears of some sorts are a fair crop. Plums are few, the bloom was injured by a fall of snow and a severe frost during the third week of April. Gooseberries and Currants are plentiful and good. We had good crops of Strawberries, but owing to the hot, dry weather, they were soon over. *Thos. Denny, Down House Gardens, Blandford.*

HAMPSHIRE.—Apples promise a good crop; the trees are healthy and clear of pests; varieties such as Lord Grosvenor, Lane's Prince Albert, Bramley's Seedling, Cox's Orange Pippin, and Worcester Pearmain are excellent. Gooseberries are almost a total failure, owing to the frost and snow which occurred during April. Strawberries are, as is usual here, a heavy crop of fine fruit. Sir Joseph Paxton has this season once more asserted its superiority for favour over most other sorts. *E. Molyneux, Swanmore Park, Bishop's Waltham.*

—With the exception of Pears, the fruit crop generally may be taken as a good average one. Apples, in many varieties, are plentiful, the fruits being clear in the skin and the trees strong and healthy in growth. Plum trees on N. and N.W. aspects are carrying full crops, but trees on E. walls are not as well fruited. Apricots are scarce, but the fruits are good, though somewhat later than usual. Owing to the fine dry weather Strawberries were excellent in flavour, but the heat hastened their ripening; consequently the season was shortened. All small fruits are good, Black Currants being the lightest crop. *A. G. Nichols, Strathfieldsaye Gardens, Mortimer, R.S.O.*

KENT.—Spring frosts damaged the crops of Gooseberries and Plums in many parts. Apples in orchards have suffered severely from caterpillars, and have, in consequence, shed their fruits freely. Plums are abundant in many places. The fruit trees in our nursery are remarkably free from aphids. *Geo. Bunyard, Maidstone.*

—Many persons are of the opinion that if Damsons are not gathered the next year's crop will be a bad one. The fruits of some of our trees were left ungathered last season, and these have a heavy crop this year, whilst others growing in a better situation, the fruits of which were gathered, have a very poor crop. The Cherry crop is very unequal; some trees are well fruited, whilst others have but few Cherries. Trees in orchards noted in the winter as being affected by disease are not much, if any, inferior in cropping to those not affected. The variety May Duke, which was quite immune from the disease, has no fruits; the trees are surrounded by other affected varieties having, on the whole, fair crops! *Alfred O. Walker, Ulcombe, Nr. Maidstone.*

All fruit trees are very clean and free from blight. I have not seen them looking so well for the past 14 years. I never use wash of any kind on my trees, which, I think, is the secret of my success. If more summer-pruning was practised and less washing, I believe the trees would be more prolific. *Wm. Lewis, East Sutton Park Gardens, Maidstone.*

—In some orchards the Apple crop is a light one, yet on the whole there is evidence of

a good supply of this fruit. Pear trees blossomed freely, but in many instances the fruits failed to set. Late Cherries were almost completely spoiled by continuous rain. *Geo. Fennell, Bowden, Tenbridge.*

—Almost all the fruit trees in this district have been badly attacked by the winter moth caterpillar. In plantations where the trees have not been washed there is no fruit, but in the well-tended plantations there are some good crops. *B. Champin, Mercworth.*

—Caterpillars are very prevalent this season, especially on Apple trees. Plum trees flowered well, and the foliage is free from aphids. Pear trees flowered abundantly, but there were no insects about at the time to pollinate the flowers; consequently the majority of these fruits dropped. Strawberries flowered unusually well, and we have had a very heavy crop; the foliage is free from mildew. Crops of Currants and Gooseberries are patchy; they are plentiful in some places about here. Raspberries are a full crop, and Cherries flowered

the trees did not flower freely, owing, no doubt, to the heavy crop of last year. Strawberries are a remarkably good crop, the berries being of fine quality. Bush fruits are plentiful and good. *John Thos. Shann, Bettlethanger Park Gardens, Easby, Dover.*

—Fruit trees of all kinds are remarkably clean and healthy this season. Bush fruits have cropped heavily, the fruits being very good. Strawberries were a record crop, and their flavour was extra good owing to the dry, sunny weather. *J. G. Weston, Eastwell Park Gardens, Ashford.*

MIDDLESEX.—Considering the severe weather experienced during the flowering period of many kinds of fruit trees, the crops are much better than was expected. Apples are a very good crop, and Peaches against south walls are plentifully cropped, but on trees against west walls the fruits are few. Strawberries were excellent; Gooseberries are an average crop, and the same may be said of Currants, Cherries, Raspberries, and Plums. The crops, on the whole, may be considered very satisfactory. *H. Markham, Wrotham Park, Middlesex.*

—Apples promise to be an extra good crop this season, but Apricots, probably owing to the excessive crop of last year, are a failure. Small fruits promised well early in the season, but the heavy fall of snow, followed by frost, on April 25, practically ruined all bush fruits. Strawberries have been very prolific, but late fruits were damaged through continued showers and dull weather. *A. R. Allan, Hillingdon Court Gardens, Uxbridge.*

—In spite of the heavy fall of snow and 4° of frost on April 24 the fruit crops are satisfactory. Apples are a heavy crop, especially the varieties Lane's Prince Albert and King of the Pippins, and these varieties have had to be thinned heavily. Pears vary considerably in cropping, the best are wall trees of Souvenir du Congrès and Durondeau. Pyramid trees have only a moderate crop. Strawberries escaped the May frosts, and were the best crop for years past. Laxton's Reward stands out conspicuously both for size of fruit, flavour, colouring, and cropping qualities; many of the fruits were more than two ounces in weight. It is quite the best variety here. Gooseberries, Currants and Raspberries are heavy crops and all are of good quality. *Jas. Hawkes, Osterley Park Gardens, Isleworth.*

SURREY.—The fruit crops in general are very promising, but spring frosts ruined the Apricots, Peaches and Nectarines, particularly the Apricots. Strawberries have been very good, but the late fruits, which were exceptionally numerous, were ruined by rains. A storm on July 13 caused serious damage in some of the gardens here, many Apples being injured by large hailstones. *J. Lock, Oatlands Lodge Gardens, Weybridge.*

—All our fruit trees look well and promise good crops of clean fruit. Our Cherry trees have not yet attained a bearing size, but the trees are making excellent growth. *S. T. Wright, R.H.S. Gardens, Witley, Ripley.*

The fruit trees in general are making good growth, and in most cases are carrying average crops of fruit. During the nights of April 24 and 25 we experienced 8° of frost, and on the night of the 25th a heavy fall of snow. Many Plum and Pear trees were then in full flower, yet they are, in most cases, carrying good crops, although no protection was given the trees. Gooseberries and Currants that were in flower on those dates failed to set their fruits. I have noticed several Plum trees around here with silver-leaf disease, more than I have since 1904 after the unusually summer of 1903; this suggests to me that silver-leaf is in some way developed in seasons where there is an excess of moisture and a lack of sunshine. *W. P. Bound, Gatten Park Gardens.*

—I have never known Strawberries so poor in flavour as this year. Apples set a huge crop, but, happily, the fruits have thinned themselves satisfactorily. Plums have fallen from an average to an under crop, through defective fertilisation. Raspberries are a phenomenal crop. *W. Wilks, Vicarage, Shirley, Croydon.*

—The exceeding irregularity of the fruit crop this season renders it difficult to furnish a satisfactory return. There are as many Apple trees fruitless as there are specimens with good



FIG 57.—IRIS TECTORUM, WHITE VARIETY
(REDUCED 1/2)
(For text see p. 142.)

freely and set well. *H. Cannell & Sons, Eynsford.*

—Cherries were a heavy and good crop until persistent rains spoiled them; only a small portion of the mid-season fruits were gathered, and the late fruiting varieties have also suffered from the same cause. All varieties of Strawberries have given heavy and good crops. Givon's Late Prolific, treated on the one-crop system, has done grandly. Some varieties of Apples are a full crop, but others are barren. Pears are very few, but the fruits we have are clean and good. There is a great abundance of all bush fruits, even Black Currants, which have been failures for many years past. *W. E. Humphreys, Blendon Hall, Bexley.*

—The fruit crops in this district are very good. Cherries are a remarkably fine crop; Apples are plentiful and good, and Plums are also abundant. Raspberries are very heavy crops, especially of Superlative and Baumforth Seedling. Pears are not more than an average crop;

crops. Pears are very few. Plums are plentiful on Victoria and a few other varieties, but, generally, the crop of this fruit is light. Bush fruits have been remarkably good and plentiful in spite of the alarms sought to be created as to Gooseberry-mildew and Currant mite. Wall fruits are a poor crop; the intensely cold weather which prevailed in April having practically destroyed the embryo fruit generally. Strawberries have been exceptionally good and plentiful, though the season was none too long. Raspberries and Loganberries have been great crops. *Alex. Dean, Kingston.*

—The fruit crops in this locality are somewhat patchy. Apples here are a fair average crop, and the fruits mostly are a good shape and promises to finish well. Pears set fairly well, but the Pear midge has reduced the crop. Plums are better than usual; both dessert and Morello Cherries are heavy crops and of good quality. Peaches, Nectarines and Apricots are much under last year's crop in quantity. These, as usual, failed to set owing to bad weather in the spring. Small fruits are good this year, Raspberries being extra fine and plentiful. Strawberries also were extra good, especially in point of quality. I have never known fruits of Royal Sovereign to be better in size, colour and flavour; they were much less acid than usual. Other good sorts here are Givon's Late Prolific, British Queen, Dr. Hogg, Sir J. Paxton, Louis Gauthier, Laxton's Latest, and Bedford Champion; the last-named is fine in appearance but very poor in flavour. Filberts and Walnuts are satisfactory crops. *Geo. Kent, The Gardens, Norbury Park, Dorking.*

—The fruit crops in this district, with the exception of small fruits and Strawberries, are much below the average. The majority of the Apple trees which are fruiting this season are with few exceptions, those that were barren last year, and these are greatly in the minority. *W. H. Hones, Hopdene Gardens, Holmbury St Mary, Dorking.*

(To be continued.)

MARKET PLANTS.

FATSIA (ARALLA) SIEBOLDII.

This is one of the leading market plants, the prices varying from about 4s. per dozen for specimens in 3-inch pots up to 24s. or 30s. for extra well-finished plants in 6-inch pots. The best large plants I have noticed were grown out-of-doors the previous summer, kept in a temperature just above freezing point throughout the winter, and started naturally as the weather became warmer in the spring. When growth starts in spring the plants soon develop many leaves, and at that stage liquid manure is of great assistance to them. They pay best if kept until the leaves are fairly hard before sending the plants to market.

Some are raised from seeds saved in this country, but growers depend mostly on imported seeds, which come from Germany, usually early in April. The seeds soon lose their vitality, and should therefore be sown as soon as received, or if circumstances compel them to be kept for a few days they should be shut up in a tin box or a glass bottle and kept in a cool place. I have kept seeds until August, but with the greatest care they did not germinate so well as those sown as soon as received. The seeds may be sown in shallow boxes or in pans, using good loam and a surface layer of light soil that will not cake. The pans should be placed over a little bottom heat and be well exposed to the light. The seeds will soon germinate; damping is sometimes troublesome, but this may be obviated if the seeds be sown thinly and the seedlings pricked off as soon as they are large enough to handle. Although the plants are best started into growth in warmth, at subsequent stages they make more satisfactory growth under cool treatment. Where plenty of room is available indoors they may be grown under glass, and form useful plants by the following autumn. The most sturdy plants are those grown in full exposure to the light. They are ready for sale in the second season. Plants which have been kept in small pots throughout the winter may be potted into 5-inch pots early in the year, and kept in a pit until all danger of frost is passed, when they may be stood in the open.

With careful attention to watering and full exposure to sunshine they will form short, sturdy growths and thick leathery leaves. Although established plants are quite hardy, frost will injure the young leaves and thus spoil the plants for sale, therefore they should be taken under cover early in the autumn or before severe weather sets in. The compost most suitable for *Aralla Sieboldii* is a mixture of rich loam, well-decomposed stable manure, and some bone-meal. *A. Hemley.*

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holford, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Millonia vexillaria.—This species, and its varieties, are commencing to grow actively; therefore, those in need of fresh rooting material should receive attention forthwith, as re-potting or resurfacing with new rooting medium is best performed at this season. Young, vigorously-growing plants that require additional root room should be shifted into larger receptacles, with as little disturbance as the roots as possible. Large specimen plants that are showing signs of exhaustion should have the old material shaken from their roots, any useless pseudo-bulbs removed, leaving two or three only behind each lead; and all dead and decaying roots cut away, taking care not to injure any of the healthy roots in the process. These plants thrive best under pot culture. The pots should be filled to within two-thirds of their depth with material for drainage. For a potting medium use a mixture of two-thirds *Osunda* rhizomes or *Polypodium* fibre, and one-third clean, fresh *Sphagnum*-moss. These materials should be chopped up and well mixed together, adding a liberal sprinkling of crushed crocks and charcoal to keep it porous. Press the soil about the roots moderately firmly, and surface the pot with *Sphagnum*-moss. After potting, the plants should be staged in a structure having an intermediate temperature, and be shaded from strong sunshine. Water must be given sparingly for some time after the plants have been repotted. An occasional sprinkling of the surface moss through a fine rose can will keep the soil sufficiently moist, provided the surroundings are kept damp.

Millonia Bleucna.—This is a hybrid of *M. vexillaria*, and one which is rather uncertain in its flowering season. Healthy, vigorous plants often produce two batches of flowers in one season, but those that are produced in spring are by far the best. The plant needs similar treatment to that described for *M. vexillaria*, except that they should be given rather warmer quarters at all seasons. Repotting may be done at any time during the stage when new roots are forming above ground from the young growths. The plants give the best results when their roots are restricted to small pots; therefore, over-potting must be avoided.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady Wantage, Lockinge Park, Berkshire.

Early-flowering Chrysanthemums.—Many of the earliest varieties will now be well furnished with flower-buds. Some of these outdoor varieties require no thinning of their flowers, but others do need such thinning. As a rule, several buds form at the end of each shoot, and even in the axils of the upper leaves; unless some of these are removed, the blooms will be small, and many of them deformed through overcrowding. Rubbing out the buds is a simple process, but it requires care, and an inexperienced person may be liable to rub out the wrong buds. These *Chrysanthemums* need little staking; one stick placed at the time they are planted out will be sufficient. To this the flower shoots may be secured, a process that requires considerable care and time, but it is well worth the trouble. Green and black fly, also mildew, are occasionally troublesome on *Chrysanthemums* out-of-doors, and must be combated directly they are observed. Tobacco powder dusted on the leaves when they are damp is a good specific for aphids.

The Everlasting Pea (Lathyrus sylvestris).—The Everlasting Pea is a fine subject for growing in masses on rockwork or for training on arbors, walls, trellises, &c. The plants are not particular as to soil, provided it is fairly rich, and they are useful for furnishing cut flowers and pretty shoots for arranging with Sweet Peas and other flowers. A common mistake in growing this plant is overcrowding the shoots, which should be well thinned out when they are young. Being a very deep-rooting plant, the seeds are best sown where they are intended to remain permanently, but they can be planted in small pots now and transplanted in the spring. There are several varieties of distinct colours, including white, pink, and purple.

Hardy annuals.—Many hardy annuals suffered early in the season from low temperatures, and later from excessive drought. It may be well, therefore, to take precautions that sufficient seeds are harvested before the flowers are all over, for the period of blooming may not be much further prolonged. Among the best hardy annuals is *Bartonia aurea*, which, although straggling in growth, blooms freely, and is valuable for massing. *Phacelia campanularia* forms a compact plant, and produces flowers of a lovely blue shade. Of *Candytufts*, White Spiral, Carmine, and Little Prince are all good varieties. The purple, white and yellow *Centaureas* are both free in flowering and decorative in appearance. The *Clarkia* is another favourite garden plant, the double salmon variety being especially good. *Lavatera rosea splendens* has brilliant, rose-pink flowers, which are very effective in the border. The best of the *Nemesias* are the dwarf varieties. *Linum grandiflorum* is a showy, free-flowering, hardy annual. *Nigella Miss Jekyll* has beautiful, cornflower-blue flowers. The *Salpiglossis* is to be recommended for open, sunny situations.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STURLING, Esq., Keir, Perthshire N.B.

Humea elegans.—Sow seeds of this plant in gentle heat, and as soon as the seedlings are through the soil remove them to an unheated frame, placing them close to the glass and shading them from bright sunshine. The soil should be damped before sowing the seeds, and these latter will only need to be covered very thinly with finely-sifted soil. As soon as the plants are large enough to handle, pot them off singly into 3-inch pots, taking every care not to break the roots in taking the plants from the seed pot. Let the compost consist of good loam, leaf-mould and sand, adding a little manure from a spent Mushroom bed. When the pots have become filled with roots, repot the plants into 6-inch pots. It is important that *Humeas* should never become severely pot-bound, as this condition causes them to lose their lower leaves. The compost used for the second potting may be a shade heavier and richer. During the winter the watering must be done very carefully, keeping the roots just on the dry side. The plants are best grown in an unheated frame until the appearance of frost, when they may be removed to a shed close to the glass in a house having a southern exposure; a cool greenhouse being suitable. In spring they will need to be shifted into 10-inch pots. These pots should first be made quite clean and each should be well drained. The soil for use at this potting may be made a little richer than that used on the previous occasion.

Roman Hyacinths.—No time should now be lost before putting these bulbs into pots or boxes. If a considerable quantity of bulbs has to be forced, I prefer to use boxes for the early stages of growth. It is very easy matter to make them up into pots before they come into flower, taking care to select bulbs of the same size and stage of flowering for each particular pan or pot. By this method the pots or pans frequently present a better appearance when the plants are in bloom than when the bulbs are grown during all their stages in pots. The bulbs may be started in any ordinary "cutting" boxes, which should contain a porous sandy compost; the bulbs should be placed at distances of 2 inches apart each way. After the boxing is completed apply a good watering, and stand them in a position where 6 inches deep of ashes or sand may be placed over them until

the bulbs commence to grow, at which stage the ashes or sand should be removed and the boxes placed in an unheated frame. When the roots have begun to extend freely into the soil the box, or boxes, should be placed in a warmer atmosphere to force the plants into flower, it being an easy matter to obtain them in bloom by the first week in November.

Cyclamen.—Plants that were planted out into a frame are now growing freely and should be given a little liquid manure.

Stove and greenhouse creepers.—Climbing and creeping plants in the stove and greenhouse that have made large quantities of growth should have some of the shoots cut out and the remaining ones tied in and regulated, so that the light may penetrate more freely between the branches, and thus benefit the plants that are growing beneath them. Lapagerias that are trained over a trellis immediately under the roof should have many of their growths loosened that they may be allowed to hang down before they come into flower; but great care must be exercised in order not to rub off the flower-buds whilst drawing the shoots from the wires.

Winter-flowering Begonias.—Plants that have filled their pots with roots should now be fed regularly with liquid manure, and the shoots should be neatly trained to form good specimens. The plants will not need to be syringed overhead so frequently after this date, and as the days become shorter syringing may be discontinued. Allow plenty of space around each plant and commence now to expose them a little more fully to the sunshine.

Souvenir de la Malmaison Carnation.—Any old plants that have passed out of bloom and require re-potting should be given attention at once. A suitable compost will be one consisting of turfy loam, leaf-mould, lime rubble, wood ashes, and as much sand as will keep the whole of the materials porous after firm potting has been done. In the process of re-potting be very careful not to break the old ball of soil, nor to loosen the plant at the neck. See that the roots are in a moderately moist condition before attempting to re-pot them. Provide each pot with perfect drainage, and in potting press the soil firmly round the sides of the pot. Use great discrimination in the affording of water after the operation, for during the winter the plants thrive better if kept slightly on the dry side.

FRUITS UNDER GLASS.

By T. COOMBE, Gardener to LORD LLANGATTOCK, The Hendre, Monmouthshire.

Winter-fruiting Pinapples.—A tolerably dry atmosphere is necessary for plants of Smooth Cayenne and other winter-fruiting varieties during the flowering period. The house should be ventilated early in the morning upon bright days, and closed sufficiently early in the afternoon that the atmosphere of the house will rise considerably from sun heat. Enough fire heat must be employed at night to prevent the atmospheric temperature from falling below 70°. When the flowering period has passed (it may already have passed in some cases) increase the atmospheric moisture and syringe the surfaces between the plants, slightly spraying over their heads in the afternoon as soon as the house has been closed. Be particularly careful not to let the soil in the pots become dry or remain for any appreciable period in a state of wetness. Slightly stain the water with Peruvian guano each time water is afforded. It is necessary to leave sufficient suckers on the plants for future requirements, and in the case of the Smooth Cayenne variety there is a difficulty at times in procuring as many as are necessary, crows having sometimes to be saved to make good the defects. Plants obtained from crows produce equally as good fruits as do suckers, but they take a longer period than is required by strong suckers. As the days shorten, gradually train the plants to absence of shade by not using the blinds so early in the day, and by removing them earlier in the afternoon.

Queen Pinapples.—Young plants intended for fruiting early next summer, having now made good progress in their final pots, will require more frequent supplies of weak tepid guano water, care being taken to prevent the soil remaining long in a wet state. At this season the

damping of suitable surfaces to promote the necessary amount of atmospheric moisture needs frequent attention, and the plants should be lightly sprayed overhead when the house is closed early in the afternoon. Ventilation should be employed early each morning, increasing the amount until the middle of the day. By closing the house early in the afternoon, sun heat may be saved, which will render it unnecessary to employ a great amount of fire heat at night. It is desirable to obtain strong plants by October, such that, after passing through a season of rest, will show inflorescences without first making new growth. Remove any suckers as soon as they appear, for if they are numerous, as is the case sometimes with this variety, they are detrimental to the plants.

Fruit borders.—The continuance of dry weather in some districts has rendered it necessary to water out-door fruit borders more than is usual. On no account should borders containing the roots of vines, especially such as are carrying late crops of fruits, be allowed to become dry. For if this takes place, and the soil afterwards is saturated, either by rain or by artificial watering, the berries would be very liable to split. The mulching of borders of this description with suitable manures is of great assistance to fruit trees in seasons like the present, but it is a question if the practice is not sometimes carried to excess in wet seasons.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY Northbrook, Waterbury, Yorkshire.

Pears.—The returns published recently in these pages show how unsatisfactory the Pear crop is in all parts of the country, but more especially in Scotland. The few trees carrying good crops should be well looked after, keeping them clear of breast-wood, and watering the roots as often as necessary. The trees should be relieved of all small and deformed fruits, which are numerous this year, although the crop is light. The earliest varieties, including Doyenne d'Été, Citron des Carmes, and Jargonelle, will soon be ripening, and will, therefore, require almost daily attention as to gathering. Jargonelle, Clapp's Favourite, Williams' Bon Chrétien, and, indeed, most of the early varieties of Apples and Pears are best gathered before they are fully ripe, as their flavour is then retained to a fuller degree. It will be necessary to carefully net the early varieties to protect them from tits and blackbirds, for once the fruits are pecked by birds, then hornets, wasps and flies gain an entrance, and soon make a clearance upon trees carrying only light crops. It is now time to pay special attention to mid-season and late-fruiting kinds by feeding the roots with liquid or artificial manures, and mulching the ground, varying the treatment according to the kind of stock the trees are worked on and the nature of the soil they are growing in. Many other details claim the attention of the cultivator at this busy season, and watering is, therefore, often neglected until it is too late to be of much benefit. It will be found that the recent rains have not been sufficient to penetrate much below the surface. A special effort should be made to water those trees carrying heavy crops first, pushing the work forward at every opportunity until all have been watered. It is only by making special endeavours in this way that fruits of a large size and extra quality can be obtained. The same attention should be given to early and late varieties of Apples, both on walls and in the open quarter.

Loganberries.—These plants require much the same treatment as Raspberries. All the old fruiting growths should be removed as soon as they have been cleared of fruit to make more room for the young shoots for fruiting next year. Secure five or six of the strongest to the trellis or poles according to the space available, to prevent their being damaged by winds, and apply liberal supplies of liquid manure or other stimulants to the roots. The same treatment should be given to Blackberries. Both plants being gross feeders, they require liberal treatment, especially when planted on light, poor soils.

Nuts.—These present a poor crop this season, especially Walnuts, but the bushes of Cobs and Filberts must not be neglected. Keep all sucker

growths removed from the base. A sharp look-out should be kept for squirrels, or they will soon take what few nuts there are present on the bushes.

Fruit room.—If the cleaning of this structure has not already been done, no time should be lost before thoroughly washing the shelves and all other woodwork with soft soap and water. Lime-wash the walls and have everything clean and sweet by the time the fruits are ready for gathering.

Hoing.—The ground is becoming very dry, and, if the hoe is not kept frequently at work, the surface soil will crack, and the trees will suffer at a time when moisture is necessary for the trees to complete their growth and develop flower-buds.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Tomatos.—Seldom have the weather conditions been more favourable for the culture of Tomatos out-of-doors than this season. The plants are heavily laden with well-developed fruits, and, provided the weather of autumn is fine, the crop will mature well. Strict attention must be paid to the removal of all unnecessary shoots and any flower trusses that develop after this date. At this period the leaves should be shortened half-way in order that the fruits may have the fullest exposure to sunshine. The fruits must not be allowed to remain after they show signs of colouring, but should be gathered and placed in a warm glasshouse or dwelling-room, where they will mature perfectly. Tomatos grown under glass have needed very little artificial heat, and have done remarkably well. Those in full bearing should be liberally fed with some manurial stimulant, and a free circulation of air should be permitted throughout the house both day and night. Carefully prevent an excess of moisture at the roots. When the weather is wet or cold, especially at night time, a little artificial heat should be provided as a precaution against disease which is favoured by cold and damp. Plants intended for fruiting early in winter should now be shifted into their fruiting pots. These plants should be encouraged to make sturdy, short-jointed shoots. Keep them in a cool greenhouse for about a month, and after that period transfer them to an intermediate-house, where they may be allowed to fruit, training the shoots near to the glass. Make a small sowing of the variety Sunrise, placing the seed pans in a little heat. This is an excellent variety to produce an early spring crop, and, if seeds are sown at this time, the plants will become well established before the winter sets in. If they are placed near to the glass, and given every encouragement, they will be ready early in the new year for shifting into their fruiting pots.

French Beans.—In order to maintain a supply of this vegetable all through the winter, seeds should be sown now in heated pits at a distance of from 18 inches to 2 feet from the glass. No forcing whatever must be practised, but the seeds must be allowed to germinate naturally, as the harder and more gradual the growth the better will be the results. There are many suitable varieties for winter cropping, but I prefer *Ne plus Ultra* and *Canadian Wonder*. Both possess a robust constitution, as well as free-cropping qualities. They should be sown in cold frames, the lights of which should be entirely removed during the present month.

Winter Greens.—If by any chance the planting of these has not been completed, it should be done without further delay, and any failure in the principal batches should be made good. In cases where the plants have been placed in soil which has since become caked, such as between rows of Peas, the surface of the ground should be broken up with a fork, as much to make it tidy as to stimulate growth.

Courds and Pumpkins.—These have done much better this year than last season, and a fine crop of fruits is now developing, but it must be borne in mind that the keeping qualities of these Cucurbitaceous fruits greatly depend on their thorough ripening. For this reason everything should be done to expose the fruits to the sun as much as is possible, elevating them well to the light and removing any surplus growths and leaves.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens or plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, AUGUST 29—Derbyshire Agric. and Hort. Soc. Show at Osmaston Park, Derby (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—60° 6'.

ACTUAL TEMPERATURES:—LONDON.—Wednesday, August 19 (6 P.M.): Max. 65°; Min. 52°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, August 20 (10 A.M.): Bar. 29.9; Temp. 61°; Weather—Slight rain.

PROVINCES.—Wednesday, August 19 (6 P.M.): Max. 65° Ireland, S.W.; Min. 53° Scotland, N.

SALES FOR THE ENSUING WEEK.

MONDAY, WEDNESDAY AND THURSDAY—Great Trade Sales of Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.

WEDNESDAY—Palms and Bays, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.

FRIDAY—Imported and Established Orchids, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

Some Potato Diseases.

The subject of plant pathology is one which merits the closest study, and, fortunately, its importance to cultivators is year by year receiving more recognition. Many cases could be cited in which serious loss might have been avoided if the results of scientific investigations had been taken into account. A notable instance is afforded in the history of the "warty disease" of the Potato, which is also known as "black scab," and has assumed such alarming proportions that it has been scheduled by the Board of Agriculture under the Destructive Insect and Pests Act.

The disease is characterised by curious wart-like excrescences proceeding generally from the front end; outgrowths may also break out from other parts of the tuber, and in severe cases the whole Potato may be transformed into a mis-shapen mass of irregular, tumour-like swellings as shown in the illustration at fig. 58. The abnormal protuberances are due to excessive cell-division, the result of irritation set up by the invasion of a parasitic fungus (*Chrysophyctis endobiotica*). This parasite first attacks the Potato at the "eyes," and exists as a plasmodium in the diseased tissues. Towards autumn innumerable large resting spores are formed, which remain dormant in the soil during the winter. Professor Potter has proved by experiment* that these resting

spores are capable of infecting the succeeding crop, and it said that even after six years they may still retain their vitality in the soil and attack the next crop.

The disease first appeared some twelve years ago, and was then only known in a small part of Cheshire and North Wales. It has now greatly extended its area in these districts, and has gained a strong foothold in Cumberland, Westmoreland, Nottingham, Lancashire, and in the Midlands of Scotland. The outbreaks in all these counties have been very severe, and from all accounts the disease is spreading rapidly in the infected areas, the amount of damage increasing each year. So much is this the case that many allotments have had to be given up, as it was found impossible to grow Potatoes in the infected soil.

In the earliest stages of the disease very small outgrowths and a discoloration of the tuber near the "eyes" may be the only indication of its presence. Such specimens, however, contain numberless spores, and it is against the introduction of such infected

deux mixture for about 18 hours, or in .4 per cent. formalin for two hours to be efficacious in destroying the spores without causing injury to the tubers.

Potato tubers that are used for planting should first be very thoroughly examined, and those showing even the slightest trace of disease should be rejected. It cannot be too strongly insisted upon that all diseased tubers should be carefully collected and destroyed. They should never be allowed to rot on the land or be used as food for stock. Many Potato diseases are, without doubt, spread in this manner from year to year.

THE NATIONAL CO-OPERATIVE FESTIVAL SOCIETY'S FLOWER SHOW, to be held at the Crystal Palace to-day, the 22nd inst., represents the coming-of-age celebrations, and promises to be very successful. We are informed that the number of entries is large, and that the exhibition will include other attractions besides the exhibits of garden produce.



FIG. 58.—BLACK SCAB OR WARTY DISEASE OF POTATO.

seed tubers that growers must be specially warned lest it escape notice.

Another disease of the Potato which seems likely to cause considerable loss is the "corky scab," due to a parasitic fungus (*Spongospora solani*), allied to *Plasmodiophora*, which causes so much destruction to cruciferous plants. For the life history of *Spongospora* we are indebted to Professor Johnson, of Dublin. In the first stage the skin of the potato is raised as a small blister, and later on depressions as much as an inch in depth are produced. In these hollows, spore-balls, formed by hundreds of spores loosely packed together, are to be found. When ripe they lie freely upon the surface of the Potato; thus some fall off on to the ground, while others adhering to the tubers may be carried away, and should such tubers be used for seed purposes they will certainly infect the crop in the succeeding season. This fungus has proved to be a very destructive parasite in Ireland, and it is present in the Lowlands of Scotland. Dr. Johnson found that soaking the Potatoes in a 2 per cent. Bor-

OUTING TO A NURSERY.—Members and friends of the Sutton Coldfield and District and Walsall and District Gardeners' Associations to the number of about 150, visited on Monday, August 10, the seed warehouses at Wordsley and the seed farms and trial grounds at Kinver of Messrs. WEBB & SONS, Wordsley, Stourbridge. At Wordsley the party was met by Mr. EDWARD WEBB, and the heads of departments conducted the visitors through the offices, warehouses, and greenhouses. From Wordsley they resumed their journey to Kinver, where luncheon was provided by Messrs. WEBB & SONS. The party then left for an inspection of the trial grounds.

SHOW OF FORCED BULBS.—As we announced in the issue for June 13, p. 385, the Council of the Royal Horticultural Society have decided to hold on the same date, when the prizes offered by the Dutch Bulb Growers' Society at Haarlem will be competed for, viz., March 9, 1909, a general exhibition of forced spring bulbs, with a view to specially demonstrating which varieties are best suited for forcing. Exhibits of small collections are invited from amateurs and trade growers, and for these medals will be awarded according to merit.

* The "Warty Disease" and "Corky Scab" of the Potato, by Prof. M. C. Potter. Journal of the Newcastle Farmers' Club.

FLOWER SHOW AT THE FRANCO-BRITISH EXHIBITION.—An exhibition of plants, flowers, fruit, and vegetables will be held under the auspices of the Franco-British Exhibition, Shepherd's Bush, on September 30 and October 1 and 2. The show will again take place in the Palace of Music and Congress halls. All particulars can be obtained on application to the SUPERINTENDENT OF HORTICULTURAL SHOWS, Executive Offices, Wood Lane, Shepherd's Bush, W.

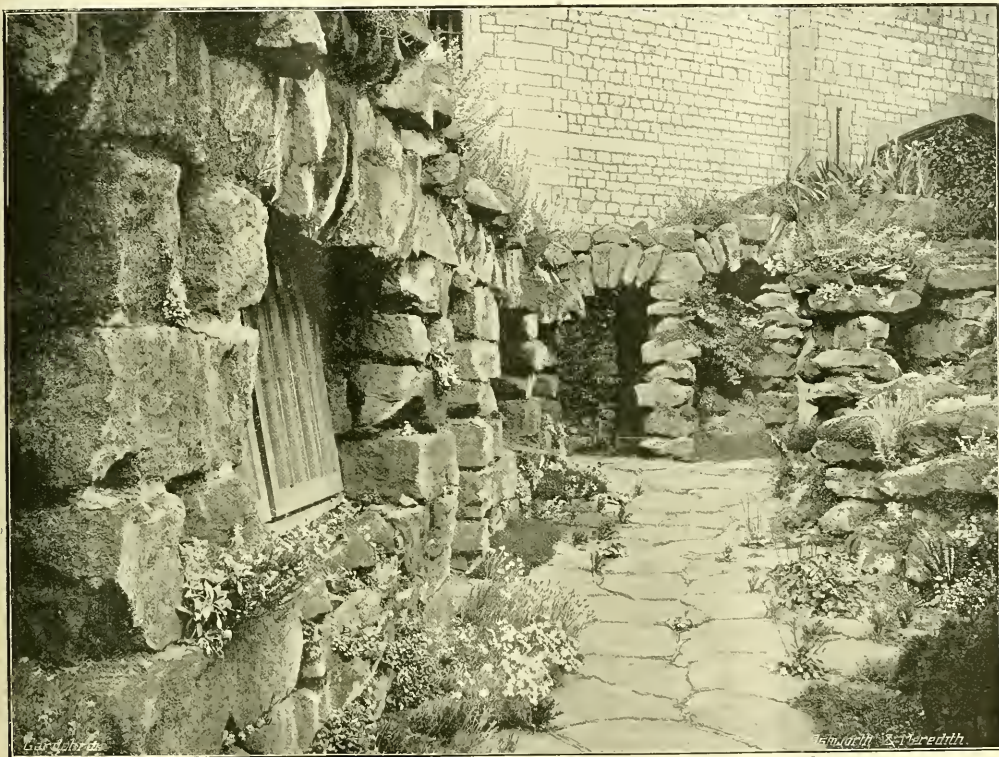
AMERICAN GOOSEBERRY-MILDEW IN ESSEX.—We are asked by the Board of Agriculture and Fisheries to announce that the presence of the American Gooseberry-mildew in a plantation in Essex has been confirmed. An order of the Board requires all occupiers of premises on

THE MOAT GARDEN, WINDSOR CASTLE.

(See figs. 59 and 60, also Supplementary Illustration.)

This garden, which adjoins the residence of General Sir Dighton Probyn, V.C., Keeper of his Majesty's Privy Purse, is situated beneath the walls of the great Round Tower of Windsor Castle. The greater part of it is formed out of a steeply-sloping, semi-circular bank, around which paths have been made at different heights. From each pathway the ground immediately above has been so treated that it forms excellent sites for the cultivation of Alpine plants and dwarf shrubs. Looking at the garden from any point of view, one cannot fail to be impressed by its interest and beauty. There are thousands of the best varieties of herbaceous, Alpine, and rock plants, planted

pathway is ornamented with suitable plants, the effect being just as if the species growing above had seeded carelessly on the ground below. Emerging from "Sandringham Court," the next scene is that of the "Riviera" garden, which is represented in the Supplementary Illustration. In the background, and directly beneath the walls of the tower, may be seen large growing plants of *Arbutus*, *Lilac*, *Crataegus*, and other species, and at the highest point shown in the picture an *Olearia* may be detected in bloom. At lower positions on the bank smaller and choicer plants abound, such as *Andromeda*, *Kalmia*, *Olearia* *Haastii*, *O. stellulata*, *O. nummularifolia*, *Enkianthus campanulatus*, *Citrus trifoliata*, *Choisya*, *Veronica*, *Raphiolepis ovata*, and others. In this



[Photographed by special permission.]

FIG. 59.—"SANDRINGHAM COURT" IN GENERAL SIR DIGHTON PROBYN'S GARDEN AT WINDSOR.

which the mildew exists to report the presence of the disease under a penalty of £10. All growers of Gooseberries are advised to apply to the Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W., for a leaflet describing the appearance of the disease and giving the precautions that should be taken.

WISLEY STUDENTS AT CRICKET.—The students at the Royal Horticultural Society's gardens at Wisley engaged in a cricket match with the tradesmen of Ripley at Ripley on Wednesday, the 12th inst. The students scored 112 runs for the loss of nine wickets, their opponents replying with 86 runs. The highest score was made by Mr. S. GORRINGE, who opened the batting for the students and carried his bat, making 62 runs.

with infinite care and discrimination in what may be fitly described as a wonderful garden. It is a garden full of pleasant surprises, and the visitor must traverse its many intricate and winding paths from end to end in order to see all the features of which it is composed. Many tons of stone have been brought from Norfolk for the formation of rockwork.

On entering the garden from the side farthest from the residence, the visitor passes through a charming little rock-garden known as "Sandringham Court," which is illustrated at fig. 59. Amongst the many choice plants to be seen there are species of *Sempervivum*, *Androsace*, *Draba*, *Sedum*, *Campanula*, *Saxifraga*, *Primula*, *Heuchera*, *Thymus*, *Dianthus*, *Opuntia*, *Nepea violacea*, &c. It will be seen that even the stone

"Riviera" garden also, which is situated at the foot of the bank, is a pergola clothed with many choice climbing and creeping plants. The sundial in the foreground is reputed to be 800 years old. From the "Riviera" garden commences the "Lavender Walk," so named from the quaint brick vases filled with *Lavender* which have been placed on each side at frequent intervals. On the left side of the walk is the border of herbaceous plants, containing a choice collection of species and varieties. When we were privileged to visit the garden in June there were flowering some beautiful varieties of *Delphinium*, also *Anchusa italica* "Dropmore variety," species of *Potentilla*, *Campanula*, and *Michauxia campanuloides*, *Gillenia trifoliata*, and others. On the opposite side of

the walk is a mixed border of the best Hybrid Tea and Hybrid Perpetual Roses. A bog-garden is the next item of interest. This is filled with groups of Astilbes, Saxifraga peltata, Sarracenia purpurea, S. flava, Rodgersia podophylla, Japanese Iris, Cimicifuga dahurica, Lobelia fulgens, Lycopodium, Lythrum, Eulalia, &c. Tiny watercourses running over the surface of a low stone wall which surrounds it greatly enhance the effect, and serve the purpose of irrigation. At the head of this garden are Lily tanks filled with Nymphaeas and other aquatic plants that are arranged with excellent effect. Around these tanks are cultivated British Ferns, among which were noted some good specimens of the Crested Lady Fern (*Athyrium filix-femina cristata*). From this point can be seen a series of dripping wells, the water commencing at the top of the hill and running down in irregular fashion, eventually emptying into the bog-garden. A Sweet Briar walk, planted on each side with Penzance Hybrid Briars, which are trained on a wire fence, lead to the top of the hill directly underneath the ramparts of the tower. The walls of the tower are covered with climbers some 20 feet high. These include Polygonum Baldschuanicum, Vitis purpurea, V. Coignetii, and Roses. One large single pure white variety of Rose named Alice Grey was in splendid condition, although it must have been planted many years ago. A very large Fig tree growing up among the obsolete cannons which peer over the ramparts is effective.

The subject of the illustration at fig. 60 is the "Fountain Walk." This is one of the prettiest views in the garden. Here is an old-fashioned border of herbaceous plants, filled with many choice specimens. An antique fountain of beautiful design can be seen projecting from the wall. Old-fashioned plants, including the Lavender and Rosemary, grow carelessly from the top of the wall. Overhead are arches covered with rambling Roses, Clematis, Loganberry, and Wineberry. Wall-gardening is carried out with excellent effect.

There are many other interesting features in this unique garden. In the "Poets' Corner" are quotations from the favourite poets, including Tennyson, Longfellow, Keats, Ruskin, and others; but these are features that are of a more or less private nature. They indicate the exceedingly close attention the garden receives from Sir Dighton Probyn, who spares neither expense nor trouble in the maintenance of the attractive garden he has himself formed.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

LIBOCEDRUS MACROLEPIS AND OTHER SPECIES.—This is one of the many beautiful subjects that we owe to the enterprise of Messrs. Veitch in sending a traveller to explore the little-known districts of Central and Western China. The best known and the hardest member of the genus is the Californian *Libocedrus decurrens*, which forms a stately columnar tree of high ornamental value. There is no other hardy Conifer with which it can be for one moment confounded, though, unfortunately, the name of *Thuja gigantea* was at one time applied to it, and in this way a good deal of confusion has existed between two distinct and equally beautiful trees. *L. chilensis*, which occurs on the lower slopes of the Chilean Andes from Valparaiso southwards to Valdivia, is very ornamental when in a flourishing state, but in this condition it can only be met with in particularly favoured parts of the British Isles. In a paper on "Ornamental Trees and Shrubs at Castletwellan," published in the *Journal of the*

Royal Horticultural Society a few years ago, Earl Annesley speaks favourably of its behaviour in that part of the sister Isle, I. L. tetragona, from Southern Chili, is much less satisfactory in this country than the preceding species, and is very rarely seen. *L. Domiana*, a native of the North Island of New Zealand, is also tender, and must be regarded more as an ornamental subject for the conservatory. The frodlike branchlets of this plant are of a beautiful rich green colour, and, given glass protection, it is very beautiful. *L. macrolepis* is scarcely hardy, but it is well worthy of association with the greenhouse Araucarias. Messrs. Veitch, in the *Manual of Conifers* state that it was first discovered in the Chinese province of Yunnan by Dr. Anderson, who was attached as medical officer and naturalist to an expedition under Major Sladen, 1870-1871, but it was left for Mr. Wilson many years later to introduce it to this country. W.

GRAPE GROS GUILLAUME AT HOWDEN, YORKSHIRE.—This large bunched variety of Grape is growing splendidly in the gardens of G. H. S. W., Esq., at Howden. The best vine is planted at the back of a roomy three-quarter span-roofed vinery, where it covers a roof space of 120 square feet, the training being on the extension system. The stem, at 1 foot from the ground, has a circumference of 10 inches and the approximate number of bunches produced actually for many years past is 18. The average weight of each bunch is from 4 to 5 lbs.—the heaviest bunch weighed 9½ lbs. The vine has been planted 30 years, and the crop this year is a good one, though the bunches are not so large as I have seen them on a former occasion, which was more than 20 years ago. Even experienced gardeners have at first sight thought the bunches to be fine examples of Black Hamburgh, owing to their compact shape and regularity of berry. The front portion of the vinery is planted mainly with Black Hamburgh, which ripens about the beginning of July, the Gros Guillaume maturing a few weeks later. Mr. Blakey, the manager at Howden, has exhibited Grapes at flower shows for many years, and they have seldom been beaten. There are several other vineries filled with Gros Colmar. All the Grapes are grown for market purposes. The soil in which the vines are growing is a deep alluvial deposit. If my memory serves me right, there was a discussion many years ago in the *Gardeners' Chronicle* respecting a new variety of the Grape in question sent out or exhibited from some garden near Belfast. As some persons have suggested that the vine at Howden is a distinct variety, there may be some connection in this instance. *Yorkshire Gardener*.

MANDEVILLA SUAVEOLENS IN THE OPEN IN IRELAND.—A large number of interesting and beautiful features are to be found in the gardens of Mr. R. H. Beamish at Ashbourne, Co. Cork, Ireland, and not the least interesting to me, on a recent visit, was a fine plant of *Mandevilla suaveolens* growing against a rock face in the rock-garden there. It is facing almost due south, and is well protected from north and other cold winds. One could not wish for a finer or more beautiful climber than this sweet-scented species, which in such surroundings is delightful in the extreme. The great trusses of pure white flowers were deliciously fragrant, and the plant contrasted well with the grey rock against which it grew. The plant has reached a good height, and it is intended to allow it to mount still higher, by carrying one of its stems under a path which traverses the rock face immediately above, and under which it has been kept. Should this be arranged, and the plant remain as healthy and hardy when it reaches a greater altitude, the picture will be a magnificent one, and there will doubtless be many other cultivators in favoured gardens who will attempt to grow this tender shrub or climber in a similar way. S. Arnett.

TRADE NOTICE.

Mr. S. Groot, eldest son of Mr. Groot, has been admitted a member of the firm of Messrs. SLIMS & GROOT, Seed Growers and Merchants, Enkhuizen (Holland).

SOCIETIES.

ROYAL HORTICULTURAL.

AUGUST 18.—The exhibition in the Horticultural Hall on Tuesday last was again a small one, and was attended by few visitors. There were, however, several good groups of plants and fruits, although none was of outstanding merit. The various Committees all made awards to novelties, the ORCHID COMMITTEE conferring no fewer than one First-Class Certificate and five Awards of Merit; the FLORAL COMMITTEE granted Awards of Merit to a new Pink and a species of *Thalictrum*; the FRUIT AND VEGETABLE COMMITTEE conferred the same distinction on a new early dessert Apple. At the afternoon meeting of the Fellows, a paper by Mr. J. Hudson, V.M.H., on the cultivation of Cherry trees in pots, was read by Mr. A. H. Pearson.

Floral Committee.

Present: W. Marshall, Esq. (in the Chair), and Messrs. Geo. Paul, W. J. James, E. H. Jenkins, W. P. Thompson, J. T. Bennett-Poë, Chas. E. Shea, Chas. Dixon, T. W. Turner, W. Bain, R. Hooper Pearson, J. F. McLeod, C. Bick, C. E. Pearson, C. R. Fielder, E. J. Bowles, W. Barr, Jas. Walker, H. B. May, and C. T. Druery.

Mr. L. Russell, Richmond, Surrey, showed many species and varieties of *Fuchsia*, a batch of plants of *Fuchsia triphylla*, and, as a separate exhibit, varieties of hardy *Fuchsias*. Amongst the Heaths we noticed *Erica vulgaris* alba, *E. stricta* alba, *E. vagans* carnea, and *E. vulgaris* Hammondii. The hardy *Fuchsias* embraced many varieties of *F. macrostema*, including Riccartonii, gracilis, globosa, coccinea, &c. (Silver-Gilt Banksian Medal.)

Messrs. H. B. May & Sons, The Nurseries, Upper Edmonton, showed a very large group of *Codiaeum* (Codiaeum). The plants were handsomely coloured, and represented most of the choicer kinds in commerce. The exhibit was arranged on the floor of the building, a number of plants being grouped higher in the centre, and also at either end. At intervals in the exhibit were arranged tall-growing plants, whilst other specimens were elevated on stands. Choice Ferns and small Palms were utilised throughout the group, which was very cleverly arranged. (Silver-Gilt Flora Medal.)

Messrs. CARTER, PAGE & Co., 52 and 53, London Wall, E.C., showed vases of *Pompon Dahlias*, pot plants of *Kochia scoparia*, bunches of *Viscaria oculata* in variety, and *Nigella* Miss Jekyll, hispanica, and h. alba. The *Viscarias* represented a good selection of varieties, the best being labelled *cœrulea*, *rosea*, and *rosea nana*. Messrs. CARTER PAGE also showed a large exhibit of *Cactus Dahlias*, many varieties of *Violas*, and an interesting collection of ornamental grasses. The best of the grasses were *Bromus purpureus*, *Lamarkia aurea* (*Chrysurus cynosuroides*), *Panicum colonum*, *Setaria alopecuroides* nigra, *Polygonum Monsperiensis*, *Eleusine rigida*, and *Agrostis dulcis*. (Silver-Gilt Banksian Medal.)

Messrs. JOHN PEED & SON, West Norwood, London, showed a group of *Caladiums*, having fine specimens of choice varieties, arranged with Ferns, Palms, *Isolepis gracilis*, and the small-leaved *Caladium argyrites*. (Silver-Gilt Banksian Medal.)

Another group of these showy foliage plants was put up by Messrs. JOHN LANG & Sons, Forest Hill, London. (Silver Banksian Medal.)

Messrs. H. CANNELL & Sons, Swanley, Kent, filled a large table with *Dahlias* and *Cannas* arranged in a setting of Ferns and *Gypsophila*, with *Kochia scoparia*, *Eulalia zebrina* and *Isolepis gracilis* interspersed. The *Dahlias* included varieties of the large decorative type, both single and double-flowered, and a selection of the *Cactus*-flowered type in most of the best and newest varieties. (Silver Flora Medal.)

A handsome group of *Gladioli* was shown by Messrs. KELWAY & SON, Langport, Somerset. The varieties were very numerous, and embraced flowers of almost all shades of colours. (Silver-Gilt Banksian Medal.)

A group of ornamental foliage plants of stove and greenhouse varieties was shown by Messrs. W. BULL & SONS, King's Road, Chelsea, London. Arranged in the centre of the exhibit were several plants in flower of hybrids

between *Cattleya velutina* and *C. aurea*. Amongst the foliage plants were finely-coloured specimens of *Codiaeums Reidii* and *Warrenii*.

Messrs. JAMES VEITCH & SONS, LTD., King's Road, Chelsea, S.W., displayed *Buddleia variabilis Veitchiana*, *B. v. magnifica*, *Sambucus canadensis*, and *Senecios clivorum* and *Wilsonianum*. On the table they usually occupy with greenhouse plants, Messrs. VEITCH showed a collection of Chinese Asters and yellow and red-flowered plants of *Celosia plumosa*. (Silver Banksian Medal.)

Sir EDMUND LODER, Bart., Leonardslee, Horsham, Sussex (gr. Mr. W. Cook), showed many interesting plants from the open garden. We noticed the handsome blue-flowered *Gentiana asclepiadea*, *Magnolia glauca* (in flower), *Astilbe Davidiana*, *Clematis coccinea*, *Myrtus communis* (finely flowered), *Solanum jasminoides*, *Clethra acuminata*, and *Pelargonium Endlicherianum*. (Bronze Flora Medal.)

by Messrs. J. R. PEARSON & SONS, Lowdhams, Notts. It was labelled Mrs. Littleton Dewhurst.

Messrs. EGGETT & SON, Portsmouth Road, Thames Ditton, showed a few varieties of hardy Ferns.

AWARDS OF MERIT.

Thalictrum dipterocephalum.—A Chinese species collected by Wilson at elevations of 4,000 to 5,000 feet in Western China. The foliage is like that of *T. angustifolium*, and is glaucous green in colour. The inflorescences form loose panicles about 9 to 10 inches long, with mauve or lilac-coloured flowers. The stamens are pale yellow. Shown by Messrs. JAMES VEITCH & SONS.

Pink Princess Christian.—Of the perpetual-flowering type; a free-blooming variety, with flowers of moderate size, prettily coloured and faced with a velvety claret shade. Shown by Mr. B. LADHAM, Shirley, Southampton.

Cattleya Gaskell-costaricensis and *Sophr. Lælio-Cattleya pumeximia* (*L. pumila* × *S. c. eximia*), and the white-flowered *Neobenthamia gracilis*.

H. S. GOODSON, Esq., Putney (gr. Mr. G. E. Day), was awarded a Silver Flora Medal for a group, in the centre of which was a fine variety of *Odontioda Charlesworthii*. The exhibit also contained the white *Brasso-Cattleya "Queen Alexandra"*, *Cattleya Pittiana*, the finely-formed *Cypripedium H. S. Goodson*, *C. Maudie*, *C. A. de Laresse* with two flower-spikes, and *Lælio-Cattleyas*, of which the showy *L.-C. Massangeana* var. *Harry Goodson* was the best.

Messrs. CHARLESWORTH & CO., Heaton, Bradford, secured a Silver Flora Medal for a select group, the best novelty in which was the new *Sophr. Lælio-Cattleya Marathon* (see Awards). Others noted were the scarlet *Odontioda*



FIG. 60.—"FOUNTAIN WALK" IN GENERAL SIR DIGHTON PROBYN'S GARDEN AT WINDSOR.

[Photographed by special permission.]

Messrs. THOS. S. WARE, LTD., Feltham, showed seasonable hardy flowers, including *Lathyrus latifolius* The Pearl (a fine white-flowered variety), *Chrysanthemum maximum*, perennial *Phloxes*, *Gaillardias*, *Helenium autumnale*, *Convolvulus mauritanicus*, *Callirhoe involucrata*, and *Bocconia cordata*. Messrs. WARE also displayed an assortment of Alpine plants in flower. (Silver Banksian Medal.)

Mr. F. EAMES, Frome, Somerset, showed a large selection of varieties of *Phlox decussata*, especially fine being the white-flowered *Ecklaeur*. (Silver Banksian Medal.)

Several seedling Carnations were shown by Lady FLORENCE DUNCOMBE, Calwich Abbey, Ashbourne (gr. Mr. J. Allen).

Messrs. MOORE, LTD., Rawdon, Leeds, showed flowering spikes of *Lilium nepalense*. A white-flowered sport from Lady Gay Rose was shown

Orchid Committee.

Present: J. Gurney Fowler (in the Chair), and Messrs. Jas. O'Brien (hon. sec.), De B. Crawshaw, Stuart Low, Harry J. Veitch, W. Boxall, F. Sander, A. A. McBean, J. Forster Alcock, W. Cobb, J. Charlesworth, A. Dye, W. P. Bound, H. G. Alexander, H. A. Tracy, W. H. White, Gurney Wilson, and F. J. Hanbury.

Interesting and new plants were very numerous, as will be seen by the number of awards granted.

Sir TREVOR LAWRENCE, Bart., K.C.V.O. (gr. Mr. W. H. White), was awarded a Silver Flora Medal for an interesting group, composed principally of new and rare species, some of which are described under Awards. The others included a fine white form of *Catastemon pileatum* (*Bungerothii*), *Eulophia Guineensis*, the white and fragrant *Schlimia trifida*, the hybrids *Epi-*

Craveniana, *Cattleya Germania magnifica*, *C. Iris*, *C. Wavriniana*, *Odontoglossum Rolfeæ*, *O. Lambaiana*, *O. ardentissimum*, and other hybrids, *Lælio-Cattleyas*, *Cypripediums*, and the beautiful *Zygopetalum Roeblingianum*.

Messrs. GURNEY WILSON & CO., Haywards Heath, were awarded a Silver Flora Medal for a group composed principally of varieties of *Miltonia vexillaria*, the one labelled *luteo-centrum* having a clear, lemon-yellow disc to the lip; the variety *leucociliatum* has an entirely white labellum.

DE B. CRAWSHAW, Esq., Rosefield, Scenocaks (gr. Mr. Stables), showed a very interesting selection of hybrid *Odontoglossums*, and cut spikes of *O. cristatum*. The most remarkable was *O. Zenobia* (Hallii × *Edwardii*). Other new hybrids were *O. Zena* (sceptum × *Illyrianum*) and *O. Wardii* (Kegeljanii ×

(Harrayanum), both with distinct features. (Silver Banksian Medal.)

Messrs. SANDER & SONS, St. Albans, showed a group of choice Odontoglossums, including the pretty O. Elaine (cirrhosum x Harrayanum), good forms of O. Rolfeae, and of their fine type of O. crispo-Harrayanum Brugense.

Messrs. MOORE, LTD., Rawdon, Leeds, staged a group in which were plants of Vanda cœrulea, Oncidium Lanceanum, Bulbophyllum Godsalum, Scuticaria Hadwenii, Angraecum bilohum, and a very pretty little Liparis with a scarlet lip. (Silver Banksian Medal.)

Messrs. HUGH LOW & CO., Clapton, showed good examples of Oncidium Lanceanum, O. oblongatum citrinum and other Oncidiums, Bulbophyllum papillosum, B. Lobbi, Ancistrochilus Thompsonianus, Selenipedium macrochilum, and Cyripediums. (Silver Banksian Medal.)

LT.-COL. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. C. Alexander), showed Brasso-Cattleya Digbyana-Warneri, Westonbirt variety, a large silver-white flower tinged with rosy-lilac; Cattleya Tacitus (bicolor Glossii x Germania (superba), C. Ephrasia, "Westonbirt variety?" (Warszewiczii x superba), and others (see Awards).

Messrs. STANLEY & CO., Southgate, sent examples of Cyripedium A. de Laireasse and Laëlio-Cattleya elegans Turneri.

Mrs. T. B. HAYWOOD, Reigate, showed Cyripedium Sanderianum-Carlsii.

C. W. JESSOP, Esq., Cliff Cottage, Rawdon (gr. Mr. Wilkinson), displayed a well-cultivated plant of the bright yellow-flowered Satyrium coriifolium.

W. WATERS BUTLER, Esq., Southfield, Edgbaston, Birmingham, sent Odontoglossum Uro-Skinneri, Southfield variety, with large and handsome flowers.

FIRST-CLASS CERTIFICATE.

Odontoglossum Wiganianum superbum (Wilcke-anum x Rolfeae).—From Sir TREVOR LAWRENCE, Bart., K.C.V.O. (gr. Mr. W. H. White). The largest and most beautiful form of this fine hybrid. The finely-formed flower has sepals and petals of a citron-yellow colour marked with purple. The lip is broad, white, marked with rose-purple.

AWARDS OF MERIT.

Sophro-Lalia-Cattleya Medea vinicolor (S.-L. lala Orpetiana x C. bicolor).—From LT.-COL. G. L. HOLFORD, C.I.E., C.V.O. (gr. Mr. H. C. Alexander). A remarkable colour variation in the hybrid for which an Award of Merit was given at the meeting on October 29, 1907. The flower of the variety under notice is as large as that of C. bicolor; the sepals and petals are vinous purple, the lip of deep claret colour, and the fleshy column bluish-white.

Cyripedium Rosettii (insigne Sanderæ x Maudslayi).—From LT.-COL. G. L. HOLFORD. A finely-formed hybrid coloured similar to C. insigne Sanderæ. The upper sepal is circular, and in colour yellow with emerald green lines and a broad white upper part; the rest of the flower is yellow, tinged with green.

Sophro-Lalia-Cattleya Marathon (Sophro-Lalia Psyche x Cattleya Empress Frederick).—From Messrs. CHARLESWORTH & CO., Heaton, Bradford. A fine hybrid of the shape and size of a Cattleya flower. The sepals and petals are silvery white, flaked with rose. The lip is deep ruby red with an orange-coloured glow, the base being white with rose markings.

Trichopilia (Pitunna) nobilis alba, from Messrs. CHARLESWORTH & CO. A pure white form without the yellow eye seen in the type.

Odontoglossum Zenobia (Hallii x Edwardii), from DE B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr. Mr. Stables). A remarkable hybrid of the habit of O. Thompsonianum, but unique in colour, the sepals and petals being of a dark chocolate-purple, tipped with white; the lip is coloured chestnut-red, with a whitish apex and light markings around the curiously-formed crest.

BOTANICAL CERTIFICATE.

Catantlus labiatum.—A green flower of globular form, with the front portion of the lip projected.

Catantlus Clacianum.—The flowers are produced on an erect spike; they are pale green in colour, with fringed sides to the lip.

Listrostachys Kindiana.—A dwarf species, with racemes of small, star-shaped, yellowish flowers.

Epidendrum Lombeianum.—A dwarf, tufted plant of the Nanodes section, bearing profusely pretty flowers with whitish sepals and large, fleshy, claret-coloured labellums.

Eria longispicata.—A plant of *Ærides*-like growth, producing long, erect spikes of small, whitish flowers marked with purple.

Polystachya flexuosa.—A remarkable plant in its genus, a native of Central Africa, the inflorescence resembling a flower-spike of *Neobenthamia*. The plant is about 1 foot in height, in growth resembling a small, slender specimen of *Ansellia*; the pseudo-bulbs are tapering and compressed, and bear a slender scape 1 foot high, terminated by a bunch of pure white flowers, with purple markings on the lip. The Botanical Certificates were all granted to Sir TREVOR LAWRENCE, Bart.

CULTURAL COMMENDATION.

To Mr. W. H. White, Orchard grower to Sir TREVOR LAWRENCE, Bart., K.C.V.O., for two specimens of the graceful *Odontoglossum aspidorhynchum*, each with about 15 flower-spikes.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the Chair), and Messrs. Jos. Cheal, Alex. Dean, J. Willard, H. Parr, Joseph Davis, Chas. Foster, Geo. Reynolds, H. Markham, Geo. Wythes, Owen Thomas, H. Somers Rivers, A. H. Pearson, and James Vert.

Reference was made to the death of Alderman Balderson, a former vice-president of the Committee. A vote of sympathy with deceased's family was expressed and recorded in the minute book.

Messrs. PAUL & SONS, Waltham Cross, Herts., showed a group of fruit trees in pots, including Plums, Pears, and Nectarines. The Plum trees were very freely fruited, varieties such as Pond's Seedling, Grand Duke, Belle de Septembre and White Magnum Bonum having excellent crops. The Pear trees were shapely specimens, and, though small, were freely fruited, Brockworth Park, Benrre Bachelier, Marie Louise d'Uccle, and Doyenné Bonsois representing a selection of the varieties shown. (Silver Knightian Medal.)

Messrs. S. SPOONER & SONS, Hounslow, Middlesex, showed a collection of Apples, Pears, and a few Plums. There were good samples of Beauty of Bath, Lady Sudeley, Stirling Castle, Grenadier, Cardinal, Ecklinville Seedling and other varieties of Apples; Early Transparent and The Czar Plums were also fine. The Pears were very immature. (Silver Banksian Medal.) A few baskets of early dessert Apples were shown by Messrs. JAS. VEITCH & SONS, Chelsea; and Messrs. HUGH LOW & CO., Bush Hill Park, Enfield.

AWARD OF MERIT.

Apple Feltham Beauty.—An early dessert kind raised from Cox's Orange Pippin x Gladstone. The fruit is of medium size, flattish-round in shape and brightly coloured, especially at the stalk end. The ground colour is yellowish-green, but this is marked very heavily with red, sometimes in streaks. The eye is closed and set in a shallow basin. The stalk is slender, about 4-inch in length, and also set in a shallow cavity. The flesh is brisk and sweet. The variety forms a valuable addition to the list of early dessert Apples. Shown by Messrs. JAS. VEITCH & SONS.

FLORAL COMMITTEE AT WISLEY.

AUGUST 14.—A deputation from the Floral Committee visited the gardens at Wisley on the above date. There were present W. Marshall (Chairman), and George Paul, W. Bain, George Gordon, Charles Dixon, and R. Hooper-Pearson.

An inspection was made of the Cannas cultivated out-of-doors. The trial is a comprehensive one, and the plants have succeeded well, but the hot weather and high winds that occurred shortly before the inspection caused the flowers to be in less perfect condition than they would otherwise have been. It was decided that a further inspection would be necessary in the

course of a fortnight, and in the meantime three marks were awarded to each of the following varieties. These marks, it may be pointed out, were awarded after judging the plants from the point of view of outdoor cultivation.

Canna First Wind.—This variety has a dwarf habit, is free in flowering, and has rich, rosy-crimson flowers.

C. Mitore.—The flowers of this variety are a very attractive shade of orange-red, being deeper than apricot, but of the same tone.

C. L. E. Bailey.—This variety was given an Award of Merit in 1894, and being now judged to be of first-rate quality for out-of-door cultivation, was given three marks. The flowers are yellow, with pale-reddish spots.

C. Elizabeth Hoss.—This, like the preceding variety, is yellow, spotted with red, but in this case the spotting is of a deeper tint.

C. Dr. Marcus.—This variety has reddish foliage and exceedingly rich, rosy-tinted flowers, combined with a good habit of growth.

C. William Saunders.—Reddish foliage also distinguishes this variety. The flowers are of a shade of rosy-crimson, but are distinct from those of Dr. Marcus.

An inspection was made of the herbaceous Phlox, which will be visited again later. Three marks were recommended to each of the following varieties:—

Phlox Saxatilis.—This is a fine, rosy-purple variety of suitable height for the flower border.

P. Jules Cambon.—A purple-flowered variety with white centre.

P. Siebold.—A first-rate, bright-reddish, almost scarlet variety.

P. André Michaux.—A very dwarf variety, with large, beautiful, pink flowers, the shade being somewhat varied.

P. General Gianninelli.—An excellent variety with red flowers.

P. Lady Tweeddale.—Judging from the specimens seen, this exceedingly dwarf Phlox is superior to any existing white variety, the inflorescences being unusually large, and the individual flowers also.

In addition to the above-mentioned varieties, one named Obergartner Mack had magnificent flowers of a shade of pink, such as is seen in *Zonal Pelargoniums*, but as the flowers burn in sunshine no marks were awarded. The variety, however, might be valuable if cultivated in comparative shade.

DUTCH BULB GROWERS'.

The following awards have been made at recent meetings of the Floral Committee at Haarlem:—

FIRST-CLASS CERTIFICATES.

Early Gladiolus Gordon.—Lilac, with white blotch.

Early Gladiolus Innovation.—Light rose, with white blotches.

Iris hispanica Flora.—White, shaded with lilac.

Iris hispanica Queen Wilhelmina.—Pure white and deep yellow; a variety remarkably early in flowering.

Ixia Lady Helen Vincent.—The colour is soft, rosy pink; a new shade of colour in Ixia.

Richardia Gloire de Hillegom.—The colour is canary yellow, with a deep purple basal blotch; the foliage is mottled with white.

Richardia Mrs. Roosevelt.—Light sulphur yellow; a variety of American origin.

AWARDS OF MERIT.

Anomathes cruenta alba.—A pure white seedling of this lovely bulbous plant. It flowered for the first time in 1900, and has not yet been introduced into commerce.

Anemone Comtesse de Ruille.—A double variety of good form; the colour is bright violet.

Anemone White Lady.—A fine double white variety.

Early Gladiolus Catharina.—White, with light-coloured blotches.

Early Gladiolus Lady Howard.—White, shaded with soft lilac.

Iris hispanica Lothair.—Light blue and soft lilac.

Lilium bulbiferum ("The Sultan").—The colour of the flower is brownish-red.

SHROPSHIRE HORTICULTURAL.

Exhibition at Shrewsbury, August 19 and 20.

ON Wednesday last the Shropshire Horticultural Society opened its thirty-fourth annual autumn exhibition in the Quarry Grounds, Shrewsbury, and it remained open until Thursday night. The weather on Wednesday was dry, but clouds hung over the town and obscured the sun, which shone brightly enough in some of the counties crossed in the return journey to London. The attendance of visitors appeared very large, but many were thankful that the discomforts experienced in the crowded tents on some previous occasions when hot sunshine prevailed were not suffered.

The show was quite as good as previous displays have been, and in some respects, at least, the interest has increased. This was particularly the case in the fruit section, where the Champion fruit class, consisting of 30 dishes of fruit, claimed more than the interest that was hitherto centred in the Champion Grape class. There is little doubt but the Committee did right in arranging for this competition when the cup offered for Grapes alone was won outright last year by Lord Hastings and his skilful fruit grower, Mr. Shingler. The class is one of an exacting nature, for the resources of an establishment must be considerable before any aspiration can be indulged that a creditable collection can be obtained from it which will comply with the terms of the schedule. That five collections were staged is, therefore, satisfactory, and it is even more satisfactory that the exhibit which gained the 1st prize was of such unusually good quality as the produce shown by Mr. Barnes from the Duke of WESTMINSTER's garden. But we think that the Committee will do well on a future occasion to require that the number of fruits forming a dish shall be the same in each collection. It is difficult to believe that an exhibitor who limits his dishes of Peaches to Apples to six, is in perfect equality with another who shows 12 fruits of each, and consequently produces a "show" that may, at the very least, cause the work of adjudication to be attended with greater difficulty, even if it has not an effect in influencing the judges' decision.

Grapes were not so good as they have been many times at Shrewsbury, and the absence of an exhibit from Mr. Shingler was partly responsible for this.

The groups and specimen plants were excellent, and Messrs. CYRUS were again very successful in the classes for these plants.

Cut flowers of choice sorts were abundant, and they were the produce of excellent cultivation.

It seems needless to praise the vegetables that at Shrewsbury are so admirable each year, apparently uninfluenced by the character of the particular season, but we may mention that Mr. ERWIN BECKETT, who is at present contributing our weekly Calendar on the "Kitchen Garden," obtained remarkable success, winning 1st prizes in three of the most important classes.

Messrs. Adnitt and Naughton, the indefatigable honorary secretaries, were again at the helm, and the arrangements, therefore, worked as smoothly as heretofore.

The receipts on Wednesday amounted to £1,221, being £18 in excess of any previous first day at these exhibitions.

CHAMPION FRUIT DISPLAY.

The Champion Grape class established in 1891 came to a terminus last year, when Lord HASTINGS (gr. Mr. Shingler) won the fifty-guinea cup for the third time, upon which that valuable prize became the absolute property of the exhibitor. In place of that competition, which undoubtedly did much to maintain very great interest in the Shropshire Shows, the Committee instituted this fruit class, in which the following prizes were offered: 1st prize, a Champion Silver Cup, valued at 25 guineas, and a sum of £20; 2nd prize, Gold Medal and £17 10s.; 3rd prize, Silver-Gilt Medal and £15; 4th prize, £10; 5th prize, £8; and 6th prize, £5. Each collection consisted of 30 dishes of ripe fruit in not fewer than 10 distinct kinds, and was arranged in a space not exceeding 12 feet by 4 feet 6 inches. Not more than four varieties of one kind, nor

more than two dishes of one variety, could be shown in a single exhibit. Only one variety was to be shown on one dish, and the total number was not to exceed 30 dishes.

Each collection might be decorated with flowering and foliage plants in pots not exceeding 5 inches in diameter, also cut flowers and foliage (including Orchids), shown in glassware, baskets or loose, at exhibitor's discretion; a maximum number of 30 pots was previously agreed upon for each kind of fruit. Black and white Grapes were considered distinct kinds of fruit, and two bunches of each kind formed a dish. This being a "decorated fruit display" class, the decorations were not judged separately, but the points thus gained were added to those awarded for the quality of fruit. The maximum points awarded for decoration were as follows:—

Beauty of flower and foliage ...	8 points
Harmonious blending of colours ...	8 "
General arrangement for effect ...	8 "

The Champion or Challenge Cup will become the property of any competitor who wins it three times, not necessarily in succession.

There were five exhibits staged, and the judging took considerable time, being the whole work apportioned to two judges, namely, Mr. A. McKellar and Mr. Peter Blair. The 1st prize was won by the Duke of WESTMINSTER, Eaton Hall, Chester (gr. Mr. N. F. Barnes). He had the following varieties of Grape: Appley Towers (four bunches), Muscat of Alexandria (four bunches), Madresfield Court (four bunches). The Apples were remarkable both for colour and size, the varieties being Emperor Alexander, Washington, Cox's Orange Pippin (we have never seen this variety more highly coloured), and James Grieve. Peaches were of extraordinary size, and included Barrington (two dishes), Princess of Wales, and Royal George. Nectarines included the varieties Pineapple (two dishes), Humboldt, and Elrige. Other dishes were Plum, Jefferson's; Apricot, Moor Park; Figs Brown Turkey and Brunswick; Pears Souvenir du Congrès, Triomphe de Vienne, and Marguerite Marillat. There were four Melons. The 2nd prize was awarded to the Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), who had in the centre of his exhibit a marvellous dish of ten fruits of Emperor Alexander Apple. Other dishes of extraordinary quality were Pineapple Nectarine, Triomphe de Vienne Pears, Thames Bank Peach, Negro Largo Fig, and Golden Transparent Grape Plums. The Melons were very fine in appearance, and the Grapes (including 26 bunches) of medium good quality throughout. 3rd, GEORGE FARQUHARSON, Esq., Ledbury (gr. Mr. Geo. Mullins). 4th, the Duke of PORTLAND, Welbeck Abbey, Nottingham (gr. Mr. J. Gibson). 5th, E. H. WOOD, Esq., Temple Newsam, near Leeds (gr. Mr. R. Dawes).

COLLECTIONS OF FRUIT.

Twelve dishes.—In this class no fewer than nine kinds, and not more than two varieties of a kind, are allowed. Black and white Grapes are considered distinct kinds of fruits. Pineapples are excluded. The 1st prize was gained by the Rt. Hon. Lord BELPER, Kingston Hall, Derby (gr. Mr. W. H. Cooke). This exhibitor staged good bunches of Madresfield Court Grapes and equally good Black Alicante Grapes; the Muscat of Alexandria bunches were scarcely finished as they should be. He had excellent Apples in Peasgood's Nonsuch and Emperor Alexander, also Peaches Barrington and Sea Eagle, Nectarine Pineapple, Plum Magnum Bonum, Pear Duchesse d'Angoulême, Fig Brown Turkey and Melon Hero of Lockinge. The 2nd prize was awarded to Lady ASHBURTON, Melchet Court, Farnham (gr. Mr. G. Hally), who had excellent Brunswick Figs, Pineapple Nectarines, Sea Eagle Peaches, and other dishes of good quality. 3rd, Mr. F. NEED, Malvern, with a very creditable collection, in which the stone fruits were very highly coloured. This exhibitor was awarded the 1st prize for the decorations employed, the 2nd prize being awarded to Lord BELPER, and the 3rd to Lady ASHBURTON.

Nine dishes.—There were six collections shown

in this class, and the 1st prize was won by C. F. K. MAIRWARING, Esq., Ellesmere (gr. Mr. H. Stowe). This exhibitor showed Muscat of Alexandria and Madresfield Court Grapes, moderate-sized bunches with well-coloured berries; Dymond Peach, Dryden Nectarine, Brunswick Fig, Transparent Grape Plum, Moor Park Apricot, Beauty of Bath Apple, and a seedling Melon. The quality generally was good without being higher than usual exhibition standard, and all the fruits were of medium size. This exhibit was also awarded the 1st prize for the decorations employed, the scheme consisting of Gloriosa superba, Gypsophila flowers, and sprays of Asparagus and Selaginella. The 2nd prize for fruit was awarded to Mrs. SWANN, Halston Hall (gr. Mr. C. Roberts), whose Lady Sudeley Apples and Royal Peach Apricots were very fine. This exhibitor obtained the 3rd prize for decorations. The 3rd prize for fruit was gained by Lord FREVOR, Brynkinalt, Chirk (gr. Mr. W. Dawes). The Grapes in this case were much heavier, the varieties being the same as shown in the 1st prize collection, but the bunches much larger and the berries scarcely so well finished. Capt. HEYWOOD-LONSDALE, Shavington Hall, near Shrewsbury (gr. Mr. J. Mills), was awarded the 4th prize for fruit, and the 2nd prize for the decorations.

GRAPES.

Twelve bunches in four or more distinct varieties, but not more than four bunches of any one variety.—The conditions of this competition were similar to those in the Champion Grape class of last year, but in place of the more expensive Challenge Cup the 1st prize on this occasion consisted of a Silver Cup valued at £10 and a sum of £20; the 2nd prize was £16; the 3rd prize £12; the 4th prize £9; the 5th prize £6; and the 6th prize £4. Each bunch was judged on its individual merits and points awarded accordingly. The bunches were arranged on boards, and each exhibit had a space of 8 feet 6 inches, the boards being in two tiers 2 feet 3 inches wide. The judges were instructed to regard superior cultivation and finish as of the highest importance. Each exhibit had to be decorated, but the decorations were judged separately and prizes for these were awarded as follows: 1st prize, £2; 2nd prize, £1 10s.; 3rd prize, £1.

This season there were only four exhibits in this class, and the 1st prize was won by the Earl of HARRINGTON, Elvaston Castle, Derbyshire (gr. Mr. J. H. Goodacre). His varieties were as follows, and the points awarded are appended in table:—

	Possible No. of Points.	Points Awarded.
Black Hamburg (1) ...	10	8
Muscat Hamburg (2) ...	10	8
Muscat of Alexandria (3) ...	11	9
Madresfield Court (4) ...	10	9
Muscat of Alexandria (5) ...	11	9½
Madresfield Court (6) ...	10	8
Madresfield Court (7) ...	10	8½
Muscat of Alexandria (8) ...	11	10
Muscat Hamburg (9) ...	10	8
Madresfield Court (10) ...	10	9
Muscat of Alexandria (11) ...	10	9
Muscat of Alexandria (12) ...	11	10
Total ...	124	107

The 2nd prize was awarded to GRANVILLE FORTCHAMSON, Esq., Eastnor Castle (gr. Mr. G. Mullins), who obtained 97½ points out of a possible number of 123. 3rd, G. A. GIBBS, Esq., M.P., Tyntesfield, Flax Bourton, Bristol (gr. Mr. T. Wilkinson), who obtained 96½ points, being only one point below the 2nd prize exhibit. 4th, Rt. Hon. Lord BELPER, Kingston Hall, Derby (gr. Mr. W. H. Cooke), who had 93 points.

The prizes for decorations were awarded as follows: 1st, GRANVILLE FORTCHAMSON, Esq.; 2nd, Rt. Hon. Lord BELPER; 3rd, the Earl of HARRINGTON.

Four bunches, including one white and one black variety.—There were four exhibits in this class,

the best being one from Lord HARLECH, Brogyntyn, Oswestry (gr. Mr. T. Lambert). His Madresfield Court were almost perfect bunches in form and in finish of berries, the bloom being remarkable, but many of the berries were much below what is desirable. In the other case, that of Muscat of Alexandria, the bunches were very long, somewhat irregular in outline, and uneven in size of berries. They were scarcely fully ripened. The 2nd prize was gained by C. G. A. SMITH, Esq., Vaynor Park, Bangor (gr. Mr. H. Weaver), who showed Black Hamburg (very fine and beautifully finished) and Muscat of Alexandria. The same varieties were shown by H. ST. MAUR, Esq., Newton Abbot (gr. Mr. G. Richardson), who had 3rd prize.

Black Hamburg.—There were 12 exhibits in the Black Hamburg class, and the 1st prize was gained by two first-class bunches shown by J. BRINTON, Esq., Moor Hall, Stourport (gr. Mr. H. Wilson), and E. A. YOUNG, Esq., Bangor (gr. Mr. A. Ruddock), the 3rd prize.

There were 18 exhibits in a class for a single bunch of the same variety. H. ST. MAUR, Esq., gained the 1st prize for a heavy, well-shouldered bunch of perfectly-ripened and well-bloomed berries. 2nd, G. A. GIBBS, Esq., Bourton, Salop.

Black Muscat varieties.—In a class for the best two bunches of Black Grapes (Muscat varieties) there were seven exhibits. The 1st prize was awarded to two long, splendidly coloured of the variety Mrs. Pince, shown by Sir D. D. KING, Bart., Exeter (gr. Mr. S. J. Baker). 2nd, Madresfield Court, shown by Sir W. COOKE, Bart., Ledbury (gr. Mr. H. Butcher); and 3rd, Muscat Hamburg, shown by the Earl of HARRINGTON, Elvaston Castle, Derbyshire (gr. Mr. J. H. Goodacre).

Madresfield Court.—There were seven exhibits of this bunch in the Madresfield Court, and of these the best was one from Col. F. HAYHURST, Middlewich (gr. Mr. G. H. Hall), who had two beautiful bunches with excellent, highly-coloured berries. 2nd, G. A. GIBBS, Esq., M.P., Bourton (gr. Mr. J. Wilkinson); and 3rd, J. BRINTON, Esq., Moor Hall, Stourport.

Black Alicante.—Five pairs of bunches were staged in this class, the best being from Mrs. F. NEED, Malvern (gr. Mr. J. Jones); 2nd, Col. F. HAYHURST, Middlewich (gr. Mr. G. H. Hall); and 3rd, H. ST. MAUR, Esq., Newton Abbot.

Any other Black Grapes.—Of five exhibits in this class the best was one of Gros Maroc shown by G. FARQUHARSON, Esq., Ledbury (gr. Mr. G. Mullins). The 2nd prize was awarded to a very large, almost round Grape named Black Duke, shown by Col. F. HAYHURST, 3rd, Gros Maroc, shown by Mrs. F. NEED, Malvern (gr. Mr. J. Jones).

White Muscat.—In this class two bunches of White Muscat Grapes there were 12 exhibits. The 1st prize was won by the Earl of HARRINGTON, the award having been evidently given for better finish, but these were not first-class exhibition bunches from the point of view of size. 2nd, Col. F. HAYHURST; and 3rd, H. ST. MAUR, Esq. The single-dish class for White Muscats was won by G. A. GIBBS, Esq., M.P., and the Earl of HARRINGTON had the 2nd prize.

Local classes.—In the classes for Grapes reserved for cultivators in the county of Salop the 1st prize for White Grapes was won by H. A. ATTENBOROUGH, Esq., Davenport, for Black Hamburg by Lord HARLECH; for Madresfield Court by Capt. H. LONSDALE; that for two bunches of Black Grapes by the Rev. T. M. BUCKLEY OWEN, West Felton (gr. Mr. J. Langley); for two bunches of White Muscats by Lord TREVOY; for two bunches of White Grapes by Capt. H. LONSDALE, for Black Grapes by Mr. H. TURNER, Wellington, and that for two bunches of White Grapes by E. C. PEELE, Esq., Cyng-felde, Shrewsbury (gr. Mr. E. Clowes).

OTHER KINDS OF FRUIT.

Melons.—In all there were 44 Melons shown in the four classes allotted for varieties of this fruit. The best white-fleshed variety was Sutton's Royal Favourite, shown by W. L. LOVATT, Esq., Wellington (gr. Mr. J. Cook), the best scarlet-fleshed variety an unnamed seedling shown by R. LL. KENYON, Esq. (gr. Mr. J. Durnett), and the best green-fleshed variety, Early Favourite, also shown by R. LL. KENYON, Esq.

Apricots.—There were six dishes of Apricots, the 1st prize being given for very large, handsome fruits of an unnamed variety shown by Major A. O. LLOYD, Seaton Knolls (gr. Mr. H. G. Pritchard). 2nd, the Marquis of NORTHAMPTON (gr. Mr. Searle), who showed the variety Moor Park.

Nectarines.—Of seven dishes of Nectarines the best was Pineapple, shown by Lady ASHBURTON, Romey, Haunts (gr. G. Hall). 2nd, Earle Rivers, shown by Mr. W. PALMER, Andover, and 3rd, Pineapple from F. J. MYERS, Esq., Banbury (gr. Mr. Bush).

Peaches.—There were 11 dishes of Peaches, and the 1st prize was awarded to Bellegarde, shown by Major A. O. LLOYD; the 2nd prize to the variety Exquisite, shown by the Earl of CARLISLE, Welburn (gr. Mr. A. E. Sutton), and 3rd prize, Golden Eagle, from H. ST. MAUR, Esq.

Cherries.—There were only eight dishes of Cherries in the single-dish class, but excellent fruits of eighteen varieties, and the 1st prize for GRANVILLE FARQUHARSON, Esq., Ledbury.

Plums.—There were four dishes shown in the class for red or purple Plums, and three dishes in that for yellow Plums, and three also in the class for Gage Plums. In this last-mentioned class the 1st prize was awarded to extra fine fruits of Oullin's Golden Gage, shown by the Marquis of NORTHAMPTON.

Six dishes of hardy fruits.—A class for six dishes of hardy fruits was reserved for cultivators in the county of Salop. The 1st prize was won by T. H. M. DICKINSON, Esq., Uppington House, Shrewsbury (gr. Mr. C. Gilbert), the 2nd prize by Mrs. F. ALDERSON, Frankton. The fruits included Black and Red Currants, Gooseberries, Cherries, Apples, &c.

GROUPS OF MISCELLANEOUS PLANTS.

The competition in classes 5 and 6 was decidedly keen, and the materials used in most of the groups was both choice and well grown. The judges were "instructed to regard an original and artistic arrangement a great feature" in the groups, but the method of arrangement in most instances did not differ greatly from that generally employed in groups of this description. One exhibitor, however, adopted a somewhat less stereotyped method in setting up his group, viz., G. H. KENDRICK, Esq., and in each case the effect was pleasing and effective, but not sufficiently so to compensate for the high quality and superior culture combined with the good arrangement of the higher placed exhibits. Class 5 was for a group of miscellaneous plants, in and out of bloom, arranged to produce the best effect and occupying a space of 250 square feet. In the premier plant class, Messrs. JAS. CYPHER & SONS, of Cheltenham, were placed first for a lightly arranged group, which included many choice and well-grown plants, including Orchids. Among the most conspicuous Orchids were *Lælio-Cattleya Canhamiana*, *Dendrobium Phalenopsis*, *Vanda cœrulea*, *Odontoglossum crispum*, *Oncidium Marshallianum*, &c. The background consisted of a fine specimen of *Kentia Forsteriana* supported by some well-coloured *Crotons* and *Lilium speciosum*.

The pretty little scarlet *Fuchsia triphylla* was very effectively employed among dark-foliaged plants and moss on the floor in the immediate foreground. The 2nd prize in this class went to Mr. W. A. HOLMES, Chesterfield. Here again the plants showed good culture and quality, but the exhibit was perhaps too crowded and the plants in the foreground too tall; nevertheless, the general effect was pleasing. Some of the most conspicuous plants were *Crotons Thompsonii*, *caudatus*, and *Evansii*; *Odontoglossum crispum* and *Cattleya Harrisoniae* were also freely used.

The 3rd prize was deservedly awarded to G. H. KENDRICK, Esq., Edgbaston (gr. Mr. J. V. MacDonald). As stated above, the method of arrangement certainly showed an improvement upon the style usually adopted. Here again full use was made of *Fuchsia triphylla* in the background, combined with *Lilium speciosum* and surmounted by a fine *Phoenix*. There were some good plants of *Crotons Thompsonii*, *Warrenii*, and *Emperor Alexander*.

Group of ornamental foliaged plants, Palms, Ferns, &c.—Messrs. JAS. CYPHER & SONS also won the 1st prize in this class with exceedingly well-grown plants, effectively arranged. The outstanding features included a good *Kentia* in the background and some very fine specimens of *Croton*,

Warrenii, *caudatus*, *tortilis*, *Flamingo*, *Aigburth Gem*, &c., and the groundwork was lightly filled in with a great wealth of well-cultivated smaller plants. G. H. KENDRICK, Esq., took the 2nd prize with an exceedingly well-arranged group, each plant standing out well and showing its full value, but the plants lacked quality as compared with the 1st prize group. The 3rd prize was awarded to Mr. W. A. HOLMES, Chesterfield, for a good group, which included a very fine *Kentia*, some good plants of *Acalypha hispida*, and *Crotons Princess of Wales* and *Lady Zeland*.

GROUP OF TUBEROUS BEGONIAS.

This class usually produces keen competition. In this instance Messrs. WARE, LTD., Feltham, were 1st with a splendid exhibit, their flowers showing great range of colour and splendid form. Some of the finest varieties were *Lady Cromer* (delicate pink), *Patrick Ainslie* (scarlet), and Mrs. A. BRANDT. 2nd, Messrs. BLACKMORE & LANGDON, Twerton, Avon. Among their best flowers were Mrs. J. Booth, White Swan, and Mrs. T. ROSSIER. 3rd, Mr. FRED. DAVIS, Pershore, who had a very fine group, some of the flowers perhaps being a little coarse and the centres of blooms too much split up.

SPECIMEN PLANTS.

The principal class provided for these was for 15 plants. The 1st prize of £20 was won by Messrs. JAS. CYPHER & SONS, of Cheltenham, who had huge, well-flowered specimens of *Ixora Duffii*, *Statice intermedia*, *S. profusa*, *Rondeletia speciosa* major, and *Erica Ewerana*. *Kentia Belmoreana*, *C. Forsteriana*, and *Thrinax elegans* were shown in splendid condition. 2nd, Mr. W. VAUSE, Leamington Spa, who had good plants of *Clerodendron Balfourianum*, two *Bougainvilleas*, and two *Statices*, &c. 3rd, Mr. W. R. MAXNING, Dudley.

For six stove and greenhouse plants Messrs. JAS. CYPHER & SONS were placed 1st with beautiful specimens of *Rondeletia speciosa* major, *Ixora Duffii*, *Statice intermedia*, *S. profusa*, *Allamanda nobilis*, and *Chironia ixifera*. The 2nd award fell to Mr. W. VAUSE, whose plants were smaller and his flowers not so well developed.

In a class reserved for six fine foliage plants Mr. W. VAUSE was placed 1st with four well-coloured *Codiaeums* and two tall *Kentias*, one of which had a number of very rusty leaflets at the edges. 2nd, T. SUTTON TIMMS, Esq., Allerton, Liverpool (gr. Mr. B. Cromwell), whose best plant was *Codiaeum chelonii*. 3rd, Messrs. JAS. CYPHER & SONS.

The class provided for 30 stove and greenhouse plants, to be grown in 10-inch pots, is always a feature at Shrewsbury, and the specimens with which Messrs. JAS. CYPHER & SONS gained 1st prize were quite up to the quality of previous years. They showed eight *Ixoras*, three *Chironia ixifera*, one *Rondeletia speciosa* major, four *Crotons*, two *Statice intermedia*, *Clerodendron fallax*, *C. Balfouriana*, *Acalypha hispida*, &c. 2nd, T. SUTTON TIMMS, Esq., Allerton, Liverpool (gr. Mr. B. Cromwell), whose plants were smaller and not so well flowered. 3rd, Mrs. SWANN, Halston Hall (gr. Mr. C. Roberts).

For 12 stove or greenhouse plants, also to be grown in 10-inch pots, Lord HARLECH, Brogyntyn, Oswestry (gr. Mr. T. Lambert), was 1st with shapely plants of *Clerodendrons Balfouriana* and *fallax*, *Dipladania amabilis*, *Acalypha hispida*, *Allamanda Williamsii*, &c. 2nd, Sir A. MUNZ, Bart., M.P., Dunsmore, Rugby (gr. Mr. H. Blakeway), whose best specimens were *Cycas revoluta*, *Chironia ixifera*, and *Rondeletia speciosa*. 3rd, Mr. W. R. MAXNING, Dudley.

E. VAUGHTON, Esq., Handsworth (gr. Mr. C. Kelland), had the best four exotic Ferns; and Lord HARLECH (gr. Mr. T. Lambert) staged the winning six varieties of *Dracaenas*. The varieties *Shepherdii* and *Baptisti* were very good. 2nd, Sir A. MUNZ, Bart., M.P., Rugby (gr. Mr. H. Blakeway).

T. SUTTON TIMMS, Esq. (gr. Mr. B. Cromwell), was awarded 1st prize in a class for 12 *Calauidiums*, and in another class for 12 table plants. In the last-named class he showed 10 richly-coloured, narrow-leaved *Crotons*, one *Cocos Palm*, and one *Dracena*.

The best set of four *Fuchsias* and the best six double-flowered *Pelargoniums* were staged by Mrs. M. JOWETT, Huyton, Liverpool (gr. Mr. E. Bridge).

Colonel W. G. PATCHETT, Broome Hall, Shrewsbury (gr. Mr. J. Swain), won the 1st prize in a class for four pyramid-shaped plants of Coleus.

The best half-dozen single-flowered Zonal Pelargoniums came from Mrs. R. TAYLOR, Abbey Foregate (gr. Mr. H. Cliffe).

MR. T. HAMMOND won the 1st prize in a class for three double and three single Begonias. 2nd, G. BURR, Esq., Oaklands (gr. Mr. A. Jones). The last-named exhibitor was placed 1st in a class provided for 12 Gloxinias. The plants carried large, shapely, well-coloured flowers.

OPEN ONLY TO EXHIBITORS LIVING IN THE COUNTY OF SALOP.

The principal class was for a group of miscellaneous plants occupying a space of 100 square feet. Of the two exhibits for the first prize of £10, Mrs. SWANN, Halstead Hall (gr. Mr. C. Roberts), was placed first. She had a nice collection of foliage and flowering plants artistically arranged. 2nd, Dr. E. BURD, Newport House (gr. Mr. T. Edwards).

For six stove and greenhouse plants Lord HARLEIGH (gr. Mr. T. Lambert) won 1st prize. His best plants were *Eucharis grandiflora*, *Isora Duffii*, and *Clerodendron Balfourii*.

In a similar class to that last-named, G. BURR, Esq., Oaklands (gr. Mr. A. Jones), took the lead, W. L. LOVETT, Esq., Orleton House (gr. Mr. J. Cook) being 2nd. Mr. T. HAMMOND had two best Begonias (one double and two single-flowered varieties), and W. L. LOVETT, Esq., showed the best dozen plants in pots not exceeding 5 inches inside measurement.

CUT FLOWERS.

BOUQUETS.

The bouquets are always excellent at the Shrewsbury Shows, and on this occasion there were a large number of beautiful arrangements. The 1st prize for a bride's bouquet (with Orchids) and two bridesmaids' bouquets (Orchids excluded) were shown by Messrs. FELTON & SONS, Hanover Square, London. The bride's bouquet was composed chiefly of *Oenothera lutea*, *crispum*, *Phalenopsis*, white *Cattleyas*, &c., with Asparagus sprays and white ribbons. The bridesmaids' bouquets were alike, each being composed of pink-coloured Carnations. 2nd, Mr. J. E. KNIGHT, Wolverhampton; and 3rd, Messrs. BOTTOMLEY & BURTON, Eiland, Yorks.

In a separate class for the best bride's bouquet Mr. W. H. GARNER, Altrincham, obtained the 1st prize, and in the following class for a hand bouquet he also won the highest award. The next class was for a hand bouquet (Orchids excluded), and Messrs. FELTON & SONS won the 1st prize. Mr. W. TRESEDER, Cardiff, was awarded the 1st prize for a bouquet of Dahlias, and Sir A. MUNTZ, Bart., M.P., Dunsmore (gr. Mr. H. Blakeway), the 1st prize for a feather-weight bouquet. The best floral harp came from Messrs. GUNN & SONS, Olton, Birmingham, and the same firm obtained the 1st prize for a floral cross. Messrs. FELTON & SONS won 1st prizes for a floral wreath and for six button-hole bouquets and six sprays. Mr. J. GARNER had the best basket of cut flowers, and Messrs. FELTON & SONS the 1st prize for a basket of flowers (excluding Orchids). The best stand of cut flowers came from O. ROBINSON, Esq., Alderley Edge.

The best arrangement of cut flowers suitable for a dinner-table arrangement was shown by Mr. J. NIXON, Alderley Edge. He had orange and yellow-coloured flowers, including *Gloriosa superba* and yellow Centaureas. There were a large number of exhibits in this class, and they were very gay indeed.

SWEET PEAS.

Sweet Peas were well shown, and the competition was keen. In a class for an arrangement of Sweet Peas on tables 4 feet by 4 feet, there were 19 entries. The 1st prize was won by Mrs. JOHN NIXON, Alderley Edge, with a very artistic display of pink Sweet Peas, relieved with golden-coloured Croton leaves and green Selaginellas. The 2nd award went to Mrs. HERBERT, of Acock's Green, who also used pink flowers, but of a paler shade than the last-named. 3rd, Mrs. W. MARBLE, Penkridge.

For 12 distinct varieties of Sweet Peas, arranged on a space of 4 feet by 3 feet, 17 exhibits were placed before the judges, who awarded the 1st prize to Mr. T. JONES, Ruabon, for a magnifi-

cent set of flowers. Mr. GEO. WILKINS being a very close second.

Mr. Robert Sydenham, Birmingham, offered prizes for the best collection of 24 varieties of Sweet Peas, and there were numerous collections staged in this class. The 1st prize was won by Mr. T. JONES, Bryn, Penylan, Ruabon.

Mr. H. Eckford, Wem, Salop, also offered prizes for Sweet Peas.

Messrs. Jones & Sons' 1st prize for six vases of those flowers was won by Mr. J. HAYCOCK, Wrexham.

Messrs. Bakers', Ltd., Wolverhampton, offered prizes in a class for 12 bunches of Sweet Peas, and the best exhibit in this class was one from Mr. T. JONES, and the best vase of Sutton's Queen in a class in which prizes were offered by Messrs. Sutton & Sons was also shown by Mr. JONES.

CARNATIONS.

Considering the very trying season, Carnations were well shown. The 1st prize in a class for the collection of undressed Carnations and Picotees, to be shown with their own foliage on a space of 6 feet by 4 feet, was won by Messrs. CAMPBELL & SON, High Blantyre, N.B., in whose exhibit we noted two very good varieties named Foxhunter (bright scarlet) and May Campbell (deep crimson). 2nd, Mr. C. H. HERBERT, Acock's Green, Birmingham.

In another class similar to the last-named, but restricted to a space of 4 feet by 4 feet, Mr. J. WALLACE, Esq., Bromborough, had the best flowers, but they were badly set up. 2nd, Miss GLADYS BIBBY, St. Asaph, with nicely arranged collection, but of rather indifferent quality. 3rd, W. H. BANKS, Esq., Kingston (gr. Mr. G. Bamfield).

Another class was for a collection of Tree Carnations, on a space of 6 feet by 4 feet. 1st, Mr. C. F. WATERS, Balcombe, with flowers of superb quality and beautifully arranged. 2nd, Mr. A. DUTTON, two Bucks.

The best exhibit of 12 vases of Carnations, Picotees, selfs, fancies, or yellow-grounds, was shown by C. ALLCOCK, Esq., Liverpool (gr. Mr. C. Russell), who had very bright and fresh-looking flowers. 2nd, W. H. PARTON, Esq., Hollywood, Birmingham (gr. Mr. W. Carpenter). There were seven exhibits in this class.

OTHER CUT FLOWERS.

In a class for cut Roses, arranged for effect on a space of 6 feet by 4 feet, Messrs. GUNN & SONS, Olton, Birmingham, were placed 1st with a choicest display of varieties, consisting mostly of light-coloured flowers arranged in vases, baskets, and bouquets. 2nd, Mr. GEORGE PRINCE, Longworth. 3rd, Mr. F. M. BRADLEY, Peterborough.

Messrs. ALEX. DICKSON & SONS, Newtownards, won the 1st prize in the classes for 24 Roses, in not fewer than 18 varieties, and 18 cut Roses, in not fewer than 12 varieties. Mr. HUGH DICKSON, of Belfast, being 2nd in each class.

In another class for 18 varieties of Roses, G. H. F. ROBERTSON, Esq., Gresford, beat J. W. HARRIS, Esq., Stone.

In a class reserved for 12 Roses, confined to local growers, Miss HESTER LEAKE, Shifnal, took the lead with a very fine lot of blooms.

Messrs. G. GIBSON & Co., Bedale, had the best exhibit of 18 bunches of hardy flowers, in not fewer than 12 varieties. The examples staged were very fresh and much admired. 2nd, Mr. MAURICE PRICHARD, Christchurch. 3rd, W. H. BANKS, Esq., Kingston.

The last-named exhibitor secured the leading award in a class for 12 bunches of hardy flowers. 2nd, F. BONSKELL, Esq., Market Bosworth.

For 24 spikes of Gladioli, Messrs. G. MAIR & SON, Prestwich, N.B., led; Mr. JOHN WALKER, Thame, being 2nd.

In a class for 12 spikes of Gladioli, H. F. ROBERTSON, Esq., Gresford, was placed 1st with a wonderfully large, substantial set of flowers. 2nd, the Marquis of NORTHAMPTON, Castle Ashby, Northampton (gr. Mr. A. R. Searle).

In another class for the same number of spikes of Gladioli, but confined to exhibitors residing in the county of Salop, Mr. J. WITTINGTON, Cherrington, was placed 1st.

In a class for a collection of Cactus or decorative Dahlias or both, there were exhibits from most of the principal growers, and excellent displays were made. The prizes were awarded as follows: 1st, Messrs. M. CAMPBELL & SON, High Blantyre, N.B.; 2nd, Messrs.

KEYNES, WILLIAMS & Co., Salisbury; and 3rd, Mr. WM. TRESEDER, Cardiff.

Most of the same exhibitors entered into the competition for the best collection of Dahlias (any varieties), and Messrs. KEYNES, WILLIAMS & Co. won the 1st prize. Mr. M. V. SEALE, Sevenoaks, was 2nd, and Mr. J. WALKER, High Street, Thame, 3rd.

In a class for 24 Cactus Dahlias Messrs. BOTTOMLEY & BURTON, Eiland, Yorks, won the 1st prize, and Mr. W. TRESEDER, Cardiff, the 2nd prize.

Mr. W. E. WILSON, Cannock, was awarded the 1st prize in a class provided for 18 Cactus Dahlias and in another class for 12 Cactus varieties.

Mr. M. V. SEALE, Sevenoaks, had the best 12 varieties of Cactus Dahlias, six blooms of each, arranged in vases with foliage, berries, &c. 2nd, W. BANKS, Esq., Kingston.

Messrs. H. J. CLARKE & SON, Rodley, Leeds, had some wonderfully fine Asters, and Messrs. G. GIBSON & Co., Bedale, showed the best half-dozen bunches of Gaidarids.

The best exhibit of 12 bunches of herbaceous Phlox was staged by N. G. HARRIS, Esq., Wolverhampton (gr. Mr. Jas. Pugh), and the 2nd prize by Mr. M. PRICHARD, Christchurch.

The best 12 bunches of hardy annuals were shown by W. E. BARRETT, Esq., Bishop's Castle (gr. Mr. H. J. Edwards). He had Zinnia, Double Scarlet, Giant White Sweet Sultan, Coreopsis Drummondii, Lavatera rosea splendens, Lupinus hybridus atrocarcineus, Stock Perfection, Salpiglossis, Nigella Miss Jekyll, Phlox Drummondii grandiflora, Nemesis, Godetia Double Rose, and African Marigold.

There was much competition in a class for a collection of hardy perennials (Roses excluded), staged on a table with a frontage of 10 feet and 6 inches. No duplicates or mixed bunches were allowed, and for a breach in this respect Messrs. G. GIBSON & Co., Leeming Bar, Bedale, were disqualified, who would probably have been awarded the 2nd prize. The 1st prize was won by Messrs. GUNN & SONS, Olton, Birmingham, and A. BRIDON, Esq., Innerleithen, N.B., obtained the 2nd prize, Mr. M. PRICHARD, Christchurch, being awarded the 3rd prize. The exhibits made an extraordinary display of bloom, but the tent was inconveniently crowded with visitors during most of the time the exhibition was open.

The 1st prize for 12 bunches of stove or greenhouse flowers was awarded to T. SUTTON TIMMS, Esq., Allerton, near Liverpool (gr. Mr. B. Cromwell); Mrs. M. JOWETT, Huyton, Liverpool (gr. Mr. E. Bridges), obtained the 2nd prize. The exhibits in this class made a very gorgeous display.

VEGETABLES.

When it is stated that in competition for the trade, and the Society's classes for nine dishes of vegetables each, no fewer than 62 collections were staged, showing a total of 558 dishes, and that in other classes some 700 to 800 other dishes were shown, it will readily be understood what a wonderful lot of vegetables was seen. In addition to all these, Messrs. CLIBRANS, of Altrincham, put up an exhaustive collection of some 150 dishes, including many very fine sets of Onions, Potatoes, Carrots, Tomatoes, Peas, Beets, and other kinds. Messrs. SUTTON & SONS, Reading, arranged in a superb group very many and extremely handsome dishes of Tomatoes, both red and yellow, also Potatoes, Cucumbers, Beans and other kinds.

Classes in which prizes were offered by trade firms. Necessarily, these classes, with their liberal cash prizes, attracted the trading growers, and this year the excellence of the chief exhibits was such as never before has been equalled. Taking these classes in schedule order, first come Messrs. J. CARTER & Co.'s class for nine dishes, with six prizes of the value of £17 10s. Here Mr. J. Dymocke (gr. to G. D. FABER, Esq., Wallingford) was a good first. He had very fine Quite Content Peas, Carter's Scarlet Runners, excellent Ailsa Craig Onions, good Celery, Leeks, Tomatoes, Carrots, Cauliflowers, and Windsor Castle Potatoes. Mr. B. ASHTON (gr. to the Earl of LATHOM, Ormskirk) was second, with capital products. Mr. Searle (gr. to the Marquis of NORTHAMPTON), Castle Ashby, was 3rd, and Mr. Hallett (gr. to Sir J. HESKETH, Towcester, was 4th.

Somewhat keener competition was seen in the class also for nine dishes, in which prizes were offered by Messrs. SUTTON & Sons, Reading, to the value of £17. Here Mr. E. Beckett (gr. to

the Hon. VICARY GIBBS, Aldenham House, Herts.) was a capital first, having exceptionally fine Giant Cauliflowers, Prizelet Leeks, very stout, fine white Celery, superb Ailsa Craig Onions, Abundance Potatoes, Perfection Tomatoes, Best of All Runner Beans, New Red Intermediate Carrots, and splendid Duke of Albany Peas. Mr. Dymocke was second, having also very fine vegetables and Mr. J. Gibson (gr. to the Duke of Portland, Welbeck Abbey), 3rd. Mr. Gibson's Peas, Celery, and Tomatoes being specially fine. Mr. SEARLE was fourth.

Messrs. R. Smith & Sons, Worcester, offered four prizes, total value £11, for collections of nine dishes. Mr. H. Gaiger (gr. to H. T. TATHAM, Esq., Elstra) obtained the 1st prize, showing capital Onions, Tomatoes, Cauliflowers, Peas, and Potatoes. Mr. SEARLE was 2nd, and Mr. HALLET 3rd.

In *Messrs. Webb & Sons'* class, a collection of nine dishes were required, and the prizes were six in number, amounting to £10 10s. Here Mr. E. BECKETT was 1st, repeating the kinds shown in a previous class. Leeks, Celery, Onions, Peas, Tomatoes, Carrots, Beans, Potatoes, and Cauliflowers were all of high-class quality. Mr. DYMOCCKE was an excellent 2nd, Mr. SEARLE coming 3rd, and Mr. B. ASHTON 4th. The firm also offered very liberal prizes for a dish of one of their varieties of Tomatoes. Beautiful samples were staged, all of rich colour and perfect shape.

There was considerable competition in *Mr. E. Murrell's* (of Shrewsbury) class, again for nine dishes. Here Mr. J. Edwards (gr. to W. E. BARNARD, Esq., Bishops Castle) was 1st, other prizes being taken by Mr. J. H. PUGH, Newtown, and Mr. Cook (gr. to W. J. LOVELL, Esq., Wellington).

Only four collections of dishes were entered for *Mr. Robert Sydenham's* very liberal five prizes, representing a cash value of £28, with valuable articles of plate. The 1st prize fell to Mr. S. J. Baker (gr. to Sir DYCE DUCKWORTH-KING, Exeter), whose collection included first-rate Onions, Tomatoes, Runner Beans, and Potatoes. Mr. W. H. JONES, of Newtown, was 2nd, and Mr. E. DEAKIN, Birmingham, 3rd.

The chief tug-of-war, however, in the vegetable section was found in the class for nine dishes, the prizes being £10, £7, £4, £2, offered by the Society. Here both *Messrs. BECKETT* and *GIBSON* had put out their utmost strength, resulting in two very splendid collections that ran each other closely, Mr. BECKETT just winning the 1st prize. We may be disposed to think a finer collection never has been seen at Shrewsbury than was this one. It was subsequently awarded the challenge prize of 10 guineas, after being pointed by the whole of the six vegetable judges. Mr. J. GIBSON, who came 2nd, had most superb Centenary Peas, Ideal Potatoes, very perfect Tomatoes, splendid Cauliflowers, Celery, Runner Beans, and other kinds. Mr. J. HUDSON, Leicester, was 3rd, and Mr. ASHTON 4th. The following represented the point awards for the challenge prize collection:—

	Points Awarded.	Maximum.
Cauliflowers	...	7
Leeks	...	7
Celery	...	7
Onions	...	7
Carrots	...	7
Potatoes	...	7
Tomatoes	...	7
Runner Beans	...	7
Peas	...	7
Total	...	63

Mr. BECKETT's collection, therefore, had five maximums, and with 63 points won the challenge prize.

In two separate classes, Mr. BAKER had the finest six Onions, in splendid bulbs of Ailsa Craig. For *Messrs. Dickson & Robinson's* prizes for two clusters of their Money-maker Tomatoes, Mr. Wilkinson (gr. to G. A. GIBBS, Esq., M.P., Bourton) was well 1st with clusters carrying 12 handsome ripe fruits on each. For three dishes of Potatoes, Mr. COOK won the 1st prize with handsome samples of King Edward VII, Duchesne of Cornwall, and Factor; Mr. B. ASHTON coming 2nd with Umpire (white round), Ruby Queen (purple round), and Chieftain (large flat, white, rather coarse). Mr. E. DEAKIN had the two best dishes of Peas in excellent Duke of Albany and

Gladstone. Mr. J. HUDSON, Leicester, had truly wonderful Runner Beans, coming 1st amongst many. Mr. DYMOCCKE had the finest Parsnips, Mr. GIBSON the best four Carrots, and Mr. BECKETT the handsomest four Turnips.

HONORARY EXHIBITS.

Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, had a very gay exhibit in the fruit marquee, including handsome cergues of Sweet Peas, Carrots, Gladioli and other flowers, between which were displayed Melons, Tomatoes, Peas, Beans, Potatoes, Marrows, Turnips and other vegetables in choice examples.

Mr. EN. MURRELL, Portland Nurseries, Shrewsbury, had an exhibit of Roses and Gladioli, also a few plants of Clematis in pots.

Messrs. Wm. CUTBUSH & Son, Highgate, London, contributed a grand display of Carnation blooms, many of which being displayed in tall stands. Sprays of Rambler varieties of Roses were included in this exhibit.

A collection of orchard house trees in pots shown by the *King's Acres Nurseries Company, Ltd.*, was remarkable for the finely-cropped Apple and Pear trees. All the trees exhibited excellent health, but the Apples were most freely cropped. From the same firm there was displayed a collection of hardy fruit trees.

Messrs. Geo. BUNYARD & Co., Royal Nurseries, Maidstone, made an exhibit of choice fruits, including Apples, Pears, and Plums. There were excellent fruits of the finely-coloured new Apple, Lord Castleburgh, and many other varieties. In all there were 65 dishes staged.

Messrs. BAKERS, Coddall and Wolverhampton, had one of the most extensive exhibits of cut flowers, showing a fine display of Dahlias, and another one composed of most hardy flowers in great variety.

Mr. HUGH DICKSON, Belfast, made a good exhibit of Roses, showing some of the flowers in Bamboo stands and others in the ordinary show boxes.

Messrs. Wm. CUTBUSH & Son, Shrewsbury, had a brilliant group of flowers, which faced visitors as they entered the fruit tent. It was mainly composed of Sweet Peas, Dahlias, Carnations, and Begonias.

Mr. AMOS PERRY, Enfield Nurseries, Middlesex, arranged one of his characteristic exhibits in a half-circular space in the great plant tent. A large amount of stone had been brought from London, and considerable water-lilies were randomly ornamented with choice water-lilies, lilies and other hardy flowers, tastefully disposed on the side of the water contributed to make a very extensive and attractive exhibit.

Messrs. HEWITT & Co., Solihull and Birmingham, had a splendid display of hardy flowers in great variety.

Roses formed the exhibit from *Messrs. GUNN & Sons, Olton*, near Birmingham.

Messrs. R. WALLACE & Co., Kilnfield Gardens, Colchester, made an excellent display of hardy flowers, and in this exhibit the kinds were massed separately, there being groups of Gladioli, Lillium, and Montbretias. The Montbretias were delightfully attractive, and included the newer varieties such as Prometheus and others.

Messrs. PRITCHARD & Sons, Shrewsbury, showed a few Ferns, but the arrangement of diminutive examples on the cork bark was not attractive.

Messrs. Wm. ARTHUR & Sons, Nether Green, Sheffield, had an exhibit of hardy flowers, and, in addition, staged Violas and sprays of border Chrysanthemums over a groundwork of black velvet. A good display of cut Dahlias was included.

Messrs. WEBB & BRAND, Saffron Walden, Essex, showed their excellent double Hollyhocks in similar fashion to their exhibit in the R.H.S. Hall, London.

Messrs. G. STARK & Son, Great Ryburgh, exhibited a small collection of new varieties of Sweet Peas. Mr. THOS. W. DARLINGTON, Warton, Cambridgeshire, showed Sweet Peas of very good cultivation, and Mr. ROBERT BOLTON, Warton, had a similar good group of these flowers. A small group of Cactaceae plants was shown by Miss S. S. THOMPSON, Handsworth, Sheffield.

From *MR. ALLEY'S* Bulb Nurseries, Gournay, were shown Gladioli, Montbretias, and Galtonia candicans as cut flowers.

Messrs. W. & J. BROWN, Stamford and Peterborough, made an exhibit of Roses in which most types were given a place.

Messrs. DOBIE & Co., Rothesay, sent a very bright group of hardy flowers, comprising upwards of 100 varieties of Dahlias, together with a good selection of Violas and Pansies and a few other miscellaneous flowers.

Messrs. HORRIES, LTD., Dereham, occupied a crescent-shaped space in the fruit tent with a pleasing arrangement of cut Roses and weeping varieties on tall stands.

Messrs. SUTTON & Sons, Reading, had a magnificent collection of Melons, Tomatoes, Cucumbers, Beans, Potatoes, &c. The back of the group consisted of arched trellises with clusters of sorts.

Mr. A. MYERS, Sutton Lane, Shrewsbury, had a collection of Zonal Pelargoniums and miscellaneous foliage plants.

Messrs. DICKSONS, Chester, showed a very fine collection of cut Dahlias and Roses in tall stands.

Messrs. ISAAC HOUSE & Son, Westbury-on-Trym, staged 70 varieties of Phloxes and a small collection of Alpine plants and other hardy flowers. They also showed a flower of the uncommon *Aristolochia gigantea*.

Messrs. KELWAY & Son, Langport, sent upwards of 200 spikes of shapely Gladioli flowers.

The biggest and best display of the fragrant hardy Phlox came from *Messrs. GUNN & Sons, Olton*, Birmingham, who showed some of the best varieties in cultivation, as well as a number of promising unnamed seedlings.

Mr. JOHN FORBES, Hawick, N.E., contributed a large assortment of bold, variously-coloured Pentstemons and Phloxes, together with a good collection of Carnations displayed on the old-fashioned show boxes.

Messrs. T. RIVERS & Son, Sawbridgeworth, had an interesting group of heavily-laden fruit trees in pots and grafted fruit trees. Peaches, Nectarines, Apples, Pears, Plums, Figs, Lemons, &c., were included in this meritorious display.

Messrs. ALEX. DICKSON & Sons, Newtownards, staged a very fresh lot of Roses in Bamboo stands and boxes.

Mr. A. W. THORPE, Lichfield, had a prettily-arranged group of early-flowering Chrysanthemums.

Mr. Wm. SANKEY, Baschurch, came a group of Showers, Frieze, and other hardy flowers. The flowers were large, richly coloured, and borne in great profusion.

Mr. VINCENT SLADE, Taunton, set up a bright display of cut flowers of double and single-flowered Zonal Pelargoniums.

Mr. JOHN SMELLIE, Busby, N.E., showed a selection of decorative and single-flowered Chrysanthemums.

HUGH ALDERSEY, Esq., Chester, had an interesting group of seedling Phloxes.

Mr. W. ANGUS, Penicuik, Scotland, had a small but grand lot of *Disa grandiflora* and flowers of a new variety of Chrysanthemum maximum named "Snowdon," remarkable for its large, thick, pure white petals.

Mr. C. H. HERBERT, Acocks Green, Birmingham, had flowers of a new perpetual-flowering Pink named "Proclamation." The colour is pale purple.

From *ROBERT SYDENHAM, LTD., Birmingham*, came Sweet Peas arranged in rustic stands. Also bearded Lilies of the Valley, Spiraeas and Lilliums retaining freshness in profusion and growing well in fibre without drainage.

Messrs. HUGH LOW & Co., Enfield, had a large display of Carnations and Ferns.

Messrs. DICKSON & ROBINSON, Manchester, staged a good exhibit with Dahlias as a background and Tomato "Money-maker" in the foreground. The latter was shown in trusses of from 18 to 20 fruits of good size and shape. Sweet Peas in variety were also shown.

Messrs. CLIBRAN, Altrincham, had an excellent collection of over 100 varieties of vegetables, including Celery, Clibran's White, Clibran's Red, &c., of good quality and large size. Parsley Clibran's Exhibition, well curled, Broad Bean Clibran's Exhibition, pods containing 10 to 15 seeds, Onion Clibran's Exhibition, a hybrid between Ailsa Craig and Excelsior, and many varieties of excellent Tomatoes.

Mr. GEORGE PRINCE, Longworth, Berks, had a good collection of Roses in many varieties well arranged.

Mr. HENRY ECKFORD, Wem, exhibited a choice and well-displayed collection of his latest novelties of Sweet Peas, including Annie B. Gilroy, crimson-red, Lady Bell, new bicolor variety with salmon-pink standard and creamy wings; Improved Lord Kitchery with four flowers on each spike, deep rose-carmine with well-expanded standards, &c.

Mr. PETER BLAIR, Trentham Gardens, Staffordshire, showed a fine white border Carnation named Mrs. Tom Cuthwaite, which has already been awarded an Award of Merit by the Floral Committee of the R.H.S. It has a splendid habit, and the calices are usually non-splashing.

Messrs. Tom DOBBS & Co., Queen Square, Wolverhampton, exhibited rustic arches and similar structures on the grass out-of-doors.

Messrs. JARMAN & Co., Chard, staged many vases of flowers with their exhibits. The Bride, Bridgemoor, Bridesmaid and Honeymoon.

Messrs. ROBT. SYDENHAM LTD., Birmingham, had a fine collection of Sweet Peas well arranged in their "Rural Table Decorations," and showing how well these delicate flowers could be nicely displayed in inexpensive vases. We noted many good blooms of all the newer varieties.

Messrs. HUGH LOW & Co., Bush Hill Park, London, N., exhibited Carnations, Roses in Pots, dwarf Lambs, Ferns, &c.

HONORARY AWARDS.

LARGE GOLD MEDALS.

Amos Perry, Enfield; Wm. Cutbush & Son, Highgate; Alex. Dickson and Sons, Ltd., Newtownards, Ireland; Clibran's, Altrincham; Sutton & Sons, Reading; King's Acres Nurseries, Ltd., King's Acres, Hereford; E. Webb and Sons, Wordsley, Stourbridge; Bakers, Ltd., Coddall, Wolverhampton.

SMALL GOLD MEDALS.

Thos. Rivers and Sons, Sawbridgeworth, Herts; Gunn and Son, Olton, Birmingham; Wm. Artindale and Son, Sheffield; John Forbess, Hawick; Reid and Co., Rothesay; H. Joad and Son, Ltd., Acers, Hereford; E. Murrell, Shrewsbury; Geo. Bunyard and Co., Ltd., Maidstone.

SILVER GILT MEDALS.

R. Wallace and Co., Colchester; Hewitt and Co., Ltd., Solihull; John Forbess, Hawick; Robt. Bolton, Cararforth; Henry Eckford, Wem; Dicksons, Ltd., Altrincham; A. Myers, Shrewsbury; Isaac House and Son, Westbury-on-Trym; Kelway and Son, Langport; Jarmann and Co., Chard; Hugh Low and Co., Enfield; Thos. W. Darlington, Cambridgeshire.

SILVER MEDALS.

Frank Lilley, Gurnsey; Vincent Slade, Taunton; Dinsby, near Grand, Saffron Walden; John Smellie, Busby, near Glasgow; Wm. Arthur & Sons, Nether Green, Sheffield; A. W. Thorpe, Lichfield; Dickson and Robinson, Manchester; Robt. Sydenham, Birmingham; Miss S. S.

again. *L. lanceifolium* is abundant. Lily of the Valley maintains good prices for best quality species. Stephanotis and Tuberoses are plentiful, but *Gardenias* and *Eucharis* are scarce. Carnations are plentiful and cheap. During the past four years I have never known an occasion when blooms of *Enchantress*, *Mrs. Lawsoo*, and other popular varieties were not procurable. Roses vary considerably; a few choice flowers are seen, but the bulk of the blooms are of second quality or small. Asters are abundant and their prices are low. Those of the *Ostrich Plume* and the *Comet* varieties are most appreciated, but there are others which are more prodigious and perhaps as profitable to cultivate. The double-flowered *Gypsophila* is now at its best, also several species and varieties of *Statice*. The supply of cut foliage of all description is more than equal to the demand. Hardy foliage includes *Berberis* (Mahonia), broozy tinted oak shoots, also *Viburnum Opulus* with its bright red berries.

POT PLANTS.

Well-flowered *Croton* plants are a feature; they are chiefly of the "Masse" type, but some good plants of *Lady Fitzgibbon* are also seen. Asters in pots are very good; these have been given in the open ground and afterwards potted. Supplies of *Roses* are finished for the season. There are no *Ericas* at present, but I learn there will soon be plants of *E. gracilis* in the market, and *E. byemalis* will be better in flower than usual this season. *Verbenas* are plentiful. *Lilium lanceifolium rubrum* of good quality has been selling very cheaply. *Heliotropes*, *Fuchsias*, *Campanulas*, *Gypsophila*, *Statice*, *Marigolds*, and other well-known summer-flowering *Cyrtanthemums* are all procurable. The trade in foliage plants varies but little; business for all pot plants is very slow, many dealers will remain empty for some weeks to come. A. H. Covert, *Garden, Wednesday, August 19, 1909.*

Obituary.

ALDERMAN BALDERSON.—We regret to have to record the death on August 12, at his home, Corner Hall, Boxmoor, Herts., of Mr. Henry Balderston, at the age of 77 years. For several years he was one of the vice-chairmen of the Fruit and Vegetable Committee of the Royal Horticultural Society, especially during the 33rd and 34th years of its existence. He was a devoted amateur gardener, taking the deepest interest in everything appertaining to horticulture and brought to the consideration of all subjects that came before the committee much keen criticism. He was of a genial, joyous disposition. A merchant in the City of London, he was very popular at his home at Hemel Hempstead, and enjoyed the confidence of the inhabitants of that town, of which he was appointed mayor in 1900. He was also vice-chairman of the Board of Guardians, chairman of several of the important committees of the Town Council, and trustee of Boxmoor since 1871. For 51 years he was churchwarden of St. John's Church, Boxmoor, also a director of the Waterworks Company and chairman of the Gas Company. He was in addition a prominent Freemason and an able supporter of friendly societies in general. Deceased was born at Gadebridge in 1831, when the population of Hemel Hempstead numbered about 3,000 persons. Nearly 40 years ago he was bailiff of the town, and in that year the local horticultural society, of which he has always been a strong supporter, was started. The deceased gentleman leaves six daughters and one son; his youngest son was killed in the South African war.

GEORGE COOKE.—We regret to learn from the United States that Mr. George Cooke, the well-known landscape gardener of New York and a partner of Mr. Samuel Parsons, who was the 6th inst. of the first president in California. He was driving in the mountains near Alpine, San Diego, when the horses ran away and he was thrown out, receiving injuries from which he died. The late Mr. Cooke was a native of Leicester. He will be remembered by many of our readers as gardener for several years at Quorn House, near Loughborough. When a young man, and before going to Quorn, Mr. Cooke went to Canada, where he laid out several estates. At Quorn, Mr. Cooke proved his ability as a good gardener, especially as a cultivator of Orchids and Nephenthes; he was the first to flower the white form of *Cattleya Mendelii*, known as the Quorn House variety. On the death of his employer about ten years ago, Mr. Cooke went to the United States to lay out the estate of Mr. H. McK. Twombly, at Madison, New Jersey, and about eight years ago became associated with Mr. Parsons. At the time of his death Mr. Cooke was residing in San Diego, and filling the responsible position of chief engineer to the San Diego City and County Boulevard Commission. Much sympathy will be accorded his widow and daughter by his many friends in this country.

ANSWERS TO CORRESPONDENTS.

APPLE WEEVIL: H. A. Spread cloths beneath the trees and shake the branches, when the weevils will fall to the ground. At the end of September they retire for hibernation, hiding in crevices in the bark of Apple and other trees, or concealing themselves beneath the lichenous and mossy growth upon the branches, as well as under stones and rubbish beneath and around the trees. The weevils do not appear until the weather is mild and the flower-buds have begun to swell. Varieties of Apple trees which blossom very early and very late are more likely to escape the attacks of the weevil than those of the main crop whose blossom comes late in May in ordinary seasons. It is recommended to spray the branches in February with caustic alkali wash, for this will destroy the lichens and mosses which serve as harbours for this weevil and other insects. All leaves and other rubbish underneath fruit trees should be cleared away. It is also advantageous to spray the trees with kerosene emulsion, made by dissolving 2 lbs. of soft soap in boiling water, adding 2 gallons of kerosene or paraffin oil, and churning the whole until well mixed. This quantity is sufficient to add to 40 gallons of water.

BEECH TREES, &c.: Beech. The trouble is probably caused by drought. Water the roots copiously, using alternately liquid manure. Send a sample of the grass for examination.

BOOK FOR PERN-PRESSING: F. J. B. We do not advise the use of a book for plant-pressing. Dry them between old newspapers or periodicals. Place each frond on a separate sheet of white paper, and put a weight on the top to keep them flat. Shift the leaves frequently so that the drying may be hastened, and when they are perfectly dry, attach them to the leaves of a scrap-book, naming each one correctly. A suitable book for the purpose can be purchased from most stationers.

ELM TREES: W. G. L. No harm should result from the application of the soil to the roots, provided it is kept clear of the stem for 2 or 3 feet.

GLOXINIA LEAVES INJURED: Correspondent. The damage has been caused by thrips. Syringe the plants with water containing a little tobacco extract and soft soap in the proportion of 1 oz. of soap to two gallons of water.

HEDGE: H. F. L. We should prefer to substitute *Cupressus Lawsoniana* or *C. nut-katensis* for *C. macrocarpa*. The common *Beech* makes a splendid hedge and a fine wind break in winter. The *Quick* or *Thorn* is well known, also *Hornbeam* and *Prunus myrobalana* or *Cherry Plum*, all of which are suitable. When well established, *Berberis Darwinii* makes good growth and is a success as a hedge plant. Do not employ *Privet*. The best time to plant is about the end of September.

HOUSE INFESTED WITH MEALY BUG AND OTHER PESTS: J. P. Fumigate the house with cyanide of potassium gas. See directions in the issue for April 23, 1904, p. 271.

LILIUM GIGANTEUM: C. H. B. Remove the offsets and plant them where they are required to flower. The old bulb dies after flowering.

LOAM: M. Johnston. The sample of turf is excellent, both in regard to the amount of fibre it contains and the general character of the loam. Your communication should have been addressed to the Editor, not the publisher.

NAMES OF FRUITS: Ashford. 1, Mr. Gladstone; 2, Early Harvest (Early Juncating).—*G. H. I* and 4, send later, the fruits are too immature to name; 2, Cox's Pomona; 3, Domino; 5, Beauty of Bath; 6, Lord Derby.—*A. A. B.* The Apple resembles Irish Peach. Please send another specimen.

NAMES OF PLANTS: A. F. *Gentiana asclepiadea*.—*Mr. B.* *Anemone japonica* (seedling variety).—*H. J. P.* 1, *Heliosiphis levis*; 2, *Helianthus autumnale cupreum*; 3, *Centaurea ruthenica* (probably); 4, *Achillea filipendula*.—*M. A.* *W. H.* 1, The curling is due to local conditions, there is nothing on the leaves; 2, *Heliosiphis scabra*; 3 and 4, both forms of *Helianthus multiflorus* var. *flor. pleno*; 5, *Helianthus autumnale cupreum*; 6, *Campanula rapunculoides*; 7, *C. lactiflora*; 8, Aster, cannot be

named more precisely without flowers; 9, *Aster puniceus*.—*F. G. B.* *Eccremocarpus scaber*.—*C. H. W.* *Retinospora squarrosa*, a juvenile form of *Cupressus pisifera*.—*Idris.* We do not undertake to name varieties of Carnations.—*W. Y. Z.* 1, a species of *Polygonum*, too wild for identification; 2, *Saponaria officinalis*, double-flowered variety.—*Togo.* 1, *Trachelium corallinum*; 2, *Hoya bella*; 3, *Crasula* (*Kaloesenia*) *scabra*; 4, *Cypripedium* *pubescens*; 5, *Jacobinea carnea*.

NYMPHAEAS: G. M. R. *Nymphaea odorata* *Caroliniana* will be suitable for your purpose. It should be planted in April or May, certainly not in October. You must use not less than 1 foot deep of soil, but do not add any manure. On no account introduce any water weed: the *Nymphaea* will be quite sufficient, and both fish and *Nymphaea* will thrive without a constant flow of water. In regard to the pond scum, an occasional dressing with the Bordeaux mixture, using for your pond about one quart of a pound, which may be dissolved on the surface. The best work on aquatics is *The Book of Water Gardening*, by Peter Bisset. New York, A. T. De La Mare Printing and Publishing Co., Ltd., 1907.

PAPAW FRUITING: J. S. Kindly send a specimen of the plant with, if possible, an inflorescence.

PEACH STONE SPLITTING: P. K. In sending soft fruits, such as Peaches, through the post, a wooden or tin box should be used. The fruit you sent packed in cardboard and wood-wool was crushed. See reply to E. G.

PEACHES, E. G. The variety *Dymond* is not one in which the fruit stones are very liable to split, and we cannot account for the taking place in your case, unless the tree has been too liberally fed, either by rich compost or liquid manures. In the latter case splitting would be the more likely to happen if the border was very dry before a liberal watering was given. The mischief might also be caused from extreme atmospheric conditions, such as extreme fluctuations in regard to the degree of atmospheric moisture during the time the fruit is swelling. The fruits of the Peach do not often drop after their stones have formed, until they are perfectly ripe. Before the stoning process is completed, however, fruit-dropping is likely to happen if the trees are subjected to excessively high temperatures. Provided the border is properly formed, and the tree is perfectly healthy, careful attention to cultural details should prevent the recurrence of the evil.

PLANTS FOR A MOIST BANK: A. T. B. In the following list will be found a number of plants suitable for furnishing your moist bank: *Aralia racemosa*, *Epilobium angustifolium*, *E. hirsutum*, *German Iris*, *Rudbeckias*, *Polygonums* (*Knot Weeds*), *Doronicums*, *Aconitum* (*Monkshood*), *Helianthus*, *Arnica*, *S. palmata*, *Solidago* (*Golden Rod*), *Lythrum salicaria* (*Loose Strife*), *Helianthus*, *Galega officinalis*, *Michaelmas Daisies*, *Heimerallis* (*Day Lilies*), *Monarda didyma* (*Bergamot*), *Chrysanthemum maximum*, *Trollius* of sorts, *Funkias*, and *Lupines*.

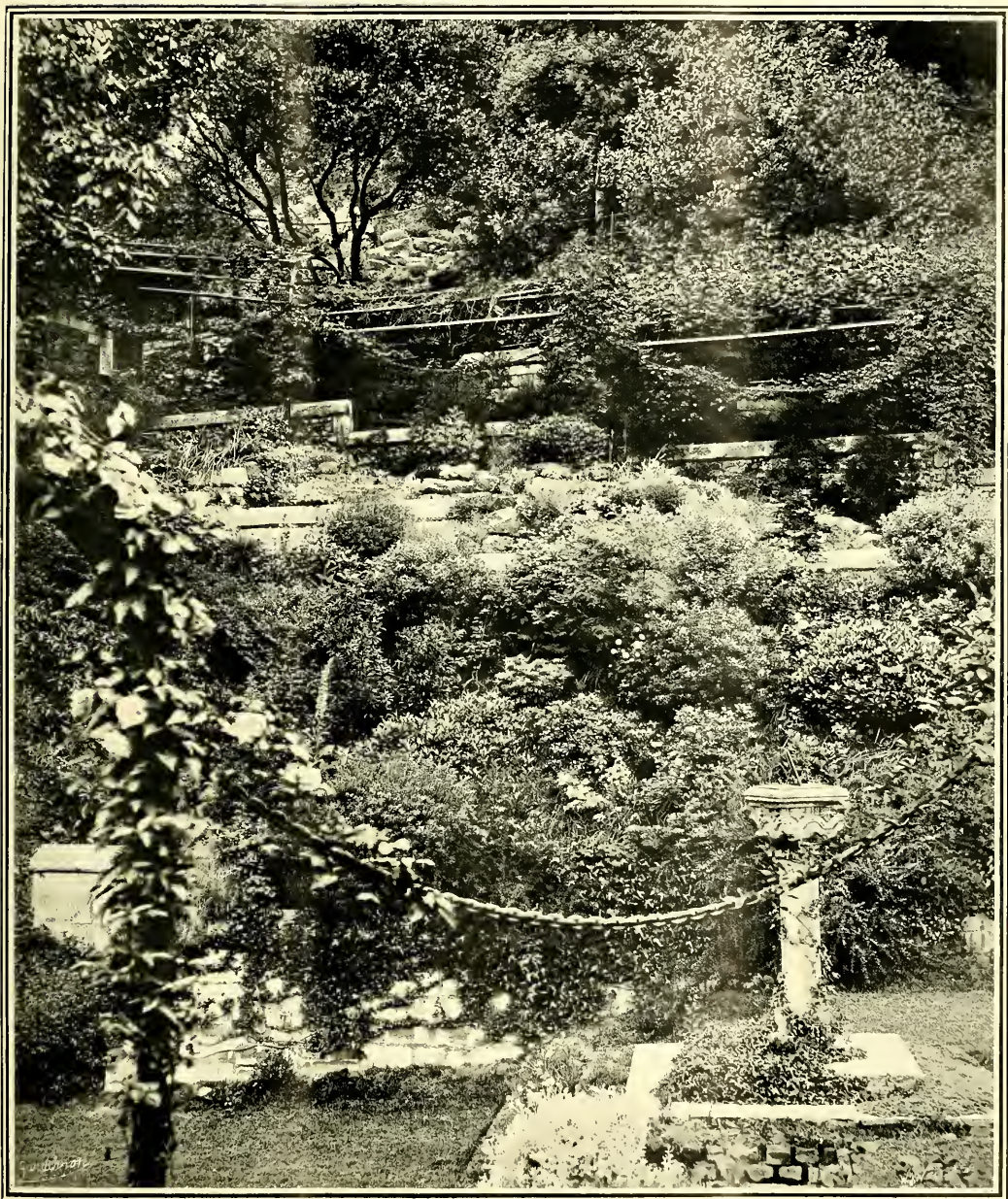
POTATOS DISEASED: A. C. The tubers you send are badly affected with the black scab or warty disease—(*Edomycetes leproides*) (see p. 146 and fig. 58).

ROOTS WITH MILLIPEDS: W. U. *Stoke-on-Trent.* The creatures attacking the roots of your plants are specimens of the "spotted snake millipede" *Blagoderus guttulosus*, a well-known pest. The smaller ones are immature. Dress the ground thoroughly with "Vaporite" or "Apterie," which are said to kill these creatures, or with gas-lime. None of the ordinary insecticides affect them.

SOIL EXHAUSTED: E. G. W. You appear to have over-dosed the land with chemical manures. Apply a dressing of slaked lime and well fork it in.

TOMATOS DISEASED: W. A. See reply to R. R. in the last issue, p. 120.

COMMUNICATIONS RECEIVED.—H. Bros.—E. F. F. E. P.—Col. G.—C. B.—F. K.—C. T.—Hillfield—Ben.—J. F.—G. F. S.—J. C. K. & B. K.—M. P. G.—W. G. L.—Marple—W. E. C.—T. H.—W. B.—S. & Son—J. E. S.—A. F. T.—W. C.—Constant Reader—J. R.—J. E. T.—E. F.—J. C. & Co.—R. T.—C. & Son—J. D.—I. O.—A. B. W.



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VIEW IN SIR DIGTON PROBYN'S "MOAT" GARDEN AT WINDSOR CASTLE.



THE

Gardeners' Chronicle

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provement. It was his intention at first to erect a new mansion piecemeal on the same spot near where a splendid Carrara marble fountain now stands, but that idea was given up in order to build on higher ground to avoid the mists rising from the lakes. His lordship's idea was to preserve the relative positions of the ornamental parts of the gardens and the original character of the place. With this in his mind, every tree was studied and several plans were made and altered. In 1834 the present house was commenced, and in 1839 it was used as a residence. Earl de Grey, F.S.A., was his own architect, and he personally designed and supervised the building with indomitable perseverance.

The house stands at the end of a double avenue of Elms and Spanish Chestnuts, which commences at the handsome wrought-iron gates separating the deer park from the model

Drive." These lofty Elms have withstood many an autumnal blast and have been silent witnesses of many changes in the Kent family.

This leads us to digress for a moment to mention that the Barons Grey or De Grey descended from Anchtal de Grey, who lived in the time of William the Conqueror. A descendant of his, known as Reginald Grey of West, had an heir who was also Lord Grey of Wilton. His grandson, Reginald Lord de Grey of Ruthyn, was Lord High Admiral of England, and it was he who probably erected the nave and tower of Flitton Church hard by, the last resting place of the De Greys. The Reginald in Edward IV.'s reign was created Earl of Kent in 1465. Henry, fifth earl, was one of the Judges at the trial of Mary Queen of Scots in 1587. Amabel, wife of Henry, the ninth earl, who



FIG. 61.—THE ROCKERY, WREST PARK GARDENS.

WREST PARK, BEDFORDSHIRE.

(See figs. 61, 62 and 63, also Supplementary Illustration.)

WREST PARK is the most stately country home in the county of Bedford; Woburn Abbey may be better known, and Luton Hoo is larger, but for variety of scenery and beauty of design the palm must be given to Wrest. Though situated only about forty miles north of London, it lies sufficiently far away from rail and high road to be undisturbed, and it was doubtless from the fact that the Metropolis could be easily reached, combined with the comparative seclusion of the well-kept grounds, that the American Ambassador, the Hon. Whitelaw Reid, leased it as his country seat in August, 1905, very shortly after the Right Hon. Lord Lucas came into possession through the death of his maternal uncle, the seventh Earl Cowper, K.G.

The mansion was built by Earl de Grey: it is in the French style of architecture, but an earlier building stood on a site in the pleasure grounds more to the south. The older structure seems in the Earl's time to have been famous for its cracked walls and long passages, incapable of any essential repair or im-

provement. It was his intention at first to erect a new mansion piecemeal on the same spot near where a splendid Carrara marble fountain now stands, but that idea was given up in order to build on higher ground to avoid the mists rising from the lakes. His lordship's idea was to preserve the relative positions of the ornamental parts of the gardens and the original character of the place. With this in his mind, every tree was studied and several plans were made and altered. In 1834 the present house was commenced, and in 1839 it was used as a residence. Earl de Grey, F.S.A., was his own architect, and he personally designed and supervised the building with indomitable perseverance.

The house stands at the end of a double avenue of Elms and Spanish Chestnuts, which commences at the handsome wrought-iron gates separating the deer park from the model

village of Silsoe, situated on the main London road between Luton and Bedford. The north entrance is reached by a drive, which formerly was void of beauty, but Mr. Whitelaw Reid has greatly enhanced the spot by planting on each side of the entrance a variety of choice flowering shrubs, both deciduous and evergreen, and now during the spring and summer there may be seen bright colours, and in autumn Ampelopsis Veitchii on the walls behind give a mellow tone. Between these protected patches is an enclosed green, which is kept closely cut, so that the outlook on the park side is a decided improvement. The park itself is worth a visit. A noble avenue of Elms not only skirts the northern and western sides, but is continued far beyond, being formerly used as a drive and it still retains the title of "Duke of Kent's

fought against Charles I. in the Civil War, went by the name of the "Good Countess," for, during her long widowhood of forty-seven years she did much for the house and the estate. There is a long inscription on her tomb in Flitton mausoleum, placed there by her grandson, stating that "she had time to restore the fortune of this illustrious family, which she found under an eclipse, to near the height of its ancient splendour." She redeemed and considerably improved the family estate at Wrest, "continually adding to the profit or ornament of the place." Her son Anthony married the sole heiress of John, Lord Lucas, Baron of Shenfield in Essex, and obtained from Charles II. in 1663 letters patent creating his daughter (he had no son) Baroness Lucas of Crudwell in Wiltshire. Lady Jane Grey was a connection of the-

De Grey family. The eleventh and last earl in 1710 became the only Duke of Kent connected with the De Greys of Wrest. It was during his reign that so many improvements were made in the pleasure grounds at Wrest. The duke's granddaughter, Lady *Jemima Campbell*, Marchioness de Grey, and Baroness Lucas, was wedded to Philip Yorke, son of Lord Chancellor Hardwicke. Their elder daughter, *Amabel*, Baroness Hume, was created Countess de Grey. Their younger daughter's son became the first Earl de Grey and Baron Lucas on the death of his aunt. While visiting her at Wrest, he was allowed to build the lodges at the park entrance, and so pleased was he with their appearance that he determined to adhere to that style of architecture, and finally erected the present house to displace the one at its best in Queen Anne's reign. The present Marquis of Ripon is Earl de Grey's son, and his son's title by courtesy is Earl de Grey. The late and last Earl Cowper was a descendant of Lord Chancellor Cowper, who aided the succession of George I., and in 1716 tried the Scottish rebels. He must have been intimately acquainted with the Duke of Kent. The seventh Earl Cowper was the grandson of Earl de Grey.

Our supplementary illustration shows the Mansion as seen from the south-west. Entering the pleasure grounds by the strangers' gate, with its handsomely ornamented canopy, are seen the armorial bearings graven in stone over the gateway, now mottled by age. A fine piece of greensward is bounded on the right by a high wall, clothed to the summit by Honeysuckle and other climbing plants. A gate on the right is of wrought iron, beautifully worked (see fig. 62). This leads to the kitchen garden, that extends over six acres. Inside are very large trees of *Wistaria*; some of the stems are chained to the walls. The walls of this kitchen garden are furnished with fruit trees. Within the first enclosure are some Standard Pears, which have been severely pruned, with good results. A hedge of Sweet Briar grows on each side of the walk. Tomatoes are largely planted in this open garden; more than one hundred plants were noticed during a recent visit on one plot. Strawberry plants are cropped but once only, and fresh stock is raised each year; the *Leader* is the variety chosen. Walking through the open iron gateway shown in the foreground (fig. 62), the visitor arrives in the west flower garden (see fig. 63). The flower-beds are gay in spring time with Wallflowers, Tulips, Hyacinths, and *Silene*, and in summer with *Pelargoniums*, *Tagetes*, *Coleus*, *Cannas*, and *Campanulas*. On one side is a conservatory, from the steps of which the visitor looks down upon a mass of flowers. Near the wall, in contrast to the *Wistaria* and other climbers, is a statue of *Pomona*, the goddess of fruit, with her overflowing cornucopia. In the centre of each of the larger beds are smaller figures of *Cupids* depicted as enwreathing themselves with flowers. The Conservatory is a small but well-stocked building, containing some large specimens of the Mandarin Orange and *Camellia* trees, while on the walls are trained *Pelargoniums* and *Fuchsias*. One end of the Conservatory can be seen in the supplementary illustration. It joins the residence and a doorway connects it with the morning-room.

The terrace is about 30 feet wide, and extends the whole length of the south front. It is paved with large square stones and forms a good promenade. Some ornamental and gilded rails lead to steps entering a formal garden. From the terrace is obtained a splendid view. Beyond the fountain, near which stood the old mansion, there is a rectangular canal; at the other end of

more than one hundred and twenty acres. It is from the terrace that one is able to judge of the full beauty of the place. From this spot one is able to appreciate the design of the flower-beds below. The form of the Tulip was worked out by Earl de Grey with an edging of Box, and paths of Mattock spar bring the design into prominence. At the extremities are stone figures representing the



FIG. 62.—WREST PARK: THE GATES LEADING INTO THE KITCHEN GARDEN.

this is a picturesque domed pavilion erected by the Duke of Kent, and in the distance can just be discerned on the skyline the Chiltern Hills. On the near left and right sides are elevated platforms, forming well-kept lawns under leafy Elms, and beyond are choice trees, culminating in a wilderness on each side of the canal. There are about seven miles of paths in the pleasure grounds, which embrace

elements and others the seasons, while still others in lead on stone bases are in the centres of the flower-beds. In the foreground of the picture is the Rosary, with specimens which include *La France*, *Mme. Abel Chatenay*, *Maman Cochet*, and *Papa Gontier*. The beds are bordered with *Violas*. Formerly the roots of the Elms near by interfered with the welfare of the *Roses*, but a wall was sunk

between the Elms and the Roses, the top forming a gravel walk, and the Roses have since flourished.

The grounds are studded with statuary, and the majority of the figures came from the exhibitions of 1851 and 1861. Several of these may be seen on the walk leading from the terrace steps to the fountain. Fifteen standard Portugal Laurels—the stems encased by square wooden bases covered with ivy—have been planted on either side of the broad walk; these Laurels are carefully trimmed. An Irish Juniper stands between each of these. A high Yew hedge on the left shelters an old orchard. In the centre of a circular pool is a statue of Atlas. Near this point is a splendid specimen of the Sequoia (*Wellingtonia*) gigantea, planted about 1850; it is about eighty feet high and the branches are nearly forty feet across at the base. Trees of the Copper Beech abound,

flowers. Ferns grow in luxuriance. The spring provides water for the lake, which "Capability" Brown, the celebrated landscape gardener, engaged by the Duke of Kent, altered and ornamented to form a boundary to the grounds extending nearly a mile. This in early summer is a beautiful spot, especially when the Rhododendrons are in full bloom. A few steps further is a bowling-green, with its curious house in Queen Anne style, fitted with furniture of that period. On this green the Duke met his contemporaries, and the Countess of Kent before him would enjoy a chat with her secretary or steward, Butler, the author of *Hudibras*, and the learned Selden. Parallel with the soft, velvety bowling-green is a "lover's walk," where Lime trees form an archway. Near the house stands the Orangery, which shelters during the winter the dozen Orange trees brought from Paris

the plants are watered at least once every two days.

The crop of Endive planted at the end of June is fully developed, and we are now tying the leaves to blanch them. They will be sent to market in a week or ten days. They have been watered each day, but this is not done when the sun is extra hot, for if they are watered then the heart of the plants would be liable to decay. To cultivate Endive successfully, especially on manure beds, another crop, either of Cabbage Lettuce or Cauliflower, must be planted with them, for if they are grown by themselves they are liable to become drawn and to form no heart. They need an abundance of moisture at the roots to prevent the central leaves from becoming spotted.

We are now planting our last batch of Batavian Green. Although the weather is unfavourable for transplanting, the work cannot longer be delayed. We are sowing our batch of Winter Spinach. The seeds are scattered broadcast in beds 9 feet wide. Sometimes

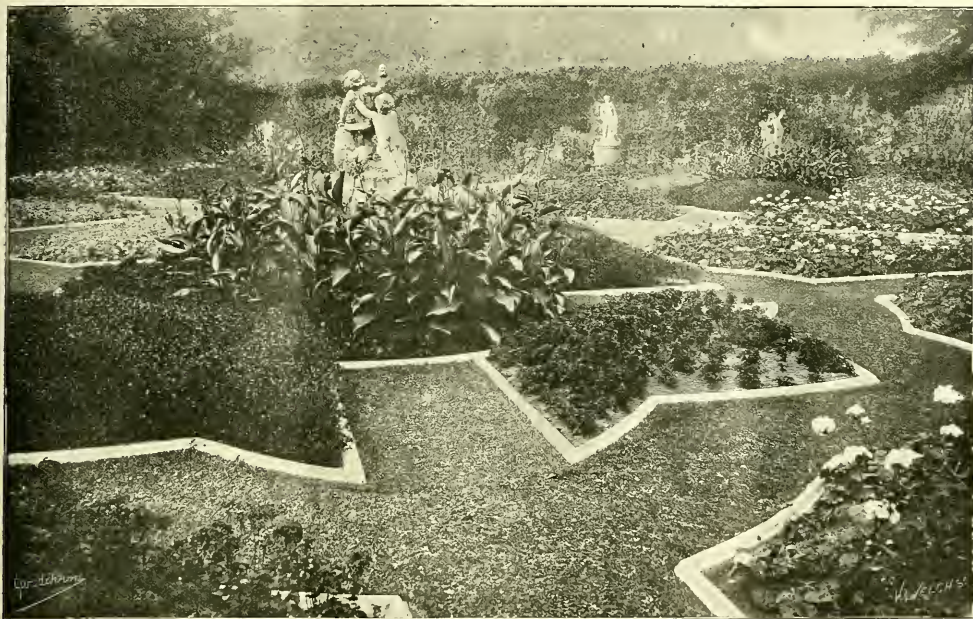


FIG. 63.—THE WEST FLOWER GARDEN AT WREST PARK.

as do Cedars. The Tulip tree (*Liriodendron tulipifera*) is also planted here. A trained Yew, some twenty-five feet in height, is known as the Grenadier's Cap, because of its resemblance to a soldier's bearskin. To the right is a Yew hedge, which is one of the prominent features of Wrest. It is at least 350 years old, twenty-six feet wide, twenty-two feet in height, and about 480 feet in length. Two men are employed for a period of about three weeks in trimming this hedge, which, I believe, has only one equal, namely, that at Studley Royal, Lord Ripon's seat in Yorkshire. Close to this hedge are the baths, which formed at one time the bathing place at Wrest. A ruined structure, mantled with Ivy, covers the actual pool, the water issuing from a chalybeate Well and flowing under the rockery (see fig. 61), which in summer, as noticed in the small illustration, is decked with

when Louis Philippe's effects were sold. In summer they make a grove at right-angles to the standard Laurels and Junipers.

The pleasure grounds and gardens are in the excellent care of Mr. George Mackinlay, who is well known to most gardeners. H. T.

NOTES FROM A "FRENCH" GARDEN.

THE fruits of the first two batches of Melons have been gathered, the barren haulms removed, and the ground hoed and well watered to promote as much as possible the growth of the Cauliflowers that were planted amongst them at the beginning of July.

The last batch of Melons planted at the end of June is doing well. The lights are kept on the frames, and ventilation is given in moderation, as the weather is somewhat dull. All unnecessary growths are promptly removed, and

they are sown in beds 4 feet wide so that they may be covered by frames and lights later in the season.

Our first batch of Lamb or Corn Lettuce has been sown, the variety being Green of Etampes. It is advisable in an old-established garden or in a sandy soil merely to hoe and rake the bed for this sowing, but in our heavy soil we are obliged to resort to digging. The germination of the seeds is rather difficult, and must be stimulated by frequent and light waterings. We have pricked off the young Cabbage Lettuces sown at the beginning of this month, 2 inches apart. All the frames from the first batches of Melons have been stacked in heaps, 15 frames high.

We are busily engaged in breaking up well-decayed manure for use when sowing and pricking off Lettuce, Cauliflower, and Cabbage, as we prefer to have everything in readiness before the sowing is commenced. *P. Aquatias, Mayland, Essex, August 16, 1908.*

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 84-90.)

(Continued from page 144.)

5. SOUTHERN COUNTIES.

SUSSEX.—Some varieties of Apples have full crops, while others are nearly bare, as also are individual trees among the bearing varieties, but none have fulfilled their early promise, as trusses of blossoms fell off to a great extent, in some cases owing to the phenomenal attack of brown rot disease. Pears blossomed profusely, but set very little fruit. Plums vary, many trees of every variety are almost or quite barren, and few are fully laden with fruits. Damsons, in my case, are almost entirely devoid of fruit, nine trees out of ten being fruitless. I had a great crop of Gooseberries injured by drought, a light one of Black Currants, and a fair one of Red Currants, and now there is a good one of Raspberries. *William E. Bear, Magham Down, Hailsham.*

The fruit crops here are good but not quite up to the average. Peaches and Nectarines were ruined by the snow and frost of April 21; Pears were also in bloom when snow again fell on April 24 and 26, the snow being followed by frost. All bush fruits are good. The Strawberry crop was soon over, the weather being hot and dry; Apples are an average crop on pyramid trees in the kitchen garden; the trees are clean and making satisfactory growths. Plums on walls are good, but trees in the open are barren. *A. B. Wadds, Paddleshurst Gardens, Crawley.*

—The fruit crops are, in general, very good. Strawberries, both early and late varieties, have been excellent; also Gooseberries and Raspberries. Apples promise well, both in quantity and quality, especially Bramley's Seedling, Dutch Mignonne, Worcester Pearmain, Lane's Prince Albert, Cox's Orange Pippin, King of the Pippins, and Scarlet Pearmain. Plums that promise best are Cox's Emperor, Victoria, The Czar, Grand Duke and Fond's Seedling. Constant attention to root pruning I consider one of the chief points to success with trees growing in this heavy soil. *W. Langridge, Ote Hall Gardens, Burgess Hill.*

—The fruit crops here are splendid, all the best varieties of Apples are so heavily cropped that severe thinning has been necessary in the case of Cox's Orange, Allington, and St. Edmund's Pippins, and these choice dessert varieties look well and more promising than last year. Pears are not so regularly cropped, but many varieties had to be thinned. There are good crops of Raspberries, Currants, Gooseberries, Strawberries, and Loganberries, and the fruits are of good quality. Cherries are good; all the trees appear robust and are making good growths. We practise much summer pruning, and this for wall trees has been a necessity this season. *W. A. Cook, The Gardens, Leonardist, Horsham.*

WILTSHIRE.—Fruit crops generally in this neighbourhood are satisfactory. Apples are an average crop and the quality is good. Small fruits are good, with the exception of Gooseberries. These were nearly all destroyed by the late frost. Strawberries have in many places been abundant, but they suffered in their later stages from the drought. *W. Tinsley, Malmesbury.*

7. ENGLAND, N.W.

CUMBERLAND.—The fruit crops in this district in general are good. Apple trees are clean and are carrying healthy foliage. Pears are only an average crop, the blossoms having suffered from frost in April. Small fruits are plentiful and good. Strawberries suffered a little from drought at the end of June and early in July. *William Scott, Eden Hall Gardens, Langwathby, R.S.O.*

—The unripened wood, caused by last summer and autumn being wet and sunless, was the chief cause of the failure in Pears, Apples, and Apricots, as well as standard Plums. Strawberries were a splendid crop of fine fruits. Small fruits are good, excepting Gooseberries, which are very poor on some trees, but other bushes have a full crop. *J. Clark, Lowther Castle Gardens, Penrith.*

LANCASHIRE.—There was an abundance of blossom on trees of stone fruit, though much of it seemed weak and infertile; these conditions, with a low temperature at the season when the trees were in bloom, prevented a good set. Apples and Pears were very late in blooming and escaped the late frosts, so that there was a good set of fruits, but during the very dry weather in June many of them fell. *E. F. Hazleton, Knowsley Gardens, Prescot.*

Apples are an abundant crop, with the exception of the late varieties, which have thinned themselves within the last fortnight to a moderate crop. Where caustic alkali solution was used as a winter dressing, insect pests have not been troublesome. Pears and Plums suffered from the very cold, low temperature of the nights of April 22 and 23, the thermometer registering 5° and 9° of frost, with a heavy fall of snow. Cherries are an average crop, the quality of the fruit being good where a plentiful supply of liquid manure was given during the hot weather. Small fruits, especially Raspberries, Red and Black Currants, and Loganberries, are excellent. Gooseberries, however, are very much under an average crop. Strawberries have been good in quantity and in quality. *B. Cromwell, Cleveley Gardens, Allerton, Liverpool.*

—The show of Apple blossom was one of the finest I have ever seen, and the set of fruit was enormous. The hot, dry weather of the latter half of June and the first week of July caused, fortunately, great quantities of the fruits to fall. In spite of this the crops are still heavy and very promising for fine fruits. The trees are, on the whole, very clean and healthy. Pear trees are somewhat partially cropped; some varieties, notably Beurré d'Amann, Beurré d'Arenberg, and a few others, are bearing heavy crops, whilst others have none at all. This is not a good Plum district, owing, I think, to the sandy nature of the soil and the absence of lime. All small fruits are excellent crops, and fine in quality. *Ben. Ashton, Latham House Gardens, Ormskirk.*

—Everything was favourable to the setting of Apples and Pears this year, and all other kinds of fruit. The few Peach trees on walls had only a few weak flowers, consequently these fruits are few. Everything else may be said to be a full crop in this district, and except that caterpillars devoured some of the leaves of the Apple trees, I have not heard any other complaints in regard to the fruit crops. *Wm. P. Roberts, The Gardens, Curdren Hall, Preston.*

WESTMORELAND.—The fruit crops in this county are not so good as the early prospects gave promise. The wood of fruit trees and bushes failed to ripen last autumn owing to a lack of sunshine. Nevertheless we had a promising show of blossom, but Apples, in particular, have failed to carry full crops. *H. Gibson, The Gardens, Levins Hall, Mithlforth.*

—Late varieties of Apples are much better cropped than the early varieties, but all were full of blossom. Last year we had a very wet autumn with little sun, therefore the wood was not well ripened. This spring also was not favourable, for east winds prevailed. I have never seen better crops of Strawberries; Raspberries are also a full crop. The soil here is on the limestone. *J. Moorhouse, Dalton Hall Gardens, Burton.*

—We had every prospect of a good crop of fruit all round, but owing to the east winds in April and sharp frosts on more than one night, the crops generally are not favourable. *W. Calton, The Lodge, Helme Lodge, Kendal.*

—Apples are plentiful, the varieties Stirling Castle, Lane's Prince Albert, Annie Elizabeth, Keswick Codlin, Warner's King, and New Northern Greening have heavy crops. Pears are few, likewise Plums and Cherries. Strawberries have been a heavy crop, the best for many years, especially Royal Sovereign. Kentish Favourite promises well. *W. A. Miller, Underley Gardens, Kirkby Lonsdale.*

8. ENGLAND, S.W.

CORNWALL.—Apricot and Plum trees set enormous crops, but frosts killed all the young fruit. This being a late district, the bulk of the Pear blossom escaped injury, only the very early flowers being damaged, but cold weather

later caused many of the young fruits to drop and also ruined what might have otherwise been a plentiful Apple year. *A. C. Bartlett, Pen-carrow Gardens, Bodmin.*

DEVONSHIRE.—Apples and Pears were much injured by the drought throughout June. Apricots, Peaches and Nectarines suffered much from cold, dry weather and late May frosts. *Andrew Hope, Prospect Park, Exeter.*

—It is many years since we witnessed such a wealth of blossom on all kinds of fruit trees, especially Apples. These fruits and Plums are the two most irregular crops of the season. Doubtless the cold winds and frosty nights accounted for the partial failure of the Plum crop, and ill-ripened wood must be the cause of the thin Apple crop. Strawberries and bush fruits have been produced in abundance. *James Mayne, Bilton Gardens, Budleigh Salterton.*

—Gooseberries are a small crop, but Currants and Raspberries are very good. The earliest fruits of Strawberries were also good, but later berries suffered from drought. *E. E. Bristow, Castle Hill Gardens, S. Molton.*

—There was an abundance of blossom on fruit trees, but the cold, wintry weather at the time Pears and Plums were in bloom is responsible for the scarcity of these fruits. A light rainfall up to June was followed by drought, and these conditions have caused Apples and Cherries, especially Morellos, to fall from the trees. The drought has also affected Peaches on outside walls. *T. H. Slatte, Falmouth Gardens, Exeter.*

—The fruit crops generally are plentiful and good. All small fruits are abundant and of fine quality. Apples generally are a good crop, and up to the present the trees are very clean. Pears are rather scarce; they apparently set well and promised a heavy crop, but after a spell of cold weather they dropped badly. Of Plums we have none, and Apricots are a light crop. Peaches and Nectarines are good crops, and the fruits promise to finish well. *J. Coultz, Killerton Gardens, Exeter.*

—The fruit crops in this district are, generally, very good. Apples are a heavy crop and of good quality, especially on pyramid and bush trees, the fruits having required a severe thinning. The fruits in orchards are also good, but the trees are less regularly cropped. Pears are a light crop, but of good quality. Peach trees suffered early in the season from blister, but the shoots are now clear of pests. Strawberries were a heavy crop, but the drought somewhat checked the late fruits. The Gooseberry crop was rather a light one, but Raspberries and Currants are very fine. Our soil is a light loam on waterstone. *Geo. Baker, Memland Hall Gardens.*

GLoucestershire.—Apple trees, in spite of a remarkable show of bloom, are sparsely cropped. Some of the trees, however, are carrying good crops, viz., Frogmore Prolific, Tower of Glamis, Lane's Prince Albert, Ecklinville Seedling, and Keswick Codlin. Caterpillars injured some of the trees, notwithstanding they were sprayed with the alkali wash in the middle of February. Dessert Cherries set very imperfectly. Morellos are also very fairly cropped. Gooseberries are a failure, owing to 6° frost on the night of April 23, when the bushes were in full bloom; on April 24 they were covered with snow. Black Currants are only a quarter of a crop; hitherto these fruits have always been abundant. Strawberries have been very abundant and of excellent quality. *John Banting, Tortworth Gardens, Faldeld.*

—Pears are very promising, the trees having been syringed each evening during the hot weather of June. Apricots are a failure, but Peaches and Nectarines are fair crops. Plums a moderate crop, and Cherries a good one. Strawberries have been abundant and of good flavour, lasting much longer than usual. Raspberries are abundant and good, also Red Currants, but Black Currants are a failure. *F. C. Walton, Stanley Park Gardens, Stroud.*

—Apples are an average crop. Apricots trees, following a heavy crop last year, bore very few blossoms. Plums are an average crop, but Greengages and Damsons are scarce, the birds having destroyed the fruitbuds. Peaches and Nectarines are scarce. Gooseberries suffered from severe frost. Raspberries are a good crop, also Currants. Strawberries were

abundant and of good quality. Cherries are plentiful, especially Morellos. *A. Chapman, Westonbirt Gardens, Tetbury.*

—The flowering season of nardy fruits was all that could be wished for, but in some cases severe weather, which was experienced late in the season, ruined the crops, especially on trees in exposed situations. Apricots appear to have suffered most. Gooseberries are scarce in some places.

—On the whole we have an average crop of fruits of good quality. *Thos. Cooper, Sedbury Park Gardens, Chipping.*

—All fruit trees gave promise of good crops. I never remember having seen Apple and Pear trees so full of flower, but frost at the end of April and May ruined all the expanded blossoms. Strawberries have been a record crop; the berries were of good flavour, but not quite so large as usual owing to the dry weather. Red Currants are a full crop, but of Black Currants we have only half the usual quantity. *W. H. Berry, Highnam Gardens.*

HEREFORDSHIRE.—Strawberries were very good, but the rain came too late to develop more than a good average crop. We had 14° of frost on April 23 and 10° on the 24th of that month, and this ruined a grand lot of well-set Peaches, Nectarines, and Apricots, despite extra protection given. Raspberries are very satisfactory, but Gooseberries are not a large crop. Red and White Currants are of good quality. Our soil is a cold, heavy clay. Generally there is a good crop of Damsons in this district. *Thos. Watkins, Newport Hall Gardens, Eardisley, R.S.O.*

—The Apple crop is a good one, and the trees are very healthy; thinning the fruits had to be resorted to owing to the very heavy crops. Pears are few; also Plums on walls, owing to the cold weather of April when the trees were in full bloom. Bush Plum trees are carrying a good crop; those were not in bloom during the severe weather. Apricots, however, were all destroyed. Small fruits suffered from the same and Gooseberry bushes were denuded of their fruit, and Currants were considerably thinned. Raspberries are a moderate crop, but the fruits suffered severely during hot, dry weather. Strawberries have been good. *Thos. Spencer, Goodrich Court Gardens, Ross.*

MONMOUTHSHIRE.—Apples are abundant and good, the trees being clean and healthy. Pears set well, and the fruit is splendid crop, but the Pear midge is answerable for many of these fruits falling. Peaches and Nectarines are not as plentiful as usual, although there is a fair crop of fine fruit on slightly protected trees. Fig trees on walls promise a good crop of fruits, but on trees in the open they are a failure. Strawberries have given an enormous crop of well-flavoured fruits, the dry weather allowing them to ripen without decaying. The partial failure of the Plum crop is due to the disastrous frost and wet weather experienced during the time the trees were in bloom. The same remark applies to Gooseberries. Raspberries and Currants have yielded heavy crops of fine fruits. *W. F. Wood, Llanfrehfa Grange Gardens, Caerleon.*

—All kinds of fruit trees blossomed abundantly, but the continuance of low temperatures and the 9° of frost, accompanied by snow, on April 23, during the flowering season of Plums and Pears, did much to spoil the favourable prospects. Of Plums the Betty Victoria carries a full crop, and of Peaches Betty Ardrie is the only variety that has a full crop. Gooseberries and Black Currants are thinly cropped owing to the frost. Strawberries were remarkably prolific, and the fruits were of fine quality. Apples are good in every respect; some kinds have had to be severely thinned of their fruits. Kitchen varieties are generally more heavily laden than are dessert varieties. *T. Coomber, The Hendre Gardens, Monmouth.*

—The Apple crop generally in South Monmouthshire promises to be much above the average; the quality of the fruits is good, and the trees are free from aphid. Pears are an average crop, and the trees are very free from blight. Stone fruits, with the exception of Plums, are almost a failure, and the same remark applies to Gooseberries and Currants. This was caused by the severe frost on April 24. The recent rains have been very beneficial to all fruits, and they have fallen in sufficient quantity

to reach even the roots of the trees in grass orchards. *John Basham, Fair Oak Nurseries, Baisdale, Newport.*

SOMERSET.—There was an exceedingly good show of blossom on all kinds of fruit trees in this district, but the persistent east winds and low temperatures, together with a heavy snow-storm and sharp frost on April 25, ruined the promise of good crops of Apricots, Plums, Pears, Cherries, and Gooseberries. Apples in the orchards have suffered from drought, but there are good crops in cultivated gardens. *George Shawley, Halswell Park Gardens, Bridgwater.*

—Apples promise a very heavy crop. At the time the trees were in flower they were a lovely sight, some orchards being a mass of bloom. Most kinds of fruit trees were later in blooming than during the past few seasons. Apricots are practically a failure, owing, presumably, to the heavy crops of last year. Small fruits of all kinds, especially Gooseberries, Red Currants, and Raspberries, are a heavy crop and of good quality. On the night of April 23 sleet fell, and on the morning of the 24th of that month we registered 9° of frost, this being followed by a heavy fall of snow. Plums then in flower were badly injured. Untrained Fig trees are carrying heavy crops of fruit. *Geo. H. Head, The Gardens, Kingdon Manor, Taunton.*

—There was an excellent show of blossom on all fruit trees and bushes this spring, and most of these have set very well, but from many places complaints are general as to the failure of the Gooseberry crop. This is due to a sharp frost occurring when the bushes were in bloom, although here and in one other garden which I have visited the crop of this fruit is quite up to an average one in both quantity and quality. Peaches and Nectarines on unprotected trees were also ruined. Strawberries set very well, and the plants having been copiously watered have yielded a heavy crop. *A. Skellerton, The Gardens, Ford Abbey, Chard.*

WORCESTERSHIRE.—What at one time promised to be a full crop of fruits was entirely spoiled by the frosts at the latter end of April. The Gooseberry crop was destroyed, also the larger varieties of Black and Red Currants. Amongst Black Currants the variety Ogden's Black was not injured in the least, the fruit now being very fine. We never had a finer show of Apple blossom, but whilst some varieties are heavily laden, others are very thinly cropped. *A. Young, Witley Court Gardens, Worcester.*

—Apples and Strawberries are the most satisfactory of hardy fruit crops. We experienced sleet and snow, followed by 10° of frost on April 24, and even before it was dark the leaves and blossoms were frozen together and were as brittle as glass. Pears, Plums, and bush fruits were then in full flower and suffered greatly. It was distressing to find oneself unable to cope with such a visitation, and to see the work of a whole season ruined. *William Crump, Madresfield Court Gardens, Malvern.*

(To be continued.)

FOR STAY AT THE HUNGARIAN EXHIBITION.

IN the earlier notice of the exhibition at Earl's Court (see p. 41), the various products of the vineyard, the farm, orchard, and garden were remarked upon; but the present one is concerned with forestry. Trees are not cultivated in Hungary as ornamental objects on an estate, or as merely forming roosting perches for pheasants, but for commercial uses or for furnishing fuel for the inhabitants; thus they afford a means of livelihood for a large section of the peasantry. Very little timber is imported from abroad, and only such kinds as are used in cabinet work and the finer kinds of furniture.

But few of the objects shown at the exhibition appeal to the visitor, unless he be conversant with, or is an expert in, woodcraft, or a dealer in timber, very few of the exhibits being of a nature to attract the eye; and yet in all this sombre-looking material and the primitive tools

and appliances there is much that shows the great extent of the various industries connected with the planting of forests and woods, and the importance of the cultivation of timber trees to the community as a whole. It furnishes the main source of the fuel consumed, for coal is a scarce commodity in districts far from the Carpathian Mountains; it finds employment for a large number of the inhabitants all the year round in planting, felling, barking, and in the preparation of timber for the innumerable purposes to which it is put in a civilised community.

The Royal Hungarian Woods and Forest Office, Totsovar, have numerous exhibits, and the visitor will note the fact in the raw Oak timber from Orsova that the flint and steel method of obtaining fire is still in use in parts of the country. Alongside of this tinder is a large bundle of splints (stems) for the making of matches, a hint that the era of tinder and flint and steel was about to come to an end. These match splints are made from some species of Conifer, the trees being grown closely together, so that no knots shall appear in the wood to spoil the sample and cause waste in cutting up. This Forest Office shows implements for stripping bark for tanning leather, tools employed in felling and working timber; broad axes, adzes, billhooks, &c. There is shown an analysis of the bark of the Tanner's or Turkey Oak (*Quercus Cerris*) and of the Hungarian Oak (*Q. pannonica*), this last from the R. H. Forest Office at Lipka. There were noted several exhibits unfamiliar to an Englishman, namely, shingles, grooved and ungrooved, for roofing purposes, and made from Pinewood. These shingle roofs are much in use in Hungary and to a less extent in Austria; they last a score or more years, are cheap, easily repaired, and withstand the severe hailstorms common in that country to a better degree than thin slates. There are diagrams of methods of afforestation, part of the area to be planted being under farm crops as a preliminary course of treatment. This is, as I know, a common practice, the forest owner asking, as a rule, no rent for the use of the land for two or three years. By this method, which is of mutual benefit to owner and farmer or cottier, the land reverts to its original use in a clean condition, free from noxious weeds and deeply cultivated, besides being freed from the stumps and bigger roots of the trees that formed its previous crop. Shingles formed of Beech and ungrooved are exhibited from the R. F. Office of Bustyahaza, besides wood spokes of Locust tree wood (*Gleditsia triacanthos*), spokes of the common Ash, wheel hubs of Turkey Oak, and sections of impregnated and non-impregnated Beechwood railway sleepers. In the mountains and hills, wood slides, with and without water, are used to transport heavy timber from the higher ground where horse traction is impossible, and models of these are exhibited. These are formed of slender tree trunks, barked and laid close together so as to form a channel 3 to 4 feet in depth and 5 to 6 feet in width. Such appliances are commonly used for firewood transportation. A model of a snow shelter or refuge is shown; it has a gallery formed round the entire upper storey, which projects over the lower storey, forming a gallery or passage some 6 feet in width round the latter. These galleries being closed at the sides and ends would provide shelter for a large number of people. A coloured illustration is displayed of the Royal Experiment Station of Szobed, and likewise a model in wood of the headquarters of a forest ranger—a most commodious-looking dwelling, with all its various appearances. There are likewise specimens of horse shoes for use upon ice, curious things with iron rings riveted on the face of the shoes, instead of studs as with us; of ordinary forest saws, water driven; also of band saws working perpendicularly on a scaffold erected on the ground instead of in a pit, the motive power being obtained by an overshot

wheel; and of a bark crusher similarly worked by water power. There are models of methods of charcoal burning, showing a deeply-notched tree stem instead of a ladder of rungs, used in ascending a charcoal mound in process of charring. The entire process of cellulose making and its formation into sheets is shown in another model; as also the ground-up material at various stages of manufacture. Examples of good and bad tree planting in real Oak saplings form a practical lesson in planting. There may be seen the common basketwork wagons used by charcoal burners for the carriage of charcoal, for use on wheels or sledges, drawn, as are nearly all wagons in Hungary, by a pair of trace horses; likewise a woodman's hut of a round shape and pointed at the top, with a roof of shingles, and a pent-house over the entrance. A large view shows the Royal High School of Forestry at Selmec, by Banya. At Kisziblye there is established a forest school under the management of the High School. It lies in the parish of Topetak; latitude, 48°27' to 48°28'; longitude, meridian of Ferrol, 36°26' to 36°38' east; 450 feet to 670 feet above sea level. The substratum is trachite, with a little basalt. The soil, of medium depth, is a sandy clay. The rotary period of the forest at this place is 100 years, and the exploitation of the forest is provided for by gradual renewal after felling the trees and clearing the area. This work is carried out partially by natural and partly by artificial means, special attention being paid to the planting of Oak, Poplar, white Pine, and other valuable species of native and exotic trees.

Tools used in forestry are shown in great variety, including the heavy hoes (known as "grafts" in Kent), and wooden and iron rakes in all sizes. The specimens of Oak, Maple, Ash, Elm, Silver Fir, and Common Beech timber are extremely fine, some of them having boles of 3 to 4 feet in diameter. From an illustrated handbook which is being freely distributed, it is interesting to learn that notwithstanding the enormous area of forests in Hungary (more than 35,000 square miles), the Government is extending and renewing them on a large scale. In the State forest-nurseries a stock of two hundred million young trees is maintained, from which over forty millions are transferred to the State forests annually, besides ten to twelve millions sold at a low rate to private persons. In addition the Hungarian State possesses many fruit nurseries, from which about four million young trees are yearly distributed to communal authorities and others. *F. M.*

KEY NOTES.

THE GREENHOUSE.

THERE are many interesting and beautiful subjects flowering in this house at the present time. The Giant Balsam, *Impatiens Oliveri*, from British Central Africa, which was the subject of a Supplementary Illustration in the *Gardeners' Chronicle* for October 27, 1906, has become too large for its tub, and has, therefore, been planted out in the centre of the house, where it is now growing freely. Although it cannot be claimed for the plant that the inflorescences make a brilliant show, there are always flowers on the plant, a characteristic which cannot be claimed for many of the other greenhouse subjects. Arranged amongst a group of the "Chimney Campanula," *C. pyramidalis*, are some 25 well-flowered pot plants of *Watsonia Meriana* var. *O'Brienii*, or, as it is better known in gardens, *W. Ardeni*. The bulbs were potted early in April, four being placed in a 7-inch pot. They were grown in a cold frame till the flower spikes were well advanced, when it became necessary, owing to their height, to transfer the plants to a cool greenhouse. Most of the flower spikes are 5 feet in height. Two tall-growing *Calceo-*

larias, valuable for large show houses, are *C. Burbidgei* and *C. integrifolia*. Both have yellow-coloured flowers (the latter is the more compact in habit, but its flowers are smaller and are arranged closely together in the panicles). Both species have been flowering in this house since early summer.

The genus *Begonia* is largely represented, including the tall-growing species *B. coccinea*, *B. chiniosipala*, *B. fuchsoides* and the varieties *B. nitida alba*, *B. President Carnot*, and *B. Luzerna*, the latter a hybrid raised on the Continent. It has very similar growth to *B. President Carnot*, but with deeper coloured flowers and shining, dark-green foliage. On the side stages, in addition to single, double, and fringed tuberous-rooting varieties, are plants of *B. Corbeille de Feu*, a variety in the way of *B. fuchsoides*, which was one of its parents. It is, however, of dwarf habit and fringed flowered than *B. fuchsoides*, and the flowers are lighter in colour. *B. Evansiana*, *B. Davisii*, *B. Pearcei*, *B. Bertinii*, *B. Triomphe de Lorraine*, a double semperflorens variety with bronze-tinted foliage, and *B. Gloire de Chatelaine* are all represented by small or large groups of plants. The last-named variety is dwarf, compact, floriferous, and belongs to the semperflorens type; it is of recent introduction, and has rich, rose-coloured blossoms.

The rich scarlet flowers and handsome foliage of *Clerodendron fallax* are prominent all around the greenhouse. The plants are about 14 months old, being raised from seeds. They were transferred to this show house from a warmer house when the first flowers were expanding in June. The light, graceful racemes of *Francoa* rising amongst the other flowering plants are very ornamental. *F. ramosa*, white, and *F. sonchifolia*, pink, are the two species utilised. The variegated variety of the giant Tobacco, *Nicotiana tomentosa* (syn. *colossea*) is represented by two particularly handsome and striking specimens. The species of *Kalanchoe*, *K. flammea*, and the two hybrids *K. × kewensis* and *K. × felthamensis* are showy and valuable, as they continue in flower for a long time. The introductions to gardens of the dwarf early-flowering variety of *Salvia splendens*, named *Glory of Zurich*, is welcome. The plants at Kew have been on show for a period of three months, and they are still a blaze of scarlet flowers. The *Statice* or *Sea Lavenders* are other plants noted for the long time their flowers last; *S. brassicifolia*, *S. macrophylla* and *S. profusa* are all worthy of culture. A pretty *Pyrethrum*-like plant with small double white flowers, named *Matricaria mondeana*, is a useful decorative plant. I have not seen this in other gardens, but it is worthy of inclusion in a greenhouse. *Jacaranda mimosifolia*, also known as *J. ovalifolia*, is not often seen in flower. It belongs to the natural order *Bignoniaceae*, and the lavender-blue flowers are produced in terminal panicles, the shape and size of the individual blossoms resembling those of *Tecoma Smithii*. Our plants were raised from seeds sown in 1906, and were stood in the open under a hot south wall during the summer of 1907. In the winter the foliage was ornamental, and the plants were interspersed amongst flowering plants in a cool house.

The white-flowered *Campanula Vidalii* is a distinct Bellflower. It has pendulous flowers and rich dark-green foliage that are appreciated in a greenhouse, either alone or arranged as a groundwork for taller-growing subjects. The introduction of a set of hybrids of *Impatiens Holstii* with flowers of some six or seven distinct shades of colour has given an added value to this plant. The offsprings are dwarf in habit and particularly free in flowering. *Fuchsia Alice Hoffman* is usually recommended as a dwarf bedding variety. Grown here in 5-inch pots, the bushy plants, 6 inches to 9 inches in height, are covered with blossoms. It has a light red calyx and white corolla. *D. D.*

FLORISTS' FLOWERS.

THE VIOLA AND PANSY.

MANY persons who have not the convenience of a glasshouse or frame manage to propagate these plants by inserting cuttings in the open garden, shading and protecting them from sun and drying winds until they are rooted. In order to obtain the best results it is well to have glass frames in which to propagate the plants and protect them from severe weather. Violas are harder than Pansies, but the method of propagation is similar. In the Pansy more than in the Viola, the main flowering stems are hollow, and these should not be used as slips or cuttings, but the best shoots for rooting are the numerous small growths produced at this time of the year. These are pulled out with the fingers, and, generally, small rootlets are attached to their base. Some fine sandy soil should be placed in the frame to the depth of about 3 inches, and into this the cuttings should be inserted about 3 inches asunder. If the lights are merely tilted a little at the back of the frame the cuttings soon become established, and the light may be drawn off both night and day, except when the weather is wet. Some of the plants may be kept under glass for spring planting, and others may be planted out early in October to flower as early in the spring as the weather will permit them. As soon as weather permits, a second planting may be made in spring, and this batch of plants will flower all through the season, and in some districts if the weather is mild all through the winter. Good soil is essential to success in the culture of these plants, and it should be worked to the depth of 18 inches and well manured. The blooms of the Pansy more than those of the Viola soon fall off in quality after the first rich display. The best treatment is to pick the flowers off, top-dress the plants with a rich compost, and peg the growths into it. Seedlings are harder than plants raised from cuttings. *J. Douglas.*

MARKET GARDENING.

THE MARSHLAND BULB SEASON.

EVERYTHING was backward at the start of the growing season, but copious rains and more than a usual amount of sunshine have developed the growths of the bulbs. The weather has been glorious for lifting the bulbs, which is still being done between the intervals of fruit picking. On the 8th inst. we lifted a large breadth of *Bouton d'Or Tulip*, a variety which develops highly coloured flowers on this salty soil.

Narcissus is a wonderful crop. On a large acreage of these plants, five years old, specimens have been lifted with as many as two dozen bulbs in a clump. The top soil, in which are bulbs intended for furnishing a supply of flowers (10,000 boxes of flowers were sent to market last season), is now being top-ploughed, and the plough is followed by the horse harrow. Dry weather is favourable for these operations.

Coming to work on this bulb farm as a strange hand (though I have for years been a visitor), the system of culture was a revelation to me, and showed what can be done in this country in bulb-growing on suitable land. The silt is land reclaimed from the river's bed (really an arm of the Wash), and except for being weedy is just what the bulbs enjoy. Such land is always in a workable condition, the only drawback being the weeds, which are difficult to exterminate by hoeing, especially in wet weather. The bulbs are grown beneath belts of fruit trees and bushes, there being rows of Apple trees, with bushes between. The trees protect the bulb beds from the effects of both winds and frosts. *Stephen Castle, Wisbech.*

ARCTOSTAPHYLOS MANZANITA.

THE genus *Arctostaphylos* is represented in the British flora by two species, *A. alpina* and *A. Uva-ursi*. Both are prostrate shrubs with evergreen leaves and pink flowers. These, however, are very different plants from *A. Manzanita*, which is one of a number of upright, shrubby species natives of California. When young it is rather tender, but after attaining four or five years of age, the plant becomes capable of withstanding ordinary winters in the neighbourhood of London without injury. In some respects, especially in the wood and bark, this species resembles a dwarf-growing *Arbutus*. The leaves are evergreen, thick, and somewhat fleshy, broadly oval in shape, $1\frac{1}{2}$ to 2 inches long and $\frac{1}{2}$ inches wide. When young they are

plant flowers in spring, and its novel and pretty appearance attracts considerable attention amongst surrounding shrubs. The practice obtains at Kew of planting these and other shrubs, which are slightly tender whilst young, amongst tall-growing *Ericas* for protection. W. D.

THE FERNERY.**FERN HUNTING IN DEVONSHIRE.**

As our British Fern literature contains little regarding the actual experiences of Fern hunting expeditions, perhaps I may be permitted to remedy the deficiency to a small extent by a record of a few days spent in that pursuit in the Axminster district, where the Axminster

result has been so far disappointing that the number of species falls very far short of those to be found elsewhere in Devon, say, about Barnstaple, the search in point of fact being almost entirely confined to *Polystichum angulare* and *Scolopendrium vulgare*. These two species are abundant almost everywhere in the hedges and on the banks which enclose the lanes. The Lady Fern only crops up here and there in moist places. *Polystichum aculeatum* occasionally shows itself. *Polypodium vulgare* is fairly plentiful in places, and *Asplenium Adiantum-nigrum* also; *A. Trichomanes* and *A. Ruta muraria* turns up now and then on old walls, but, unfortunately for the Fern hunter, all the old walls hereabouts are kept in such good repair, either recently pointed or whitewashed,



FIG. 64.—ARCTOSTAPHYLOS MANZANITA.

rather glaucous, but afterwards become bright green. The flowers are borne in terminal panicles and are of deep pink colour. The buds are produced in autumn, and the flowers commence to open late in February, being at their best during the latter part of March and early in April. Like other members of the *Ericaceae*, this plant requires soil free from lime, and thrives most satisfactorily in light, sweet, sandy soil to which a little peat has been added. Propagation is effected by means of imported seeds, and it is a good plan to keep young plants in pots until they can be finally planted into sheltered, permanent quarters. At Kew a good bushy

plumose Lady Fern, found in 1860, formed one incentive to my choice of locality, as that Fern was the progenitor of my "superbium" section of plumose varieties of that species, which, crested and uncrested, possess such delicate beauty. Another incentive was the fact that a visit could be made to Mr. Moley, one of the surviving pioneers of the cult, who is credited with the discovery of about 600 wild varietal forms. Taking up my quarters in Colyton, in company part of the time with another Fern enthusiast, Mr. Cranfield, of Enfield, a fair number of miles of road and lane sides have been carefully explored. The

that while walls form an ideal hunting ground in many parts when left alone, they are all but barren in this locality. The season also presented its drawbacks, there having been practically no rain for two months, so that the Ferns in most places were starved and forlorn-looking, while another drawback is the hedge cutter, whose ruthless sickle had mown the Ferns by the wayside for miles. On the other hand, in other spots, it was obvious that even this drastic procedure is not an unalloyed evil, since where it is not done the grasses, nettles, and other weeds, and rank vegetative growth generally are apt to overgrow even the Ferns and, at any rate,

hide them from view or draw them out of all form. With these preliminary remarks, which promise little success, it is nevertheless gratifying to record a fair number of "finds." Among the Hartstongues I have found *Scolopendrium v. muricatum*, the surface covered with excrecent growths like the crested Begonias; *S. v. variegatum*, light yellow striped with green; *S. v. undulatum*, with waved fronds approaching frills; *S. v. contractum*, in which half the frond is narrowed, and the contracted part prettily frilled; *S. v. latum*, with extremely broad fronds 4½ inches wide and only about a foot long, found side by side with normal plants of half the width and twice the length; *S. v. marginato lobatum* having marginate and digitate tips; and *S. v. marginatum*, the edges of the fronds crenate with dorsal ridges round the indentations. In connection with this species we acquired no fewer than four forms of the rarely-found crispum or frilled section, but only vicariously. In a cottage window two very pretty dwarf crispums, so neat in appearance that we ventured to knock and enquire about them, since as is generally the case where Ferns are plentiful, it is a rare thing to see a variety treated as a pot plant. The lady, Miss K. White, informed us that she had found both by chance, noting an unusually pretty frond by the wayside, and to my delight brought forward a third gem, with exceptionally thin fronds and a pronounced sagitate or arrow-shaped base. One of the other two we found was inclined to crestring. Explaining who we were, and the plants bearing offsets, we arranged an exchange and bore off our prizes. Before parting, Miss White told us we ought to see another variety found by a neighbour, Mrs. Edwards, in a similar chance way, and proceeding thither, we found a magnificent fertile *Crispum*, quite distinct, which we were informed was beautifully tasselled some seasons. It is distinguished by some of the fronds being evenly contracted for some inches into narrow, thickened frills. The nearest approach to it is *S. v. crispum Drummondæ* in general habit, but it is not frimbriate like that variety. Again, we retired with specimens due to the generosity of the finder, and were naturally much struck by the singularity of the fact that four such gems should have fallen by pure chance to the lot of two ladies who make no claim to be Fern huntresses at all or to know anything about the culture. To return now to our own finds, my friend found *P. angulare grandident*, with contracted pinnae and pinnules, and subsequently I found other specimens on different lines. I also found a thoroughly crested variety of *P. angulare*, but with such minute tassels that my success is rather a joke. *P. angulare parvipes* is all I can call it. In this species, however, I have acquired a form of extreme interest, as will be seen. Noting a peculiarity in a single large frond peeping out from a hedge bottom, I examined it, and found a fine decumbent variety, in which the normal undivided pinnules were stalked, and greatly lengthened, pinnate at the base and pinnatifid to the tips, and of leathery texture. While examining this frond, I noticed an adjacent one of an extraordinary type; the tip had been destroyed, but the remaining two-thirds of the large frond bore two rows of pinnae similarly divided to the other frond, but all without exception were truncate, terminating squarely with the midrib continuing for half-an-inch as a translucent thorn, a proof that it was really a truncate sport and not a damaged frond. Examining the first frond, I found the pinnae at the base for about a third of the frond similarly truncate, and what I had assumed to be a damaged tip proved also to bear the excurrent midrib. So far as I am aware, such a form is unrecorded, but the most remarkable feature from a morphological point of view has yet to be mentioned. After extracting the plant from the hedge bottom—a work of great difficulty—I proceeded

to clear away the debris of old fronds attached to it, when, to my amazement, I found five or six dead and shrivelled but unmistakably normal fronds of the commonest small pinnuled form of *P. angulare* attached to it and representing the growth of last year. This fact is beyond all doubt, and we have consequently here a case where a purely normal long-established Fern has suddenly assumed not merely one new feature but several, viz., difference of texture, of dissection and of terminal growth. It of course remains to be seen whether new growth under culture will revert or retain the new type, but, fortunately, it is profusely fertile, and I have gathered ripe spores from the entirely truncate frond. These I shall sow with care, and shall be very surprised indeed if spores from such a source do not reproduce the variety rather than the type. I have dealt with this find at some length, since I believe the case is unique. I close the record of this species with a fine form of *P. angulare revolvens*, with fronds rolled almost into tubes. Finally, I have on my list a form of the common *Polypodium* with distinctly variegated fronds, pure white and green. The white is not due to insect action, as it is clearly visible in the young uncoiling and quite healthy fronds, and there was a whole colony of it. *P. vulgare bifidifolium* completes my record so far. *Chas. T. Drury, V.M.H.*

P.S.—Subsequent to writing the above record on the spot, I found *Scolopendrium vulgare transversum lobatum* with crossed crests, and a very fine form of *Polypodium vulgare* with the pinnae bifid and trifid, and rolled inwards so as to form a bunched centre to the frond. In all, I brought home 18 varieties of interest. *C. T. D.*

The Week's Work.

THE FLOWER GARDEN.

By W. FIFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Rose cuttings.—Shoots, 9 to 12 inches in length, of strong-growing varieties should now be inserted at a depth of about 6 inches. Do not remove any of the buds, and if possible the cutting should be taken with a portion of the old wood at the "heel." A shoot from which a flower has recently been cut is very suitable for rooting, after the lower leaves are removed and the heel of old wood trimmed. The soil in which the cuttings are inserted should be of a sandy nature. Good results are obtained by the use of pots, provided they are deep enough to allow a considerable portion of the cutting to be inserted. The cutting should rest upon a firm base, and when planting is finished be well watered. When pots are used, a gentle bottom heat will be found to be an advantage, for the extra warmth will cause roots to form readily. Rose cuttings will also root readily in cold frames and in the open. With care and attention the majority of the cuttings will form roots and in the following spring will start freely into growth, but it is well to defer shifting them until the following autumn. Tender varieties, including Tea Roses, may be rooted in the same manner, but the protection of a cold frame is necessary during the winter months. In some instances Roses on their own roots make comparatively little growth for some time, but all plants considered they compare very favourably with budded plants.

Antirrhinum.—The Snapdragon, as a half-hardy annual, is worthy of a place in every garden. The plants require constant attention in the removal of their seed pods, and must never be allowed to suffer from lack of water at their roots. If seeds are sown now or during September good plants will be obtained for next season's flowering. They should be given the protection of a cold frame during the winter months. By sowing more than one batch of seeds at intervals, the last in February, the flowering season will be prolonged and a succession of blooms be had until the plants are cut down by frost. The choicer varieties can be propagated from cuttings inserted any time between now and the end of September. Select

short, plump, flowerless shoots and insert them in sandy soil in a cold frame or hand light. A further supply of cuttings will be furnished by the young growths these cuttings will make early in spring, when they will root readily if inserted in gentle warmth.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Sobralia.—This genus contains members with very handsome flowers, viz., the species *S. macrantha*, *S. leucoxantha*, *S. holfordii*, *S. xantholeuca*, *S. lucasiana*, *S. macrantha Keisaniana*, *S. Sanderiana*, and the hybrids *S. Veitchii*, *S. Amesiana*, *S. Wiganiae*, &c. All are strong-growing evergreen terrestrial plants, free in flowering and ornamental at all seasons of the year. I find *Sobralias* thrive best when cultivated in an intermediate temperature. They need plenty of sunlight and fresh air. Thus treated, they form strong healthy shoots which flower satisfactorily during the summer months. *Sobralias* are always in more or less active growth, and their large, fleshy roots soon fill the receptacles in which they are grown, thus causing the soil to dry very quickly; because of this, they require great attention in the matter of watering. During the growing season root-bound plants need a liberal supply of water, with an occasional dose of weak manure water made from farmyard manure; especially is this stimulant needful when the new growths are nearing completion in the spring. At no season should the soil in the pots be allowed to become dust dry, as a lack of moisture at the roots affect the leaves, causing many to drop. Thrips and red spider are sometimes troublesome to these plants, but if the syringe is used freely, weather permitting, about the foliage daily, little difficulty will be found in combating these pests.

Repotting.—Most of the *Sobralias* have ceased flowering, and it is a suitable time to attend to their repotting. They should be examined and have some of the old flowering growths removed, cutting them away close to the roots. This will allow the young growths that are now forming more room to develop, and will admit light and air to them, especially in the case of large specimens growing in tubs. Plants that are root-bound should be shifted into larger receptacles, and if specimens are desired. Any that are considered to be too large can be divided. In performing the latter operation, it will be found a difficult matter to separate the large, fleshy roots without injuring them, but care must be taken to preserve as many of them intact as possible. After shaking the loose material from the divided parts, cut off cleanly all roots that are bruised just above the point where they are broken. The divided portions should then be put in pots just large enough to accommodate them. The receptacles, whether pots or teakwood tubs, should be well provided with material for drainage.

The potting compost should consist of a mixture of two-fifths turfy loam, two-fifths turfy peat, and one-fifth Sphagnum-moss, with sufficient gritty material to keep it porous. Use the potting materials in a rough state, and make them moderately firm about the roots. The surface of the compost should be left about an inch below the rim of the pot and the crown of the plant on a level with the surface of the soil. These *Sobralias* need the usual care afforded newly-potted plants in respect to watering.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Downer Lady, NETHERSOLME, Water Ferry, Yorkshire.

Fruit gathering.—The earliest varieties of Apples and Pears are best gathered before they are dead ripe, but only by a knowledge of the different varieties, and by using careful judgment can they be sent to the table in their best condition. These early varieties quickly lose their flavour and become mealy, and more especially those grown on cordons and other forms of trees growing against walls in hot and light soils. The fruit should be examined frequently when they are cool and dry in order to gather those which are ripe. Most mid-season and late varieties of Apples and Pears improve in quality and keep better if they are allowed

to hang until they are quite ripe, especially the latest varieties. Birds are troublesome this season, and all the best fruits should be protected from them. It is easy to protect fruit on wall trees, but those on bushes and standards are more difficult to guard. Wasps, too, are very troublesome, and efforts should be made to destroy them in their nests with cyanide of potassium. Wide-mouthed bottles containing sweetened beer placed amongst the trees will catch a large number of this pest, but it is a matter of opinion whether their presence does not attract larger numbers to the trees. The bottles need to be emptied at short intervals and fresh bait placed in them. The finest varieties of Plums should be protected with hexagon netting or some other material as soon as the fruits change colour.

Watering.—The rainfall during the past few weeks has been irregular and quite inadequate to the requirements of all fruit trees. The fibrous roots of well-managed trees are near to the surface of the soil, where they soon become dry, therefore watering must be frequent or the fruits will not develop into fine specimens, nor the trees form plump buds for next year's fruiting. If proper attention has been paid to the watering of the roots during the time the fruits were swelling, no water will be necessary when they are ripening. Cordon and other wall trees that have matured heavy crops of fruits should be liberally fed with liquid manure or some other manurial stimulant directly they are cleared of their fruits, and be thoroughly washed with the garden hose. Trees that are making strong shoots will require plenty of water, but no manure must be given them. Specimens that have not fruited well should be marked so that, if necessary, they may be root-pruned later.

Buds and grafts.—The weather of late has not been favourable to budding; success is more certain in damp weather, but where this work has been performed, light syringing and shading will have been necessary in hot weather. Another important operation is attention to grafts; see that no ties are cutting the stocks, and that the grafts are secured to stakes, especially those that are elevated on old stocks and much exposed, as they are most liable to be blown out by strong winds.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LLANGATOCK,
The Hendre, Monmouthshire.

Early permanent vines.—The laterals of early-forced vines being now well ripened, their shortening should be commenced. Remove about one-third of each shoot and all sublaterals from the remaining parts, but in doing this carefully preserve the principal leaves. This pruning will admit an increased amount of light to ripen the wood, and by concentrating the sap will assist the buds that are to produce fruit next season. Keep the borders thoroughly moist, and until the leaves wither liquid manures may be applied with benefit. If insect pests, such as thrip or red spider, are present on the vines wash them with soluble paraffin oil insecticide, repeating the operation at intervals. Apply the specific thoroughly to every part of the vine by the aid of a syringe, working it well into the crevices about the spurs. If mildew has been troublesome spray the foliage with a solution of sulphide of potassium, prepared as advised in a former *Ca'endar*.

Muscat of Alexandria.—If it is desirable to retain in good condition bunches of Grapes on early-stained vines they should be protected from the sun by sheets of brown paper, which will prevent scalding, also dust from resting on the berries. Ventilate the house freely in favourable weather, and maintain a dry atmosphere. Vines upon which the fruit is colouring should be given sufficient fire heat to maintain a night temperature at about 70° with the ventilators slightly opened. A little night ventilation is necessary to prevent condensation of moisture upon the berries. Increase the ventilation early in the morning when the sun is bright, and do not permit a sudden rise of temperature. Atmospheric moisture should be promoted in agreement with external conditions; on sunny days the floors of the house

should be damped early in the afternoon, but this practice must be discontinued in wet weather. Sudden fluctuations in the atmospheric moisture and temperature are liable to cause the berries to crack. Water the borders as is found to be necessary, and in the case of those inside the house attend to this early in the morning of fine days, when the house can be liberally ventilated. Keep the young growths properly stopped and thinned, in order to permit sufficient light to reach the bunches of fruit. At the same time guard against the berries being exposed unduly to direct sunshine.

Late vines.—The continuance of sunny weather is favourable to the colouring of late Grapes, and has permitted the necessary temperatures being maintained without employing much fire heat. The night temperature should be 65° to 70°. The flavour of such varieties as Black Alicante, Lady Downe's Appley Towers, and especially Gros Colmar will be inferior, unless the Grapes are ripened under the influence of a certain amount of fire heat. In order to secure perfect colour in the fruits, the laterals should not be severely thinned, and in very bright weather it may be advisable, especially in houses having large panes of glass, to lightly shade the vines with fish netting. This protection has proved of much benefit in these gardens this season in the case of a house devoted to Lady Downe's seedling; keep the leaves clean and free from insect pests and promote a healthy growth by giving liberal supplies of water at the roots.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICEY GIBBS,
Aldenham House, Elstree, Hertfordshire.

Leeks.—The later plantings will require an abundance of moisture, both at the roots and overhead, during the next six weeks or two months. The blanching of the stems should be completed as soon as possible. I have before pointed out the importance of early blanching, for after the shoots are etiolated they may be depended upon to thicken sufficiently.

Celery.—This vegetable has done remarkably well during the past three weeks, and this in spite of the Celery fly being very prevalent when the plants were younger. This pest will probably make its appearance again in the autumn, when its effects are far more serious than in the spring and early summer. As a preventive, fresh soot should be strewn over the plants two or three times a week. Carefully remove all side growths and decayed leaves, and give liberal doses of liquid manure in addition to ordinary waterings. Celery of the best quality can never be produced if the plants are allowed to suffer seriously from want of water. Earthing up or blanching with paper must be done in accordance with requirements. It takes from six to eight weeks at this season to perfect the blanching. No attempt should be made to hasten the blanching of the later batches, as the longer this is deferred the more likely will the plants pass through a severe winter unharmed.

Celeries should receive every encouragement to grow to a large size ready for lifting by the early autumn, and it is hardly possible to supply this vegetable with too much water, whilst manure in some form should be given liberally. Keep the surface of the soil about the plants frequently stirred with the Dutch hoe.

Onions sown in open ground should now be sufficiently advanced in growth to allow the tops to be bent down. The tops should all be laid one way, and on the side that will most expose the bulbs to the sun. In about a week or ten days these Onions should be ready for lifting and drying off ready for storing during the winter.

Spinach.—Make the principal sowing of this vegetable at the end of the present month or the beginning of next. Though no definite date can be given, owing to the uncertainty of our climate, it is generally safe to sow about the time mentioned; but, in order to make sure of a regular supply of this vegetable during the winter and spring months, constant small sowings should be made during the next four or five weeks in various parts of the garden. The

surface of the soil should be made very fine, and plenty of soot and wood-ashes should be incorporated with it.

Turnips.—Good breadths of Turnips should be sown wherever land is available; as in the case of Spinach, much depends on the kind of weather experienced during the next six weeks or thereabouts as to the time the roots will be ready for use. I have often had excellent results from sowings made as late as October during mild winters, but very late sowings should be made in a fairly sheltered position. One of the hardiest and best Turnips which I have grown for many years I have found to be Prize-taker, a green-topped variety with flesh of exceptionally fine quality. I have never known severe weather to injure this variety.

Endive and Lettuce.—Continue to transplant these on warm borders and in cold frames as they become ready. Radishes should be sown both in the open and in cold frames.

PLANTS UNDER GLASS.

By THOMAS LUM, Gardener to A. STYLING, Esq.,
Keir, Fifeeshire, N.B.

Adiantum Ferns.—All old or damaged fronds should be removed from these plants and the young foliage regulated evenly. A close inspection should be made for scale, and if it is found, remove the whole frond on which the pest is harbouring. Increased ventilation should be given to the plants and less moisture in the atmosphere in order to harden the fronds so that they will better survive the winter for decorative purposes. They will also be less injured by the dry atmosphere of dwelling-rooms if the fronds are hardy.

Stove plants generally should also be afforded less moisture as the season advances. They will not require to be syringed more than once a day, the morning being the best time for the operation. Plants such as Codiaums (Crotons) and Dracaenas, that are liable to attacks of red spider, must be thoroughly wetted, including the under surfaces of the leaves. From this date liquid and artificial manures must be given sparingly.

Caladiums.—The foliage is now getting past its best condition. The amount of water at the roots should be gradually reduced as the foliage begins to fade. Later, the plants should be laid on their side, but still afforded a stove temperature. Although they need to be kept dry, they should not be allowed to become so dry that the fleshy roots shrivel. A suitable place to winter them in is underneath the staging against a wall on the dry gravel of the floor of the house, where there will be sufficient moisture for their proper keeping.

Achimenes.—The earliest batch of these plants will now be passing out of flower, and water should be withheld from their roots. They should be placed on a light, airy shelf, so as to ripen the tubers. When the shoots are dead they should be removed, and the pots or pans placed on their side in a temperature not warmer than 55°. Any dry place is suitable for them, and the tubers must be kept perfectly dry all through the winter.

Zonal Pelargoniums.—The pots containing plants for autumn flowering are well filled with roots, and frequent waterings of liquid manure are necessary. By the end of September the plants should be placed in a warm, airy greenhouse with a southern exposure in order that they may receive all the sunlight available during the dull days of winter.

Chrysanthemums.—The earliest varieties have now set their buds, and should have their shoots tied out evenly, training the tallest shoots in the centre. Use sharp-pointed, green-painted stakes, and in tying-in the shoots endeavour to hide the stakes as much as possible. Never use two stakes where one will suffice. Attend regularly to the feeding of the plants with liquid manure one week, and an approved artificial manure the next. Guard against green fly, and on the first appearance of this pest dust the buds with tobacco powder in the evening and syringe it off on the following morning. Mildew becomes troublesome on some varieties after this date. As soon as the fungus is discovered, dust the foliage with flour of sulphur underneath as well as on the top of the leaves.

EDITORIAL NOTICE

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Appointments for September.

TUESDAY, SEPTEMBER 1—Roy. Hort. Soc. Coms. meet. Nat. Amateur Gard. Soc. meet.

THURSDAY, SEPTEMBER 3—Nat. Dahlia Soc. Exh. at Royal Hort. Hall, Westminster.

SATURDAY, SEPTEMBER 5—Soc. Franc. d'Hort. de Londres meet.

WEDNESDAY, SEPTEMBER 9—Roy. Caledonian Hort. Soc.'s Sh. in the Waverley Market, Edinburgh (2 days).

THURSDAY, SEPTEMBER 10—London Dahlia Union's Sh. at Royal Botanic Society's Gardens.

MONDAY, SEPTEMBER 14—United Hort. Ben. and Prov. Soc. Com. meet. Nat. Chrys. Soc. Com. meet.

TUESDAY, SEPTEMBER 15—Roy. Hort. Soc. Coms. meet. British Gard. Assoc. Ex. Council meet.

THURSDAY, SEPTEMBER 17—Nat. Rose Soc. Autumn Sh. at Roy. Hort. Hall, Westminster.

SATURDAY, SEPTEMBER 19—German Gard. Soc. meet.

TUESDAY, SEPTEMBER 22—Roy. Hort. Soc. Coms. meet. Michaelmas, Quarter Day.

WEDNESDAY, SEPTEMBER 30—Fl. Sh. at the Franco-British Exhibition, Shepherd's Bush (3 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last fifty years at Greenwich.—58°.

ACTUAL TEMPERATURES:—LONDON:—Wednesday, August 26 (6 P.M.): Max. 70°; Min. 55°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London. Thursday, August 27 (10 A.M.): Bar. 29.6; Temp. 68°; Weather—Bright sunshine.

PROVINCES:—Wednesday, August 26 (6 P.M.): Max. 65° Cambridge; Min. 54° Ireland, N.W.

SALES FOR THE ENSUING WEEK.

MONDAY—Trade Sale, Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Prothero & Morris, at 10.

TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Prothero & Morris, at 10.30.

WEDNESDAY—A consignment of Azorean *Lilium longiflorum*, also *Araucarias*, *Nerissans*, and other bulbs, at 67 and 68, Cheapside, E.C., by Prothero & Morris, at 5.

Nectaries and their Origin.

It has long been known that the honey produced by bees owes its origin, at least normally, to the nectar, or sugary juices excreted by the nectary of so many flowers. But it is not perhaps so generally known that a large number of plants possess glandular structures which also secrete sugar in regions other than the flowers, for example, on leaf stalks, and stipules. It has often been difficult to account for these extra-floral nectaries, as they are called, and all sorts of ridiculous hypotheses have been put forward to explain their occurrence. One view of their function that has been very often advanced is that ants are thereby attracted, and serve to keep off various intruders—intruders, for the most part, of a purely imaginary nature.

Amongst plants which possess these extra-floral nectaries we may mention the common bracken Fern, which exhibits them at the places where the leaf branches to form the lateral pinnae. Several species of *Vicia*, again, possess them upon the stipules, whilst species of *Prunus* and other Rosaceous plants not infrequently exhibit them upon their leaf-stalks.

A general consideration of the subject tends to excite a suspicion that the supposed relation between plants and ants or other insects in such cases, is probably inadequate to explain the existence of the nectaries. Of course it is true enough that ants are very often attracted by the excretion, just as they are by the sugary substance which is emitted by aphides. But it will hardly be seriously maintained that the aphids get rid of the sugar for the purpose of maintaining a defensive army of ants, any more than that the plant feeds the aphides in order to use them as intermediary paymasters for those protectors.

As a matter of fact there is evidence to show that the structures in question have arisen in a different manner, and that the functions of these extra floral nectaries have, probably in the great majority, if not in all cases, nothing primarily to do with alluring insects to the plant. Their origin is to be sought in the varying pressure at which water exists in the tissues.

It is a fact, easily verifiable by experiment, that warm conditions encourage the roots to absorb large quantities of water, whilst a low temperature of the soil brings about the reverse result. Thus it may easily happen that while the temperature of the earth is high, and that of the air suddenly falls, water will accumulate to a dangerous extent within the plant, inasmuch as evaporation or transpiration is inadequate for the time being to carry off the surplus. When this happens, a state of things that might easily threaten the health of the plant may readily occur, unless some means of getting rid of the excess of water be provided until the equilibrium between supply and expenditure has again become established.

The excess is commonly eliminated by a more or less complex mechanism whereby drops of water are exuded by the plant. A familiar example of this state of things is afforded by the dew which "falls" on the grass at the close of a summer's day. The earth is thoroughly warm for some distance below the surface, and root action is thereby stimulated, with the result that a considerable quantity of water continues to be absorbed. As long as the warm unsaturated air continues to play over the leaves the surplus water is passed off from them as vapour, but after sunset the cooling of the atmosphere renders it less capable of holding so much vapour, and thus the transpiration or evaporation suffers a sudden check. Water continues to be forced into the stem and leaves by the active roots, but the air is no longer able to take off the excess of moisture. Drops of water then become forced out through apertures situated near the tips of the grass leaves, and in this way the dew is formed.

In grasses the organs through which this water is thus eliminated are simple in character, but other plants often develop more

specialised glands which excrete the liquid. With the added complexity of structure the excretion itself may also become less simple. As examples of such organs we may cite the well-known chalk glands that stud the edges of the leaves of many Saxifragæ, and at first sight it may not appear to be surprising that sugar, which is so common a substance in plant cells, should also be excreted in the same way. But in reality these excretions are very difficult to explain with scientific exactness, although the fact itself is obvious enough. Probably some direct benefit may accrue to the plant, although it is impossible at present to say what it is. We may, however, assert with some confidence that when we have succeeded in discovering the explanation as to how it is possible for the excretion to take place at all, we shall be in a better position to enquire into its utility from the point of view of the plant.

This exudation of water from leaves is more frequent in the case of these organs while they are young than when they become older. It is possible to see in this a provision for alleviating the strain on tender tissues which would be of little consequence when they reach their full development, but any such "explanation" must be received with caution. The fact itself may, however, easily be verified, and some further interesting adaptations are thereby incidentally brought to light. The leaves of the common Fuchsia, for example, exhibit very well-formed water glands on the ends of the leaf teeth, and are often spoken of as if they alone were functional in getting rid of surplus water. In the young leaves, however, this is certainly not the case. The surface of the young foliage, like that of many other plants, is beset with hairs, and these are the structures through which alone the water-drops escape while the leaves continue to remain in the downy condition. It may well be that this elimination of excessive moisture forms one of the chief functions of the evanescent down that occurs on the young foliage of so many plants, but this can only be decided by further experiment. This much, however, is certain, that a large number of plants possess organs specifically adapted to get rid of excess of water, and if further seems also certain that the sugar-excreting glands have been derived from these simpler structures, reaching their most perfect form in the widely diverse, but perfectly adapted, nectaries of flowers.

In the case of floral organs no one, of course, questions the existence of the interrelation between nectaries and insects. The whole flower has become, in the higher types at any rate, more and more specialised in this direction, and this, we think, may be accepted in spite of the occurrence of numerous vegetable back-sliders that have diverged into lines of reduction and simplification of structure.

We may discern in these floral nectaries abundant evidence of the conversion to a specific purpose of a widely distributed and, at first, somewhat vague and little specialised mechanism. Thus it becomes apparent that a consideration of the origin and history of nectaries may well furnish a fascinating chapter in the story of the evolution of floral structures in general.

ROYAL HORTICULTURAL SOCIETY.—The next exhibition of flowers and fruits will be held in the Society's Hall, Vincent Square, Westminster, on Tuesday, September 1. In the afternoon a lecture on "The History of Garden Making" will be delivered by Mr. THOMAS H. MAWSON, A.R.I.B.A.

FLOWERS IN SEASON.—Mr. T. SMITH, Daisy Hill Nursery, Newry, sends a shoot of the uncommon *Pyrus* (*Cornus*) *foliolosa*, which he describes as a small tree of distinct appearance, resembling a plant of *Gleditsia*. Mr. SMITH also sends a very handsome-fruited Maple in *Acer* insignie. The fruits are of very large size and bright-red colour.

Messrs. JAMES VEITCH & SONS, Chelsea, send sprays of some interesting shrubs and trees from their collection at Coombe Wood. *Acer Negundo marginata elegans* is a fine golden-coloured form, with very large foliage. *Sambucus canadensis* has a bold inflorescence, the flowers being beautifully fragrant. *Eucryphia pinnatifolia* is very like *Eucryphia cordifolia* (see fig. 52 in our issue for August 15) in flowering, but the leaves are compound. *Hydrangea Mandschurica* has a moderate-sized inflorescence of rosy-pink flowers; the shoots are almost black, but the green of the foliage is pale and very beautiful. *Buddleia variabilis magnifica* is an improvement on the type, the inflorescence being larger and deeper in colour, and the flowers are disposed in distinct, circular whorls. *Astilbe Davidii*, of which a portion of an inflorescence is sent, is a desirable plant; the long plume-like inflorescence appears shot with heliotrope on a pink ground; the heliotrope shade is present in the anthers and upper parts of the filaments. The box also contained examples of *Polygonum baldschuanicum*, *Hypericum Androsæum*, *Indigofera floribunda*, *Colutea arborescens*, *Fuchsia americana elegans*, *Fuchsia Ricartonii*, *Hypericum kalmianum*, *Hypericum floribundum*, *Buddleia variabilis Veitchiana*, *Cornus alba Spathii*, *Hedysarum multijugum*, *Amorpha canescens*, and *Corylus purpurea*.

Mr. M. CUTHBERTSON, of Rothesay, sends a seedling variety of *Chrysanthemum maximum*. The flower has a small centre, and the ray florets are slightly revolute. Mr. Cuthbertson states that the plant grows about 2½ feet high, and, although the stalks are long and slender, the flowers require no staking.

We have received from Messrs. KELWAY & SON, Langport, Somerset, half-a-dozen inflorescences of *Gladioli*. The varieties include *Winnie Talbot* in a very long spike with 10 expanded blooms and as many in the bud, the flowers being of a deep rose-pink shade and having a white lip; *Golden Ray* has flowers of a pale-yellow or dark cream colour; *Robert Jardine* has flowers of a beautiful cherry-red colour, the lip being of a lemon-yellow shade; the others were labelled *Lady Warwick*, *Muffy*, and *Mrs. Field*, their respective flowers being plum colour, vinous red, and white.

THE LATE SIR DIETRICH BRANDIS' BOTANICAL COLLECTION.—The recently deceased botanist, Sir DIETRICH BRANDIS, who spent 30 years in India, left a valuable botanical collection of Indian plants, which his widow has offered to the Hamburg Botanical Institute. The Senate was advised to purchase the collection, upon which a fixed price of 15,000mk. has been put, the Director of the Institute accompanying his advice with a hint that if the purchase be not soon concluded, the collection, for which two offers from foreign institutes are now pending, will be lost to Germany. The Senate has agreed to conclude the purchase.

BEQUESTS TO GARDENERS.—The late Mr. WAT. JONES, of Quarry Bank, West Derby, Liverpool, left an estate having gross value of £92,006. He bequeathed considerable sums of money to the persons in his employ. To his gardener, CHARLES JONES, he gave £300; to his under-gardener, EDWARD HARPUR, and his former under-gardener, MOSES OCKLESHEAW, £100 each; and to his late gardener, THOMAS FAIRCLOUGH, £25.

A NEW BOOK.—Messrs. JACK announce the issue of a work to be entitled *Beautiful Flowers and How to Grow Them*, and containing one hundred drawings in colour. The work, which is edited by Messrs. HORACE J. WRIGHT and WALTER P. WRIGHT, will be in 17 parts, and the text will be illustrated with line drawings.

LIMES AS TOWN TREES.—The Lime tree appears to be a favourite one with some landscape gardeners who have to do with town parks, gardens, squares, and avenues, but most species turn rusty in the foliage, and become bare at the very approach of autumn, giving a disagreeable aspect, especially when they are planted in

only ones to be recommended for this purpose, viz., *Tilia vulgaris* syn. *intermedia*, and the Hungarian Silver Lime, *T. argentea* syn. *tomentosa*. If planted in good soil and given proper care, these species preserve their large sappy leaves later than all others. As a rule, the Lime cannot be recommended for planting in urban districts.

IRRITANT WOODS.—In connection with our article on "Plants and Skin Irritation," printed on p. 110, the following contribution on "irritant" wood, which we extract from the *Journal of the Royal Society of Arts*, is interesting: "In the course of the past year inquiry was made by the Factories and Workshop Department into the effect of irritant woods and the extent to which they are used in this country. For example, in the case of satin-wood, there was inquiry into (1) the extent and class of work in which it is used; (2) the evidence there is as to its irritant action on the skin; (3) the precautions taken in its use. Much confusion was found as to the kind of wood referred to as satin-wood—the two covering East and West Indian satin-wood and satin walnut. The first two are practically confined to high-class furni-



[Photograph by C. P. Raffill.]

FIG. 65.—STAPELIA HANBURYANA: FLOWERS GREENISH-YELLOW, SPOTTED WITH BROWN. (For text see p. 169.)

masses or in avenues. The worst species, writes a correspondent, from these points of view, is *Tilia platyphyllos* syn. *grandifolia*. The season of its growth is relatively brief, and even in wet summers the tree is bare of foliage before the month of August comes to an end, and in hot, dry seasons it falls a prey to red spider, which spreads over the under-sides of the leaves and hastens their fall. In London the hot weather in June of the present year had the effect of turning the leaves to a brown colour, and many trees had lost the greater proportion of their foliage in July. At one time the Crimean Lime, *Tilia dasystyla* syn. *euchlora rubra*, was considered by some an ideal street tree. But it is very liable to be affected by a fungus (*Nectria*), and is frequently infested with red spider. A better tree is *T. parvifolia*, which retains its leaves in a green condition till late in the autumn; but its growth is slow, which is against its being employed where quick effects are looked for. There are two species that are better fitted for town planting, both of which grow with vigour, and are not attacked by red spider, and these are the

ture and furniture making, and to decoration of cabins and overmantel work in ships. Occasionally thermometer stands, backs of toilet brushes, and similar articles are made of it. In these trades it is used as an inlay or veneer involving little exposure to irritant dust. East Indian satin-wood possesses much more irritant properties than the West Indian variety. Satin walnut appears to be no more harmful than deal. The East Indian wood is only used in two shipyards. It causes an eruption on the skin of the worker exposed to the dust or shavings produced during manufacture, but some persons are much more susceptible to its effect than others. One man stated to the inspector that if he only placed a shaving of the wood on the back of his hand it caused a sore on the skin at that point. The injurious effects, however, appear to be only temporary. Exhaust ventilation is in use for carrying off dust, &c., from the machines in most of the works, including one of the shipyards in which the East Indian wood is used. Reference to occasional contact action on the skin is made as to teak by Mr. Inspector WRIGHT (North London), who refers

to reports of 'swollen arms and eyes,' by Mr. SHANNIN (Liverpool), and by Mr. GRANT (Preston) as to teak and olive wood. The inspector in Sheffield states that: 'In the manufacture of knife scales and tool handles the following woods are considered to be irritant—some of the ebonies, magneta rosewoods, West Indian box-wood, cocos-wood, and partridge-wood. Irritation of the eyes and nose is caused also by woods of the mahogany type. East Indian wood had to be discarded in the shuttle trade owing to its irritating action on the eyes.' Mr. LEWIS (Manchester) states that sainca-wood from Cuba was stated to give off 'a fluffy dust

WINDOW DRESSING FOR FRUITERERS.—This is the title of a publication of 15 pages issued by the Lockwood Press, the publishers of *The Fruit, Flower and Vegetable Trades Journal*. Our fruiterers deal in so much foreign produce coming from all quarters of the globe, including Potatoes, Onions, Lemons, Chestnuts, and Broccoli from the Continent, Oranges from Italy and Jaffa and Valencia, likewise Dates from Egypt, mild-flavoured Onions and Cob Nuts (Barcelonas) from other parts of the Peninsula; Bananas and Tomatos from the Canary Islands and the West Indies; Apples from Canada, the United States of America, Australia and New Zealand; Bananas, Pineapples, Yams, Persimmons, &c., from the West Indies, there exists endless material for effective window dressing. But the style in which many fruiterers' windows are dressed leaves much to be desired. The publication we are noticing, if read attentively, and its directions followed with care, but modified to suit the locality in which the shop is situated, will help the fruiterer to make his shop as attractive as possible. The booklet is furnished with numerous illustrations, showing better than words how the produce may be arranged for effect combined with convenience for inspection by the buyer.

BANKRUPTCY STATISTICS.—According to a report recently issued by the Inspector-General in Bankruptcy, it appears that during the past financial year there were in England and Wales 7,569 receiving orders, administration orders, and deeds of arrangement; the debtors' liabilities, as estimated by themselves, amounted to £10,888,127, assets to £5,018,122, and the estimated loss to creditors was £8,388,544. These figures show a considerable decrease in the number of failures compared with the preceding year, there being 385 fewer receiving orders and 153 fewer deeds of arrangement. The liabilities exceeded those for 1906 by upwards of £760,000, while the loss to creditors was greater by over £460,000. In Scotland there were 257 sequestrations, with liabilities at £805,232 and assets £226,843; also 146 cessations, in which the liabilities were £38,588 and the assets £7,500. Here also the failures compared favourably with the preceding year in number, although the losses were greater. In Ireland there were 173 bankruptcies and 125 deeds of arrangement, the liabilities being respectively £150,373 and £138,247, and the assets £54,057 and £70,388. In a comparative table attached to the report, we find that the total number of failures, including receiving orders and deeds of arrangement, among gardeners, florists, and nurserymen during the past five years were as follow: In 1903 there were 49 failures, with total liabilities amounting to £23,603; in 1904 there were 49 failures, with liabilities amounting to £29,104; in 1905 the number was 31 failures, with total liabilities amounting to £27,065; in 1906 there were 32 failures, with total liabilities amounting to £62,343; and in 1907 there were 45 failures, with liabilities amounting to £35,467.

Publications Received.—*The Botanical Magazine*, June, 1908. Tokyo, (Agent, Wm. Wesley & Son, 28, Essex Street, Strand).—*Third Annual Report on the Poultry Industry of the Province of Ontario*, 1908. (L. K. Cameron, publisher, Toronto).—*The Philippine Agricultural Review* (Bureau of Agriculture Department of the Interior Government of the Philippine Islands), April, 1908.—*The Journal of the British Gardeners' Association*, August, 1908.—*U.S. Department of Agriculture Bureau of Plant Industry*,

Egyptian Cotton in the South-Western United States, by Thomas H. Kearney and William A. Peterson, Issued June 13, 1908. (Washington: Government Printing Office).—*U.S. Department of Agriculture Bureau of Plant Industry. Nomenclature of the Pear; A Catalogue-Index of the known Varieties referred to in American publications from 1804 to 1907*. Compiled by W. H. Ragan, Expert in Pomological Nomenclature. Issued June 30, 1908. (Washington: Government Printing Office).—*New Zealand Department of Agriculture. Division of Biology and Horticulture. Bulletin No. 7. Diseases and Insect Pests of the Potato; I., Fungus Diseases; II., Insect Pests*; by T. W. Kirk, F.L.S., &c. (Wellington: by authority, John Mackay, Government printer).—*The Agricultural Journal of the Cape of Good Hope*. July, 1908 (Cape Times, Ltd., Cape Town). Price 6d.—*Peas*, by Herbert J. Wright, "One and All" Garden Books. Edited by Edward Owen Greening. Price 1d.—*Beans*, by R. Lewis Castle, "One and All" Garden Books. Edited by Edward Owen Greening. Price 1d.

NOTES UPON STAPELIAS.

It is probable that there are no plants having flowers of a considerable size so little known by the general public in the British Isles as the



FIG. 66.—STAPELIA BELLA: FLOWERS DULL PURPLISH-BROWN.

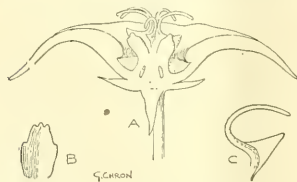


FIG. 67.—STAPELIA BELLA.
A, section through the flower; B, C, floral details.
(For text see p. 169.)

under the machines and hand planes, the effect of which upon the workers is to cause a running of the eyes and nose, and a general feeling of cold in the head. The symptoms pass off in an hour or so after discontinuance of work.' Eczematous eruptions are said to be produced by so-called Borneo rosewood, a wood used owing to its brilliant colour and exquisite grain in fret-saw work, but the Director of the Imperial Institute, Sir WYNDHAM DUNSTAN, who has interested himself in this wood, has failed to discover injurious properties in it."



FIG. 68.—STAPELIA BAYFIELDII: FLOWERS PURPLE-RED, MARKED WITH PALE YELLOW LINES.
(For text see p. 169.)

group of genera collectively termed Stapelias. They are cultivated by few and very rarely exhibited at a flower show, so that most people are unfamiliar with them. This may partly be accounted for by reason that they are considered difficult to cultivate. Nevertheless, they constitute a very remarkable and interesting group of plants, quite unlike any others, and a good many have pleasing or attractive flowers. All are dwarf, succulent plants, varying from 1½ inch to 18 inches in height; their stems are thick and fleshy, with four to many angles and nearly or quite leafless, the leaves being rudimentary or replaced by teeth on slender spines or bristles, in which latter cases the plants bear some resemblance to certain species of Cacti (Cereus). As to the flowers, these vary very much in size; there are some that are not more than quarter of an inch in diameter, whilst in one species they attain to over 1 foot in diameter; the majority, however, are between 1 inch and 4 inches in expanse; many are disagreeably scented or have

a carrion-like odour, but some are quite scentless, or their odour is very unobtrusive.

The group comprises about a dozen distinct genera, but those containing the largest number of species and, probably, the best known are *Stapelia*, *Huernia*, *Caralluma* and *Duvalia*. The majority of kinds in cultivation in Europe belong to the genus *Stapelia*, and a number of them are hybrids, for, although, they are very difficult to hybridise artificially, yet insects very frequently effect the operation, so that plants raised from seeds produced in Britain and on the Continent are almost invariably of hybrid origin. Many of these hybrids have been unwittingly described by myself and others as species, upon the supposition that the plants had been introduced from South Africa, and it is only during the past few years that I

inch thick, with four rounded, toothed angles, quite smooth and glabrous, dull green, mottled with purple where exposed to the sun. The corolla is about $2\frac{1}{2}$ to 2½ inches in diameter, with very spreading or recurving, ovate, acute lobes, and having a circular raised ring with a flattish, recurved rim on the disc. The lobes are pale greenish-yellow, narrowly edged and evenly marked all over with short transverse lines or linear spots of purple-brown, and the tips of a rather darker shade; they are very minutely ciliate with subclavate hairs. The ring or annulus is much paler than the lobes, being whitish-yellow, with numerous small round purple-brown spots, often more or less confluent.

STAPELIA BELLA† (figs. 66 & 67) is a hybrid, probably derived from *S. glauca* or some hybrid

with a few that are clavate, otherwise they are glabrous on both sides; in the centre of the slightly convex disc is a small cuplike depression containing the corona.

S. BAYFIELDII† (fig. 68).—This is a hybrid raised in Europe, and probably *S. mutabilis* is one of its parents; the stems resemble those of that species, but are puberulous, they are 6 to 8 inches high and $\frac{3}{4}$ to 1 inch square, with rounded angles having spreading teeth. The corolla has its ovate, acuminate lobes much recurved, but when they are extended the corolla measures $2\frac{1}{2}$ to 2½ inches in diameter; the colour is purplish-red, marked to half-way up the lobes with numerous transverse, pale-yellow lines, the tips of the lobes being darker, and they are ciliate from base to apex with rather short, simple, pale-purple hairs; there are a few short scattered hairs just around the corona, but otherwise the inner surface is glabrous. Some hybrid *Stapelia*s raised in Europe have survived under cultivation for many years, but I have not seen this hybrid for a long period, and it would be interesting to know if it still survives.

STAPELIA HIRSUTA VAR. *UNGUIPETALA*§ (fig. 69).—Since the publication of this plant as a distinct species, I have learnt that it was raised from seeds produced in this country, and is, therefore, doubtless a hybrid between two varieties of *S. hirsuta*. The stems are 4 to 8 inches high and rather less than half an inch square, with concave sides and minute, erect, rudimentary leaves at the teeth along the angles, dull green, puberulous, velvety to the touch. The corolla is star-like and 4 to 4½ inches in diameter, with long, tapering, lanceolate lobes $1\frac{1}{2}$ inch long and $\frac{3}{4}$ of an inch broad at the base, incurved or somewhat hooked at the tips, dark purple-brown, marked with transverse yellow lines to two-thirds of the way up the lobes and with five bands of pale greenish-ochre colour on the disc, radiating from the centre of the sinuses; the disc is covered with long, silky, purple-red hairs, and the lobes are fringed with similar hairs of a paler purple. The inner corona-lobes have their inner horns ascending and recurving, but not nearly spreading out to the sinuses of the corolla.

STAPELIA HIRSUTA VAR. *DEPRESSA*|| (fig. 70).—This variety is a native of South Africa. The stems and flowers are similar to those of var. *unguipectala*, but the corolla is smaller, varying from $2\frac{1}{2}$ to 3½ inches in diameter, its lobes are not incurved at the tips, and there are no pale bands radiating from the centre to the sinuses, otherwise the colouring is similar, but the hairs on the disc are usually rather shorter. The inner horns of the inner corona-lobes are suddenly recurved near their base and spread almost to the sinuses of the corolla. *N. E. Brown, Kew.*

(To be continued.)

AMERICAN NOTES.

TWO POPULAR WILD FLOWERS.

Two of the finest wild flowers of North America are the Red Milkweed, *Asclepias tuberosa*, which is frequently used by the florists for decoration, and the Bergamot (*Monarda*), which is variable in colour but usually a mauve or lilac tint. The former grows in the open prairie in stony, sandy and hot positions, but the latter prefers a spot near trees and by the water side, being very fine in many places along the shores of Lake Michigan. These circumstances should indicate the kind of position likely to be suitable for these plants on the herbaceous border. *H. R. R.*

† *S. Bayfieldii*, *N.E.Br. in Gard. Chron.*, 1877, vii., p. 430, fig. 66.

§ *S. unguipectala*, *N.E.Br. in Gard. Chron.*, vii., 1877, p. 334, fig. 64.

|| *S. depressa*, Jacquin, *Stap.* t. 65, *S. patenitris*, *N.E.Br. in Gard. Chron.*, 1877, vii., p. 110, fig. 21.

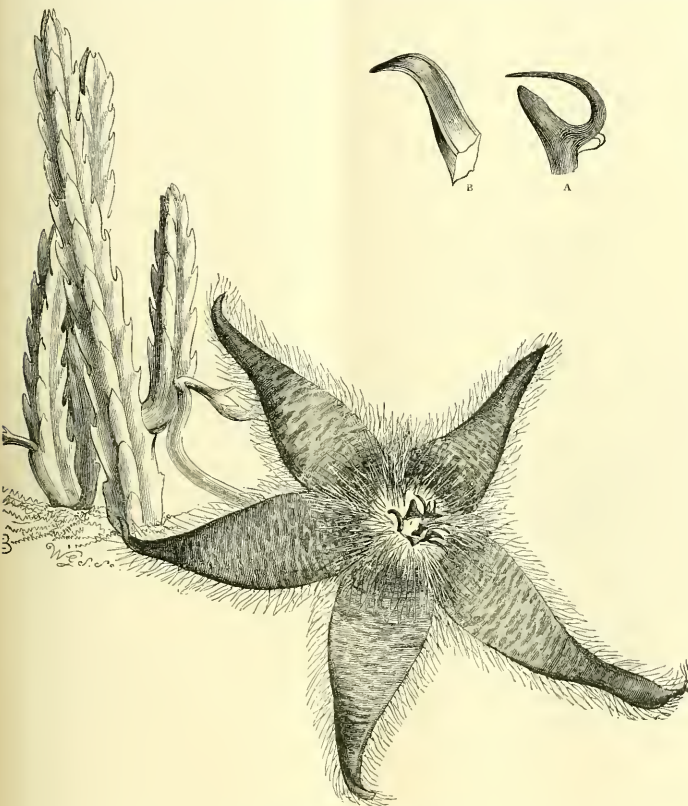


FIG. 69.—*STAPELIA HIRSUTA* VAR. *UNGUIPECTALA*. FLOWERS DARK PURPLE-BROWN, MARKED WITH YELLOW LINES.

A, rostrum and ala; B, ligula (magnified).

have discovered this error. Of the nine figures which illustrate this article, five are hybrids raised from seeds produced in Europe, and the others are genuine natives of South Africa, where natural hybridisation undoubtedly takes place also.

*STAPELIA HANBURYANA** (fig. 65) is a hybrid between some form of *S. variegata* or hybrid derived from that species, and another of or from *S. mutabilis*, raised in the South of Europe. Its stems are scarcely distinguishable from those of *S. variegata*, being 2 to 3 inches long, half an

inch thick, with four rounded, toothed angles, quite smooth and glabrous, dull green, mottled with purple where exposed to the sun. The corolla is about $2\frac{1}{2}$ to 2½ inches in diameter, with very spreading or recurving, ovate, acute lobes, and having a circular raised ring with a flattish, recurved rim on the disc. The lobes are pale greenish-yellow, narrowly edged and evenly marked all over with short transverse lines or linear spots of purple-brown, and the tips of a rather darker shade; they are very minutely ciliate with subclavate hairs. The ring or annulus is much paler than the lobes, being whitish-yellow, with numerous small round purple-brown spots, often more or less confluent.

† *S. bella*, Berger in *Gard. Chron.*, 1909 xxxi., pp. 137-138, figs. 40-41.

* *S. Hanburyana*, Berger and Rüst in *Monatschr. f. Kak. ix.*, p. 6, fig. 7.

BAYHAM ABBEY.

BAYHAM ABBEY, the seat of the Marquis Camden, is situated about three miles west of Lamberhurst and about six miles to the east of Tunbridge Wells on the borders of Kent and Sussex. A stream running through the park divides the two counties. The principal entrance is about a quarter of a mile from Frant Station. Outside the entrance lodge is a row of stately trees of Spanish Chestnut (*Castanea*), three being on either side of the approach, which leads from the high road to the park. The ground, on entering, rises for some considerable distance, and in the distance above low-lying woods of Fir, Chestnut, Laurel, and Oak can be seen Bayham Abbey. It stands on the south side of a hill, and is sheltered from north winds by a belt of Fir trees mingled with deciduous trees. The Abbey is situated at a distance of two miles from the entrance gates, but the distance appears very much

from the rockery to the Abbey is a mossy bank, on which are growing Oaks and Beeches. The ground in spring-time beneath the trees is covered with bulbous flowers. There are numerous ornamental trees, including many evergreens, but these have not yet attained their full size as the gardens were only laid out some thirty years ago. The mansion itself is not old, being built about the same time; the title was derived from the old Monastery of Bayham, the ruins of which are in the park close to the mansion. This old monastery was founded in 1200 A.D. Many trees have been planted by visitors at Bayham, including a Lime tree planted by his Majesty the King when Prince of Wales, in 1881. Beds of hardy flowering plants are dotted about the pleasure-grounds, and these are gay with their flowers throughout the spring and summer months. There are many hybrid *Rhododendrons* and many ornamental shrubs and trees, including species of Maple, some with very richly-coloured foliage

the old ruin. Leading out of the pleasure-grounds is a fruit orchard. In one part of this orchard is a plantation of Boskoop Giant Black Currant, and the bushes are in good health. The soil of the kitchen garden is of a stiff, retentive nature, nevertheless good crops of vegetables are procured all through the season. In the plant houses are many Carnations of the *Souvenir de la Malmaison* type, and these are in an excellent condition of culture. Grapes and Peaches are also cultivated indoors, and other fruits, including strawberries, are forced in their season. In one of the late vinerias are some dwarf Japanese trees, two of *Larix leptolepis*, one of which is reputed to be 190 and the other 196 years old. The gardens and grounds at Bayham are in the care of Mr. Earp. H. R. Whitlow.

FLOWER SEEDS DIFFICULT TO GERMINATE.

SEEDS of many of the choicer plants, and especially of some hardy perennials, often prove very difficult to germinate. This may result from one of many causes, and only by long experience can a correct treatment be arrived at.

There are a number of plants the seeds of which require to be sown immediately after they are harvested or as soon as they are ripe, when they may, with few exceptions, be expected to grow readily, but should the sowing be deferred for two or three months, or for an even shorter time, they either lose their vitality entirely or require to lie in the soil for a period of from six to twelve months before they commence to germinate. An easy way to surmount such a difficulty is to place an order for such seed with some reliable seed house, requesting a supply immediately new seed is ripe, which is usually in the autumn. Seeds that are subject more or less to this failing to germinate include *Gentiana acaulis*, *Asclepias*, many species of *Anemone*, *Primula obconica*, *Phlox decussata*, *Ranunculus*, Sweet Violet, *Humea elegans*, *Aralia Sieboldii*, *Trollius*, *Dictamnus*, *Eremurus*, *Clematis*, and *Romneya Coulteri*. Occasionally seedlings will show themselves at intervals extending over a long period, as is the case with *Romneya Coulteri*. The seedlings should be carefully lifted from the seed pan when they are large enough to handle and potted on, but care must be taken to disturb the soil in the seed pan as little as possible. The pot or pan should be kept under observation for at least twelve months before being finally discarded. Happily, many such subjects may be sown in the open ground, and for these a nursery bed should be prepared, selecting a sandy but moist soil. It is useless to attempt to raise such seeds on heavy, cold, wet soils, although in such cases a good layer of sandy loam will improve matters considerably; when this course is impracticable, it will be better to sow the seeds in well-drained pots or pans, filled with sandy loam. Those that are very minute, or expensive to buy, should be placed in a cool greenhouse or frame. If in the latter a thick layer of ashes at the bottom of the frame is essential, for this will help to check the presence of worms, which must be prevented from entering the pots. In sowing, an extra layer of finely-sifted soil should be used, never less than 1-inch, but in the case of large seeds the depth of covering material may be increased to 1-inch. This will permit of a slight skimming of the surface soil should the troublesome liverwort appear, as it often does on pots of seeds that are kept for a considerable time. For perennial seeds in general, equal parts leaf-soil and peat, with one-third its bulk of river sand, is the best compost. If possible, and in all cases where the seeds are large and known to possess free-germinating qualities, the sowing is best done thinly in the open ground during spring and summer. To sow thinly, the packet containing the seed should be opened at one end and held so as to liberate the forefinger about



FIG. 70.—STAPELIA HIRSA V. DEPRESSA: FLOWERS PURPLE-BROWN WITH YELLOW MARKINGS.

A, corona; B, rostrum; C, ligula; D, malformed ligula (all magnified).

(For text see p. 169.)

greater, probably from the undulating and timbered lands which intervene. The journey to the residence leads alternately through park and wood, the latter being skirted with *Rhododendrons*. A row of *Abies Douglasii* is planted on either side of the drive; these trees are about 50 feet in height, and situated at distances of 28 yards apart. The visitor passes through another gateway on entering the pleasure-grounds proper, which has recently been erected to take the place of some former wooden gates. The pleasure-grounds contain a rock-garden which has recently been remodelled. It is planted with a variety of subjects, including many dwarf-growing shrubs and *Wichuraiana* Roses. *Nymphaeas* are planted in a water basin, around the sides of which are species of *Banibus*. Although this rockery is not very extensive, use has been made of every available place for the planting of suitable species. Leading

that are especially fine in autumn. Spring and summer flower bedding is extensively practised. A feature of these flower-beds is a number of pyramidal tiers extending to a height of about 8 feet, which are formed of stout stakes driven into the ground, one tier above another. Over them are trained in summer-time Ivy-leaved *Pelargoniums*; in winter they are clothed with Ivy.

A pergola furnished with a variety of climbing plants leads from the pleasure-grounds to a part of the estate where there are mineral water springs. Hereabouts is a summer-house, the water springing in a basin in the centre of the floor. A little distance from this summer-house is a waterfall, the overflow of a great lake; the stream winds its way in a serpentine manner through the park and past the front of the Abbey. There are several beautiful vistas in the grounds near the Abbey, some being near

3 inches above the surface, starting from the left of the pot, the hand holding the pocket should be moved to and fro, allowing the forefinger to cause the contents of the pocket to fall by slight tappings; by this practice the density of the sowing may be easily regulated. In covering the seeds, the finely-sifted soil should be made to pass over the tips of the four fingers, at the same time working the hand containing the soil from left to right in quick succession; by this process an even thickness of soil is made over the whole surface without scattering the seed. In watering freshly-sown pots, great care must be taken not to wash the seeds out of the soil. The spray of water should never be allowed to fall heavily or in straight lines, but the can should be kept constantly on the move from left to right and right to left, using a fine rose. Another good method of watering, especially with very fine seeds such as *Begonia* and *Gloxinia*, is to hold the pot or pan in the tank, care to be taken not to allow the water to overflow the surface. Allow it to remain partly submerged until the top soil is moistened by capillarity. Small-seeded aquatic and semi-aquatic plants are easily raised if sown thinly over a patch of growing moss placed on a pan containing shingle and water. *William Mallett.*

BRITISH HEATHS.

DURING August and September one of the pleasantest spots in the garden is the Heath border, which towards the end of summer shows a great variety of form and colour. It is quite possible for anyone who has a light, sandy or loamy soil to grow most of the Heaths to perfection, and one need not go outside our own native species to obtain a very good collection that will do well in almost any position if the simple requirements of the plants are attended to.

The cross-leaved Heath (*Erica tetralix*) is the earliest of our common native sorts, often coming into bloom before the middle of June and lasting until August or even later in a cool summer. It is a capital plant to grow in partially shaded positions or on the edges of pools in water gardens, and among Ferns in the rockery big clumps of it are very pleasing in effect. Unlike most of the other Heaths, this species is not altogether happy in very dry situations, but it will do very well in the open border if it is watered occasionally in long periods of drought. The white form, which the writer has found growing wild in Hampshire and is also seen sometimes in the west of England, is charming as a garden plant.

Everyone is familiar with the common Purple Heath (*E. cinerea*), which grows in such abundance on commons in Surrey, Sussex, and elsewhere. Its dazzling purple, which at times so closely approaches crimson that in the sunlight it is difficult to say which colour describes it more correctly, provides the most wonderful effect in a natural state, and it is even more beautiful than many of our cultivated species or varieties. As a specimen plant in the garden it makes a brave show, and planted in a mass in untidy corners or on poor, bare patches where more fastidious plants will not grow, this Heath is worthy of a place in any collection. The white form of *E. cinerea* is very rare in a natural state, the writer only having found it once and then only as a "sport," but the white-flowered variety can be obtained from Scotland or through a nurseryman. A single plant of a variety of deep crimson colour—so distinct as to be readily distinguishable from its purple neighbours—was found last year in Sussex by the writer.

Less common, but equally beautiful, kinds of native Heaths are the Fringed Heath (*Erica ciliaris*) and the Cornish Heath (*E. vagans*). Both are distinctly local in a natural state, and are not generally known except to diligent students of wild flowers. The Fringed Heath is a downy plant with many branches and small

oval-shaped leaves. Its crimson flowers are egg-shaped, with a small one-sided mouth through which the style is protruded. It flowers all the summer, but is only found wild on sandy heaths in Cornwall and near Wareham and Poole in Dorsetshire. As its name implies, the Cornish Heath is peculiar to that county, and has many characteristic differences from the other members of the family. Instead of drooping, the flowers grow erect in racemes, and the pink corollas instead of being egg-shaped are bell-shaped, with an open mouth. The plant is only found in its natural state in West Cornwall near the Lizard, where it blossoms from July to late August or early September.

Even the common Heather, or Ling, which stands in a class by itself, is not so much appreciated as an ornamental plant as it ought to be.



FIG. 71.—*VERBASCUM LEIANTHUM* IN GLASNEVIN BOTANICAL GARDENS. HEIGHT 14 FEET.

In some places, as on the open commons of Hampshire and Sussex, it is very plentiful, but in other localities it does not thrive nearly so well as the common Purple Heath. In a summer like the present it finds the dry weather very trying, and the bloom is not so good as usual. Its great advantage is that it comes into bloom when the Heaths are beginning to fade and lasts in full beauty till the autumn. When well established it makes a very showy plant in the garden, and forms as good a hedge as Box, if kept clipped, and is much handsomer. It is found wild in a golden form in Scotland, and in many parts of England the white variety is not uncommon. A most striking effect is obtained in the border by planting the ordinary mauve side by side with the golden-foliaged and white-blossomed varieties.

Of course, if one likes, it is easy to add to the foregoing by introducing certain of the cultivated Heaths, but those which have been mentioned are all wildlings and obtainable in their localities for nothing, or next to nothing. The strictly local varieties can be obtained through any nurseryman in the district. As to culture, although the Heaths will respond to a little generous treatment, they will thrive, once they are established, on the poorest soil, anything which contains sand or peat in liberal quantities sufficing for their needs, provided there is not much lime present. Heavy waterings during dry weather will greatly improve the size and quality of the blooms, especially in the case of *Erica tetralix*. *East Sussex.*

VERBASCUM LEIANTHUM, BENTH.

THE *Verbascums* include many tall and stately plants; some species are showy-flowered and worthy of a place in the herbaceous border. Among the tallest of the genus is *Verbascum leianthum* (see fig. 71), several plants of which are flowering in the Botanic Gardens at Glasnevin. The plants last year formed a large crown of leaves, some of which were 4 feet long by 2 feet wide, and this year they flowered, the largest plant developing a flower-stem 14 feet in height, the branching inflorescence itself measuring 7 feet by 3½ feet in width. The plant has a bold and imposing appearance, and is planted in front of a row of evergreen shrubs, which form a fine background, so that the towering spike of yellow blossoms attracts attention from a considerable distance. A grand effect is produced by planting a group of this imposing species. The individual flowers are comparatively small, being only three-quarters of an inch in diameter, but this apparent defect is remedied by the profusion and constancy with which the flowers appear. They are bright yellow in colour, the filaments being covered with whitish hairs, while the anthers are of an orange colour, and before the flower-buds open they are bright and shining. Both stem and leaves are covered with a dense felt of whitish hairs which give the plants a silvery appearance.

The Glasnevin plants were raised from seeds received from Asia Minor, and from Newry. *C. F. Ball, Glasnevin.*

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

GOOSEBERRY-MILDew.—In the interests of fruit growers throughout Essex, it is expedient that the greatest possible publicity should be given to the fact that, after extensive ravages in many of the eastern counties, the American Gooseberry-mildew has at length appeared in our county. A Gooseberry-mildew order will be issued by the Board of Agriculture, as a natural corollary, and growers should see that every effort is put forward to ensure the efficient working of the order on their part. The mildew, as its name implies, is a native of America, and was unknown in Great Britain till 1900, when it was found in two Irish counties; by 1907 it had spread to no fewer than 21 counties. In respect to the damage done by the disease, Dr. Pethybridge says, "As regards Ireland, it is no extreme view of the case to state that the losses have been in many cases most serious, and unless the disease is checked, we are threatened with nothing less, practically, than the total loss of the profitable cultivation of the Gooseberry as a bush fruit." What is true of Ireland is true, also, of Essex. I will gladly give any help to Essex fruit growers who care to write to me on the subject. *C. A. Enland, B.A., F.L.S., Biologist to the Essex Education Committee, County Laboratories, Chelmsford. August 19, 1908.*

REMARKS ON THE FRUIT CROPS.—In my observations on p. 143 the word "Gnomonia" was omitted before the word "disease." It appears to me after several years' observation of this disease that it attacks the Cherry leaves so late in the summer that they have fulfilled their functions before they are affected. *Alfred O. Walker.*

THE LARGEST GLASS STRUCTURE USED FOR PLANT CULTIVATION.—According to *Müller's Deutsche Gärtnerei-Zeitung*, a glasshouse at the branch establishment of the Floral Exchange Nurseries, Edgely, North Wales, Pennsylvania, U.S.A., is 190 metres long, 50m. wide and 11m. high (1m. equals 3.2809 yards). The Carnation house of the Moewes'sche Handelsgärtnerei, at Falkenberg (Silesia), measures 150m. by 9.35m. by 5.5m. The building is figured in No. 16 of *Müller's Deutsche Gärtnerei-Zeitung*. *Walter Tischeke, Rixdorf, Berlin.*

SUMMER PRUNING.—In the gardens of Normanswood, Tilford, Farnham, one of the most beautiful gardens in Surrey, is a grand collection of espalier-trained Apple trees. They are almost perfect in uniformity, the trellis on which they are trained being fully furnished with healthy shoots that are carrying heavy crops of fruit. I did not notice one fruitless tree, but I especially observed how freely the trees were cropped, although not one had then been summer-pruned. I enquired of the gardener, Mr.

sonii, this species has a dwarf, compact habit of growth, the slender shoots being clothed with small pale green leaves that are thin in texture, while in common with most of the others it blooms more or less throughout the summer months. Grown as a loose bush this Allamanda is very beautiful, while trained up the rafter of a small or medium-sized structure it is equally at home. The flowers stand out markedly from the others by reason, in the first place, of their widely expanded mouth, but more particularly in their colouring, which is a clear and distinct shade of lemon-yellow—a pretty and uncommon tint. A singular feature in connection with the propagation of this Allamanda is that, although cuttings are not at all difficult to root, they can very seldom be induced to grow in a satisfactory manner afterwards. For this reason it is usually grafted on to one of the strong-growing kinds, such as *A. Hendersonii* or *A. Schottii*, and if the point of union is near the ground the scion quickly becomes established, and its cultivation rarely gives any trouble afterwards. *W.*

VEGETABLES AT SHREWSBURY.—I noted with anything but satisfaction that in every collection of dishes which came under my notice—and there were scores of them—that only nine similar kinds of vegetables were represented throughout. That is at once exceedingly monotonous, and at the same time causes neglect of other valuable kinds that can hardly be regarded as of less importance for domestic use. In practically every case, well-known or lesser-known competitors had a back centre of Cauliflowers flanked on one side by Celery, and on the other by Leeks standing erect. In front was a centre of Onions with, on one side, Potatoes, and on the other Carrots, then in front Tomatoes, Peas and Runner Beans. These are all very handsome and imposing vegetables, but some change of effort is needed to shake off the tyranny, as it were, of these select kinds. Because they have for several years past constituted the prime favourites of the leading exhibitors, lesser-known competitors have followed rather slavishly in their footsteps. In the only case in which pointing of the various dishes is made imperative—that of the first-prize collections in the various classes for nine dishes—to enable the winner of the challenge prize to be found, the committee fix the maximum for all kinds at seven points each, thus creating no distinction, real or artificial. Were the maximum graduated, as in the case of fruit, the general absence of Cucumbers, Beet, Marrows, Turnips, and Pars-nips might be accounted for, but no such distinction exists, hence all kinds are pointed on the same basis. Possibly exhibitors get to think that inferior dishes of the customary kinds staged are better than samples of kinds not generally staged would be; such an assumption is a mistaken one. No judge, I am sure, finds himself bound hand and foot to any one kind of vegetable over another, and specially so at Shrewsbury, where the society's own point list puts all on the same footing. The question, therefore, I wish to raise is, how, at this, the greatest exhibition of vegetables in the kingdom, it is possible to secure in the competitive classes examples of more kinds in place of a stereotyped few. That seems possible only by the present classes for nine dishes being extended to 12 dishes, or, as the society adding its challenge prize of 10 guineas to its liberal prizes, amounting to £23, for its own class, making a total of £33 10s., then creating a champion class for 12 dishes or kinds, with four prizes of £12, £10, £7 and £5. That would indeed be a champion competition. Preferably, I would like to see this class made not only a compulsory point class for judging, but also in awarding the cash prizes, as then competitors would get exact cash values as prizes, just as in point judging those values were found. In the society's class for nine dishes, with its first prize of £10, and which brought both Messrs. Beckett and Gibson into competition, so remarkably even were the two collections, that when pointed by the first judges they found Mr. Beckett's excelled the other by half a point only. That fact shows how near in point values two collections may be, yet in prize value how far removed. Mr. Beckett's took £29 10s., Mr. Gibson's but £7—yet the distinction was but half a point. In that case also pointing was done dish by dish, because the

collections were side by side. When some half-dozen or more collections in diverse parts of the tent have to be pointed, the pointing dish by dish is impossible, hence no men, however able, can carry the exact appearance of the respective dishes in collections, pointed some time before, fully in their minds. Knowing something of this difficulty, I should much prefer to see this rival pointing limited to a champion class of not fewer than 12 dishes, in which the respective collections were side by side. *A. Dean.*

NEW INVENTIONS.

GAS HEATING FOR PLANT HOUSES.

DURING a visit to Birmingham in the spring of the present year, on calling to see Mr. R. Fenwick, an amateur who has recently taken up the cultivation of Orchids, and who lives in the Plough and Harrow Road, Edgbaston, our

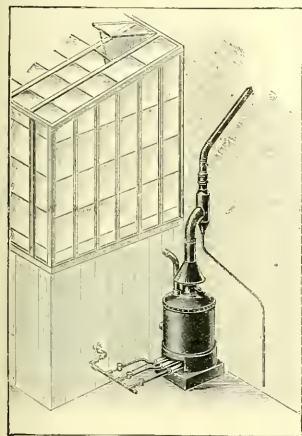


FIG. 72.—THE "LITTLE NIPPER" GAS BOILER IN POSITION.

Perrin, what his practice was in relation to this form of pruning, and he said that he preferred to allow the wood of breast shoots, which were far from numerous, to become fairly hard before practising summer-pruning. When pruned late in the season, the back buds do not push into growth, but the extra nourishment they receive enables them to undergo partial conversion from wood to fruit-buds. In the gardens at Woodbatch Lodge, Reigate, where for many years Mr. Salter was gardener, there are many fine bush-trained Apple trees that generally furnish superb crops. Mr. Salter also deferred summer-pruning till the end of July or early in August. His method of pruning made each branch a single cord. It is worthy of note that both at Tilford and at Reigate the soil is of the deep, sandy nature characteristic of Surrey gardens. Although trees on diverse soils need different treatment in relation to summer-pruning, many fruit growers prefer to carry out the method of summer-pruning they have been accustomed to, although some other system might prove better. *A. D.*

ALLAMANDA GRANDIFLORA.—This is one of the most distinct and beautiful of all the Allamandas, and at the same time one of the most difficult to obtain from nurseries. Compared with such a well-known kind as Allamanda Hender-

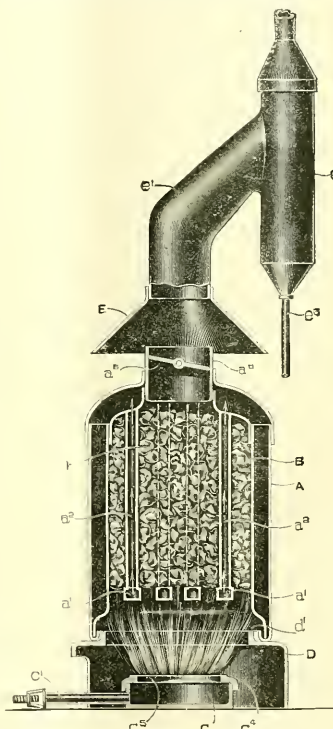


FIG. 73.—THE "LITTLE NIPPER" BOILER, SHOWING SECTIONAL ELEVATION.

A, boiler; B, asbestos; C, burner; D, cast iron base; E, hood; F, condensation chamber; G, condenser pipe.

attention was drawn to a gas-heated apparatus, which is a contrivance of Mr. Fenwick himself, since he found it necessary to provide some kind of heating system for his new Orchid houses.

It has always appeared to us that there are disadvantages connected with the use of gas for the heating of plant houses, the chief one, of course, being that when the stove is placed in the house itself, there is a constant liability that the fumes may escape and inflict irreparable damage upon the plants.

Mr. Fenwick's gas-heated boiler appeared to have several advantages over others that we have seen, and may be useful to many amateurs who do not employ regular gardeners. It is

MARKETS.

COVENT GARDEN, August 26.

[We cannot accept any responsibility for the unbalanced reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Ed.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Alstromerias, per	2	0	Lilium tigrinum ...	1	6
doz. bunches ...	2	0	Lily of the Valley, ...	1	6
Asclepias, per doz.	2	0	— extra quality only	12	0
Asta atropurpurea, per	2	0	—	10	0
dozen ...	2	0	Marqueites, per		
Campanula, per doz.	2	0	dozen bunches,		
double blooms,			white and		
best American			yellow ...	2	0
various ...	1	6	Mignonette, per		
— standard size	0	9	dozen bunches	2	0
— smaller, per			Odontoglossum		
doz. bunches	9	12	crispum, per		
— Vilmorin's			dozen bunches	2	0
— doz. blooms ...	6	0	Polygonium,		
— border varieties,			show, per doz.		
— doz. bunches	6	0	—	5	0
Catalpas, per doz.			— Zonal, double		
blooms ...	8	0	scarlet ...	4	0
Chrysanthemums,			Fuchsia, dozen		
— specimen			bunches ...	2	0
— blooms p.d.z.	4	0	Roses, 12 blooms,		
— smaller, per			Niphetos ...	1	6
doz. bunches	5	12	— double ...	1	6
Crocus, per doz.			— C. Testout ...	1	6
bunches ...	1	6	— General Jacq-		
Cypripedium, per			uinot ...	0	6
dozen blooms ...	2	0	— Kaiserin A.		
Encarnias grandi-			Victoria ...	1	6
flora, per doz. blooms	2	0	— C. Marnet ...	1	6
Galliaridas, per			— C. Marnet ...	1	6
bunches ...	1	6	— Mrs. Chatenay		
Geraniums, per doz.			— Mrs. J. Laing		
blooms ...	2	0	Scabell, per doz.		
Glaucous Colvlei			bunches ...	2	0
vars., per doz.			Spiraea, per dozen		
bunches	6	0	—	5	0
Irenchensis, per			Statice, per dozen		
doz. spikes	1	0	bunches ...	3	0
Gypsophila, per dz.			Stocks, double		
bunches	3	0	white, per doz.		
— double	3	0	bunches ...	3	0
Lilium auratum,			Sweet Peas, per		
— longiorum	2	0	dozen bunches	1	6
— laetifolium,			Tuberose, per dz.		
tubum and			blooms ...	0	4
alium ...	1	6	— double, per		
			bunch ...	1	6

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Adiantum cernuum, dz. bchs.	4-6-0	Grasses, per dozen bunches	10-2-6
Asparagus plumosus, per doz. trais, per doz. bunch	8-10-2	Hardy foliage	
— medium, bunch	10-2-0	— long trais, per dozen bunches	2-6-0
— Sprays, per doz. bunches	9-1-6	Ivy-leaves, bronze	2-0-3
Berberis, per doz. bunches	2-6-0	— short trais, per dozen bunches	0-9-1
Croton leaves, per doz. bunches	10-1-3	— long trais, per doz. bunches	1-6-2
Cycas leaves, each bunch	1-6-2	Moss, per gross	4-0-5
Ferns, per dozen bunches (English)	10-1-3	Myrtle, per dozen bunches (English)	
— (Irish)	10-1-3	— small-leaved	4-0-6
		— French	10-1-6
		— Sun-dried trais	1-0-0

Plants in Pots, &c.: Average Wholesale Prices.

	s. d. s.		s. d. s.
Anaploisys Veitchii, per dozen	6 0-8 0	Ferns, in snail and	12 0-20 0
Anala Siamensis, per dozen	4 0-6 0	large 60's	14 0-40 0
— larger species		— in 32's, per dz.	10 0-18 0
— Noseri.	6 0-12 0	Ficus elastica, dz.	8 0-10 0
Araucaria excelsa, per dozen	12 0-30 0	— repens, per doz.	6 0-8 0
Asplenium pinnatifidum, per dozen	10 0-12 0	— repens, per doz.	4 0-6 0
Azalea, green	15 0-24 0	Heliotropus, per dozen	3 0-4 0
— variegated	30 0-42 0	Hydrangea paniculata, per doz.	18 0-36 0
Aspidistra plumbea, per dozen	10 0-12 0	Isocorys, per dozen	4 0-6 0
Ausonia nana, per dozen	9 0-12 0	Kentia Balmorea	
— Sprengeri	6 0-9 0	— Fosteriana, per dozen	18 0-30 0
— variegata, per dozen	6 0-9 0	— latifolia, per dozen	18 0-30 0
Asters, per dozen	3 0-6 0	— per dozen	12 0-18 0
Campanula isophylla, per dozen	4 0-6 0	Lilium longiflorum, per dz.	10 0-15 0
— white, per doz.	4 0-6 0	— lancifolium, per dozen	12 0-15 0
Chrysanthemum, per dozen	10 0-12 0	Lily of the Valley, per dozen	18 0-30 0
Clematis, per doz.	6 0-9 0	Marguerites, white, per dozen	4 0-8 0
Cocos Weddellii, av. per dozen	18 0-30 0	Pelargonium, per dozen	6 0-8 0
— variegata, per doz.	3 0-4 0	— show varieties	6 0-9 0
Croton, per dozen	6 0-10 0	— Ivy-leaved	6 0-8 0
Cyperus alternifolius, dozen	4 0-6 0	— Oured	6 0-8 0
— folius, dozen	4 0-6 0	— Scabiosa	2 0-3 0
Daphne, per dozen	6 0-10 0	Senecioia, per doz.	4 0-6 0
Dracanea, per doz.	9 0-24 0	— sp. americana, per dozen	6 0-9 0
Eucynurus, per doz.	4 0-9 0	Verbena, Miss	
Ferns, in snails, per 100.	60 0-100 0	Willmott, per	3 0-5 0

Fruit: Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples (English), per bushel:			Melons (English),	10	0-2
Ecklinville			(Guernesey),	10	0-2
Seedling	30	0-30	Hick	20	0-2
Lord Derby	20	0-36	Cantelone	04	0-2
Ecklinville	20	0-36	Valencia, case	6	8-6
Warner's King	20	0-36	N. Almonds, per		
Hunt's Early	36	0-46	bag	45	0-0
" "	36	0-46	Brazils, new		
Cladstone	20	0-26	" "	55	0-0
Quarendon	20	0-30	Walnuts, Green,		
Beauty of Bath	20	0-46	" "	28	0-2
" "	20	0-46	" "	30	0-30
Pearmain	20	0-36	" "	100	0-14
Hunt's Early	20	0-30	Nectarines, select d.	50	0-100
			" "	40	0-60
Bananas, bunch:			" "	10	0-20
No. 1. Canary	60	0-0	Oranges (Naples),		
" "	66	0-76	" "	10	0-14
Extra " "	84	0-0	(Jamaica),	12	0-36
" "	100	0-0	" "	12	0-36
(Claret)	50	0-76	Washington		
Jamaica	50	0-26	Navels (Natal),		
" "	09	0-13	" "	16	0-180
Cherries (English),			Peaches (English),		
Morelles, per			p. d., selected	40	0-60
12 lbs	50	0-60	first quality	10	0-20
Damsons (English),			second quality	10	0-20
" "	16	0-23	(French), p. bx.	10	0-20
Figs (English)	20	0-00	" "	46	0-60
(Guernesey),	20	0-0	Pears (English),		
Gages (English),			Hesse, bushel	33	0-46
" "	26	0-36	" "		
(French), per			William's Bon	66	0-80
sieve	30	0-76	Christen, crate		
" "			" "		
per box	06	0-18	Christen, Bon		
Grape Fruit, case	50	0-12	" "	30	0-36
(Guernesey),			Pineapples, each	16	0-36
" "	06	0-26	Flung (English),		
Muscats (Eng-			" "		
lish), per	10	0-36	Gibsons	10	0-13
Madresfield			Prince of Wales	20	0-36
Court	10	0-26	" "	20	0-36
(Lisbon), per			Victoria	19	0-33
case			The Cear	19	0-20
Lemons			" "	20	0-33
Nessia, case	60	0-10	" "		
" "	80	0-10	" "		
Lychees, box			(Californian),	26	0-46

Vegetables : Average Wholesale Prices

	s.d.	s.d.		s.d.	s.d.
Artichokes (French), per dozen	1-6	19	Mint, per dozen	10	16
Bears, Broad	20	26	Mushrooms (English), per bushel	10	10
English runners, per bushel	20	26	broilers	06	06
Scarlet, per bushel	10	16	huttons, per lb.	10	10
Butter, per bushel	30	36	Mustard, per lb.	13	13
Cabbages, per tray	16	20	per dozen pun	13	13
Greens, p. bag	30	36	Onions (Egyptian), per bag	60	60
Carrots (English), do.	16	20	pickling	10	10
Cauliflowers, p. dz.	10	16	bushel	16	20
per tray	40	50	Parsley, 12 bunches	20	20
Celery, per roll	16	16	Parsnips (English), per bushel	36	40
Celeriac, per roll	16	16	bags	30	40
per dozen	30	36	(Guernsey), per lb.	03	04
Clow (French, Scythian edule), per	30	36	(Jersey), barrels, cwt.	46	50
Cucumbers, per dozen	13	19	Radishes (Guernsey), dozen	06	06
per flat	36	46	round, p. doz.	04	06
Endive, per dozen	10	16	Salsify, per dozen	36	36
Horseradish, per dozen	80	90	Tomatoes (English), per 12 lbs.	36	46
hundreds	10	16	yellow	36	46
Lettuce (English), per dozen	06	09	second quality	30	36
per tray	20	30	seconds	10	20
Peas (English), per tray	06	09	French, crate	20	26
			Ward, 12 lbs.	36	46

REMARKS.—Runner Beans are exceedingly plentiful and cheap. English Tomatoes are inclined to be dearer on account of the dull weather. There are a few good samples of the yellow Plum Tomato, but they have no demand. Plums are arriving in large quantities from Middlesex as well as from Kent. Apples are a slightly better trade, although prices continue to remain low. Trade generally is quiet. *E. H. R., Covent Garden, Wednesday, August 26, 1908.*

Potatos.

	s.d.	s.d.	Lincoins—	s.d.	s.d.
Kents—			Up-to-Date ...	...	3-6-36
Snowdrops ...	...	4-0-46	Sharpe's Express ...	...	3-6-39
Sharpe's Express ...	...	3-9-40	Puritans ...	...	3-3-36
Epicure ...	...	3-3-36	Bedfords—		
Lincoins—			Puritans ...	...	3-0-36
Epicure ...	...	2-9-39	Enclosures ...	...	3-0-33
British Queens ...	...	3-3-36	Blacklands—	...	2-9-30

REMARKS.—Consignments are very light and trade is still very slow. *Edward J. Newborn, Covent Garden and St. Pancras, August 25, 1898.*

POVENT GARDEN FLOWER MARKET

The market presents a very dull appearance. August is the worst month for business and many cultivators of flowering plants are not sending supplies; as a consequence a large number of the stands remain empty.

CUT FLOWERS

Supplies all round are abundant. Eucharis are plentiful again, but few Gardenias are seen. Stephanotis is abundant and cheap. Tuberose on the flower stem last better than when the blooms are gathered singly. Good blooms of Chrysanthemums on long stems are plentiful, but the varieties are limited to white and yellow flowers. Prices for these flowers are not so good as they

have been at the same season in former years. Aster is over abundant, and there are large quantities of Chrysanthemum, and yellow and white Marguerites are good, also the yellow Coreopsis; the latter are in the best of colour, but the blooms do not last fresh so long as Marguerites. *Gypsophila paniculata flore pleno* is much appreciated, but its culture is not extensive; it realises about twice the price of the single variety. *Gladioli Brenchleyensis* is remarkably good. *G. Colvillei*, "The Bride", is plentiful, but the spikes generally are thin and weak. Liliums are well supplied, and Roses are over abundant.

FOR BRUNNEN

Liliums have been over plentiful during the past week, especially *L. longiflorum rubrum*. Fuchsias are procurable in fairly good plants, also *Marguerites*; *Chrysanthemums* are prominent. Dwarf plants which have not been dissuaded are very useful for planting in borders. The Pink Astilbe (*Spiraea*) Queen Alexandra is very good. Ferns, Palms and other foliage plants vary but little; supplies of these are quite equal to all demands. A. H., Covent Garden, Wednesday, August 26, 1908.

GARDENING APPOINTMENTS.

[Correspondents are requested to write the names of persons and places as legibly as possible. No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgement made in these columns.]

Mr. T. W. BIRKINSHAW, Gardener to Sir CHARLES HAMILTON, Bart., Hatley Park, Sandy, as Estate Bailiff at the same place, in addition to his gardening duties.

Mr. C. T. BOORMAN, for the past 8½ years Foreman at Sezincot House Gardens, as Gardener to STAYT. TAYLOR, Esq., Cleve Hall, Downend, Gloucestershire.

Mr. G. BASS, for the past 2½ years Foreman at Middlemead House, Leicester, as Gardener to R. THOMPSON, Pool House, Groby, Leicestershire.

Mr. H. W. BURCH, Foreman in the gardens of Captain CON-
STABLE CURTIS for the last 10 years, as Gardener to the
same gentleman at The Hall, Borkhamsted, Hert-

Mr. W. B. LITTLE, as Instructor in Horticulture on the staff of the Armstrong College, Newcastle-on-Tyne, for work chiefly in the counties of Cumberland and Westmoreland.

Mr. F. GRACE, for the past 24 years Foreman in the Gardens at Mulgrave Castle, Whitby, Yorkshire, as Gardener

Mr. HORACE JONES, for the past 2½ years Foreman in the Gardens of Toddington Manor, Winchcombe.

Gloucestershire, and previously Foreman in the Gardens, Normanton Park, Stamford, Rutland, as Gardener to R. ALEXANDER, Esq., Brant House, Park Side.

Mr. JOHN D. LIVINGSTONE, from JAMES DICKSON & SONS' Nurseries, Edinburgh, and formerly Gardener at Temple Hall, Berwickshire, as Gardener and Forester to Rt. Hon. The Earl of Galloway, Cumlodon, Newton Stewart, N.B.

Mr. A. PLUM, for the past 11 years Gardener to L. BULTEEL, Esq., the Rookery, Dorking, as Gardener to J. CARR SAUNDERS, Esq., Milton Heath, Dorking.

CATALOGUES RECEIVED.

BULBS

W. DRUMMOND & SONS, LTD., Stirling.
McHATTIE & Co., Chester.
BENJAMIN REID & Co., 72, Guild Street, Aberdeen.
WEBB & SONS, Wordsley, Stourbridge.

JOHNS, DAVIES & Co., 250, Picton Road, Watveetree,
Liverpool.
JACKMAN'S, Chester.
J. F. SMITH, Daisy Hill Nursery, Newry.
R. H. BATH, LTO., Floral Farms, Wisbech.
JOBRIE & Co., Rothesay.
KENT & BRYDEN, Darlington.
KINNELL & SONS, Lincoln.
Wm. FELL & Co., LTO., Hexham.
ROBERT VEITCH & SONS, 54, High Street, Exeter.
N. SMITH & SONS, Aberdeen.
JOHN RUSSELL, Haverstock Hill, London, N.W.
CLARK BROS., 65, Scotch Street, Carlisle.
SAMUEL FINN, LTO., Collingwood Street, New-
castle-on-Tyne.

FOREIGN

VILLEY MULLER, Nocera Inferiore, Naples—New and rare plants.

DEBATING SOCIETY.

CARDIFF GARDENERS'.—The 12th annual outing of this association took place on August 10, when 50 of the members visited Warwick Castle and Gardens. The party was met by the gardener, Mr. Smale, who conducted the visitors through the gardens and grounds, and afterwards through the castle. Luncheon was partaken at the Crowa Hotel. The return journey was made at 7.45 p.m. after a most enjoyable day. *R. T. W.*

SCHEDULE RECEIVED

Dumfrieshire and Galloway Horticultural Society's
flower show, to be held in the Palmerston Park, Maxwell-
town, on Friday and Saturday, August 28, 29, 1908.

ENQUIRY.

SOILS DEFICIENT IN IRON.—Can anyone kindly give me information, from practical experience, as to the benefits, or the contrary, of the application to soils of iron, say in the form of crushed sulphate of iron, where there is a natural deficiency of this element? What would be a safe quantity to use per acre or square yard? *G. H. E.*

ANSWERS TO CORRESPONDENTS.

APPLE SHOOT MALFORMED: *A. H.* The abnormality is caused by the bases of the leaf-stalks becoming swollen and the nodes at the point affected being suppressed. This gives an Apple-like appearance at this spot, so that the shoot appears as though growing through a fruit. The enlarged leaf bases are the result of some irritation, probably set up by mites.

ASTERS DISEASED: *C. H. P.* The cause of the epidemic amongst Asters so universal this season has not been determined, hence no remedy is known. The Fern fronds are browned by a mite; the pest may be destroyed by tobacco water.

BLACK HAMBURG GRAPES AFFECTED: *C. Z.* There is no disease present. The injury is due to scorching, to which Black Hamburg is very subject. Give increased ventilation to the vinery, opening the ventilators early in the day.

BOWLING GREEN: *Bewler.* You appear to be employing too much loam in your green. The best lawns are generally found in Scotland, and we give a description of how a Scotch green is made. Scotch greens measure 126 feet by 126 feet, with a 12-inch deep cut on the four sides, and, unlike the Lancashire crown greens, are perfectly level. The one great aim in forming these playing lawns is the purpose of drainage. The whole area is, therefore, treated in such a manner as to enable water to pass quickly from it. In the ditch 4-inch land tiles are laid, into which 23-inch pipes—placed in rows at 9 feet apart—discharge any water that may fall on the surface or rise from the subsoil. The further construction as adopted is as follows:—When the site is levelled and drained it is covered to a depth of 4 inches with rough ballast, which is made quite stable by a heavy rolling. A layer of coarse ashes 3 inches in thickness is then placed over the ballast, and, after being consolidated by means of a roller, is, in turn, covered with 3 inches of fine ashes. After this third layer is thoroughly rolled, an inch of fine sand is added, upon which the turves, each 1½ inch thick, are laid and beaten to the desired level. These turves, when cut, are 12 inches square and 2 inches in thickness. Before being laid they are placed, grass downwards, into a wooden mould, 12 inches by 12 inches by 1½ inch deep, and well beaten with a wooden mallet, after which, by the aid of a scythe blade, the superfluous soil is cut away, leaving the turf exactly 1½ inch thick. This process is adopted so as to ensure every turf being solid and of an uniform thickness—attributes they could not possibly possess if cut and laid in the ordinary manner. The turfing is done diagonally across the green, and each turf is tested with the spirit level and beaten down to the correct position as the laying proceeds. It will be noticed that no soil other than that in the turf itself is used, hence, while the grass cannot grow luxuriantly, it needs careful attention to prevent it from being injured from a want of moisture.—*Murphy.* Mow the green with the box on the machine, and supply the loss the removal of the grass entails to the soil by applying either liquid manure made from ordinary farmyard manure and soot, or artificial stimulants of a nitrogenous nature. Nitrogenous manures will encourage the finer grasses.

COMPENSATION FOR IMPROVEMENTS: *IV. C.* Consult a solicitor.

CORRECTION: The parentage of *Cypripedium* Rosettii mentioned in the Orchid Committee's Report on p. 136 in the last issue is *C. Sandermanianum* × *C. Maudslayi*, and not as stated *C. Sanderae* × *C. Maudslayi*.

FLORAL DESIGN: *J. B.* A wreath is admissible in a class for floral designs, unless particular designs are mentioned.

GLOXINIAS FAILING: *J. F.* The leaves were too dry when received for a correct examination. Kindly send further specimens packed in damp moss or moist blotting paper.

GRAPES AFFECTED: *F. B.* The fruits exhibit the condition known as "leather berries," due to sudden changes of temperature usually of lower degrees. There is no evidence of injury by sulphurous acid gas.—*Constant Reader.* The trouble is caused by shanking, the result usually of a defective border.—*C. D. and C. B.* There is no disease on your Grapes; the damage has been caused by moisture condensing on the berries. Apply ventilation early in the morning, and be careful not to place too much moisture about the vinery.

GRASS ATTACKED BY A FUNGUS: *G. S. S.* The turf is attacked by *Fuligo* varians, one of the *Myxogastres*. The disease is not very injurious, and may be dispersed with a strong spray of water.

GREENHOUSE CONTAINING A SWIMMING BATH: *A. T. M.* Most greenhouse plants would flourish in your house, provided you placed them near to the glass. The roof would form an admirable site for climbing subjects, such as *Passiflora*, *Browallia speciosa*, *Ivy*—leaved *Pelargoniums*, *Blackba* scandens, *Lagerflora* rosea, *Roses* of tender sorts, and a host of other trailing plants. We do not advise the culture of Grapes in this structure, as the excessive damp from the bath would probably lead to trouble with mildew and other pests.

KENTIA BELMOREANA DISEASED: *Convent Garden.* The foliage is attacked by a fungus called *Colletotrichum* *Kentiae*. Sponge the leaves with White's "Abol" solution at intervals of three days.

LATHYRUS OCHRUS: *R. M.* This plant is a native of the Mediterranean region. If you cannot obtain seeds from our hardy plant specialists, apply to one of the Continental nurserymen for them.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time; they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. Correspondents not answered in one issue are requested to be so good as to consult the following numbers.

PLANTS: *K. M. P. G.* *Dendrobium* *chrysanthum*.—*Hillfield.* *Eria* *convallarioides* so far as we can judge by the specimen sent, which arrived in bad condition.—*S. P. C.* 1, *Passiflora* *bicolor*; 2, *Viburnum*; 3, *Abutilon* *vitifolium*; 4, *Desmodium* *tillofolium*; 5, *Magnolia* species, probably *M. conspicua*, but send when in flower; 6, *Æsculus* *parviflora*, commonly known in gardens under the name of *Pavia macrostachya*; 7, probably a species of *Quercus*, but the specimen is insufficient for determination.—*Von.* 1, *Erythrina* *Crus-Galli*; 2, *Clematis* (a hybrid from *C. coccinea*); 3, *Berberidopsis* *corallina*; 4, *Ceanothus* *azures* ("Gloire de Versailles"); 5, *Abelia* *chinensis* (*A. rostratis* of gardens); 6, *Escallonia* *chinensis*.—*Sud.* 1, *Acalypha* *marginata*; 2, *A. macrostachya*; 3, *Dracena* *terminalis* var. *Vitis*. 1, *Physalis* *peruviana*; 2, *Tanacetum* *vulgare*; 3, *Clematis* *integrifolia*; 4, *Sedum* *Aizoon*; 5, *Eupatorium* *serotinum*; 6, *Serratula* *tinctoria*.—*IV. F. L.* 1, *Cypripedium* *insigne*; 2, *Francoa* *racemosa*; 3, *Chlorophytum* *elatum*.—*Hortus.* *Veronica* *speciosa*—*Killarney*. 1, *Colutea* *arborescens*; 2, *Salvia* *sp.* (cannot name without flowers); 3, *Lycium* *chinense*; 4, *Anaphalis* *margaritacea*; 5, *Cedronella* *triphylla*; 6, *Philomis* *fruticosa*.—*J. B.* *Azara* *microphylla*.—*G. W. F. & Co.* A wretched specimen, but apparently *Cichorium* *intybus*, the common chicory and therefore edible.—*E. V. B.* *Spiraea* *bracteata*.—*G. C.* *Alnus*

glutinosus, common Alder.—*H. E.* 1, *Abelia* *rupræstris*; 2, *Chimonanthus* *fragrans*; 3, *Escallonia* *rubra*; 4, *Cornus* *alba* (Spathi), golden-leaved variety; 5, *Daphne* *oleoides*.—*T. R. J. S. & G. A.* We cannot undertake to name varieties of *Roses* or *Carnations*. Send the flowers to some nurseryman who cultivates a collection.—*K. B.* *Clethra* *acuminata*.—*H. R. H.* *Hibiscus* *syriacus*. Introduced into this country in 1596. It may be propagated by means of layers, cuttings, and seeds.—*J. P.* 1, *Aconitum* *Stercorarium* var. *variegatum*; 2, *Clematis* *viticella*; 3, *Clematis* *integrifolia*; 4, *Lathyrus* *sativus*; 5, *Sibthorpia* *peregrina*; 6, *Convolvulus* *mauritanicus*. These were better specimens.

PAPAW TREE FRUITING: *J. S.* The flowers you send are male, but the same tree sometimes produces both male and female blossoms, and in some instances they are hermaphrodite. The presence of fruits on your male plant may be thus accounted for. In a description of this plant in the *Botanical Magazine*, tab. 2,898, vol. lvi, the writer states that "in the stove of the Glasgow garden we long possessed a tree which, from the flowers examined being male, I imagined was barren. In a few years' time, however, this individual plant produced fruit which came to great perfection, and the seeds of which yielded an abundant stock of young plants." The Algarabo is the fruit of *Ceratonia* *Siliqua*, and the name has also been applied to the fruits of *Prosopis* *dulcis* and *P. siliquastrum*. We cannot take the others you mention.

PARASITE ON IVY AND ROSE: *P. W. G.* The plant infesting the Rose and Ivy shoots is the Dodder, *Cuscuta* *europæa*.

PEACH AND FIG TREES UNDER GLASS: *Z.* These may be trained so as to completely furnish a glasshouse of moderate size. Some Peach trees we have seen had a spread of branches measuring 30 to 40 feet; we do not know the size of the largest individual tree. The Fig will flourish and fruit for a century or more, and grow to enormous size. Peaches also are long-lived, but in the case of this tree the best success is obtained with comparatively young specimens. The movements of leaves in plants such as you describe are well known, and they are very interesting.

PEACHES DROPPING: *E. M. M.* There is no disease present in the fruits to account for their dropping; the trouble has probably been caused by some check, such as a lack of water at the roots.

PEAR LEAVES INJURED: *H. B. G.* The leaves have been badly injured by the Pear-leaf gall mite. All fallen leaves should be burned, and the surface soil replaced with fresh material during the winter.

PHALANOPSIS LEAF DISEASED: *H. B.* The leaf is infected with one of the numerous species of *Anthrax* or *Gloeosporium* which attack Orchids. Remove the diseased foliage and burn it. Admit as much fresh air as possible to the plants.

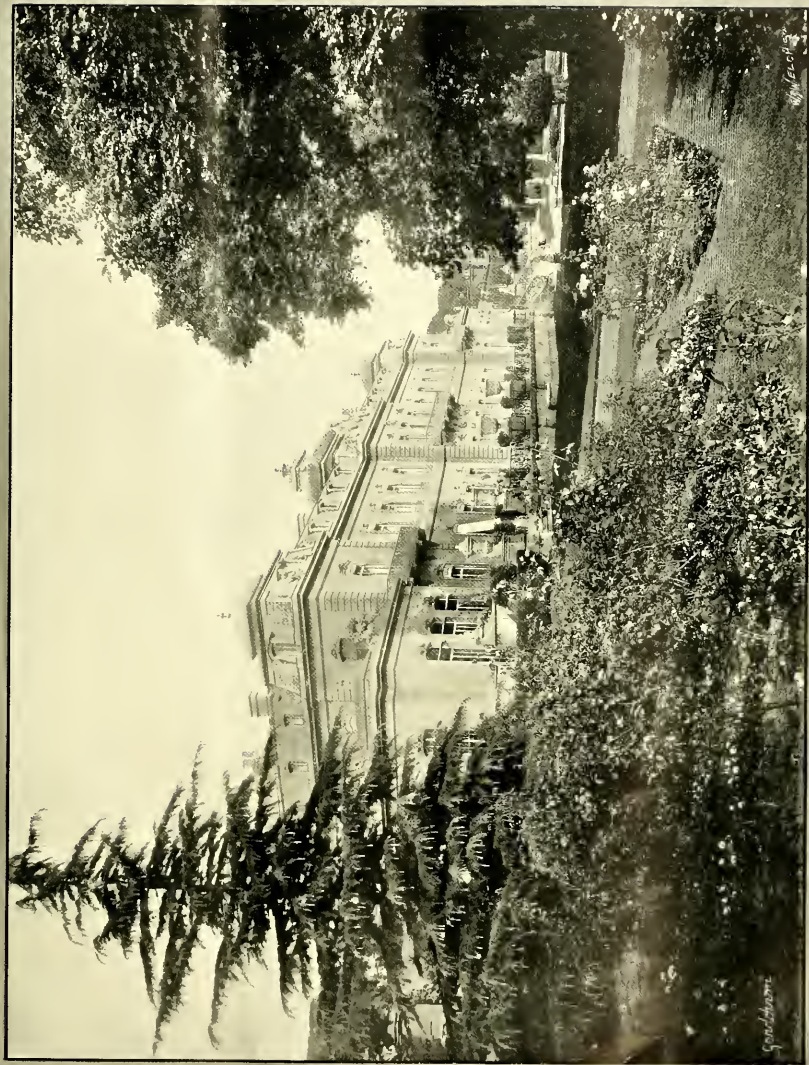
PRESERVING FRUITS FOR EDUCATIONAL PURPOSES: *E. S.* The colours of the fruits will certainly be destroyed if you use spirit for their preservation. Try saving them by the sterilisation system, filling the bottles with water, bringing the fluid to the boiling point, and then hermetically sealing the receptacles.

ROSES IN A COMPETITIVE CLASS: *A. R. R.* When the word "dissimilar" is used in the schedule, this is a sufficient indication that not more than one bloom of a variety will be allowed in each exhibit.

SCABIOUS: *A. W.* Varieties of *Scabiosa* *atro-purpurea* are biennial or annual according to the manner they are treated. It is usual to cultivate them as annuals. Many of them are capable of living until the end of the second season at least. *Monthebris* are perennial plants.

SEEDS OF ALPINE PLANTS: *F. G.* Apply to any of the hardy plant specialists.

COMMUNICATIONS RECEIVED.—*H. B.* (thanks for 2s. 6d. received for R.G.O. Fund)—*H. H. M.*—*W. J. F.*—*A. H. T.*—*C. A. C.*—*J. D. B.*—*F. H. P.*—*W. V. Z.*—*A. B.*—*W. E. G.*—*T. W. T.*—*S. A. H.*—*R. W. A.*—*E. B.*—*S. Atkins*—*J. P. W.*—*L.*—*Heech*—*J. R. A.*—*D. C.*—*A. D. R.*—*T. L.*—*E. M.*—*W. B.*—*S. C.*—*L. L.*—*H. W.*—*W. S.*—*A. C.*—*T. D.*—*J. S.*—*C. H. P.*—*W. E. B.*—*Trinidad*—*T. H.*—*H. G. A.*—*W. I.*



WEST PARK, BEDFORDSHIRE, THE RESIDENCE OF THE HON. WHITELOW REID,
AS SEEN FROM THE SOUTH WEST.

Photograph by H. N. King.



THE Gardeners' Chronicle

No. 7,132.—SATURDAY, September 5, 1908.

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HARDY FLOWERS AT GLASNEVIN GARDENS.

ONE of the first things that attracted my notice on a visit to these gardens, situated a few miles from Dublin, early in August was a plant of *Gerbera Jamesonii* growing in front of one of the plant houses, and I was interested to find that it is the same plant which gave me my first introduction to this *Gerbera* in the open some years ago. There it has remained and increased in size, producing many of its bright scarlet flowers annually.

Close at hand were many specimens of hardy *Calceolarias*, including the one raised by Messrs. R. Veitch & Sons, Exeter, between *C. plantaginifolia* and an herbaceous variety of a more tender constitution. Compared with *C. plantaginifolia* or *C. polyrhiza*, both of which were noticed, its beauty is at once seen to be superior. It is known as Golden Gem. Another *Calceolaria*, hardy in several parts of Ireland, is the shrubby *C. integrifolia*, which forms a tall plant with a hard, woody stem. Strikingly fine, also, was *Convolvulus mauritanicus*, a plant not too hardy everywhere, but growing freely at Glasnevin. The pretty, but rather uncommon *Asphodeline asiaticus* was seen in front of one of the plant houses and in other parts of the garden, its yellow flowers showing to advantage. *Crinum* do well in the open in this Irish

garden, such fine species as *C. Powellii* and its white variety, also *C. Yemensis*, and others making noble clumps and producing many massive flower-spikes.

Glasnevin has long been noted for its *Celmisias*, and, although not in bloom, the collection is of interest, *C. coriacea*, *C. verbascifolia*, *C. Traversii*, *C. Munroii*, and others growing in vigorous health on rockeries and elsewhere. There is also a large collection of *Erodiums*, among these being the pretty, yellow-flowered *E. chrysanthum*, still rare, although introduced into cultivation several years ago. At Glasnevin it is doing well, as also are such species as *E. Kolbianum*, *E. Sibthorpium*, *E. Wilkomianum*, *E. hybridum*, *E. Manescavii*, and several others.

Campanulas are exceedingly well represented, and among the dwafwer species, of which there is a comprehensive collection, I noticed a very beautiful form of the charming *Campanula pulla*. It was found in Italy, and is known as the Italian form. It is superior to the type in its freer growth, greater neatness, the breadth of the flowers, and other improved characters. It is doing well at Glasnevin, even on level ground. There is a good collection of other species of *Campanula*. Among those I observed were *C. Leutweinii*, *C. primulaefolia*, *C. haydenensis*, *C. turbinata* Isabel, and others of special beauty or of botanical interest. The popular *Dianthus* is to be met with in many forms, such as *D. trifid-culatus*, *D. alpinus*, *D. zonatus*, *D. neglectus*, and others, the collection being a specially good one, most of the plants apparently thriving well upon the limestone. Among the *Geums*, of which there are many, I was attracted by the effective foliage of *Geum bulgaricum*, although the plant was not in flower. *Potentillas* are excellently represented, amongst them being *B. nepalensis* Miss Willmott's variety, apparently a better form than one I had seen under the same name a short time before. More noteworthy, however, was *P. nitida*. It was flowering with a freedom I have never seen equalled. *Epilobiums* were good and numerous, the newest to me being a pretty pale yellow one labelled *E. luteum*, a dwarf plant, which, if hardy, as it appears to be, will prove an acquisition to the rock-garden or border. The pretty yellow *Cineraria lobata* was also observed, and, as Mr. Moore thinks this may prove hardy, a note should be taken of it by those seeking new plants. Quite a number of *Pentstemon* species are to be found, such as *P. Kellermannii*, the blue *P. heterophyllus*, *P. Hartwegii*, with a very beautiful variety called *pygmaea*, having flowers of a pretty blush colour and very dwarf in habit. This is apparently an excellent rock-garden plant.

As might be expected, *Saxifragas* are very numerous, there being not only a fine collection of the encrusted or silvery species, but also of those of other types. Among the rarer species I observed *S. crosa* and *S. ranunculiflora*. The species of *Digitalis* attracted my attention, including several already known to me. These plants do not receive the notice they deserve. I observed the pleasing, tall, white-flowered *D. levigata*, also *D. ferruginea*, *D. lutea*, and *D. Lindleyana*, all of which afford material for the

hybridiser. There was also a good collection of *Dipsacus*, and these might be more freely introduced into gardens for their effective appearance. *D. laciniatus*, *L. Leschenaultii*, and *D. Gmelinii* are all good. *Verbasums* also were numerous; one tall and effective plant was called *V. leianthum*. It has yellow flowers, and one specimen was 14 feet high (see fig. on p. 171). *V. phlomoides* was among the best of the others. *Statice* included *S. Wildenowii*, *S. bellidifolia*, *S. incana*, and *S. Limonium*. The species and varieties of *Sedums* and *Sempervivums* were very numerous.

Of the *Lithospermums* I was specially impressed with the freedom of flowering of *L. intermedium*, which promises to take a leading place among the blue or purple *Gromwells*. The allied *Moltkia petraea* was also fine.

Ramondias and *Haberleas* included the best species and forms of these fine rock plants, and the fine rosettes of leaves showed how well they thrive in the corners in which they are planted in the rock-garden. In passing, reference may be made to a fine specimen of *Rubus australis* growing on a rough pole in the rock-garden and which it is intended should thus clamber into the branches of a tree above. Amongst other rock-garden plants were *Nepeta Mussinii*, *Potentilla speciosa*, *Hypericum fragile* and others, *Silene quadrifida*, *Chrysanthemum argenteum*, *Aster hyssopifolius*, *Coprosma acerosa*, *Thymus lanceolatus* and *T. strictus*, *Euphorbia capitata*, *Arenaria gracilis*, *Senecio laeopus*, *Veronica canescens*, and other herbaceous and shrubby species of this numerous family. The pretty *Asperula Gussonii* was growing extremely well. I also noticed *Enothera pumila*, and this miniature species of *Gunneras* not often seen, viz., *G. magellanica* and *G. dentata*. The handsome *Aciphylla squarrosa*, *Eryngium rigidum* and *E. Serra*, with good *Cytisuses*, *Hedera minima*, and many dwarf shrubs gave a fine appearance to the rock-garden, which, despite some adverse criticisms on the ground of formality, is one of the best I have seen for the welfare of the plants.

Daphne Blagayana, for which Glasnevin is noted, is thriving, and the Glasnevin *Lavender* is one of the best. The collection of hardy Ferns near the rock-garden is a very fine one, and pteridologists would find ample material to interest them.

The water-garden at Glasnevin is always pleasing in summer-time, and those who do not care to wander down to the water-garden proper will find many fine *Nymphaeas* in little tanks in front of the houses, while the more tender *Water Lilies* are accommodated under glass. In the water-garden there is a representative collection of the new *Nymphaeas*, such as *gloriosa*, *Wm. Doogee*, *Gladstoniana*; the double tuberous *Richardsonii*, *Robinsoniana*, *Elisiana*, and *chromatella*. The water-garden is fringed with moisture-loving plants, and near by is a bog-garden, where many plants are in perfect health, among them being a number of *Primulas*, *P. Poissonii*, in particular, being beautifully in bloom. The shoots are 2½ feet high, although at times in winter the plants are covered with the overflow of the water. Japanese *Iris* flourish here very satisfactorily.

The herbaceous borders are well planted with choice subjects, and free use has been made of annuals to supplement the display of bloom until the later-flowering plants come into bloom. Among the annuals I noted some plants of a fine strain of annual Larkspur and a beautiful white Iberis.

In the reserve gardens are many good plants, including a collection of seedlings from recently introduced Chinese species. These are interesting, and although many will probably prove to be plants already known in gardens there will no doubt be some novelties amongst them. The collection of hardy plants is worthy of the fine establishment, and the condition of the garden reflects credit on Mr. Moore and his staff. *S. Amott.*

APPLE FELTHAM BEAUTY.

THIS early dessert Apple (see fig. 74) was exhibited by Messrs. James Veitch & Sons at the meeting of the Royal Horticultural Society on August 18th, when the Fruit and Vegetable Committee granted it an Award of Merit.

The parents were stated to be Cox's Orange Pippin and Mr. Gladstone. It is a brightly-coloured fruit of medium size, being flattish-round in shape and highly coloured at the end next to the sun. The ground colour is a yellowish-green, and this has red markings, which sometimes run in streaks towards the eye, which is closed. The stalk is set in a shallow cavity, is about half an inch in length and rather slender. The variety is especially welcome as it is in season at a time when good dessert Apples are scarce. The fruit is very pleasant to the palate, the flesh being brisk and sweet, which qualities no doubt it derives from its first-named parent, Cox's Orange Pippin.

NOTICES OF BOOKS.

* "THE BOOK OF THE PANSY, VIOLA AND VIOLET."

IN an introduction to this book the author gives a history of these charming garden flowers. He says: "The origin of the Pansy is to a certain extent wrapped in obscurity" and cites the work of a gardener named Thomson (not Thompson), of Iwer, who, it seems, obtained plants of the wild *Viola tricolor* and used this plant as a seed parent to obtain improved forms. This was in 1813. He certainly found they improved, as was natural. But the Pansy was a cultivated plant in England certainly at the end of the sixteenth century. All the early botanists make mention of it as a well-known plant. We a'so know that the play of "Hamlet" was published in 1603, and in the IV. Act Scene V. the Pansy is distinguished from the Violet. Poor, distraught Ophelia brings in a collection of flowers and herbs. Amongst them she has "Pansies that's for thoughts." "There's a Daisy; I would give you some Violets, but they withered all when my father died." Spenser, in the *Shepherd's Calendar*, writes of the "pretie pawnee." And Ben Jonson has it, "The panzie this, and that's for lover's thoughts." It is also frequently mentioned in Shakespeare as "Love in idleness."

"Yet marked I where the bolt of Cupid fell;
It fell upon a little western flower—
Before milk-white, now purple with love's
wound,
And maidens call it 'love in idleness.'"

* By Howard H. Crane. London: John Lane, The Bodley Head.

It was greatly esteemed in those early days, and had many endearing names, such as "Cull me, sweet," &c., but the name of Heartsease is not used by Shakespeare at all, as this name pertained originally to the Wallflower, and, by some misunderstanding, was transferred to the Pansy. Thomson may be left out of the *History of the Pansy*, as he was only one amongst many who cultivated and improved it in the nineteenth century. If Mr. Crane will refer to the first volume of the *Floricultural Cabinet*, p. 192, plate XI., there are three coloured illustrations of Pansies in this periodical showing what had been done up to that time, and during the next seven years there were 21 coloured illustrations of Pansies in this work alone; if we are to believe the artist who painted them, the advance in these seven years was marvellous. There is a yellow self, two yellow-grounds and two white-grounds, as good in form as those of the present day; they are in vol. vii., May 1, 1839. The plates are not numbered.

About that time there were three classes of Pansies, viz., white-grounds, yellow-grounds, and selfs. Of the self colours there were white, yellow and dark, almost black, varieties; but

botanically, they are all specifically distinct. *Viola cornuta* is an old inhabitant of English Gardens. It was figured in the *Botanical Magazine* in 1805, tab. 791. It is a native of Spain and Algiers, and was introduced to the Royal Gardens, Kew, in 1776, by Dr. Ortega. About the middle of the last century or later, when flower bedding was so popular, gardens were ransacked to obtain suitable plants, and in the sixth decade *Viola cornuta* was discovered treated as a weed in some old garden, and was easily propagated, and took its place as lines in "ribbon borders," or edges to beds in the flower garden. It is of free-tufted, wiry growth, and soon smothered most other hardy plants if its growth is not checked. It is seldom seen now. By using the pollen of the Pansy on this *Viola* a much harder plant was obtained than the Pansy, and one that, owing to its slender, wiry stems, stands the heat and drought of the South of England, and thrives where the Pansy will scarcely exist. The introduction is the least satisfactory part of the book; but the author's remarks on the culture and treatment of the Pansy, *Viola* and *Violet* shows that he is familiar with his subject. The various types of

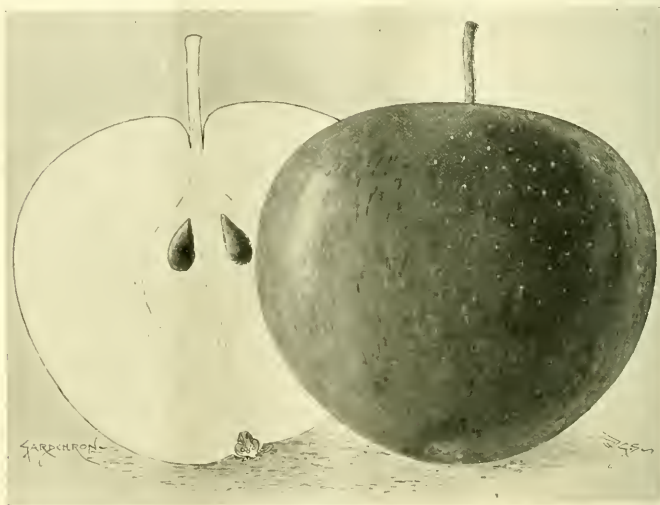


FIG. 74.—APPLE FELTHAM BEAUTY: A NEW APPLE, RIPENING IN AUGUST.

amongst the white and yellow-grounds there was no great variety until about the middle of the last century. The Belgian Pansies were introduced by the late Mr. Wm. Dean, an elder brother of Mr. Alex. Dean. The florists would have none of them at first, and treated them with contempt, just as the Japanese *Chrysanthemum* was belittled by the growers of the incurved varieties ten years later. But the Belgian Pansy came to stay. Others outside the ring of florists took them up, and the result is the fancy Pansy of the present day. They are the result of nearly 60 years' work in Britain. The show and fancy Pansies were doubtless derived by continuous cross-fertilisation from *Viola tricolor*, which is found in its wild state very widely distributed in cultivated ground in Britain.

We now come to what the author of this book terms "Tufted Pansies." He quotes the late Dr. Stuart, who says that "Botanically, Violets, Pansies and Heart's-Ease are all the same." This is incorrect! The Sweet Violet is *Viola odorata*. The Pansy is *V. tricolor*, and the Tufted Pansy has been obtained by crossing *V. cornuta* with the pollen of *V. tricolor*, so that,

Violas and *Pansies* are described and classified, but surely the author is in error when he states that in the case of exhibition *Violas*, "Here size of flowers is sought after at the expense of everything else, no matter how coarse the growth, how utterly unsuited for garden embellishment, how difficult to grow, or how far from a really tufted Pansy it may depart, the one redeeming feature of size secures for it a place on the list of specialists, and recognition on the stands at the shows." Surely no person with a judicial mind would place mere size in the first place, ignoring form and good colour. There are chapters on "Propagation," "Planting out in beds," "Exhibiting," "Raising new varieties from seed, and method of crossing." The author has gone into the details of the work minutely, and an amateur, taking up the culture of *Violas* and *Pansies*, will be thankful to have so much useful information placed before him. The month of August is the best time to propagate these plants, and in this respect the illustrations of cuttings in the book are valuable, showing the right and the wrong shoots for the purpose. *J. D.*

ORCHID NOTES AND GLEANINGS.

HOLOTHIRIX VILLOSA.

FLOWERING in the Orchid nurseries of Messrs. Charlesworth and Co., Heaton, Bradford, is this singular little South African terrestrial Orchid, an inflorescence of which has been sent us. It decidedly belongs to the class termed botanical, but under examination it is highly interesting, and moreover its flowers are delicately fragrant. The leaves are round, fleshy, and hairy, and are borne near to the surface of the soil. The slender, erect inflorescence is about 9 inches in height, and furnished with about 20 small, yellowish-green flowers irregularly arranged on the upper half, the spur of each passing under the proportionately-thick, short pedicel and ovary. It was grown in a cold, freely-ventilated house with *Bartholia pectinata*, which Messrs. Charlesworth showed so well at Holland House, and with which it was imported.

ARACHNANTHE MOSCHIFERA.

THIS striking species is flowering with Messrs. Sander & Sons, St. Albans, its curious, large, spider-like flowers being produced on stout, *Aridis*-like growths. The thick, wax-like sepals and recurved petals are greenish-white barred with chocolate-purple. The short and curiously-formed lip is greenish, the edges of the side lobes and the very short front lobe brown. It has the same general appearance as Messrs. Sanders' recent introduction, *A. annamensis*, although the latter is the showier. Both species require to be grown in a warm, moist house.

CIRRHOPELALUM MACRAEL.

AN inflorescence of this graceful Ceylon species is sent us by Mr. W. P. Bound, gr. to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, who has an important collection of *Cirrhopetalums*, *Bulbophyllums*, and other pretty and rare Orchids. The slender scape bears a head of flowers arranged in a very short raceme, and each about two inches in length. The upper sepal is broadly lanceolate, and continued in a bristle-like point. The long, narrow lateral sepals are pale yellow mottled with rose colour; the small petals reddish, and the fleshy, recurved lip mottled with purple. The species has been known for many years, but is now rarely seen in gardens.

THE ROSARY.

WORK IN THE ROSE GARDEN DURING SEPTEMBER.

THE weather of August was very unfavourable for budding operations, and I am afraid there will be many failures owing to the dry weather. Where the buds have taken they are plump and sound, and if the early-budded Briars are now shortened about half-way, this will help to keep the buds vigorous. Any stocks that have missed are still available for budding if the roots are kept well supplied with water. The work, however, should be completed early in September, for if the weather afterwards sets in wet there will be so great a flow of sap that it will keep the stocks in active growth much later than usual. Budding of the Manetti and the De la Grifferaie stocks should be finished without delay, as there is an abundance of good ripe buds for the purpose. Early-budded Briars starting into growth may be shortened a few inches above the bud to strengthen it. Owing to the dry weather insect pests and mildew abound; the shoots and foliage should, therefore, be well cleansed with suitable remedies in the evenings, and the specific should be washed off again with clean water on the following morning. All soft and weakly-growing shoots should be removed to strengthen those

that remain, and any useless shoots or suckers springing from the stem or roots must be removed also. By a system of early and late propagation and judicious stopping during the growing season it is possible to maintain and extend the flowering period of Roses from May until Christmas without any attempt at forcing. Pot Roses plunged in beds should be brought into a cold house or frame for successional flowering at the end of the present month, but if the weather is mild and open they can be left out till October and be brought under cover in batches as required. The Tea and Hybrid Tea Roses are now more brilliant in colour than at any other season of the year, and they will continue to flower well for a long time to come, especially if after the end of September a temporary framework is made for their protection. A suitable structure may be made with garden lights, leaving the sides and the ends of the structure open. This applies only to dwarf pot plants plunged outside in beds. The following are specially bright and varied in colour just now: Belle Siebrecht, Mme. Testout, Triomphe de Perné Pere, Liberty, Grand Duke Ernest Ludwig, Falcot, and Safrano. Some years ago I saw growing at Messrs. Lévêque's nursery near Paris, during September, many thousands of pot Roses plunged outside, and it was an object lesson to see the wealth of varied colours on the plants. Many of them were not more than six or eight months old from the graft or cutting.

Keep the hoe well plied amongst borders and beds of Roses. This will assist in aerating the soil and also promote the ascent of moisture from the water level. Those beds and borders which have received a good mulching and abundant watering during the summer will now show to great advantage. The flowers, foliage, and growths of the plants will be fresh and abundant.

At the end of this month the pot Roses that were forced and stood outside during the summer can be potted or top-dressed according to the state of the roots. If top-dressed, 2 inches of the old soil should be taken off and replaced with good turfy loam, a little rotten manure, and bone-dust. See also that the drainage in the pots is perfect. When Roses have been in the same pots for more than two seasons they usually require a shift into receptacles a size larger. Sometimes they will be found to have made few or no roots; in this case they should be returned to the same pots, after the pots have been washed. Pot firmly, using two-thirds good loam, the remaining third being burnt earth, sharp sand, and manure. The repotting of the bulk of these Roses can remain over until next month, when a general overhaul of all the plants in pots will be necessary. Roses planted out under glass should be lightly pruned at the end of this month. They should be allowed an abundance of ventilation both night and day, and be kept well syringed while bright weather lasts. The material for potting purposes next month should be prepared at once. Fresh loam or turf should be mixed with road grit, burnt earth, rotten manure, and soot, and well exposed to the weather at least a month before it is required for use. The best plan is to have the loam, turf, and manure stocked in alternate layers some six or eight months before it is required. Soil near towns soon loses its fertilising properties and requires frequent renewal. Now is the best time to do this in readiness for planting next month. The old soil should be cleared out and fresh maiden loam, turf, and well-fermented manure be substituted. Climbers and bush Roses thrive best near towns; standard Roses are usually short-lived. Hybrids of Bourbon and China Roses are very suitable for town planting. A selection includes Blairii No. 2, Coupe d'Hebé, Chas. Lawson, Paul Ricaut, the old Provence, old Pink and Crested Moss, and old Cabbage Rose. The following climbing varieties are also suitable: Bennett's Seedling, Dundee Rambler,

Félicité-Perpétue, Laure Davoust, Sweet Briar, and Mme. d'Arblay. Only a few kinds of the Hybrid Perpetual class are likely to do well in smoky districts, the best being Boule de Neige, Mrs. John Laing, John Hopper, Anna Alexiff, Duke of Edinburgh, and Ulrich Brunner. J. D. G.

TREES AND SHRUBS.

OXYDENDRON ARBOREUM.

WITH the exception of many species of Heaths and their numerous varieties, there are few Ericaceous plants that bloom during the latter part of the summer. Included in the list is *Oxydendron arborescens*, which forms an ornamental flowering shrub. It is an old plant in gardens, having been introduced from North America in 1752, where in a state of nature it is said to occur from Pennsylvania to Florida, in the valleys of the Alleghany Mountains. In its natural habitat the plant attains the dimensions of a tree, but in this country it must be looked upon more as a shrub, and it blooms freely when less than 6 feet in height. While the generic name of *Oxydendron* is now regarded as the correct one, the plant was formerly known as *Andromeda*, also *Lyonia*, the specific title in each case being the same. Popularly it is the Sorrel Tree or Sourwood of the States. The leaves are oblong-lanceolate in shape, glabrous, and of a dark green hue. In the autumn the foliage changes to a brilliant shining-red colour, and frequently remains in this state for some time before defoliation. The flowers are borne in long slender, partially drooping racemes on the branchlets of the preceding year; they are white, urn-shaped, and of thick wax-like texture. This species of *Oxydendron* needs a fairly cool, moist soil of a peaty nature.

HIBISCUS SYRIACUS.

APART from the beauty of its blossoms, this *Hibiscus* is very interesting as being almost the only shrubby member of the large order Malvaceae that can be regarded as hardy in this country. It is, however, only hardy in the southern parts of these islands. A warm, well-drained soil is best suited to its requirements, and a hot, dry summer is particularly conducive to the formation of flower-buds. In all its varieties this *Hibiscus* forms a sturdy-growing deciduous shrub, seldom more than 6 feet to 7 feet in height, and is of a somewhat erect habit. While the bark of the young shoots is greenish, the old wood is usually of a decided greyish hue, which in winter when devoid of foliage forms a notable feature.

Of the many named varieties in cultivation there are more kinds with double or semi-doubles blossoms than with single ones, but I prefer them with single flowers. A delightful variety is *Colsete*, whose large, well-expanded blossoms are coloured bright blue, with a reddish tinge towards the base of the petals. It has of late become very popular. Other good single varieties are *Totus albus*, with pure white flowers; *Rubus*, the best of the reds; and what I regard as the typical *Hibiscus syriacus*, a white flower with a large crimson blotch at the base of each petal. Of double kinds may be especially mentioned *albus plenus*, double white; *anemoniaeflorus*, dark red; *Boule de Feu*, bright red; *corculus plenus*, bluish; *famosus*, rosy-white; *Lady Stanley*, rose; *spectabilis flore pleno*, pale pink.

This *Hibiscus* is said to have been introduced to this country as long ago as 1596; London mentions seven varieties. The question of its native country has aroused a certain amount of controversy. The specific name would suggest that it is a native of Syria, and the *Kew Hand List* gives as its native country the Orient, but I believe it is now regarded as indigenous to China, having been found wild in different localities in that country. W.

NOTES FROM A "FRENCH" GARDEN.

WE are sowing in frames in well-prepared soil seeds of a dwarf strain of Ox-Heart Cabbage. Germination is hastened by light but frequent waterings. Should the weather prove very wet, the lights will be placed on the frames, although an abundance of ventilation will be given. Another bed similar to the one for the Ox-Heart Cabbages has been prepared for the sowing of Cauliflowers Driancourt, Lambin, and Lenormand. The heads will be ready for cutting in the coming spring. Beds have also been made ready for pricking off Lettuces in October; as it is important to take advantage of the fine weather, all the hot-beds at liberty are being turned over; the old manure is well broken up, and will be used to form a layer 2 inches in thickness on the beds for the Lettuces. Seedlings of Onion Little Paris Market are coming through the ground; they will be pricked off at the end of September.

The Lettuces sown at the beginning of August have been transplanted under cloches, 30 to each cloche. The plants are doing well, the present dull and windy weather being favourable to their growth. We have set the cloches on the beds, where the Lettuces will be planted out in groups of four; the glasses are covered with mats to keep the soil in good condition.

All the Winter Spinach has been sown. The Endives La Ruffec and the Bataviana Green are well established in their winter quarters.

The crop of Endive La Rouennaise planted at the end of June on the old manure beds is now marketed. They must be dispatched in a very short time after the heart is bleached, or the outside leaves soon decay.

All the Cauliflowers are growing freely: the plants need constant attention and frequent waterings in order to keep the leaves tender and green, and to guard against aphides and caterpillars, which are numerous at this time of the year.

In the old-established "French" garden a sowing of the first batch of Cabbage Lettuce Little Black Gott has been made under cloches. The seedlings will be pricked off a week later, 30 to each cloche, in a well-situated part of the garden. They will be planted on hot-beds during the middle of November. This is not very profitable, but it is done to find work for the staff during November and December, and to advance the making of the hot-beds in January. This crop is cleared for the New Year; the beds are then turned over and mixed with a quantity of fresh manure to be used for another crop. *P. Aquilias, Mayland, Essex, August 27, 1908.*

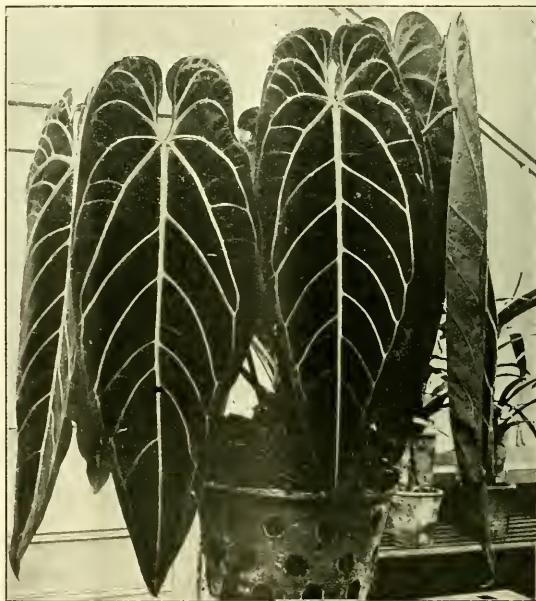
ANTHURIUMS.

SPECIES of Anthurium which are cultivated for the beauty of their leaves require a considerable amount of room for their development, much more than those that are grown only for their flowers. Each section requires different treatment, and while they readily respond to generous culture, there are certain conditions essential for their successful growth.

The flowering species are propagated in the spring by removing the side shoots with roots attached. Pinch out any flowers that may be present on the offset, and insert the shoot in a mixture of fibrous loam, broken crocks, charcoal and silver sand. Anthuriums ramify best in soil which is in a lumpy condition, perfectly sweet, and through which water will pass readily. From start to finish they require an abundance of water. Plunge the pots containing the shoots in a bottom heat of 65° F., and in a few weeks they will have made roots in sufficient quantity to warrant their being taken out of the propagating case and shifted into larger pots, but over-potting must be guarded against. Use a similar compost as before, with the addition of some lumps of flaked cow manure broken to the size of Walnuts, and

return the plants to the propagating case for a few days. Shade them from bright sunshine and admit a little ventilation to the frame during the middle of the day. Keep the plants damp by syringing them two or three times daily. On taking them out of the case, place them on the shady side of the pit, gradually inuring them to more light as the summer advances, but never expose them to the full force of the sun's rays. Apply plenty of water both at the roots and overhead. The temperature may be allowed to drop in the autumn, and less water will be necessary through the dull months of the year. A night temperature of 55° will suit them admirably. Insects may be kept at bay by immersing the plants in the XL-All or some other insecticide. Repot the plants in April in soil similar to that already advised, using lumps greater in size at each successive potting. In the summer a few flowers will appear, but the object of the cultivator should be to encourage growth rather than the production of flowers. Treat the plants through

sow them in spring time on a mixture of chopped Sphagnum-moss, finely broken charcoal and crocks with the addition of a little sand. The drainage of the seed-pans should be as perfect as possible. Do not cover the seeds, but let them lie evenly upon the surface. Cover them with a bell-glass or place the pans in a propagating case having a night temperature of 65°; they will germinate in about six weeks. Allow the young plants plenty of light, but do not permit the sun's rays to burn them. Syringe the seedlings overhead each afternoon and give them fresh air at midday, increasing the amount according to the growth and vigour of the plants. In September prick the seedlings into 3-inch pots and keep them through the winter in a temperature of 60° to 65° at night time, increasing it 10° by day. They must be potted as required, and should always be allowed an abundance of rain water. From this point they may be treated as advised for the rooted shoots. Slight variations in the colour of the spathes of the various species may be found, and this adds



[Photograph by J. Chenhall.]

FIG. 75.—ANTHURIUM WAROCQUEANUM: IN THE COLLECTION OF A. LANYON, ESQ., TOLVEAN, CORNWALL.

the following winter as in the one before, and repot, if necessary, in April. After this stage flowers will appear profusely. When the brightness of the flowers has waned in early August, an excellent opportunity will be afforded to over-haul and clean the plants, potting them or giving them a good top-dressing as may be required. Flowering seems to exhaust the plants, but top-dressings or waterings of liquid cow manure serve to increase their vigour again before winter sets in. Anthuriums may also be increased by cutting the stems into pieces 2 inches long and placing the portions in a very sandy soil in heat, as is done with various species of *Draena*. This method of propagation takes a longer time than that described above, though one stock plant gives a large number of new plants by this means of increase.

A. Scherzerianum and its varieties, also A. Andraeanum and its varieties, may be grown from seed. Wash the seeds from the pulp and

to the interest of raising the plants from seeds. The soil must never be allowed to become sour, and if this should occur, it is best to cut off all flowers, wash the roots in warm water, cut away any dead roots and decayed parts, and pot them in fresh, sweet soil, afterwards plunging them in bottom heat to assist fresh root action.

SPECIES WITH ORNAMENTAL FOLIAGE.

Some of these possess large, handsome, velvety, and diversely-shaped leaves, which renders them exceedingly attractive. They are propagated by suckers during the spring or summer months; also by taking off a portion of the main trunk when the annual potting takes place. A piece of the stem 6 inches long should be cut into three portions, and these placed singly in 4-inch pots, in a mixture of Sphagnum-moss, charcoal and broken crocks and plunged in a bed having a temperature of 65° to 70°. One

or more shoots soon make their appearance; these should be potted on and given a liberally rich soil, consisting of lumps of rich fibrous loam, some fibrous peat, cow manure, charcoal and broken crocks. Keep the plants well watered and shaded, pinch out all flowers as they appear, and maintain the plants scrupulously clean by frequent syringings.

The temperature should be higher (80° to 85°) than for the flowering varieties, but they need an abundance of water both at the roots and overhead. A moist atmosphere, such as is found in a Cucumber house, is an ideal one for these Anthuriums.

A. Warocqueanum (see fig. 75) is one of the handsomest species. It grows to a height of 4 feet 6 inches, and the leaves measure 45 inches in length and 16 inches in breadth. In colour they are a handsome green crossed with silvery white veins.

A. splendens is well described by Mr. Bull as follows:—The course of the nerves is marked by a broadish band of deep lustrous vel-

roots have formed in this upper soil, it is possible to cut off the part in the pot, and to sink the upper part now cased in the netting into a fresh pot without damaging the plant. By this means the plant may be kept quite dwarf.

The illustrations (figs. 75 and 76) are of plants in the collection at Tolvean, Redruth, Cornwall, the seat of Alfred Lanyon, Esq. The structure in which they are housed is heated by four rows of pipes running under the side benches. Under the central stage there is a tank the length of the house, which feeds a dip in one corner. The house is a span-roofed structure with a lantern. The principal plants grown in this stove are:—Anthurium, Allamanda, Calathea (Maranta), Stephanotis, Ikora, Euphorbia, Eucharis, Codiazum (Croton), Acalypha, Hibiscus, Cycas, Hamanthus, and Dracena. The gardens were under the care of Mr. John H. Bowden, during which period they were noted for nearly 40 years for their stove and greenhouse specimen plants. Mr. Bowden has recently retired. H. W., Tolvean, Redruth.



[Photograph by J. Chenhalls.

FIG. 76.—ANTHURIUM VEITCHII: IN THE COLLECTION OF A. LANYON, ESQ., TOLVEAN, CORNWALL.

very green, the intervening spaces of about equal width being in striking contrast, of a pale yellowish green. . . . This is a very beautiful species.

A. Veitchii (see fig. 76) has leaves 40 inches long and 12 inches wide, with a glossy metallic surface. The principal nerves are arched and deeply sunken, presenting a curiously waved appearance. A full-grown plant will measure as much as 6 feet across.

A. crystallinum is an old and well-known variety, with rich velvety green leaves having white crystalline veining. The leaves are ovate and present a handsome appearance.

Towards the end of the summer large plants may become leggy and the leaves become reduced in size; for some years I have adopted a plan to augment the amount of rooting material by placing a piece of half-inch mesh wire netting around the stem of a diameter to fit inside of the rim of the pot. This is lined with living Sphagnum-moss and filled with large lumps of loam, peat and cow manure. Eventually, when

tion of these Orchids, for upon its proper carrying out largely depends success in their culture. The early autumn is generally regarded as the best season for the affording of new rooting material to these plants, the cool nights and moist atmospheric conditions then prevailing affording conditions favourable for the re-establishing of the plants before winter sets in. No delay should, therefore, occur in proceeding with these operations. As regards the manner of potting and material employed, these have been previously noted, and it is only necessary to add that pots or pans which are too large in size should not be used. We employ a compost similar to that recently advised for Miltonias. Everything used in the repotting should be thoroughly clean and sweet, and provision should be made for thorough drainage. Specimens that have been left undisturbed for a few years, and that are now showing signs of exhaustion, should be given attention. Shake away the old potting material from the roots, and remove any old and useless pseudo-bulbs. Use pots just large enough to accommodate the roots for one season only. Vigorously-growing plants that need much root space may be shifted, without disturbance of the ball, into receptacles large enough for the proper development of two seasons' growth. Plants that need resurfacing only should be attended to and then be placed by themselves, otherwise it will be difficult to distinguish these from the newly-potted ones that will require a different treatment in watering. The usual precautions must be taken with newly-potted plants. Exercise especial care in watering those that have had the old material entirely removed. Regulate proper atmospheric conditions by judicious damping of the bare surfaces about the plants and the admittance of proper ventilation. Careful shading will be needed on bright days, and the plants may be sprayed overhead two or three times daily when the weather permits.

Propagation.—Odontoglossums may be increased by means of the pseudo-bulbs. Select the stems, label them, and place them together on a bed of Sphagnum-moss in a box close up to the roof glass in a cool house. Another method of increase is to sever the rhizomes between the pseudo-bulbs whilst growing in the pots. If these divided portions are leafy stems, they form roots readily.

THE FLOWER GARDEN.

By W. SYRE, Gardener to Lady WATKINS, Lockinge Park, Berkshire.

Bulbs.—Preparations should now be made for the planting of bulbs. Heavy soils will be benefited by the addition of leaf-soil and sand, and the ground should be dug to a fairly good depth, leaving a fine tilth on the surface. There are many places where bulbs are planted, such as land skirting woods and shrubberies, also banks and grass lands, where it is not practicable to dig the soil, but numerous holes may be made the width and depth of a spade and be filled with some richer soil, such as discarded potting loam. The bulbs will grow well in these prepared places, but if this system cannot be practised holes may be made with crowbars of different sizes to be filled in with a little fresh soil, taking care not to plant the bulbs too deeply. As bulbous plants thus utilised are not shifted each year, a little extra trouble in their planting will be well repaid. There is a great variety of subjects suitable for planting in these natural spots, including Daffodils, Chionodoxas, Colchicums, Crocuses, Eranthis hyemalis, Snowdrops, Tulips, Hyacinths, Jonquils, English and Spanish Iris, Leuciums, Muscari botryoides, Fritillarias, and Anemones.

Seed collecting.—Collect seeds of all hardy plants that are required, as soon as they are ripe, and it must be remembered that even on the same plants the seeds seldom ripen at the same time. Seeds collected before they are ripe are not satisfactory; it is much better to gather them at intervals of two or three days, choosing fine weather for the work. The seeds should be cleaned, properly labelled, and stored in a cool, dry place. Many kinds of early spring-flowering plants may now be sown, such as Collinsia bicolor, Saponaria calabrica, red and white-flowered Candytuft, Clarkias marginata and pulchella, and Virginia Stock.

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt-Col. G. L. HOLFORD, C.V.O., C.I.E., Westouliort, Gloucestershire.

Odontoglossums.—The spring and early-summer flowering members of this genus are the most popular of all the cool-growing Orchids. The species O. crispum, O. Pescatorei, O. Hallii, O. Harryanum, O. triumphans, O. luteo-purpureum, O. cirrhosum, and their hybrids, with their very numerous and beautiful varieties, are all extensively cultivated. Their cultural requirements are very similar, and they can be successfully grown together in a cool, well-cultivated structure. If the situation of the structure in which Odontoglossums are accommodated is an exposed one, periods of hot, dry weather, such as have been experienced this summer, are detrimental to their well-being, owing to it being a difficult matter to maintain a suitably cool and moist atmosphere.

Potting and re-surfacing Odontoglossums.—Repotting is an important detail in the cultiva-

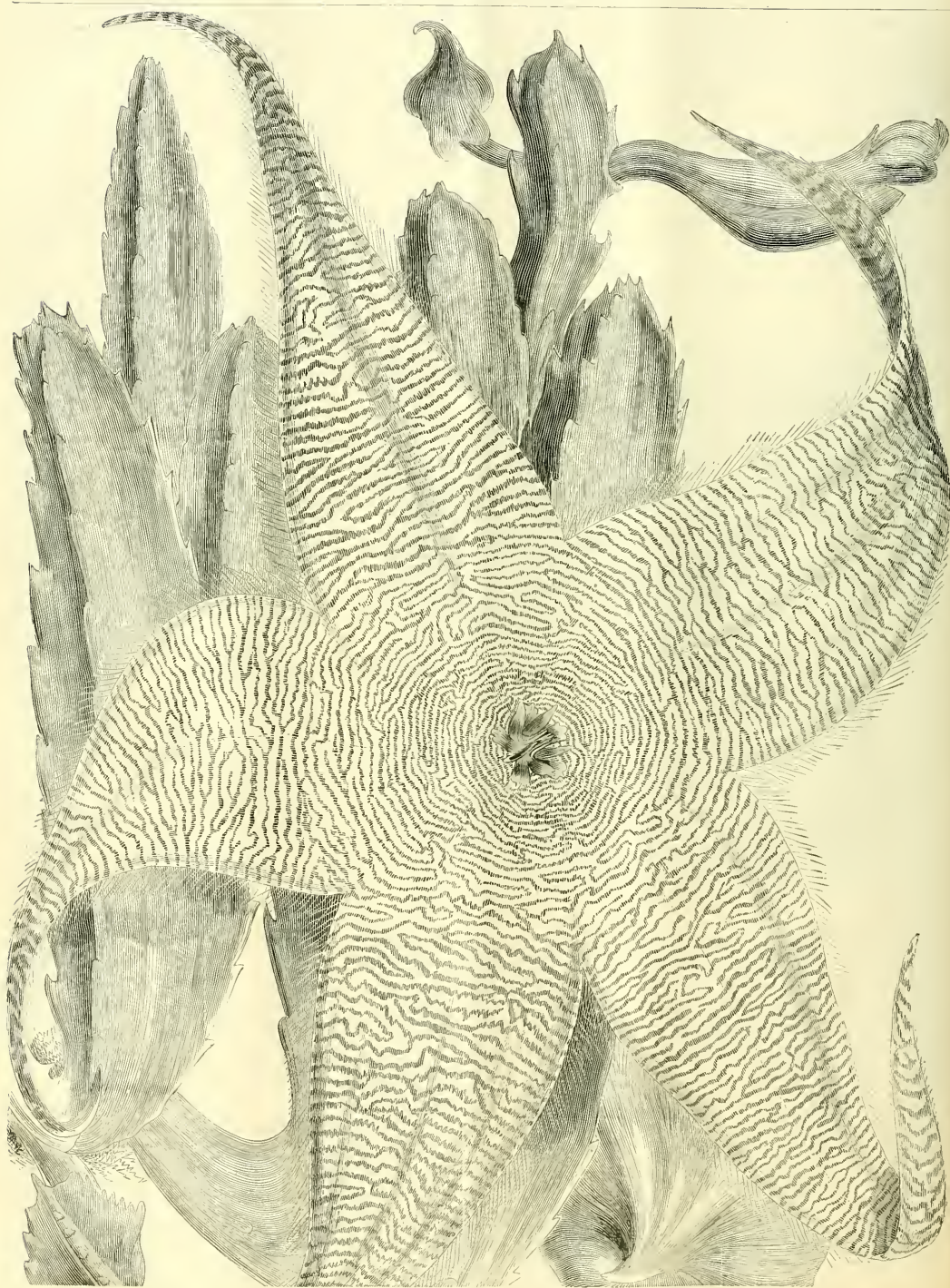


FIG. 77.—*STAPELIA GIGANTEA*: FLOWER MARKED WITH BROWNISH-RED ON A YELLOW GROUND.

(See p. 187.)

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq.,
Keir, Perthshire, N.B.

Bougardia.—Plants growing in unheated frames or in borders out-of-doors will need to be potted at the end of September, and in order that they may not experience a severe check when they are shifted, it will be better to cut the soil around their roots some distance from the stem with a sharp spade. After having cut around the plants in this manner, afford them a good soaking of water to avoid giving them a check. As soon as potting is completed they should be kept in a close atmosphere for a few days and be shaded from bright sunshine. Worms are sometimes present in the soil attached to a plant's roots, and these creatures afterwards become troublesome in choking the drainage. They may be destroyed with water, Salvarsan, Callos, and Eupatorius that have been planted out should be treated in the same manner as *Bougardias*.

Hippastrum.—These plants are now finishing their season's growth, therefore they will require less moisture at their roots; directly the leaves begin to die, water should be withheld altogether. At that stage the plants should be placed in a cool, dry atmosphere, but it will be necessary to prevent the bulbs becoming shrivelled from excessive dryness. For this reason it will be advisable to examine them at intervals. Plants having leaves still very green should be placed in a sunny position in order to hasten their ripening, for unless this is perfected their flowering will not be satisfactory.

Agathaea calcestris.—Do not pinch off any more of the flowering shoots on those plants intended for winter flowering, but it may still be practised in the case of plants which are required to provide a succession of flowers in spring.

Primula.—*Primulas* should be afforded a sunny position and be allowed plenty of room. The flower-spikes of the earliest batch of plants may now be allowed to develop, and these plants should receive occasional applications of liquid manure.

Preparations for winter.—Plant houses should now be thoroughly cleansed; all the glass and woodwork should be painted, and the plants afterwards arranged in position. The present is a suitable time to repair or to paint glass structures, for temporary room can now be provided for the inmates in other houses. After a house has been freshly painted the ventilators should be thrown wide open for several days, and when the paint is dry the woodwork should be syringed two or three times before the plants are again placed in the structure. If plant pots are placed on newly-painted woodwork without first wetting the wood, the pot will stick to the paint.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Downage Lady
NUNBURNHOLME, Water Priority, Yorkshire.

Peach trees.—The fruits of *Amsten* June, *Alexandra*, and other early varieties of *Peaches* on south walls will now have been gathered. The trees should, therefore, be syringed with some suitable insecticide to cleanse them from red spider and other insects. They may still be syringed with clear water each afternoon in common with later varieties on which the fruits are not mature. *Peaches* should be gathered before they are quite ripe and placed on a shelf in a well-ventilated fruit room, for if a *Peach* is allowed to become dead ripe its flavour deteriorates. Fruits at the ripening stage must have full exposure to sun and air, for which reason it may be necessary to remove some of the leaves or to bend them out of the way. Continue to remove the best wood from trees ripening their fruits and shorten those shoots that will be entirely removed when the crop is cleared. The removal of these useless shoots will not only admit extra light and air to the trees, but will assist in the swelling of the fruits. The crowding of the shoots prevents the proper ripening and growth of those that are needed for next year's fruiting; especially is this so in the case of trees growing in unfavourable situations.

Later varieties are carrying good crops of fruits, and these will be especially valuable this season owing to a scarcity of *Pears*. As in the case of early varieties, remove any shoots that are unnecessary. Note any trees that are

making too much growth, also any that are barren, with a view to root-pruning them later, if it is considered advisable. If any of these trees have been mulched, the material should be removed, and especially if the roots are growing in a rich vegetable border. Keep a sharp look-out for earwigs, wood-lice and other insect pests, and keep them in check by the adoption of suitable measures.

Apricots.—As soon as *Apricot* trees are cleared of their fruits, give the foliage a thorough cleansing with the garden hose. Keep the lateral growths in check and remove any strong shoots that are not required, for it is better to prune them at this season than to do so in winter. Encourage young trees to make suitable, but not too rampant, growth. If growth is too vigorous the roots must be kept in check, and if necessary root-pruning practised early in October.

Strawberries.—Runners may still be planted, but unless they are extra strong they will not be expected to produce much fruit next season. One of the best crops to plant preparatory to *Strawberries* is early *Patos*, as their culture entails deep working of the soil and the use of a considerable amount of manure. *Strawberries* that are planted early have a better chance of becoming established and of ripening their shoots before frosts arrive.

THE KITCHEN GARDEN.

By E. HURNETT, Gardener to the Hon. VICARY GRIBBS,
Aldbarn House, Elstree, Hertfordshire.

Cabbage.—The principal batch of *Cabbages* which are intended to furnish a supply in spring, should be planted without further delay on land which has been heavily manured and deeply worked. For many years past I have cultivated the *Spring Cabbages* on a site previously occupied with *Onions*, and the results have been excellent. The surface of the ground should be broken down finely, and a good dusting of soot and wood ashes applied. Allow a distance of from 18 inches to 2 feet between the rows, varying this according to the variety; and 1 foot from plant to plant. Every alternate *Cabbage* can then be cut when quite young, and frequently in early spring green vegetables are none too plentiful. As a preventive of slugs, place a small portion of finely-sifted cinder ashes round each plant after the plants have been made very firm and thoroughly watered at the roots. It is an excellent practice to put a small number of the largest plants on a south border. These will generally prove valuable for cutting very early, as compared with those on the principal break; but such plants must be of a reliable variety, which is not addicted to bolting, but which is known to develop hearts at an early age. A variety which has never failed us once is *Ellam's Early*.

Coleworts are growing quickly, and will require but little further attention except stirring of the surface soil frequently with the draw hoe, and if the land is inclined to be poor, occasional applications of a good vegetable manure may be given.

Carrots should now be blanched as speedily as possible, adding fresh material about once in every ten days, using at the first brown paper, and afterwards hay bands. Make each plant quite secure with a stout stake, and bank up plenty of soil along the rows when completed, making sure that the plants do not suffer for want of moisture at the root.

Cauli-flowers.—These are now "turning in" fast, and, generally, they are of first-rate quality. Keep the heads well protected by placing leaves over them and tying up the outer ones. Lift some of them and preserve them in a cool, dark shed if they are becoming fit for consumption too quickly. In such conditions they will keep for many days, and their appearance and quality will improve rather than otherwise. Preparations should be made towards the end of the second week in the present month for sowing seeds of suitable varieties for wintering in cold frames. The seed should be sown thinly and broadcast on rather poor soil, and netted securely against birds.

Celery.—All the spring-sown crops, whether sown in the open or raised in heat, should now be lifted, and, after careful ripening, be stored for the winter. There are many methods of stor-

ing, but I know of none equal to that of roping and hanging up in a cool place; the work of roping can be done under cover on wet days, and every care should be taken not to bruise the bulbs, or they will be sure to suffer in consequence, especially the larger ones. Make a good sowing, fairly thick, of some silver-skinned variety in a cold frame for use in winter salads.

Capitum and Chilis.—Those which have been growing in pits or frames should be removed to the intermediate house. Apply manure water liberally to the roots, fumigate the plants as may be necessary, and keep them as near to the roof glass as possible.

FRUITS UNDER GLASS.

By T. COOMBE, Gardener to LORD LANGATTOCK,
The Hendre, Monmouthshire.

Pineapples.—The present is a suitable time to pot suckers of the *Queen Pineapple*. An ample supply of suckers will be available from the plants that fruited this summer, and in selecting them, choose the strongest offsets with broad, sturdy leaves. Before potting them, remove their short lower leaves, and make a clean cut at the base. A compost of moderately moist, light, fibrous loam, broken up, and separated from fine particles, with some soot added, form a suitable potting medium. For strong suckers, clean, adequately-drained 7-inch pots should be used, but those 6 inches in diameter will be large enough for smaller suckers. In potting, place the offsets sufficiently deep in the pots to ensure their remaining firm and ram the compost well around them. Plunge the pots up to their rims—at about 18 inches apart—in a bed conveniently near to the glass and having a warmth of about 85°. The night temperature of the pit should range from 65° to 75° by day in accordance with the weather. Ventilation should be attended to as necessity arises, and the plants shaded from bright sunshine. Maintain a moist atmosphere, and lightly spray the plants overhead early in the afternoon on fine days. By careful attention to these details the plants will not require watering until their roots have reached the sides of the pots, when shading should be gradually discontinued.

Reinforcing vine borders.—In cases where vines are unsatisfactory owing to the defective condition of the borders, the present, provided the fruit has been gathered and the wood is sufficiently ripened, is a suitable time to overhaul the border. Should the vines be planted in both inside and outside borders it is advisable to disturb one border only this season, and in such cases the soil may be entirely removed on the one border, replacing it with fresh compost. The work should be done quickly. Commence by taking out a trench at the extreme end of the border, and follow this up by gradually working the soil away from the vine roots. When completed the roots should be carefully laid on one side and be protected with damp mats. First make the drainage of the borders perfect. The compost for filling in the trench should consist of good, rich loam, to which, according to its texture, has been added more or less crushed mortar rubble, wood ashes or charcoal, and crushed bones—though failing these, good fibrous loam alone will answer. The soil should be trod firmly and the roots arranged evenly in layers, the top layer of roots being close to the surface. As the work proceeds, cut away all damaged portions of the roots, shorten those without fibres, and make clean incisions along the parts left. After the soil is all filled in, lightly mulch and well water the border. Maintain a moderately close and moist atmosphere until fresh root action takes place. Shade the vines from bright sunshine and occasional syringe them with clear water.

Newly-planted vines.—In order to assist the vines to thoroughly mature their shoots abundant ventilation should be afforded, opening the front and back ventilators fully during the daytime and partly by night. If it is considered advisable a little warmth should be permitted from the hot-water pipes. Much of next year's success will depend upon the proper ripening of the wood this autumn, and this is a great measure is dependent upon healthy foliage. Therefore every endeavour should be made to keep the leaves in perfect health until they fall naturally from the cones.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unsolicited communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, SEPTEMBER 9—Roy. Caledonian Hort. Soc.'s Sh. in the Waverley Market, Edinburgh (10 a.m.).

THURSDAY, SEPTEMBER 10—London Dahlia Union's Sh. at Royal Botanic Society's Gardens.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—59.8°.

ACTUAL TEMPERATURES:—LONDON.—Wednesday, September 2 (6 P.M.): Max. 65°; Min. 50°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, September 3 (10 A.M.): Bar. 29.9; Temp. 59°; Weather—Bright sunshine.

PROVINCES.—Wednesday, September 2 (6 P.M.): Max. 58° Cornwall Min. 53° Ireland, N.W.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—Dutch Bulbs in large variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.50.

THURSDAY—The Freehold Property, Seymour Nursery, Hadleigh, Essex, with residence, greenhouses, &c., also Freehold Land, at the Mart, Tokenhouse Yard, E.C., by Protheroe & Morris, at 2.

The Hollyhock.

Amongst the oldest of English garden flowers, the Hollyhock holds a prominent place. In the sixteenth century single and double varieties were described by Rembert Dodoens of various hues similar to the colours of varieties familiar at the present day. We may well believe that a great impetus was given to gardening following the translation of Dodoens' book by Henry Lyte in 1578, for there appeared no fewer than five editions up to 1619, including one in small 4to, abridged by William Ram and published in London. At about the same period Gerard's monumental work was published, followed by John Parkinson's *Paradisus Terrestis*. Whether these works were the result of a greater interest taken in garden flowers in this country or whether the publication of the works was responsible for the result, it is certain that we need only look through the pages of these old works to see how rapid was the improvement after the publication of Parkinson's folios in 1629.

The Hollyhock was greatly favoured. Gerard states, in his *Herball*, that it was sown in numerous gardens, and in the later editions there are plates of single and double-flowered varieties. The plants were well cultivated, as we read of them throwing up stems to the height of 10 or 12 feet, with great and double flowers of a deep red colour tending to blackness. Later, in 1665, Rea's *Flora* was pub-

lished. We have before us as we write the enlarged edition published eleven years afterwards. He states that there are many sorts of garden Mallows, "but most of them fitter for a physick than a flower garden, there being but one kind that beareth beautiful flowers, which is that called *Malva hortensis rosea multiplex*, which in English we call double Hocks, or double Hollyhocks, these bearing many gallant double flowers, and of divers glorious colours." The plant is minutely described even to the smaller green leaves amongst the fair, large flowers, the description of these double flowers being strictly accurate if applied to those of the present day. "There are some that the double flower hath many heads, as if many small double flowers were thrust together into one. The colours of these flowers in several plants are either white, silver colour, cream colour, blush, rose colour, carnation, scarlet, orange-scarlet, brimstone colour, bright red, dark blackish-red or purple, of all which several colours I have plants growing in my own garden." Rea adds: "For although the plants are of some continuance, yet they are chiefly increased and raised from seeds."

At this time the varieties with single flowers were not much favoured; probably as the pollen is so plentiful on the anthers of the single varieties, and as bees sip from the nectaries until they faint, it would be easy to fertilise the best double varieties with the pollen from those with single flowers. We can easily learn from such quotations how much we owe to the cultivators of garden flowers 250 to 300 years ago for the plants which now adorn our gardens; doubtless there were periods during which the Hollyhock, like other garden favourites, passed through seasons of neglect, or, in other words, a time when it ceased to be fashionable; but there must have been in the old days, as there are at the present day, ardent spirits who improved and cultivated their favourite flowers with no thought of what the fashionable world might think or say of their work, and so improvement went on until the present high standard has been reached.

In the middle of last century there were two distinct types of Hollyhocks in gardens, and they were designated as the English and Scotch types. The Scotch flowers were very large, with immense guard petals, and no amateur cared to improve them. The English type was very much smaller; the flowers were closely set on the spikes, with more double centres of perfect form and almost inconspicuous guard petals. An enterprising Scotch gardener, the late John Laing, who was head gardener at Dysart House, at Pathhead in Fife-shire, conceived the idea of crossing the two types, and in this he was very successful, for many good varieties were raised at Dysart, and later at Forest Hill, after having started a business there in company with Messrs. Downie & Laird. Mr. Laing's work was most carefully done, both at Dysart and Forest Hill. Of course he only took up the work that others had left, or were actually engaged in at the time. Messrs. Paul, of Cheshunt, distributed some very fine varieties raised in their nursery about 1850. The set contained Beauty of Cheshunt, with deep rose-coloured flowers; Black Prince (improved), dark maroon;

Glory of Cheshunt, an excellent variety with deep yellow flowers; Lizzie, rosy-peach; Pourpre de Tyre, dark red-purple, White Globe, and one or two other varieties. Charles Baron, of Walden, was making and mending shoes at this time, and devoting his spare time to raising and cultivating the Hollyhock. He also raised some improved varieties of perfect form, such as Walden Rival, Magnum Bonum, and *Rosea grandiflora*. The beauty of these flowers is still well remembered by many.

Excellent exhibits of these flowers were to be seen at Vincent Square on August 4 and at the great exhibition at Shrewsbury on August 19. They were shown by Messrs. Webb & Brand, who have for some time been carrying on the business of the late Mr. William Chater, of Saffron Walden. Mr. Chater was an eminent raiser and cultivator of the Hollyhock, some of the very best varieties having been produced in his nursery.

Hollyhocks cannot be so easily propagated as Dahlias and many other garden flowers, but it is possible to increase them in various ways. At the present time the side growths may be taken off, and the "eyes" inserted in small flower pots containing sandy soil in much the same manner as vine eyes are cultivated. It is necessary to cut out the eye with part of the stem attached, also to cut the leaf off, leaving the stalk. Each of these eyes will form a plant if placed in a closed frame. The old plants may be dug up in October and planted in a frame or potted up singly; when they start to grow in the spring the young growths may be inserted as cuttings, and they will root freely in bottom heat, or they may be root-grafted and treated in the same way as cuttings. It has been found by some that if the seed is saved from any particular variety, and if no attempt of cross-fertilisation has taken place, the plants raised will be as good as the parent plant and like it in colour. This is not invariably the case, but even if it can be stated to be a general rule, it is a great point in favour of the cultivation of the Hollyhock as a garden flower, as seedlings do not require nearly so much attention as propagated plants. The seed should be sown in June, so that good plants may be ready for planting out in September or early in October, and thus become established before severe weather sets in.

The Hollyhock may be classed amongst grass feeding plants, and if flower-spikes are to be obtained 10 or 12 feet in height the plants should be put out at distances of 6 feet apart. The soil should have been worked thoroughly at least one month previously to planting, to the depth of at least 2 feet, and 3 feet would be better still. The ground ought to be trenched, and a layer of manure placed in the bottom of the trench, and another layer at a depth of 6 inches. Hollyhocks succeed best in soil inclined to be heavy, and in such soils rich stable manure is better than that obtained from cow-houses, the latter material being more suitable for light soils, as it is more retentive of moisture. In dry seasons Hollyhocks require a mulching of short manure, and a good supply of water is essential to success.

Good stout sticks should be placed to them early in the season in order that they may not be blown about by winds. As the plants

increase in growth they must be tied up to the sticks, and as soon as dry weather sets in they may be freely syringed at night to prevent the attacks of red spider. This is a troublesome pest, and as it attacks the under sides of the leaves it is not easy to dislodge it.

The Hollyhock disease (*Puccinia malvacarum*) is a fungus which deters many persons from cultivating the plant, and it is very easily transferred from one garden to another in the same neighbourhood. At a railway station in Surrey a row of Hollyhocks with single flowers have established themselves the entire length of the platform; they are self-sown, and as no attempt is made to check the disease, every leaf is laden with it; consequently the pest is carried all over the district on the clothes of the passengers. The following specific is recommended for use against this pest: A bushel of slaked lime, a bushel of soot, and 2 ozs. of powdered sulphate of copper. The whole is mixed and passed through a fine meshed sieve, and the powder is applied by means of a sulphur distributor.

The following is a list of some of the best varieties: *Alba superba*, *Amaranth* (deep pink), *Alfred Chater* (rose coloured), *Black Knight* (improved), *Delicata* (rosy-blush), *James Allen* (claret-coloured), *Jessie Dean* (reddish-salmon), *Oliver Chater* (pink), *Peri* (cream-coloured), *Princess* (pink, shaded with buff), *Lilacina*, *Ruby Queen*, *Venus* (reddish shade of salmon), *Victor* (crimson), *Walden Primrose*, *Walden Yellow*, *Salmon Queen*.

We have selected these from a very large number of varieties. The tall spikes and well-developed flowers showed that the disease had done no material injury to them. The plants have been more free from disease this season than usual.

OUR SUPPLEMENTARY ILLUSTRATION shows a house of *Miltonia vexillaria* in the gardens at Drumlanrig, Thornhill, Dumfriesshire, one of the residences of the Duke of Buccleugh. This plant is doubtless one of the most beautiful of all Orchids. Mr. DAVID INGLIS, the gardener, informs us that, for many years, the plants at Drumlanrig were in winter placed in the Cattleya house, with the result that the plants grew splendidly, but did not flower satisfactorily. Three years ago it was decided to keep them all the year round at the warmest end in the *Odontoglossum* house, and since then the plants have grown sturdily and flowered with freedom. The house is a span-roofed structure and is not an ideal one for Orchids, for it faces north and south, and has no bottom ventilation; great care has, therefore, to be taken in admitting air by the top ventilators. The house has the advantage of remaining very cool in the warmest weather. The plants are potted and top-dressed alternately every year. The work of potting and top-dressing is performed during August or September. The photograph was taken by the foreman at Drumlanrig with a pin-hole camera, made by a local plumber in Thornhill.

ROYAL HORTICULTURAL SOCIETY.—Mr. ROBERT SYDENHAM has offered, and the Council has accepted, prizes for bulbs grown in Moss fibre or similar material and without drainage, to be competed for on March 9, 1909. Particulars can be obtained from the secretary.

CONFERENCE ON THE SPRAYING OF FRUIT TREES.—The Royal Horticultural Society, in conjunction with the National Fruit Growers' Federation, is organising a conference on "Spraying" on October 16, the second day of the annual exhibition of British-grown fruit, at the Royal Horticultural Hall, Vincent Square, Westminster. The chair will be occupied by Colonel WARD, M.P. (11 a.m. to 1 p.m.), and Colonel LONG, M.P. (2.30 p.m. to 4.30 p.m.). Papers will be read by Mr. GEO. MASSEE, Mr. H. F. GETTING, Professor F. V. THEOBALD, and Mr. G. HAMMOND. Seats will be reserved for any person making application before October 9.

SWEET PEA CLASSIFICATION.—The Floral Committee of the National Sweet Pea Society recommends the following varieties as the best in their colours:—*White*: Dorothy Eckford, Etta Dyke, and Nora Unwin. *Crimson and Scarlet*: King Edward and Queen Alexandra. *Rose and Carmine*: John Ingman. *Yellow and Buff*: James Grieve and Paradise Ivory. *Blue*: Lord Nelson and A. J. Cook. *Blush*: Mrs. Hardcastle Sykes. *Cerise*: Chrissie Unwin. *Pink*: Countess Spencer and Constance Oliver. *Orange shades*: Helen Lewis and St. George. *Lavender*: Lady Grizel Hamilton and Frank Dolby. *Violet and Purple*: Rosie Adams. *Magenta*: Menie Christie. *Picotee-edged*: Evelyn Hemus. *Fancy*: Sybil Eckford. *Mauve*: Mrs. Walter Wright and The Marquis. *Maroon and Bronze*: Black Knight and Hannah Ade. *Striped and Flaked (red and rose)*: Jessie Cuthbertson and Paradise Red Flake. *Striped and Flaked (purple and blue)*: Prince Olaf. *Bicolor*: Jeannie Gordon. *Marbled*: Helen Pierce.

BOTANICAL MAGAZINE.—The September issue contains illustrations and descriptions of several interesting plants. The first plate is a very large drawing of

RHODODENDRON MADDENII VAR. OBTUSIFOLIA, tab. 8212.—This differs from the type in its longer calyx segments and obtuse leaves. It forms a shrub 3-10 feet high, and although it grows on the mountains of north-east Manipur, on the eastern frontier of India, it is not perfectly hardy in this country. Mr. WATSON, who gives a short cultural description of the plant, states that it succeeds well in the Himalayan House at Kew, which is nothing more than a large greenhouse. R. *Maddenii* greatly resembles R. *Dalhousie*, a species common in gardens in this country.

ROBINIA KELSEYI, tab. 8213.—This is named after Mr. HARIAN P. KELSEY, a nurseryman of Boston, U.S.A. It forms a shrub 3-10 feet high of a compact and distinct habit: the flowers are rose-coloured and are produced in racemes about three or four inches long. The blossoms are produced early in June, and the flowers are followed by very ornamental fruits, which are covered by reddish bristles. The descriptions of both the *Rhododendron* and the *Robinia* are from the pen of Mr. HUTCHINSON.

AGAVE WATSONII, tab. 8214.—This species forms a very short stem and produces a rosette of 15 to 20 spreading, narrowly oblong-lanceolate leaves, and these are very closely set with margin-prickles. The Kew specimen is the only one known in cultivation, and although it has flowered it has not produced seeds, neither have any offsets formed. Mr. DRUMMOND, who writes the description of the plant, states that it is nearest to A. *densiflora*.

ZALUZANSKYA MARITIMA, tab. 8215.—This plant was figured on page 162 in our issue for August 31, 1907, when Mr. GUNBLETON, to whom we were indebted for the opportunity of illustrating it, stated that the seeds were sent him by Mr. THORNCROFT, Barberton, Transvaal.

The value of the plant for garden purposes seems to suffer from the fact that the blooms open only in the evening or in dull weather. The expanded blossoms, however, are very fragrant. Mr. WATSON states that the Kew plants died after flowering and failed to produce seeds.

BULBOPHYLLUM GALBINUM, tab. 8216.—This species of *Bulbophyllum* is figured in the same volume of the *Gardeners' Chronicle* as the *Zaluzianskya* just referred to, the date being July 20, 1907, page 42. It is said to inhabit the trees in the dense jungle on Maxwell's Hill, Perak. It resembles B. *Reinwardtii* in general habit, but it is readily distinguished from that species by its two-flowered peduncle. The Kew plant was presented by the Hon. WALTER ROTHSCHILD, and our illustration was prepared from a plant which flowered in Tring Park Gardens.

MIDLAND DAFFODIL SOCIETY.—The exhibition for next year is fixed for Thursday and Friday, April 22 and 23. In framing the schedule the committee have adopted the new classification drawn up by the Royal Horticultural Society with the hope that its adoption will tend to dispel any doubts as to what class or section a particular flower belongs. Any reader specially interested in Daffodils may obtain a copy of the report from either of the hon. secretaries, the Rev. JOSEPH JACOB, Whitewell Rectory, Whitechurch, Salop, or Mr. HERBERT SMITH, Tenby Street, Birmingham.

PRESENTATION TO M. PHILIPPE DE VILMORIN. The employees of the firm of VILMORIN-ANDRIEU ET CIE., Paris, France, assembled on the occasion of M. PHILIPPE DE VILMORIN's nomination to the order of the Legion of Honour, to present their chief with a magnificent vase by CAZIN, "Peace to Thy Fields," which attracted much attention at the last exhibition of the French National Society of Fine Arts.

HOPS.—The acreage of Hops under cultivation in Great Britain in 1908 amounted to 38,916, of which Kent is credited with 23,975 acres. The Hop industry shows a steady decline, the total acreage in 1906 being 46,722, and in 1907 44,938. Hereford cultivates 5,572 acres of Hops, Sussex coming next with 3,579 acres, which is only slightly more than Worcester's 3,353 acres.

WATER HYACINTH IN MEXICO.—The water Hyacinth, *Eichhornia speciosa*, is again spreading in Lake Chapala, Mexico. The Government of Mexico has been asked to make another appropriation of \$100,000 to be used in eradicating the pest. Lake Chapala is the largest and most beautiful body of fresh water in the southern republic. It is situated at an altitude of 5,000 feet above the sea level, and, on account of this elevation, it possesses a delightful climate at all seasons of the year. The wealthy people of the country spend a portion of each summer and winter upon the shore of Lake Chapala, and many families of the city of Mexico have homes by the lake. The country adjacent to the water is devoted to agriculture, and there is a large amount of traffic carried on from shore to shore, in addition to the many pleasure craft.

COLONIAL RETIREMENTS.—It is announced in the *Kew Bulletin* that Mr. WILLIAM FAWCETT, B.Sc., F.L.S., Director of Public Gardens and Plantations, Jamaica, and Mr. JOHN H. HART, F.L.S., Superintendent of the Botanic and Agricultural Department, Trinidad, have retired from their respective posts. Mr. FAWCETT was appointed to the post which he has just vacated in December, 1886, and Mr. HART took up his duties in Trinidad in March, 1887.

THE AMERICAN ASSOCIATION OF CEMETERY SUPERINTENDENTS held its twenty-second annual convention at Kansas City, Mo., on August 11 to 13. About 125 members were present at the opening session, when Mayor T. T. CRITTENDEN welcomed them to the city. The various cemeteries in the locality were visited by the members.

NATURE STUDY.—The Caxton Publishing Company have in preparation an important work, to be entitled *The Book of Nature Study*, edited by Prof. FARMER, F.R.S. The aim of the volumes is to give detailed and systematic guidance to parents and teachers in introducing children to the study and love of nature. The work will be elaborately illustrated, and will also contain a series of folding models, showing internal structures of plants and animals.

TARRED ROADS AND VEGETATION.—The Paris correspondent of the *Daily Telegraph* stated in the issue of that paper for August 27 that the Paris gardeners find that the tarring of roads results in the steady and rapid destruction of the adjoining vegetation. It has been found that, in thoroughfares where the road surfaces have been tar-sprayed, the trees die off in a very short time. As an instance, it is stated that in the Avenue du Bois de Boulogne, leading from the Arch to the wood, which was tarred four months ago, no fewer than seven of the finest trees have since died. It is stated that the vehicular traffic passing over these roads causes the tar to be thrown up in very fine particles, which, on coming into contact with vegetation, destroys it. Not merely are the trees affected, but bedding plants and even lawns are alike injured. According to the same authority, the cost of the upkeep of the flower-beds alone is ten times as expensive as when the roads were merely watered. The city authorities are, as a consequence of all this, said to be giving up the use of tar on the avenues within their boundaries. Tar-dressed and asphalted paths which are used only for pedestrian traffic have, apparently, no deleterious effects upon vegetation, otherwise it would have long ago been noticed in some of the numerous public gardens where such paths exist. Many readers will remember the destruction caused to the plants in the flower-beds on the lawns about Westminster Abbey and the Houses of Parliament through the repairing of the roads with wood some two or three years ago. Although, in this case, the damage was attributed to creosote fumes, it was somewhat similar to that reported from Paris. We notice that the flower-beds have been turfed over at Westminster, and standard Bays planted; but these are not nearly so pleasing as the flowers were.

PINEAPPLES AT TWENTY A PENNY.—At one time this fruit was cultivated to a great extent in hot-houses in this country, but owing to the large quantities received from the West Indies and other colonies the fruit can be had so cheaply that it is now grown in very few gardens in these islands. Pineapples are cheaper every year in Covent Garden Market, and fine examples are sometimes seen on the coster's barrow. They are exceedingly plentiful in Singapore, where, according to the *Agricultural Bulletin of the Straits and Federated Malay States*, large tracts of country have been cleared and planted with this fruit. Great numbers of Pineapples are also brought into the town from the neighbouring islands. The result of this immense crop is that Pines have been selling in Singapore for a cent apiece, and in the country districts at five for a cent, which is equivalent to about 20 for one penny. There is a large industry in the tinning of Pineapples in Singapore, which is principally in the hands of Chinese.

THE APPLE CROP.—As the reports published in these pages have already shown, the Apple crop in England is a very satisfactory one, but a recent visit to Mr. J. PIERPONT MORGAN'S garden at Dover House, Roehampton, disclosed such a bountiful crop as is very uncommon. The youngest bush trees, equally with the largest specimens, are perfectly laden with fine fruits, and these are as clean from insect and fungus pests as could be wished. It scarcely mattered which variety was inspected, all appeared in full bearing, and there will indeed be a generous harvest to store in the recently-erected model fruit room. We were not surprised to hear Mr. J. F. McLEON describe the

delicate flowers the weather may be of such a character that the blossoms may develop their proper colours and thus reward the cultivator for his pains, but the risk attending such a crop in a suburban district so near to the Thames is exceedingly great.

RETIREMENT OF MR. W. P. BOUND.—We are informed that Mr. W. P. BOUND, Orchid grower to Sir JEREMIAH COLMAN, Bart., at Gatton Park, Reigate, will shortly retire from this position, to take up the business of nurseryman, seedsman, and florist. The business he has purchased is that known as the Redhill Nurseries, at 112 and 114, Station Road, Redhill. Mr.



FIG. 78.—*STAPELIA GLABRIFLORA*: FLOWERS PURPLISH-RED MARKED WITH YELLOWISH-WHITE LINES.

A, rostrum; B, ligula (magnified).

crop as the heaviest he has had during the 20 years the gardens have been under his care. The Plum trees are laden with fruit, and many of the varieties of Pears are in an equally satisfactory condition, especially the early variety known as Clapp's Favourite. Among many other good features in this excellently-cultivated garden, the collection of *Calanthes* is worthy of remark. The collection is a large one, and the plants have made pseudo-bulbs of great size and strength. As we remember these products of such careful and skilful cultivation, we earnestly hope that when the plants unfold their

BOUND has been at Gatton Park for nearly nine years, and many of our readers have witnessed the splendid exhibits of *Dendrobium* and other species of Orchids that have been made at the Royal Horticultural Society's meetings during that period. These have abundantly attested to Mr. BOUND's cultural skill, and his success as a hybridist is equally proved by the large number of hybrids from the Gatton collection, that have obtained awards from the Orchid Committee. He will have the good wishes of a large number of friends in the new undertaking he will embark upon on October 1 next.

A COLOUR CHART.—The Council of the Royal Horticultural Society ask us to state that they have long felt the need of a chart for the international standardisation of colours, but the huge expense of producing it has hitherto deterred them from issuing it. Not long since, writes the Council, a most admirable chart, containing more than 1,450 shades of colour between white and black, was published in France at the instance of the French Chrysanthemum Society, the price in England being £1 ls. nett, and by it it is now possible to exactly recognise or describe to a friend or purchaser at a distance the precise colour of any flower. The cost of this chart, £1 ls., has been somewhat prohibitive to its purchase in the past, but by undertaking to be responsible for the disposal of a large number, the Society, we are informed, is now in a position to offer this chart to its Fellows at the reduced cost of 14s. 6d., for which price it can be obtained at the Society's offices, Vincent Square, Westminster, or it can be sent free by post for 15s.; but in all cases a cheque or postal order must be sent beforehand. The work referred to is *La Repertoire des Couleurs*, which was reviewed in the issue of the *Gardeners' Chronicle* for May 20, 1905, p. 312.

LONDON DAHLIA UNION.—The annual exhibition of this Society will take place on Thursday and Friday, September 10, 11, in the Royal Botanic Gardens, Regent's Park, London. The secretary, Mr. E. F. HAWES, Botanic Gardens, Regent's Park, informs us that the number of entries is large and that the show promises to be a record one.

Publications Received.—*Proceedings of the Academy of Natural Sciences of Philadelphia*, Volume LX., Part I., January, February, March, April, 1908. (The Academy of Natural Sciences of Philadelphia.)—*Verification in Acid Soils*, by A. D. Hall, M.A.; N. H. J. Miller, Ph.D.; and C. T. Gimmingham. Reprinted from the *Proceedings of the Royal Society*, B, Vol. 80.—*Book-keeping Down to Date*, Elementary Edition for Day and Evening Schools and Commercial Classes, by A. Munro, F.C.I.S. (London: Evingham Wilson, 54, Threadneedle Street.) Price 1s. nett.—*Report of the City of Westminster Public Libraries Committee for the year 1907-1908*. (London: Harrison & Sons, St. Martin's Lane, W.C.)—*Mosquitoes and other Flying and Creeping Pests producing sickness in Man and Beast*. (London: Armbricht, Nelson & Co., 71 and 73, Duke Street, Grosvenor Square, W.)—*The Journal of Agricultural Science*, July. (London: Cambridge University Press Warehouse, Fetter Lane.) Price 5s. nett.—*Board of Agriculture and Fisheries. Agricultural Statistics, 1907*. (London: Wyman & Sons Ltd., Fetter Lane.) Price 3s. 6d.—*The Correlation of Flower and Fruit-Structure in Carica Papaya*. By P. J. Wester. Reprinted from the *Bulletin of the Torrey Botanical Club* 35.—U.S. Department of Agriculture *Bulletins: Texas Root-Rot of Cotton: Field Experiments in 1907*. By C. L. Shear, Pathologist, and George F. Miles, Scientific Assistant.—*The Harlequin Cabbage Bug*. By F. H. Chittenden.—*The Cultivation and Handling of Goldenseal*. By Alice Henkel and G. Fred Klugh.—*Roselle: Its Culture and Uses*. By P. J. Wester. (Washington: Government Printing Office.)—*The Journal of the Board of Agriculture of British Guiana*, July. (Demerara.) Printed by "The Argosy" Co., Ltd., Georgetown.—*Travaux Scientifiques de L'Université de Rennes*, Tome VI., 1907. (Rennes Bibliothèque Universitaire.)—*Annales du Musée du Congo Belge—Série V.* Vol. II. *Etudes de Systématique et de Géographie Botaniques sur la Flore du Bas et du Moyen-Congo*. Par Em. de Wildeman. Publiées par ordre du Secrétaire d'Etat.—*The Country Home*, September. (London: Archibald Constable & Co., Ltd.) Price 6d.—*The Economic Proceedings of the Royal Dublin Society*, August, 1908. (Dublin: The Royal Dublin Society, Leinster House, and London: Williams and Norgate, 14, Henrietta Street, Covent Garden, W.C.) Price 6d.—*Bulletin of Miscellaneous Information No. 7* (1908) from the Royal Botanic Gardens. Kew. Price 4d.—*How to Attract and Protect Wild Birds*. By Martin Hieseman, translated by Emma S. Buchein. (London: Witherby & Co., 326, High Holborn.) Price 1s. 6d. nett.—*New Developments in Poultry-Raising*. By Helen Strathmore (in two parts.) Part I. (Survey: The Highview Press, Gomshall.) Price 1s. 6d. nett.

NOTES UPON STAPELIAS.

(Continued from p. 169.)

STAPELIA GLABRIFLORA* (fig. 78).—This is a hybrid form raised from seed on the Continent about 40 years ago. It bears some resemblance to *S. asterias*, but the inner surface of the corolla is entirely glabrous, and the lobes are not ciliate. The stems are 4 to 8 inches or more high, $\frac{3}{4}$ to 1 inch square, with concave sides and erect rudimentary leaves at the teeth on the angles, velvety-puberulous. The corolla is 3 to 4 inches in diameter when the lobes are extended, but these reflex so as to cross one another behind, and are lanceolate, long-pointed, with slightly recurved margins; the inner surface of the corolla is rugose and of a dull, purplish-red colour, darker towards the tips, and marked all over with numerous, slender, transverse, yellowish-white lines. The outer corona lobes are linear, slightly notched at the upcurved apex, with a tooth projecting from the

tips, with simple purple hairs. The outer corona of this species is quite distinct from that of all others; it varies also considerably, being sometimes formed of 10 segments, sometimes of 15, or the segments are united into a cup with 10 or more lobes. In other species the outer corona consists of five distinct lobes, which are entire or two to three-toothed at the apex, or rarely three-lobed. There is a form of *S. Pillansii* with longer and more tapering corolla-lobes than in that here figured, which will be described in the forthcoming volume of the *Flora Capensis*.

STAPELIA FLAVIROSTRIS† (fig. 80).—This is a handsome species, a native of the interior parts of the eastern portion of Cape Colony. The stems are 6 to 7 inches high and $\frac{3}{4}$ to 1½ inch square, with compressed angles, deeply concave sides and very small, erect, rudimentary leaves at the teeth on the angles, green, velvety-pubescent. The corolla, with the lobes extended, is 5 to 6 inches in diameter, but the lanceolate,

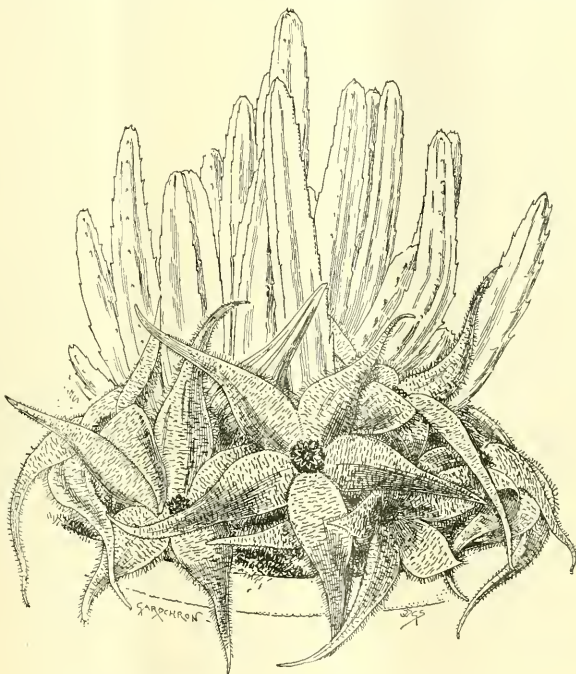


FIG. 79.—STAPELIA PILLANSII; FLOWERS DARK PURPLE-BROWN.

notch. The inner corona-lobes have their inner subulate and hooked at the apex, and the outer horn wing-like. The entire corona is blackish-purple.

S. PILLANSII† (fig. 79).—This very distinct species is a native of the Karoo region around Matjesfontein and Grootfontein in South Africa. The stems are 5 to 7 inches high and $\frac{3}{4}$ to 1 inch square, with flatish sides or slightly compressed at the angles, whose teeth bear small, erect, rudimentary leaves, green and velvety. The star-like corolla, with the lobes extended, is 4 to 5 inches in diameter, and entirely dark purple-brown, without markings, glabrous on the inner surface, but ciliate on the long, narrow, very tapering lobes, except at the

acute lobes naturally recurve and are ciliate with long hairs in two rows, the outer row being usually white and the inner pale purple; their basal part is dull purple with transverse pale yellow wavy lines, the apical part being entirely rich dark purple-brown, this colour forming a somewhat conical projection into the transversely-marked area; the disc is dull purple-red and, together with the basal third of the lobes, is covered (but not densely) with erect purple hairs. The inner corona-lobes are pale yellow, shading into purple-brown at the base.

STAPELIA GIGANTEA§ (fig. 77).—This fine species has larger flowers than any other at present known, and not only that, but they are also

* *S. glabriflora*, N.E. Brown in the *Gardeners' Chronicle*, 1876, vol. 6, p. 809, fig. 149.

† *S. pillansii*, N.E. Br. in *Gard. Chron.*, 1904, xxxv., p. 342, fig. 103.

‡ *S. flavirostris*, N.E. Br. in text of *S. grandiflora* var. *lineata*, N.E. Br. in *Gard. Chron.*, 1877, vii., p. 554, fig. 85.
§ *S. gigantea*, N.E. Brown in *Gard. Chron.*, 1887, vii., pp. 684 and 693, fig. 112; *Bef. Mag.*, t. 7693.

the largest in the whole order Asclepiadaceæ, since they measure from tip to tip of their lobes as much as 11 to 16 inches in diameter. In growth, the habit of the plant is rather more lax than in most species, on account of a short procumbent bend at the base of the stems, which are usually 4 to 8 inches high and $\frac{1}{2}$ -inch to $1\frac{1}{2}$ inch square, with much-compressed angles and small, erect rudimentary leaves at the teeth, softly pubescent, light dull green. The large star-like corolla has lobes 4 to $6\frac{1}{2}$ inches long and 2 to $2\frac{1}{2}$ inches broad, ovate-lanceolate in

Plant in Zululand, and afterwards by Gerrard near the Umvelosi River, also in Zululand. In the *Kew Bulletin*, 1899, p. 55, I gave an account of the distribution of this plant, which I now believe to be incorrect, as the Transvaal plant there referred to proves to belong to another, but closely-allied species (*S. nobilis*). The Walfish Bay locality I also believe to be erroneous, and concerning the British Central African plant, of which I have only seen shrivelled dried specimens, I am at present doubtful, it may belong to *S. gigantea*. But I have no knowledge that any

but grown in this manner it never flowered. Indeed, it is not easy to get this species to flower under cultivation in this country. It appears to require some peculiar kind of treatment; possibly if some endeavour to imitate the climatal conditions of Zululand were made it might be caused to flower more regularly. In that country the winter is the dry season and the rainy season in summer, with the maximum of rainfall at about midsummer. So, possibly, if the plant were kept in a somewhat humid atmosphere from April until the end of June, and the temperature not lower than 60° Fahr., and afterwards placed in a dry atmosphere and less (but sufficient) water given it, always with a full exposure to the sun, it might perhaps produce its flowers less spasmodically than it has hitherto done. I know from experience that under a continual dry atmosphere it rarely or never flowers, although it will grow well enough. *N. E. Brown, Kew.*

(To be continued.)

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 84-90.)

(Concluded from page 161.)

WALES.

ANGLESEY.—The snow and frost on the nights of April 24 and 25, when the trees were in full flower, spoiled the crops of Plums and Pears. Strawberries have been the heaviest crop I have ever known in this district. *Wm. Pilgrim, Bodorgan Gardens, Anglesey.*

CARDIGANSHIRE.—Early Apples are a failure, but later varieties have produced average crops. There are practically no Pears, although there was a plentiful show of blossom. The flowers, however, were small and imperfect, with scarcely any pollen. Plum trees made a splendid show of bloom, but the snow which fell on the night of April 23 caused much damage, with the result that there is only an average crop. Strawberries produced the best crop for several years, and the berries were of good quality. Red and Black Currants and Raspberries are also good; but Gooseberries are under an average quantity. *H. D. Prosser, Gogerddan Gardens, Bow Street R.S.O.*

CARMARTHENSHIRE.—The crops of Pears, Peaches, and Nectarines were destroyed by frost and snow in April. Apples are better than they have been for seven years; Gooseberries are of good quality, but few in number, owing to frost in April. *A. Richardson, Dynevor Gardens, Llando.*

DENBIGHSHIRE.—The frost on the morning of April 24 and the continued cold and wet weather up to May 16 seriously affected the crops of Apricots, Peaches, Nectarines, and Pears, all of which, at one time, gave every promise of good crops. Apples are a very variable crop. Trees in sheltered orchards are well fruited, but others which are exposed have but few fruits. *J. Martin, Bryn Estyn Gardens, Wrexham.*

FLINTSHIRE.—Pears appear to have suffered from the cold weather experienced about the time the trees were in bloom. Apples are clean and of good quality, and the same remark applies to all small fruits. *James Barnard, Mostyn Hall Gardens, Mostyn.*

GLAMORGANSHIRE.—Considering the severe weather which we experienced during the last week in April, when 8, 10, and 12 degrees of frost were registered on three successive nights, with heavy hail and snowstorms, the fruit crops are far better than was expected. Apple trees generally are carrying heavy crops, and we have thinned the fruits severely, especially on young trees. The foliage is free from blight, and the fruits are remarkably clean. Pears are not numerous, the trees were in full bloom during the severe weather, and, consequently, most of the fruits were killed. The crops of Peaches and Nectarines are looking remarkably well; the trees are free from blight and they are carrying heavy crops. Strawberries have been very good, the berries being of fine quality. All kinds of small fruits are satisfactory. *R. Milner, Margam Gardens, Port Talbot.*



FIG. 80.—*STAPELIA FLAVIVITTATA*; FLOWERS PURPLE WITH YELLOW LINES.

Corona and ligula magnified.

form, tapering into tail-like points; the entire inner surface is light ochraceous yellow marked with transverse crimson lines and thinly covered with long, fine, erect, pale-purplish hairs and ciliate with longer hairs. The corona is dark purple-brown; its outer lobes are oblong and three-toothed at the apex; the inner lobes have a free dorsal wing and a subulate inner horn. This grand species was originally discovered by

other collectors than Plant and Gerrard have found the plant in a wild state in South Africa, and think it probable that all the specimens of it at present cultivated in South Africa and Europe are portions of the original plant discovered by Plant. It will thrive under moister conditions than many species, and I have seen specimens grown in a rich soil and a moist atmosphere with stems as much as 18 inches high,

Apple, Pear, and Plum crops are under an average quantity, but Peaches and Nectarines are satisfactory, and these trees are free from blight and in perfect health. Morello Cherry trees are laden with fine clean fruits. Raspberries, Gooseberries, Currants, and Strawberries are all excellent crops. *C. T. Warming-ton, Penlliegar Gardens, Swansea.*

MERIONETHSHIRE.—Strawberries, Raspberries, Red and Black Currants, Loganberries, and Gooseberries have all given satisfactory crops. Pears, however, were spoiled by 9° of frost on April 24. Apples bloomed profusely, but failed to set. The trees generally are free from aphid, and the quality of all fruits generally is very good. *John S. Higgins, Rhig Gardens, Corwen.*

MONTGOMERYSHIRE.—The fruit crops here are very unsatisfactory, especially after the genial late spring. Apples are patchy, being plentiful on some trees, but few on others. The same remark applies to Plums. Fruits of dessert Plums on walls are very few, but culinary varieties of Plums, also Damsons, are heavy crops. *J. Lambert, Powsell Castle, Welshpool.*

PENMURKSHIRE.—The Apple crop in this district is good, and the fruit promises to be of good quality. Pears are an average crop. Plums set freely, and have had to be thinned. Cherry trees on walls are carrying good crops of fine fruit: Peaches set well, and promise to be of good quality. The trees have been free from fly, and very little blight is seen this year. All fruit trees have made good healthy growth. Gooseberry, Raspberry, and Currant bushes are heavily laden with good quality fruits. Strawberries were exceptionally good. Royal Sovereign being very fine. Givon's Late Prolific is carrying large berries of excellent quality. Our soil is a light loam, resting on rock, and the garden slopes to the south. *W. A. Baldwin, The Gardens, Clynnfawr, Bneath.*

RADNORSHIRE.—The very severe spring frosts destroyed all our Apricots, set abundantly, and also considerably damaged the Peaches, Nectarines, Pears, and part of the Gooseberry crop. Small fruits, with the exception of Gooseberries, are good and plentiful. *J. MacCormack, Maestwch Gardens, Glasbury, Hereford.*

9, IRELAND N.

GALWAY.—Pears, Plums, Cherries, and Strawberries were all damaged by late spring frosts and heavy hailstorms. Apples are a fair crop, also Gooseberries and Currants, both Black and Red. *Thomas Dume, Lough Cutra Castle Gardens, Gort.*

—A disastrous snowstorm early in April nearly ruined the fruit crops in this district, as though last autumn was by some persons considered unfavorable for the formation and maturing of fruit buds, the opposite was the case, for the trees developed a profusion of blossoms. The Gooseberry crop was also ruined in some places, especially in exposed situations. *Wm. Macdonald, The Castle Gardens, Kylemore S.O.*

MAYO.—The prospects for a good fruit year were in spring all that could be desired, but owing to frost on several nights at the end of April, the crops of Pears, Plums, Cherries, and Gooseberries were ruined, especially Gooseberries. The Apple trees were not in flower, so they escaped damage, except the early varieties. *R. Savage, The Gardens, Belleek Manor, Ballina.*

MEATH.—Snow and frost at the end of April destroyed the Apple blossom and greatly damaged the other fruit crops. Red and Black Currants are an extra good crop, and Strawberries were more plentiful than they have been for years. An Apple orchard of four acres, in which are a few rows of Plum trees, has produced a fruit this season. *J. B. Pow, Dunany Castle Gardens.*

TYRONE.—Apples are a very heavy crop. Plum and Pear trees developed a large quantity of blossom, but the fruits in many cases failed to set owing to frosts and cold winds in April. Small fruits are all well up to an average quantity, except Gooseberries. Insect pests have not been very troublesome this year. *Fred. W. Walker, Sion House.*

WEST MEATH.—The inclemency of the weather during the latter part of April destroyed one of the brightest fruit prospects in this district for years. With the exception of Apricots, all fruit trees blossomed abundantly. Pear and Plum trees were in full blossom on April 24, 25, and

26, when a severe storm was experienced with 11° of frost. The cold ruined these crops, and even the unopened buds on Apple trees did not escape damage. *Geo. Bogie, Pakenham Hall, Castlepollard.*

10, IRELAND S.

ATHLONE.—The severe frosts in the early part of the spring destroyed the prospect of good fruit crops, especially in the case of Plums, Pears, and Cherries. Complaints in this district as regards the Apple crop are frequent: in many orchards the trees are quite bare of fruits. Gooseberries have been very scarce, having been damaged by frost in early spring. *J. Murray, Moydrum Castle Gardens.*

CORK.—The crops of Pears and Plums were promising up to May, when frosts and cold winds set in, and nearly all the blossoms were destroyed. Other Plums (particularly early kinds) have suffered from blight: the Gooseberry caterpillar has also done much damage. *M. Colbert, Aherm.*

—Plums and Apricots are rather thin crops, but Apples, generally, are equal to an average season. A frost at the end of April caused many Plums to drop after they were set. Pears also were much damaged by the cold. *C. Price, Mitchelstown Castle Gardens.*

KILDARE.—The Apple crop is on the whole satisfactory, but stone fruits, Pears and Gooseberries are very scarce. This is owing to cold weather experienced on April 23, 24, and 25. Other small fruits are excellent, as was the case with Strawberries. *Fredk. Bedford, Straffan House, Co. Kildare.*

WATERFORD.—The fruit crop generally in this district is under an average quantity, the only exception being the Strawberry, which produced a full crop of good fruits. All fruit trees promised well in the spring, but frosty weather set in at a critical stage, and proved disastrous to the young fruits. *D. Crombie, Curraghmore, Portlaoine, Co. Waterford.*

WICKLOW.—The Pear crop is a total failure in this county this year, although the trees appeared promising when in blossom. The damage was caused by 10 degrees of frost early in April, accompanied by a fall of snow. Gooseberries also are a failure. Apples are of good quality. *W. Owen, Powerscourt Gardens, Enniskillen.*

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

THE LATE W. MITCHELL.—It was with profound regret I read on p. 174 of the death of my esteemed friend, W. Mitchell. A man of the kindest personality, he was also a most enthusiastic and capable gardener. He had been with Mr. Willis Fleming for many years. Chilworth Manor is a somewhat remote place on the main road from Southampton to Romsey, and includes large areas of common land. The soil of the gardens is of a deep sandy nature, but Mr. Mitchell in two or three comparatively small houses, used to produce some really splendid Grapes. He will be missed at Vincent Square next month, as he will be missed, and greatly mourned by numerous show committees and friends. *A. D.*

THE GLADIOLUS.—It would seem that there is a likelihood of a new break in the development of this useful flower. A few years since a parcel of unflowered seedlings was received by a grower in the West of England from Messrs. Pfizer, of Stuttgart. One of these has produced a very remarkable flower. The stem is from 5 to 6 feet high, very strong and robust. The spike is somewhat loose, and the lowest bloom is set on somewhat sideways; otherwise the blooms are well placed, fronting and expanded. The colour was at first a light lavender, but the last two years the colour has deepened, until now it may be said to be a rich lilac, with a deeper shade of the same colour in the throat. But the great peculiarity of this variety is in the shape of the bloom. It is quite unlike any other Gladiolus known to the writer, and may best be described as resembling a crinum: the petals are very large, somewhat reflexed, and the whole bloom more tubular than ordinarily in the

Gladiolus. When this variety is well grown the bloom, when fully expanded, measures 5 to 6 inches across. The flowering time is in most years somewhat late: in 1905 it flowered September 9, in 1906 August 23, in 1907 September 11, and this year August 15. Owing to the drought this year, the blooms have not been as large as usual, but the early date of flowering has given it an opportunity of getting some seed, which is being taken full advantage of. The present holder of this interesting variety communicated with Messrs. Pfizer respecting it, and was informed by them that, to the best of their belief, they had no specimen of this variety in their collection. Accordingly the present holder felt justified in giving it a name, and he has named it Fair Rosamund. In 1907 the same grower was fortunate enough to obtain a seedling of his own raising, which is of the same type as Fair Rosamund. This he has named Belacylla, but it will not be ready for distribution for several years. There seems, then, every prospect of a new class of Gladiolus, affording interesting novelties and pleasing variety. The writer is setting several of Fair Rosamund to seed, and hopes at some future time to be able to report the result of the experiment. *P. F. F., Bristol.*

CARBOLIC ACID AS A CURATIVE FOR SEAKALE DISEASE.

DISEASE.—Readers of Mr. Salmon's interesting communication respecting the treatment of the Seakale disease at Wye College could hardly fail to be startled on noting that carbolic acid at 8d. per pound, and applied at that rate to about "4 square feet" was so far the best remedy for the disease. Four square feet is but 2 feet square, and in a rod of ground there are some 67 such small areas. The cost of similarly dressing a square rod of Seakale ground would be, at the same rate, 4s. 8d., which would amount to a huge sum. But, on the contrary, by "about 4 feet square" an area of 16 square feet was meant, there would still be needed some 17 lbs. of carbolic acid, costing 11s. 4d. per rod area, which is practically the value of a good crop of roots. If the soil were so dressed for Seakale, how would it affect succeeding crops? Would there not be a danger of its remaining poisoned for a long time? *Enquirer.*

I am obliged to *Enquirer* for drawing attention to a slip I made in my article, viz., in writing "pound" for "ounce," in the statement that "a pound (of carbolic acid) is sufficient to dress about 4 square feet." The strength of the carbolic acid solution was one ounce to one gallon water, and 40 gallons, i.e., 40 ounces of carbolic acid, were applied to a plot measuring 19 feet by 9 feet, or 171 square feet. One ounce therefore is sufficient to treat 4½ square feet. It is very unlikely that any bad effect would result to succeeding crops from the treatment of the ground; indeed, judging from the stimulated growth of the Sea Kale, the effect, if any, is likely to be a good one. *E. S. Salmon, F.L.S., Mycologist to the S.E. Agric. College, Wyke, Kent.*

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 1.—The weather on Tuesday last was very stormy, and very few persons attended the fortnightly exhibition, although there was a good display of flowers and some of the latest exhibits of fruit that have been seen for some time past at these shows. Novelties were very numerous, and no fewer than one First-Class Certificate and eleven Awards of Merit were granted by the Floral Committee. The Orchid Committee granted one First-Class Certificate, four Awards of Merit and three Botanical Certificates. Although no award was made to a novelty by the Fruit and Vegetable Committee, there were two Gold Medals given under this section for exhibits of fruits.

At the afternoon meeting of the Fellows, a lecture was delivered by Mr. Thomas H. Mawson, A.R.I.B.A., on "The History of Garden Making."

Floral Committee.

Present: W. Marshall, Esq. (chairman), and Messrs. C. T. Druery, R. B. May, J. Walker, J. Hudson, J. Green, G. Reuthe, C. Blick, Wm.

Howe, J. Douglas, J. T. Bennett-Pöe, R. W. Wallace, W. T. Ware, W. B. Bain, A. Turner, C. Pearson, Wm. Cuthbertson, W. P. Thomson, E. H. Jenkins, W. J. James, and Geo. Gordon.

Exhibits of Dahlias were very numerous. A magnificent group of these flowers, shown by Messrs. CARTER, PAGE & Co., 52-53, London Wall, London, E.C., was awarded a Gold Medal. The group was very complete, all types of Dahlias being represented, but the majority were Cactus-flowered, representing 120 varieties, and totalling about 2,000 blooms. All the best kinds in commerce were included in the display. The exhibit was staged with excellent taste, and was relieved with suitable ornamental-leaved species of other plants, including Kochia, Asparagus, Palms, Eulalia, variegated Maize, &c.

Another large group of these flowers was shown by Messrs. BAKER, Codsall, Wolverhampton. This firm also exhibited varieties of the types of this flower, the background of the group being composed of the large collarete Dahlias. (Silver Banksian Medal.)

Mr. H. MORTIMER, Kewledge, Farnham, Surrey, had several new varieties of Show Dahlias, including Jasper, of magenta-rose shade, Red-cap (red), Tasmania (rose-pink), and Tom Jones (see Awards).

Messrs. KELWAY & SON, Langport, Somerset, again contributed a very choice selection of Gladioli, the spikes being very large and flowers of a variety of colours. (Silver-Gilt Banksian Medal.)

Tree Carnations as plants in 6-inch pots were shown by Messrs. H. B. MAY & SONS, The Nurseries, Upper Edmonton. The excellent culture of the plants was a subject of comment, and they were profusely flowered. They were shown in batches of single colours, including Elizabeth (scarlet), Mrs. S. J. Brooks (white), Coronation (pink), Enchantress (blush), Mrs. W. T. Lawson (pink), Britannia (scarlet), and The Belle (white). The spaces between the various groups was filled with choice Ferns. (Silver Flora Medal.)

Herbaceous Phloxes (*P. decussata*) were shown by several exhibitors. One of the best collections of these flowers was put up by Messrs. GUNN & SONS, Olton, Birmingham. We noticed as especially good *Le Mahdi* (lavender-blue), Dove (white, with rose-coloured eye), and Fontunii (reddish-pink). (Silver Banksian Medal.)

Mr. FRANK BRAZIER, Caterham, Surrey, put up a bank of herbaceous Phloxes, having large bunches of well-known varieties. Intermingled with them were many spikes of border Asters; although they provided greenery to the Phloxes, the plants were scarcely forward enough for the flowers to be well expanded. (Silver Banksian Medal.)

Mr. AMOS PERRY, Enfield Chase, Middlesex, had many fine heads of *Phlox decussata* in collection of seasonable hardy flowers, which included most of the best things in season. We noticed brightly-flowered *Pyrethrum*, *Pentstemon* in variety, *Lilium auratum rubro vittatum*, very fine spikes of *Liatris pycnostachya*, *Asclepias tuberosa*, and a host of other choice flowers. (Silver-Gilt Flora Medal.)

Messrs. BARR & SONS, King Street, Covent Garden, London, W.C., exhibited many garden flowers, also Chinese Asters, *Salpiglossis*, a giant-flowered *Candytuft*, *Polygonum verticillatum* in fruit, berried sprays of *Actaea spicata* alba, *Zinnias*, & *Sirihis*, &c.

Messrs. WATKINS & SIMPSON, Seedsmen, Tavistock Street, London, W.C., exhibited types of Chinese Asters, the best being a narrow-petalled white variety named *Unicum*; *Salmon Queen* and *Hohenzollern*, a late-blooming white variety, are others of merit.

Messrs. T. S. WAKE, LTD., Feltham, Middlesex, displayed a large assortment of seasonable hardy flowers, several boxes filled with Alpine plants and vases of Dahlias. (Silver Banksian Medal.)

A noteworthy display of *Tritionas* (*Montbretias*) was made by Messrs. WALLACE & Co., Kilnfield Nursery, Colchester. They were mainly the beautiful varieties raised by Mr. Davison, of Westwick Gardens, Norwich, and embraced *Prometheus* (dark orange-red), *Norvic*, a compact dwarf-growing variety with orange-red flowers; *King Edmund*, a tall apricot-yellow kind; *Germania* and *Hereward*. Messrs. WALLACE also showed many beautiful

Liliums and other garden flowers. (Silver-Gilt Flora Medal.)

Messrs. JAMES VEITCH & SONS, LTD., King's Road, Chelsea, displayed a collection of ornamental Gourds, a number of annual flowering plants, and, as a separate group, an exhibit of new and interesting hardy plants, mostly of recent introduction. The annuals embraced *Zinnias*, *Marigolds*, *Scabiosa*, *Nigella*, *Lavatera grandiflora*, *Asters* in variety, *Ceropegia atroguainea*, *Phlox Drummondii*, and others. In the other group we noticed *Aconitum Hemsleyanum*, a climbing species with pale blue flowers. *Populus lasiocarpa*, with big cordate leaves 12 inches broad and more long; *Artemisia lactiflora*, *Viburnum rhytidophyllum* (in fruit), *Buddleias* in variety, *Magnolia parviflora*, *Berberis vulgaris* var. *atropurpurea*, *Aconitum Wilsonii*, *Rubus flagelliflorus*, and *Rubus laciniatus*. (Silver Flora Medal.)

Mr. RUSSELL, Richmond, Surrey, showed tree Iivies with gold and silver foliage, plants of large-flowered *Clematis*, *Ceanothus Gloire de Versailles*, *Vitis Henryana*, *V. Coignetiae*, *Elaeagnus* of species, *Cupressus macrocarpa*, *lutea*, &c.

Messrs. JOSEPH CHEAL & SONS, Crawley, Sussex, showed fruiting sprays of *Crahs*, including the Siberian, *John Downie*, and Dartmouth varieties, all heavily fruited, and well coloured; *Acers* in variety and *Lupinus* were included in the group.

Messrs. JARMAN & Co., Chard, exhibited their varieties of *Centaureas* in white, *heliotrope* and yellow colours.

Messrs. BULL & SON, King's Road, Chelsea, again displayed ornamental-leaved plants as a setting to a group of *Cattleya* hybrids.

Messrs. HUGH LOW & Co., Bush Hill Park, Enfield, London, N., showed a small exhibit of greenhouse flowering plants, amongst which were some small but excellently-flowered specimens of *Clianthus Dampieri*, *Chironia exifera*, and *Rochea falcata*.

Messrs. WELLS & Co., Mersham, Surrey, showed vases of early-flowering *Chrysanthemums* and bunches of hardy *Phloxes*. (Silver Flora Medal.)

FIRST-CLASS CERTIFICATE.

Ilex Pernyi.—A neat-growing and elegant species from China, distinct from any other member of the genus in cultivation. The plant forms a bush of pyramidal outline, the horizontally-disposed branches being abundantly furnished with small, glossy, green leaves. As shown, the specimen was rather more than 2 feet high. The plant should prove valuable alike for the rock-garden or for planting in isolated positions in the pleasure gardens. From Messrs. JAMES VEITCH & SONS, LTD., Chelsea.

AWARDS OF MERIT.

Gladioli Golden Measure.—A fine yellow, self-coloured variety, the well-formed flowers being arranged in a compact spike.

Gladioli White Cloud.—A very solid flower of ivory or creamy white tone, the blossoms being closely set in a large well-formed spike. Both from Messrs. KELWAY & SON, Langport.

Dahlia Marathon.—A *Cactus* variety of very large size: the florets are coloured rose and fawn, with a yellow base and golden-coloured tips. From Messrs. STREDWICK & SON, St. Leonards.

Dahlia Tom Jones.—A show Dahlia, having a golden colour of creamy yellow, the florets being edged and suffused with rose pink. It should prove an exhibition variety of much merit. From Mr. S. MORTIMER, Farnham, Surrey.

Tritonia (*Montbretia*) *Norvic*.—A distinct and meritorious novelty, dwarf in habit and late in flowering. The flowers are of a yellow shade, stained externally with red. The spikes are sturdy, dwarf-growing, and remarkably free in flowering, for which reasons the variety should prove an excellent bedder. Exhibited by Major PETRE, Westwick, Norwich (gr. Mr. Davison).

Tritonia (*Montbretia*) *Hereward*.—A pale or refined orange-yellow coloured variety, with widely-expanded flowers each 3 inches or more across and flat, save for the somewhat recurving tips of the petals. The spike is tall and erect-growing. The variety is an acquisition among the later-flowering varieties. From Major PETRE, Norwich.

Kniphofia R. Wilson Ker.—The bold, towering inflorescences of this handsome variety are very showy and of large size, the red scarlet tone of the flowers being nearly uniform throughout the spike. From Messrs. R. W. WALLACE & Co., Colchester.

Gladioli primulinus hybrids.—A new race, the result of crossing *G. primulinus* and *G. gandavensis*. The colours embraced yellow, pink and yellow. A characteristic feature is the hooded flowers, and it is to be hoped the hybridist will not destroy this in a desire to obtain more size. From Messrs. WALLACE & Co., Colchester.

Phlox Freigraefin Von Lasberg.—A pure white variety of *Phlox decussata*, with blossoms of large size and of perfect form. The inflorescences are borne on stems about 3 feet in height. From Messrs. GUNN & SONS, Olton.

Phlox Violet.—This is, best described as a deeply-coloured and much-improved "*Le Mahdi*," the flowers and the trusses being of large size. From Messrs. GUNN & SONS, Olton, near Birmingham.

Floris aquilina Nicholsonii.—An elegant variety of the bracket *Fern* from New Zealand, which at a short distance reminds one of a species of *Gleichenia*. It is a distinct and free-growing variety, and is said to be perfectly hardy in this country. It was shown as a basket plant, the hanging shoots being very effective for this system of culture. From Messrs. H. B. MAY & SONS, Edmonton.

CULTURAL COMMENDATION.

Trichinium Mangstlii.—A well-flowered example of this rarely-seen species. Shown by Sir Trevor LAWRENCE, Bart., Dorking (gr. Mr. W. Bain).

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair); and Messrs. Jas. O'Brien (hon. sec.), de B. Crawshaw, H. Little, W. Boxall, Stuart Low, A. A. McBean, W. Cobb, J. Charlesworth, W. P. Bound, F. J. Thorne, W. H. White, H. A. Tracy, Gurney Wilson, F. J. Hanbury, W. Bolton, and J. Forster Alcock.

For the season there was a remarkably good display of Orchids.

H. S. GOODSON, Esq., Fairlawn, West Hill, Putney (gr. Mr. G. E. May) was awarded a Silver Flora Medal for a group at the back of which was a fine specimen of *Miltonia candida* grandiflora bearing five flower-spikes, around it being several varieties of *Odontoglossum* *Haryana* and other *Odontoglossums*. Among the hybrids was a plant of a fine form of *Cattleya calumata*, an old but now uncommon variety; also *C. fulvescens* *superba*; a pretty hybrid between *C. Schröderae* and *C. Schilleriana*, *Laelio-Cattleya Vesta* (*C. velutina* × *L. crispata*) quaint in form and of a yellow colour; *C. Eliana*, *Miltonia Bleana splendens*, *M. spectabilis* *Morehana*, *Brasso-Cattleya Madame Hye*, and the very handsome *Laelio-Cattleya Elva* St. Vincent. (See Awards.)

Messrs. CHARLESWORTH & Co., Heaton, Bradford, secured a Silver Flora Medal for a select group containing many fine hybrids, including *Laelio-Cattleya Lambeaue* (*L. præstans* × *C. Hardyana*), a dark form of *L.-C. callistoglossa*, *L.-C. Chloe* (*L. præstans* × *C. labiata*), a variety of good shape and fine colour, and other rare *Laelio-Cattleyas*. The best of the hybrid *Cattleyas* was *C. Rhoda* (see Awards); others noted included a beautiful new form of *Sophro-Laelio-Cattleya "Marathon"*, which secured an Award of Merit at the last meeting, the present variety having gold-tinged sepals and petals tinged with rose, being very attractive behind the intensely deep, ruby-crimson lip.

Messrs. SANDER & SONS, St. Albans, secured a Silver Flora Medal for an interesting group, the central plant in which, *Brasso-Cattleya Madame Chas. Maron*, Sanders' variety, secured the only First-class Certificate awarded at the meeting. Around it were several fine specimens of *Vanda corulea*, and *Cattleya Leopoldii*. *Laelio-Cattleya illuminata* is a finely-coloured hybrid. Among the species noted was the pretty small *Sigmatostalix radicans*, some good forms of *Cypripedium Fairieanum*, *Aerides quinquevulnera*, &c.

Messrs. MOORE, LTD., Rawdon, Leeds, were awarded a Silver Banksian Medal for a group which embraced *Cattleya Atlantica* variety *illuminata*, a large deep-rose flower; a selection of

Masdevallias, including *M. macrura*, *M. splendens*, *M. Reichenbachiana*, and others; *Celogyne corrugata*, *Cypripedium Fairieanum* hybrids, the twin-flowered *Cirrihopetalum billoum*, and various other interesting species.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, as usual displayed an interesting exhibit of pretty and rare species.

Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent Brasso-Cattleya *Siren superba* (B. Digbyana x C. Skinner), a pretty, warm rose-tinted flower with light base to the lip, and the best C. Skinner hybrid yet raised; L.-C. Golden Oreole var. *tigrinum*, a yellow showy flower with red veining and with a deep red front to the lip; *Lælio-Cattleya episcata*, Westonbirt variety, a large and finely-formed flower; and *Sophro-Lælio-Cattleya Danae superba*, which secured an Award of Merit.

Messrs. WILLIAM BULL & SONS, Chelsea, showed a group of hybrids in which the forms of Cattleya Iris were prominent.

Messrs. STANLEY & Co., Southgate, showed a selection of Orchids, including a good specimen of *Cypripedium A. de Lairese* with three spikes; two forms of Cattleya *Minucia*, two *Cycnopsis chlorochilum*, &c.

Mr. A. W. JENSEN, Lindfield, Hayward's Heath, showed plants of *Vanda cœrulea* and *V. cœrulea Jenseniana*, a rather small variety with mauve lip and mauve tinting on the petals.

R. G. THWAITES, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. Black), sent three pretty varieties of Cattleya *Adula* (bicolor x *Hardyana*) with large and freely-produced flowers of the C. Iris class, and C. *Euphrasia* (superba).

A. G. GROVES, Esq. (gr. Mr. W. H. Gostling), Horfield, Bristol, showed a fine specimen of *Cypripedium Kubele grandis*, with many flowers.

Mr. G. W. MILLER, Wisbech, sent several hybrid *Lælio-Cattleyas* and a seedling *Cypripedium*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Brasso-Cattleya Madame Chas. Maron, *Sander's variety* (B. Digbyana x C. Warszewiczii), from Messrs. SANDER & SONS, St. Albans. One of the finest Brasso-Cattleyas and infinitely superior to the original form for which Baron SCHÖDER obtained a First-Class Certificate in 1902. The new flower is much larger and of a deep purplish-rose colour with a large pale-yellow centre to the lip, which has fine purple lines at the base.

AWARDS OF MERIT.

Cataseum Russellianum, from Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White). A remarkably pretty species, very rare in gardens, and belonging to the small section not furnished with antennæ, which cause the ejection of the pollinia, but in which a part of the column is said to be sensitive and serving the same purpose. The labellum is underneath, and not reversed, as in most of the genus, and it is differently shaped. The flowers are borne on an inflorescence 1 foot long; they are transparent white, with emerald-green markings.

Sophro-Lælio-Cattleya Danae superba (C. *Harisoniana* x *S.-L. laeta Orpetiana*), from Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander). A pretty dwarf plant bearing a comparatively large flower of fine form and firm substance, the central ground colour being cream-white tinged with rose, the outer parts rose-purple. The lip is yellow with a purple-coloured front.

Lælio-Cattleya Elva, var. *St. Vincent* (L.-C. *Ingramii* x C. *Warszewiczii*), from Mr. S. GOODSON, Esq., Fairlawn, Putney (gr. H. G. E. Day). A pretty and richly-coloured variety, differing from that for which Col. HOLFORD obtained a First-Class Certificate at the Temple Show this year in the large pale-yellow blotches on each side of the labellum. Sepals and petals are deep rose colour, the lip being dark ruby-purple, changing to a lighter shade in front and with yellow blotches in the centre.

Cattleya Kincaidii (C. Iris x C. *Hardyana*), from Messrs. CHARLESWORTH & Co., Heston, Bradford. A very handsome, finely-coloured hybrid. The original form, which is in the collection of J. GURNEY FOWLER, Esq., is of similar form to C. *Hardyana*, and has apricot-yellow

sepals and petals, but the present variety is distinctly of the shape of C. Iris, although much larger in all its parts. The sepals and petals are cream-yellow tinged with salmon-red; the lip is ruby-red with lighter margin.

BOTANICAL CERTIFICATE.

Cataseum Imshootianum.—A strong-growing species with tall, erect spike of greenish-yellow flowers of globular form, the opening of the fleshy labellum being in front.

Calanthe Catilia.—A little-known species imported from Java, and with some resemblance to C. *Mascia*, but with larger flowers and a different-shaped labellum. The flowers are pale lavender on a white ground and with a purple spot on the lip.

Cymbidium lancifolium.—The flowers are produced on an erect inflorescence; they are white with purple lines on the petals and rose-purple markings on the lip. The above three awards were granted to Sir TREVOR LAWRENCE, Bart., K.C.V.O.

Fruit and Vegetable Committee.

Present: Jas. Cheal (in the chair), and Messrs.

W. Bates, Geo. Woodward, Alex. Dean, E. Beckett, John Basham, James Vert, J. Davis, H. Parr, H. Markham, A. B. Allan, John Lytle, G. Reynolds, J. Jaques, J. McIndoe, John Harrison, Owen Thomas, W. Poupert, and A. H. Pearson.

A very fine red-coloured Apple, named Red Victoria, came from Mr. MILLER, of Wisbech. As a report relating to the variety had been furnished, but was not to hand, it was agreed to retain the fruits till the next meeting. The variety greatly resembled Gascogne's Scarlet.

Mr. THOS. CLARK, Histon, Cambridge, sent a seedling red Plum named King Edward.

From Mrs. AMES, Cote House, Westbury-on-Trym (gr. Mr. W. Bannister), came good samples of Doyenne Boussoch Pear.

Messrs. R. SMITH & SONS, Worcester, sent a seedling Plum from under glass. The Committee desired to see fruits from outdoors when ripe.

Messrs. HUGH LOW & Co. had branches of an autumn-fruiting Raspberry named Low's Perpetual.

Superb samples of the Parsley-leaved Blackberry were staged by Messrs. JAS. VEITCH & SONS, Chelsea.

LEOPOLD DE ROTHSCHILD, Esq., Gunnersbury Park, Acton (gr. Mr. G. Reynolds), sent a collection of 24 handsome fruits of Queen Pineapples, also dishes of Sea Eagle, Princess of Wales, and Gladstone Peaches; Pineapple and Victoria Nectarine, Count Althann's Gage, and Jefferson Plums. (Hogg Medal.)

WALDORE ASTOR, Esq. (gr. Mr. W. Cannon), Cliveden, Bucks., showed bunches of Madresfield Court Grapes. The berries were very fine, and sloe-black in colour: the bunches were cut from a two-year-old vine grown in the half of a paraffin cask. (Silver Banksian Medal.)

Messrs. J. REED & SONS, Norwood, staged a collection of 55 dishes of fruit, chiefly Apples. Amongst these were good samples of Norfolk Dimpling, Emperor Alexander, Peasgood's Nonsuch, Stirling Castle, Loddington Seedling, Lord Suffield, The Queen, Ringer, Lord Grosvenor, Jas. Grieve, Tibbett's Pearmain, Bismarck, Hambling's Seedling, Domino, and others. Included in the display were some good Pears and Plums. (Silver Banksian Medal.)

Messrs. CANNELL & SONS, Swanley and Eynsford, Kent, set up a collection of 26 medium-sized Apple trees in pots, all from out-of-doors. The plants were well furnished with highly coloured fruits, not over large. Amongst the best were Charles Ross, Cellini, The Queen, American Mother, Frogmore Prolific, Red Quarrenden, and Castle Major. Fronting these were 40 dishes of Apples and 24 of Plums, with several of Pears. The best Apples were Duchesse's Favorite, Yorkshire Beauty, Chelmsford Wonder, Beauty of Bath, Duchess of Oldenburgh, Lady Sudeley, Evargil, and Irish Peach. Of Plums there were five samples of Pond's Seedling, MacLaughlan's Gage, Kirke's Blue Emperor, Prince of Wales, Black Diamond, Washington, Prince Englebert, Black Imperial, and other varieties. (Silver Knightian Medal.)

From the KING'S ACRE NURSERY Co., Hereford, came a group of superb fruit trees in pots,

one of the best yet seen in the hall. It consisted of 60 trees of diverse kinds. At either end of the group were two magnificent samples of espalier-trained Peaches. The one was Sea Eagle, carrying 68 good fruits, the tree being 6 feet wide by 4 feet in height; and the other Thos. Rivers, rather less in breadth, carrying 40 good fruits. Two vines of Black Hamburgh and Rytton Muscat, a little-known variety, but resembling Royal Muscadine, were heavily fruited. At the back were tall trees of Peaches Thos. Rivers and Sea Eagle, also Nectarines Pineapple, Spenser, and Byron. In the group were Plums Grand Duke, Late Orange, Coe's Golden Drop, Transparent Gage, and Monarch. Of Pears Doyenne Boussoch, Durondeau, Pit-mastou Duchesse, Buerré Ballet Pear, and President Osmanville. Apples were represented by Peasgood's Nonsuch, Emperor Alexander, Gascogne's Scarlet, Wealthy, Baumann's Red Reinette, Cellini, Worcester Pearmain, and Gloria Mundi. There were also dwarf, heavily-fruited trees of Brown Turkey and White Ischia Figs. (Gold Medal.)

Beside the above came another very superb group of fruit trees and gathered fruits from Messrs. GEO. BUNYARD & Co., Maidstone. The pot trees were less large than the preceding ones, but they were heavily fruited. There were 24 Apples, Pears, and Plums. Of the Plums, very fine indeed, were Monarch, Bouloufi, Admiral, Coe's Golden Drop, Giant Prince, President, White Magnum Bonum, and Belgian Purple. Peaches included Sea Eagle and Duchess of York, Pears Triomphe de Vienne and Marguerite Marillat, and Apples Cox's Orange Pippin and Baumann's Red Reinette. Fronting these were some 50 dishes of fruits, including Plums Belle de Louvain, Oullin's Golden Gage, Monarch, and Jefferson; Peach Late Devonian; Pears Dr. Jules Guyot, Williams' Bon Chrétien, Souvenir du Congrès, Marguerite Marillat, Clapp's Favourite, and Madame Treve. Of Apples, specially fine and handsome were Potts' Seedling, Gold Medal, The Queen, Lord Grosvenor, New Hawthornden, Stirling Castle, Norfolk Beauty, Grenadier, and Ecklinville Seedling. Of dessert kinds were beautiful samples of Lady Sudeley, Ribston Pippin, Hitchin Pippin, Peter the Great, Coronation, Rival, Jas. Grieve, Worcester Pearmain, Miller's Seedling, and White Transparent. (Gold Medal.)

READING HORTICULTURAL.

AUGUST 26.—The fifty-second annual summer show of this society was held on the foregoing date in the Forbury Gardens.

In most classes the competition was keen, the exhibits of fruit were especially good. Cut flowers, of which Dahlias predominated, were also finely shown. Vegetables are always a feature at this show, and this exhibition was no exception to the rule. The leading exhibits in the big class for vegetables were of exceptionally high quality.

OPEN CLASSES (PLANTS).

For a group of miscellaneous subjects arranged for effect in a space of 12 feet, the premier award of a Silver Challenge Bowl was won by Mr. J. Wyman (gr. to Lady Cooke, East Thorpe, Reading), with a variety of plants all too fully arranged. Mr. F. Johnson (gr. to G. B. Joel, Esq., Maiden Erlegh, Reading) was a close 2nd with an exhibit having a similar fault.

Mr. W. S. Sherlock (gr. to G. W. TYSER, Esq., Oakfield Mortimer) won the 1st prize easily in the class for four Ferns with well-grown specimens, of which Adiantum was predominated. Fuchsias are always a feature at this show, reminding one of the excellent specimens shown for many years past at the Trowbridge show. For six distinct plants, Mr. J. Bright (gr. to J. FRIEDLANDER, Esq., Whiteknights Park, Reading) was easily 1st with specimens 8 feet high, beautifully trained and profusely flowered. 2nd, Mr. F. Alexander (gr. to R. T. DARVELL, Esq., Warden, Reading).

The best six tuberous-rooting Begonias were shown by Mrs. SIMONS MAXWELL, (gr. Mr. W. Dagger), Bath Road, Reading, the plants being double-flowered varieties carrying huge blossoms. In the local classes for plants were seen many interesting exhibits.

CUT FLOWERS.

For 24 blooms of show or fancy Dahlias, distinct, there was but one exhibit, that from Mr. J. WALKER, Thame, but this was of an interesting character, every bloom being excellent, and the exhibit worthily deserved the 1st prize which it received.

For twelve show or fancy Dahlias, Messrs. J. CHEAL & SONS, The Nurseries, Crawley, were placed 1st, having neat examples of popular varieties. Exhibits of single-flowered Dahlias were very fine in quality and well staged. For twelve bunches of these flowers, distinct, Messrs. CHEAL & SONS won the 1st prize easily, having such excellent varieties as Betty (new), Winona, Snowdrop, Flambeau, Kitty, Miss Roberts and Fugi San. 2nd, Mr. J. WALKER.

Cactus varieties were very numerous staged. For twelve varieties, three blooms of each, Messrs. CHEAL won easily with superb examples of Mrs. H. Shoemith, J. B. Kidding, Mauve Queen, William Marshall, Ivanhoe and Helene.

Messrs. CHEAL also secured the leading prize for twelve distinct varieties of Pompon Dahlias. 2nd, Mr. J. WALKER. Exhibits of Roses were numerous and good for the time of the year. The best 18 single blooms were shown by Mr. J. JEFFERIES, Cirencester. The principal prize for Gladioli was won by Mr. F. EAMES, Froce, with unnamed seedlings of merit. In the class for twelve vases of flowers of distinct kinds, Mr. W. Barnes (gr. to A. F. WALTERS, Esq., Bearwood, Wokingham) beat all other competitors.

FRUIT AND VEGETABLES was staged in considerable numbers, and the products were of fine quality.

TRADE EXHIBITS were numerous and good. Gold Medals were awarded to Mr. F. EAMES for a large bank of *Philox ducata* and a bright exhibit of other hardy flowers. To Mrs. PHIPPS, Florist, Reading, for floral work of high quality. To Messrs. T. WARE & SON, Tottenham, for Begonias and herbaceous flowers.

First-class Certificates were awarded to Messrs. J. CHEAL & SONS for Cactus *Dahlia Lusitania*, and for a single-flowered variety named Betty.

BRITISH GARDENERS' ASSOCIATION.

AUGUST 29.—On this date the members of the London branch visited the gardens at Gunnersbury House and Gunnersbury Park, Acton. At Gunnersbury House the Japanese gardens attracted attention. A path leads over the stepping-stones and affords glimpses of the garden from different points of vantage. The roof and walls of the residence were gay with *Tropæolum*, whilst trees in tubs adorned the terrace. The visitors were conducted through the glass-houses. The fruit garden was also inspected.

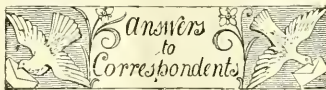
The next meeting will be held at Carr's Restaurant, Strand, on Thursday, September 10.

Obituary.

GEORGE BETHELL.—The death took place at his residence, "The Firs," South Woodford, on August 27, of Mr. George Bethell, who for many years took an active part in the horticultural world. Deceased was a Fellow of the Royal Horticultural Society, and for 38 years was a subscriber to the funds of the Gardeners' Royal Benevolent Institution. The deceased was in his 76th year.

GEORGE COOKE.—The American papers announce the death of this gardener, who held the position of landscape engineer to the Highway Commission of San Diego, California, on August 6, at his home in that city, at the age of 59 years. Mr. Cooke was a native of Surrey, and went to America in 1896, taking up the subject of landscape gardening, and removing to San Diego for the purpose of filling the above office three years ago.

JOHN WALKER.—We regret to announce the death of Mr. John Walker, senior partner in the firm of John Walker, Seed Merchant and Nurseryman, 7 and 8, High Street, Thame, which occurred on the 24th ult., at the advanced age of 84 years. We are informed that the business will still be conducted under the name of John Walker, Thame.



ARTIFICIAL MANURES: R. F. L. T. Scan our advertising columns.

BEECH BARK INFESTED: J. T. The white flocculent substance which you take for a fungus is the Beech coccus, an insect allied to the mealy bug. You will find that it attacks the main trunk and upper branches of the tree only, therefore if you scrub the bark with caustic alkali wash, or some other strong insecticide you will soon free the tree of the pest.

BEGONIA GLOIRE DE LORRAINE: *Anxious and Boring.* There is no disease at present in the leaves. The damage is caused by mites. Dip the plants in tobacco water.

BOOKS: A. V. The following books would be suitable for your purpose:—*Gardening in Town and Suburb*, by H. H. Thomas (2s. 9d.); *The English Flower Garden*, by W. Robinson (15s. 6d.); and *Johnson's Gardening Dictionary* (9s. 6d.). These works can be had from our publishing department at the prices mentioned, post free.

CUCUMBERS FAILING TO GROW: B. B. The fruits you were perfectly healthy, but their growth has received a check. This may have been influenced by a variety of causes, such as fluctuations in temperature, chilling the roots with very cold water, or by exposing the shoots to cold draughts. Be careful to ventilate the house on the opposite side to where the wind is blowing.

DENDROBIUM LEAVES SPOILED: A. B. The leaves are affected by the disease commonly called "spot" in gardens. It results most frequently through some error in cultivation, such as keeping the plants in too much warmth at night-time, affording them a too high temperature after their resting season has commenced, or watering the roots too freely after the growths are completed, and the time for resting them in cooler and drier quarters has arrived. Cut off all the affected leaves, and place such as are not actively growing in a lower temperature until the growing season comes round again.

ECONYMIUS DISEASED: *Booker.* The leaves are attacked by a fungus—*Oidium*. Pick off and burn the diseased twigs and leaves, and apply sulphur as a specific, using the dry flowers of sulphur, or apply one of the sulphides, such as potassium sulphide, in solution.

FRUIT INDUSTRY: R. T. The writer was evidently referring to the plantation system of fruit cultivation, where bush trees are largely grown, as opposed to the old method of growing fruit trees as standards in orchards grazed by cattle.

GARDENING ENGAGEMENT: *Miss B.* We are afraid we cannot assist you. Insert an advertisement in some gardening paper.

GRAPES DISEASED: W. J. Your Grapes are suffering from Anthracnose, *Gloeosporium ampelophagum*. Remove and burn the diseased fruit, and do not use such stable manure at the roots of the vines, but sprinkle the soil with a solution of sulphate of iron.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time: they should be very careful to pack and label them properly, to give every information as to the country the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. Correspondents not answered in one issue are requested to be so good as to consult the following numbers.

FRUITS: J. E. M. Apples: 1, Emperor Alexander; 2, Minchull Crab; Plums: 3,

Kirk's; 4, Blue Imperatrice; and 5, Prince Englebert.—W. Currie. 1, Irish Peach; 2, Worcester Pearmain; 3, Cellini; 4, Grenadier; 5, The Queen; 6, not recognised.—A. Langford. 1, Beauty of Bath; 2, Irish Peach. Plums: 1, Oullin's Golden Gage; 2, Prince of Wales; 3, Quill's Orleans.—E. F. 1, Crimson Quoin; 2, Worcester Pearmain; 3, Ecklinville Seedling; 4, Warner's Seedling; 6, Jolly Beggar; 7, Annie Elizabeth; 8, Warner's King.

PLANTS: G. New. 1, *Calycanthus occidentalis*; 2, *Ercilla spicata*; 3, Specimen insufficient for determination, but apparently a species of *Actinidia*.—A. Buckingham. 1, *Ficus Carica* (Fig); 2 and 3, *Fagus sylvatica purpurea* (Purple Beech);—T. G. 1, *Cupressus nootkatensis*; 2, *Abies brachyphylla*; 3, *Sequoia sempervirens*.—E. S. 1, *Gaultheria Shallon*; 2, *Elæagnus pungens aurea*; 3, *Cupressus pisifera plumosa aurea*; 4, *Pittosporum tenuifolium*; 5, *Cupressus Lawsoniana lutea*; *Thuya orientalis pendula*.—H. H. M. Brecon. 1, *Populus deltoides*; 2, *Populus alba*; 3, *Salix lucida*; 4, *Tsuga canadensis*.—St. George. *Thlaspi arvense*, as far as can be determined without flowers or foliage.—W. Y. Z. 1 and 2, varieties of *Begonia Rex*; 3, *E. chinensis*; 4, B. Marguerite; 5, *Calluna vulgaris* variety alba; 6, not recognised (withered).—G. W. *Clematis flammula var. rubro-marginata*.—A. E. B. 1, *Spiræa canescens*; 2, *Mandevilla suaveolens*; 3, *Cotoneaster buxifolia*.—J. R. M. 1, *Tecoma grandiflora*; 2, *Aspidium angulare*; 3, *Muehlenbeckia platyclada*.—A. C. *Symphandra Hofmannii*.—Hugo. 1, *Oncidium flexuosum*; 2, *Ocoteoma diaphana*; 3, *Oncidium tetrapetalum*; 4, *Aspidia lunata*.—B. A. Lockhartia (Fernandezia) elegans.—H. G. *Somerset*. *Lycium chinense*—20 Years Reader. *Hedychium gardenianum*.—J. L. *Berwick*. 1, *Hypericum calycinum*; 2, *Calycanthus floridus*; 3, *Hedysarum multijugum*; 4, *Colutea arborescens* (Bladder Senna).

PEACH AND TOMATO HOUSE: W. B. We advise a width of 10 feet in the glasshouse which you contemplate erecting against your existing 9 feet high wall, 120 feet in length, and intend to grow Peaches against the back wall and Tomatoes on the ground space in front. The width you mention—7 feet—does not allow enough space for the production of a sufficiently profitable crop, and the difference in the extra cost of erecting a house 3 feet wider would only be a matter of about £10. The cost of erecting a lean-to house, 120 feet long, 10 feet wide, 9 feet high at the back and 4 feet high in front would be about £35. This cost would include top and bottom ventilating lights, but is exclusive of excavations and brickwork.

PEAR LEAVES WITH BLOTCHES: A. C. & F. G. The leaves are affected with the Pear scab, *Fusicladium pyrinum*. Remove and burn all the diseased leaves and spray the healthy ones with the Bordeaux mixture. In winter wash the trees with copper sulphate.

PURPLE PODDED BEAN: F. H. The variety is merely a coloured podded French Bean. We have seen it exhibited under the name of Firefly.

TOMATO AND CUCUMBER PLANTS WITH CLUBBED ROOTS: W. P. Both these plants are badly infested with eelworm. It will be necessary to thoroughly destroy all the plants by burning and to well cleanse the structure in which they were grown, using carbolic acid in solution and plenty of soap and warm water. The old soil should either be baked or buried in a distant part of the garden. If possible, grow your Tomatoes and Cucumbers in another structure next year.

VINE BORDER: *Anxious.* In the Calendar this week on Fruits under Glass, directions are given for renovating vine borders.

COMMUNICATIONS RECEIVED.—A. J.—W. A.—A. G. S.—A. J. B.—B. D.—V. H.—A. B.—T. H.—J. G.—H. W.—W. H.—D.—J. F. R.—H. G. H. S.—Fownall—A. B.—M. K. B.—W. K.—Reads—W. E. G.—H. S. T.—M. W.—J. S. & Co.—W. L.—O. P. G.—W. M.—Lid.—P. A.—H. W.—W. H. A.—A. J. B.—K. P.—W. B.—E. B.—H. J. C.—J. E.—A. B. W.—S. C.—T. L.—J. R. A.—S.—Beck—D. C.—G. D.—H. R. H.—East Sussex—C. E. S. & Son—N. E. B.

For Market Reports see page x.



MILTONIA VEXILLARIA, AS CULTIVATED AT DRUMLANRIG GARDENS, DUMFRIESSHIRE.



THE

Gardeners' Chronicle

No. 1,133.—SATURDAY, September 12, 1908.

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A VILLAGE FLOWER SHOW.

FOR a number of years an exhibition of horticultural produce has been held in the grounds of Miss Willmott's estate at Warley, Essex. It is not generally known that John Evelyn, Esq., F.R.S., the author of the well-known Diary and of the equally celebrated work "Silva, or a Discourse of Forest Trees, and their Propagation in His Majesty's Dominions," bought the estate of Warley Magna and lived there from May 12, 1649, until September 17, 1655.

He records in his diary that on September 17 he "received £2,600 of Mr. Hurt for the Manor of Warley Magna in Essex, purchased by me some time since. The taxes were so intolerable that they ate up the rents, &c., surcharged as that county had been above all others during that unnatural war." Evelyn was passionately fond of horticulture and arboriculture, and doubtless many of the trees at Great Warley were planted by him, but he was singularly unfortunate in his gardening experiences, until he retired after a most strenuous life to his patrimony at Wotton, in Surrey. He had, as he says, to leave his gardening work at Warley owing to the intolerable taxes. He had a house and garden, with a very fine Holly hedge, at Sayes

Court, Deptford; but, unfortunately, he let his house and garden for a term to Admiral Benbow, who rented it with the condition that the garden should be kept up, but Evelyn had the mortification of seeing much of his former labours impaired there for want of a more polite tenant; but worse was to come. Benbow sub-let it to Peter the Great. Evelyn's servant wrote to him that the Czar had "a house full of people and right nasty." One of the Czar's amusements was to be trundled through Evelyn's beautiful hedges in a wheelbarrow. Possibly this was the reason that three garden wheelbarrows were included by the assessors as damaged, and had to be paid for by the patient taxpayer. The house itself must have been a perfect wreck. Sir Christopher Wren was instructed to survey the house, garden and grounds and report on the damage done by the Czar and his followers. The King's gardener, Mr.

has been eminently successful. Probably a flower show entirely made up of the produce of cottage gardens, and of the produce of the farms in the district may seem to be relatively uninteresting to professional gardeners. But the importance of the work Miss Willmott is doing in the Great Warley district cannot be too widely known and imitated. We often read of "How to bring the people back to the land." Those wishful to know how to keep the people on the land should do as is done in a quiet way here. The following are a few of the rules of this cottage gardeners' society and farm produce show:—

1. The show is intended specially for the encouragement of cottage gardening in the parishes of Great and Little Warley.

2. By cottagers are meant those who, not being professional gardeners, occupy houses of £10 or less in rateable value.

But there are 13 rules for exhibitors, such as are usual in exhibition schedules.

The important point is that every cottager can exhibit, and an inspection of the exhibition leads one to the belief that everybody does. About 70 prize-takers came up on the day of the show to receive the prizes from the hands of the President. The last to come up had won a live pig, but Miss Willmott could not find it in the basket with the other prizes. There were 120 classes for exhibitors, with from three to four prizes in each class, and the competitors were numerous. Nearly all the classes were well filled, and the produce excellent. The exhibition this year was the tenth, and the progress made in the decade is marvellous. All kinds of garden produce is exhibited, and the vegetables, such as Potatoes, Peas, Runners, Beans, Carrots, Parsnips, Cabbages, Turnips, Beets, &c., would be creditable to any practical gardener. Cut flowers and window plants were excellent. The boys and girls are encouraged as well as the father and mothers. Classes for loaves of bread, cooked Potatoes, cakes, puddings, &c., are included in the schedule, also for all sorts of sewing, ironing and needlework, knitting, patching, darning, specimens of flower-painting, map-making, and essays on botany. Seeds and plants are freely given to the cottagers. On the occasion of the show prizes are also given to those who take part in the old English games. The day of the show is a gala day in the district; the grounds are crowded with visitors who are allowed to ramble everywhere, and, needless to say, this is an education in itself. The visitors look long and admire, but everything is untouched. The exhibitors are not asked to subscribe, but by the generosity of the President and her friends, there is generally a good balance in hand: the amount in 1907 was £25 17s., which was carried on to 1908. Doubtless there is a great deal to be done to bring the work to a successful issue. Miss Willmott is a strenuous worker herself, and she is ably seconded by Colonel Whittington, who holds the office of hon. secretary and treasurer. Before the society was founded, some of the gardens of the cottagers were like that of the sluggard.

"I passed by his garden and saw the wild briar,

The thorn and the thistle grew broader and higher."



FIG. 81.—SCILLA CILICICA: FLOWERS BLUE, TINGED WITH VIOLET.
(For text see p. 194.)

George London, was called in to assist in assessing the damage to the garden. "The grass plots, bowling green and gravel walks were broken into holes. Great damages were done to the trees and plants which cannot be repaired, as the breaking of the branches of the wall fruit trees, spoiling two or three of the finest true Philleræas, breaking Hollies and other fine plants." Such was the amusement of an emperor in the good old times! It is of some interest to recall the fact that Great Warley was owned by one of the most celebrated gardeners of the time of the Stuarts, about 250 years ago, and that it is now in the hands of one of the most famous gardeners of modern days; but Miss Willmott not only loves gardens herself, she does her utmost to make every man, woman and child within the sphere of her influence take an interest in their gardens, and in this she

Now, all this is changed; the gardens are well cultivated and cropped; useful vegetables, fruit, and beautiful flowers have taken the place of weeds and disorder. There are, doubtless, many parishes where a similar work is in progress; but one cannot suppose that the people in such parishes are in any hurry to flock to the towns. There is no complaint that time cannot be found to do the work of the garden. Where there is a will there is a way. A man has been known to trench his garden plots in the darkest night

NEW OR NOTEWORTHY PLANTS.

SCILLA CILICICA N. SP.

I SEND you a photograph of *Scilla cilicica*, a new species which differs from *S. siberica* (verua) and from *S. Hohenackeri*.

The chief value of this new species is due to its excellence as a plant for forcing, a property which *S. siberica* does not possess in the same degree. *S. cilicica* is very suitable for early forcing, developing grandly without any check,

half the length of the flowers. Flowers, two to six, of a bright blue colour; often having a tinge of violet; of the same size and shape as those of *S. siberica*; filaments white, threadlike, half the length of the petals (longer than *S. siberica*); anthers slatey-blue; capsules round, 6 to 8 millimetres in diameter; three to four round seeds are developed.

The plant grows in half-shaded districts of Cilicia, in the lower mountain regions in humus soils, and should prove hardy in England. It requires during the season of growth much moisture; and as with all Oriental bulbs, it should be taken out of the soil each year. W. Siehe, Mersina, Turkey-in-Asia.

ORCHID NOTES AND GLEANINGS.

HYBRID BETWEEN ORCHIS LATIFOLIA AND O. MACULATA.

AMONG our native terrestrial Orchids, perhaps the best known is the spotted Orchis, *O. maculata*. This species is widely distributed over our bogs and meadow lands, and according to conditions of soil and locality it varies much in the colouring of its flowers, which range from a dull purple shade to pure white. The leaves are nearly always spotted with black, and they vary in the amount of spotting to a considerable extent. *O. latifolia*, on the contrary, is much more local, being limited to boggy ground. It has broad, green, spotless leaves, a leafy stem, and a large, loose spike of pale purple flowers, amongst which the long green bracts are prominent. Both species grow together in many places and seem to intercross freely, the resulting hybrids often excelling in vigour and beauty the parents. The plants comprising the group shown at fig. 82 have been growing in the same position for several years, and the clump has increased in size since it was first planted. These Orchids are somewhat capricious in flowering, for, although they bloom well one year, they sometimes will not produce any blooms the following season. This is because they are occupied in maturing their tubers for a further effort the following year. Under favourable conditions the root-stocks multiply fast. An easterly aspect, a rich moist loam, with a surface dressing of leaf-soil, and shelter from hot sun and cold winds supply the conditions best suited for these terrestrial Orchises. Seedlings appear frequently around about the old plants if the soil is undisturbed, and they also appear amongst other low-growing plants in the neighbourhood. W. F.

FLORISTS' FLOWERS.

THE DAHLIA.

It would be difficult to find in flowers any that were more refined, more quaint, or more beautiful than were the best Cactus Dahlia blooms staged in such numbers at the Horticultural Hall, Westminster on the 3rd inst. It would be equally difficult to find in outdoor garden flowers any that offered a more abject or melancholy spectacle than these flowers when seen the next day in the Royal Horticultural Society's Gardens at Wisley. At exhibitions, presenting the most attractive appearance, they are, in gardens, the least attractive of all flowering plants. Yet what do not Dahlia growers and fanciers owe to the Cactus Dahlia? That we have in existence not only a National Dahlia Society but also a London Dahlia Union, both holding shows in the Metropolis, the one unhappily starving the other, is due to the creation of the Cactus Dahlia, for if the old Yvarezii, first shown by Mr. Cannell in September, 1879, was the progenitor, certainly home-raisers have created what we saw on the 3rd inst.; flowers of such quaint but beautiful form and structure such as the first growers of Yvarezii never



(Photograph by W. Irving.)

FIG. 82.—HYBRID BETWEEN ORCHIS LATIFOLIA AND O. MACULATA.

with a lamp burning at each end of the trench. There are always generous spirits amongst the well-to-do who will take a pleasure in helping a man who is doing the best he can to help himself.

A man may not complain if his house is not so tidy as it should be, if he keeps his garden untidy. Some may exclaim: Is it to be all work and no play? Certainly not, but the tendency is in these days for too much play. F

so that it is possible to have the plant in full bloom at Christmastide, with luxuriant leafage, and finer in appearance than *S. siberica*. The plant will be put into commerce this year.

Bulb larger than that of *S. siberica*, bluish-violet; leaves 10 to 20 centimetres long, of a pleasing green, 1 to 1½ centimetre in width at the end, drawn out to a blunt point. Middle nerve on the outside elevated. Flower shaft a little taller than the leaves, mostly of the same length. Stalk round, laterally somewhat compressed; bracts very small, light violet; pedicels

dreamt of developing. If we look at those favourites of the ancient florists, the "shows" and "fancies," large, massive flowers of wonderful form and composition, we find in them now no advance in form or structure; they have long since attained to their creator's ideals. Pompons have also, so far as form is concerned, realised perfection. As with the shows or fancies, slight variations in colour or marking may crop up, enough on which to found a

PUBLIC PARKS OF SOUTHAMPTON.

THE possession of 120 acres of ground in the centre of a large town, accessible to the public at all times, is one of the best of municipal assets, and not only does Southampton own this large area of public land in the very heart of the town, but within easy reach are common lands, totalling 365 acres, over which the corporation has full control.



FIG. 83.—VIEW IN ANDREWS PARK, SOUTHAMPTON.

named variety, but of form and development there is no advance. As much might be said of the singles, if in them perfect roundness of outline, broad, flat petals, most evenly placed, and of varied and very beautiful colouring, be furnished. It is in the old double and semi-double section commonly described as "decorative" that so far, perhaps, the best for garden decoration is found, but these are quite outside the pale of exhibition fitness, and hence find no encouragement from the societies. Probably few Dahlias have ever excelled for decorative or garden colour effect the old scarlet "Glare of the Garden," and of whites so far we have seen none better than the double pure white Emily Hopgood, which is very free in blooming. The new section of Dahlias commonly known as "Pæony-flowered," tall and somewhat loose-growing, with large, broad florets, both as single and semi-double flowers, gives bright colour in gardens under favourable conditions. They are excellent if grown amidst or behind shrubs, but in florists' quality they are as yet absolutely lacking. They, however, like the Cactus race of 20 years ago, may have a future. But old as Dahlias are as exhibition flowers, it is but too evident their culture arouses little interest amongst the masses. Whilst we see Roses, Sweet Peas, and Chrysanthemums counting their admirers, growers, and fanciers by tens of thousands, Dahlia enthusiasts are reckoned by scores only. The plants are very tender; they need great care and skill in wintering them, in propagating them, as well as in their summer culture. They have a comparatively short blooming season; they may at any moment in the autumn when in full bloom be struck down by frost, bringing only grave disappointment. If raisers, rather than wasting so much energy in producing flowers only fit for the exhibition table and to secure certificates of merit, would seek to create a new race that will bloom early and freely, so as to furnish an abundant supply of beautiful, light, graceful flowers, they will have rendered gardens good service. So far, probably the singles approach most nearly to that ideal. *D.*

Although the common and the parks are situated about a mile apart, they may be said to be connected, for one of the finest street avenues in the kingdom runs in a straight line between the two open spaces. The four principal parks form a series of open spaces, all distinct and known under separate names, but divided only from each other by public roadways. Thus there are Andrews, Watts, Hoglands, and Palmerston Parks in a group, the two first-named being the most important.



FIG. 84.—THE STATUE OF DR. ISAAC WATTS IN WATTS PARK, SOUTHAMPTON.

ANDREWS PARK

is so named in compliment to a townsman, Richard Andrews, who was five times mayor of the borough, and in business as a coach-builder. His grandson is the ex-mayor and the present chairman of the Public Lands Committee

An elaborate statue of Richard Andrews occupies a prominent position near the principal flower-beds, the inscription recording that the monument was erected by his fellow-townsmen. There are drinking fountains at the base, but these are not now in use, as it was considered expedient in the interests of order to discontinue the water supply and to place an iron railing around the structure.

We were informed that this park was formerly the site of allotments, and that the land was acquired by the town as an open space, the council afterwards planting it with trees and shrubs and developing it, until now it contains about 50 flower-beds in addition to borders of perennial plants and shrubberies. It also contains an aviary, in which are British and foreign birds, most of them with gay plumage, a bandstand, and other appurtenances found in a public pleasure ground. An impetus was given to the planting of this land by one of the townsmen, Sir Frederick Perkins, who, during his mayoralty in 1862, planted an avenue of Lime trees through the centre of the park. These trees now form good specimens, and the avenue is one of the features of the park.

The public tramway runs past the principal entrance, and a broad path leads to Andrews' statue, which is grouped about with flowers. The lawns hereabouts are closely mown, and in the turf are numerous beds of flowers, the whole forming a design. Some of them are very large and appear effective. The tender plants have, so far, been purchased each year, and this has greatly handicapped those responsible for the decoration of the beds, there being no surplus supplies available to draw upon. But recently land has been allotted for a nursery with glasshouses, so that the floral decorations will be better provided for in the future.

The larger beds are partly furnished with ornamental shrubs, including Magnolias, Rhododendrons, Acer Negundo (which makes luxuriant growth), Roses, Yuccas, Cordylines and other plants of a decorative character. Interspersed with these are flowering plants, such as Chrysanthemum maximum, forming large clumps and flowering in profusion; Crambe cor-

difolia, Pentstemon, Geum coccineum, Monarda, didyma, Canasas, Carnations, Abutilons, and suitable dwarf subjects around the edges. The elegant Eulalia japonica grows with such freedom that its shoots require frequent thinning. Some of the beds are entirely planted with Roses: one of kidney shape has been planted

with these trees this year, the intervening spaces being filled with annuals and edged with a seedling Carnation named Dazzler, which flowers from June to November. A circular bed near the main gateway is filled with Paul Crampel Pelargonium over a groundwork of blue Viola, and around the outskirts are Alyssum Königin Charlotte and a yellow Viola. The centre of the bed is occupied by a plant of Cordylina indivisa that was planted six years ago from a 6-inch pot: it is now about 15 feet in height. Another round bed is furnished with Henry Jacoby and Flower of Spring Pelargoniums, Heliotrope Pæzident Garfield, bronze and yellow-leaved Pelargoniums, and, near the edge, a band of Coleus Verschaffeltii. A weeping standard Rose of Lady Gay variety forms a suitable centre-piece. An oval-shaped bed is devoted to bright foliage plants, including the variegated variety of Acer Negundo, Coleus in variety, Abutilons, Cannas, Chlorophytum elatum, Iresine Lindenii, Gœvillaea robusta, and a groundwork of Sedum glaucum. This formed a pleasing combination, and was very effective. A bed filled with Paul Crampel Pelargonium and white-flowered Stock edged with white Alyssum was also very pretty. Some distance along the path to the left is a disused bandstand. It is formed of a raised mound of earth, and is surrounded by a hedge of closely-clipped Holly. The plateau is now turfed and serves as a meteorological station, there being a good collection of instruments for recording the weather conditions. Standing on the mound, a fine view is obtained of the flower-beds and the distant parts of the park. On the opposite side is a fine weeping Beech, also a collection of Hollies. There is another mound not far away, forming a series of three terraces. It is circular in form and has been made from an old rock-garden which existed on the spot. At the top is a fountain, and the terraces are planted with Calceolarias and Zonal Pelargoniums. The whole is surrounded by a Holly hedge. A good view is obtained from here of the avenue of Limes alluded to. Radiating from Andrews' statue are four broad walks, and between each are curved oblong borders. There are numerous trees of Horse Chestnuts hereabouts, and we noticed several large specimens of the Sumach with other trees in enclosures. Two Oaks which were planted when his Majesty the King was married have grown well. Other trees include Pinus sylvestris, Cedars, Golden Elms, double-flowering Cherry, Almond, Snowy Mespilus (Amelanchier canadensis), also Spiræas, Prunus in many species, Weigelas, Magnolias, Xanthoceras sorbifolia, Paulownia imperialis, Benthamia fragilera, Sophora japonica, Staphylea colchica, Styax japonica, Hibiscus syriacus, Liriodendron tulipifera, Bambusa in variety, Euonymus latifolius, E. radicans, and many others.

WATTS PARK.

On the opposite side of the roadway is Watts Park, so named from the statue of the celebrated hymn-writer, Dr. Isaac Watts (see fig. 84), who was born at Southampton in 1674, his father being the proprietor of a small boarding school.

The statue of this divine stands in a setting of flower-beds, the most prominent being one representing the Arms of Southampton. It is designed with Alternanthera one-half, and Mesembryanthemum cordifolium the remaining part, which gives a dark and light portion respectively, with three circles formed by using two of the dark Alternanthera on the paler Mesembryanthemum and one vice versa. The shield is edged with Echeveria. The design is set in a wide ring of ivy-leaved Pelargonium Chas. Turner and Coleus Verschaffeltii. There are other larger beds around the statue; these are planted with tuberous-rooting Begonias, Calceolaria amplexicaulis, Salpiglossis, which were remarkably finely flowered, Eulalia japonica and

finished with a suitable edging. Two oblong beds are furnished with the scarlet Dazzler Carnation, a variety raised in these parks and which is prolific in flowering. There are many Rhodo dendrons in this park and Rambler Roses. A bea has been recently planted with varieties of Penzance Briars, and until these furnish the site, Hollies and Godetias are intermingled with them. The boundaries of this park are planted with trees and shrubs in variety; the lawns are intersected by many well-kept paths, and the whole is very creditable to the park superintendent and his staff.

PALMERSTON PARK.

This also contains a statue of the person after whom it is named, the monument being erected in 1869 in memory of Lord Palmerston, the statesman, who was a burgess of Southampton. Flowers are not much grown in this open space, but there is a neat design near to the principal entrance, worked out in the form of a large star. The park contains a bandstand, and Perkins Avenue runs through its centre.

Houndwell Park is coterminous with Palmerston Park. This space is devoted to games, including cricket and football, and the council have erected a pavilion for the use of the players. There is another open space known as

NOTES UPON STAPELIAS.

(Concluded from p. 153.)

STAPELIA LONGIDENS* (fig. 85).—This is a native of Delagoa Bay, and is one of the most distinct species in the genus. Its stems are 2½ to 6 inches long, obtusely four-angled, with stout, spine-like (but soft), very acute teeth ½ to 1 inch long along the angles, glabrous, green, mottled with purple. The corolla is about 1½ inch in diameter, having a short campanulate tube, with the bottom of it raised so as to form a sort of cushion on which the corona is seated, and widely-spreading, ovate-lanceolate lobes; it is quite glabrous, and the lobes are not ciliate; the colour is pale greenish-yellow, spotted all over with dark purple-brown, the spots on the apical part of the lobes are larger than the rest and more or less confluent. The seed-pods are about 7 inches long and half an inch thick, gradually tapering into a beak, smooth and glabrous, streaked with purple on a pale ground-colour.

No other species of Stapelia known to me has such long, stem-like teeth as this one possesses. In *S. Woodii*, which is most nearly allied to it, they are only ¼ to ½ an inch long.

STAPELIA OLIVACEA† (fig. 86).—The very distinct species here illustrated is a native of the



FIG. 85.—*STAPELIA LONGIDENS*: FLOWERS PALE GREENISH-YELLOW, SPOTTED WITH DARK PURPLE-BROWN.

the Queen's Park, situated at the lower end of the town, and embracing about five acres of land planted with ornamental shrubs and flowers. It contains a monument erected to the memory of General Gordon, who was born in Southampton. The main avenue through Queen's Park is the most direct way to the principal entrance to the docks and the new post office. The town council have recently acquired about six acres of disused gravel pits at Shirley, and this is to be laid out as a children's playground.

The beautiful avenue which leads to the common is planted with English and Guernsey Elms, sometimes in three rows, on either side. At one spot stands an old inn, known as the Cowberds, which was an important stopping place for the coaches from London in the olden times. The common itself is a romantic spot, delightful in its wild aspect. It contains four lakes, one of which has been made to provide work for unemployed men during periods of distress. Two are disused reservoirs, and model yacht sailing is permitted on them: the other is on the site of an old gravel pit. In former years there was a racecourse on this common, but this has been done away with. The parks and common are in the care of Mr. Richard Lawrence, who was appointed to the position of superintendent in 1900.

dry central region of Cape Colony, where it occurs scattered over a very large area. It is easily distinguished from all others by its stems alone. These are somewhat crowded, 3 to 5 inches high, and ¾ to 1 inch square, with very obtusely-rounded angles and a groove down each side, toothless, but with an impressed transverse line at the base of the minute erect rudimentary leaves, minutely velvety-puberulous and very smooth-looking; when grown in the shade they are greyish-green, but when exposed to full sunlight become blotched and tinted with rich deep purple. The corolla is about 1½ inch in diameter, with a shallow funnel-shaped centre and spreading ovate lobes, ciliate with white simple hairs; the back is puberulous and the inner surface glabrous and very rugose, pale to dark olive-green, with brown or reddish-purple rugosities. The corona is very dark purple-brown, and differs from that of most others by the long, slender, erect inner horns and short falcate-subulate outer horns of the inner corona-lobes. The odour is extremely disagreeable. This species is very sensitive to an

* *S. longidens*, N.E.Br. in *Gard. Chron.*, 1895, xviii, p. 824, and 1898, xxiv, p. 7, fig. 8.

† *S. olivacea*, N.E. Brown in *Gard. Chron.*, 1875, iii, pp. 136-137, fig. 24; *Bot. Mag.*, t. 6218.

over-supply of water, and during the winter months water should be given to it very cautiously, as it is easily killed by an overdose.

HUERNIA BREVIROSTRIS† (fig. 87).—This pretty little species is a native of the dry interior of the eastern part of Cape Colony, chiefly in the district of Graaff Reinet and perhaps also of Somerset. The habit is very compact and dwarf, with stems 1 to 2 or, under cultivation, sometimes up to 3 inches high and $\frac{3}{4}$ to 1 inch square, with acute angles and sharp spreading teeth, glabrous, glaucous-green, marked with purple when exposed to full sunlight. The corolla is about $1\frac{1}{2}$ inch in diameter, with a globose-campanulate tube about quarter of an inch deep, slightly contracted at the mouth, whence the limb spreads horizontally and has five very acute lobes, triangular in outline, with five small teeth alternating with them—these teeth, by the way, form one of the characters by which the genus *Huernia* may be recognised—the inner surface is

three of them (*Caralluma*, *Duvalia* and *Echidnopsis*) also occur in Arabia, one (*Caralluma*) extends its range into North Africa, South Europe and India, whilst the island of Socotra has one species of *Echidnopsis* and one of the remarkable genus *Edithcolea*. Outside of this range none of the *Stapelia* tribe are known to occur. All the species grow in dry localities, and some of them in places of the most arid character. It is on this account that some of them are difficult to cultivate, and by cultivation I mean the ability to grow and flower the same plant for several years in succession. Most failures with these plants I believe to be due to the fact that the average cultivator treats them all alike, and will give as much water and the same soil to a rare and tender *Caralluma* or a *Trichocaulon* as he would to the common and harder *Stapelia variegata*, without giving a thought as to the very different conditions under which they

however, such as certain kinds of *Caralluma*, seem to thrive best in a mixture of eight or nine parts of sand and one part of loam; *Pectinaria saxatilis*, *Tavaresia* (*Decabelone*) *Barklyi*, and *T. elegans* and *Duvalia polita* have thrived with me in the latter mixture. Most (but not all) of the species can readily be propagated from cuttings. For this purpose the branch selected should be cut off as close as possible to its origin from the branch that gave it birth and then laid upon a shelf in full sunlight for a few days until the wound has thoroughly healed and a good thick skin formed over it; if the cutting shrivels somewhat, it will take no harm, but will probably produce roots more quickly than if it had not done so. *Stapelia* cuttings should never be planted in the soil, but merely laid upon it and pegged down steadily without bruising them; if it is an erect-growing kind, the basal part is usually more or less curved, and this part should be pegged down and the upper part supported by a stick. Temperature and moisture are two very important points in the treatment of these plants and have to be carefully attended to. Except during the hottest and driest weather, they do not thrive out-of-doors in Britain, and it is better to keep them under glass; if well exposed to the sun they do not require artificial heat during the summer, but during the winter the temperature at night ought not to be lower than 49° or 50° Fahr., and may rise, with advantage, during the day to 60° or 65° Fahr. The watering of these plants is somewhat of an art; if possible, at no period of the year should the soil be kept really wet, the most suitable condition is that when it is about as moist as garden earth is on a hot summer day just below the dry surface soil, which, although moist, will crumble easily between the fingers. If the soil should by chance get too wet or somewhat sodden, especially during the winter, it is better to place the pot in a dry place and give it no more water for at least a week, and when the soil is dry repot the plant in fresh earth. In winter they require very little water. I have found that about half a cupful once a week or once a month, according to the species, is quite sufficient.

Many kinds bear striking or interesting flowers that render them well worth cultivating, but among those that are most attractive and are more or less odourless or give forth no very strong odour, at least not perceptible at a short distance from the nose, or which only lasts for one or two days, the following may be mentioned, although they are not all at present in cultivation: all the species of *Hoodia* and *Tavaresia* (*Decabelone*), most species of *Huernia*, *Stapelia pulchella*, *S. variegata* var. *pallida*, both with pale yellow flowers dotted with dark purple-brown; *S. namaquensis*, with rather large flowers, having a very rough surface and a large solid-looking annulus (shaped somewhat like a wooden curtain-ring) on the disk, light yellow, with purple-brown spots; *S. erectiflora*, with numerous, small, purplish-grey flowers, somewhat resembling a Turk's cap raised upon very long erect pedicels; *S. glanduliflora*, with elegant flowers of a light sulphur-yellow, dotted with crimson and covered with erect, clavate, white hairs, having a rather neat and dainty appearance; *Duvalia Corderyi*, with olive-green or purple-brown flowers, adorned on the elevated disk with long light purple or mauve-coloured hairs; and *Prianthus comptus*, with small, erect, white, puo-scent flowers, prettily dotted with purple-brown. The two species of *Edithcolea* have not yet been introduced into cultivation, but judging from their dried flowers, they must be very remarkable plants, one of them having flowers somewhat of the shape of and nearly as large as a saucer and handsomely marked. It is a native of Somaliland, so if it is ever introduced, very great care should be taken not to overwater it. *N. E. Brown*.

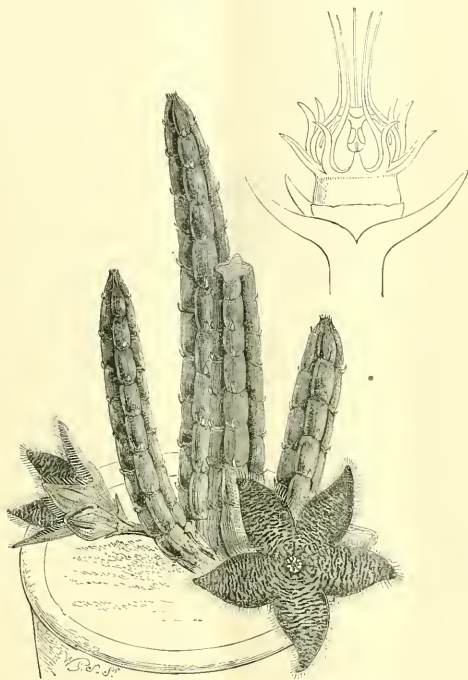


FIG. 86.—*STAPELIA OLIVACEA*: FLOWERS OLIVE-BROWN.

minutely papillate, but otherwise glabrous, and the lobes are not ciliate, pale sulphur-yellow, thickly covered with small blood-red spots and the bottom of the tube entirely blood-red. The outer corona-lobes spread on the bottom of the corolla-tube, they are black, with a velvet-like surface; the inner corona-lobes have short erect subulate tips, and are purplish, dusted with yellowish. Like several other species of *Huernia*, the neatly-coloured flowers have very little or no odour, and have a very pleasing appearance. The plant flowers very freely, as on a small plant in a pot not more than 3 inches in diameter, I have had as many as a dozen flowers open at the same time.

CULTIVATION.

Most of the genera belonging to the *Stapelia* group are natives of South and Tropical Africa;

† *H. brevisrostris* in *Gard. Chron.*, 1877, vii., p. 790, fig. 124; *Bot. Mag.*, t. 6379.

grow naturally. They are a group of plants which, like *Orchids*, require a special kind of treatment, for the conditions under which some kinds will thrive, or at least exist, for years are fatal to others. With regard to soil, some will grow well in any light soil, but when it comes to the production of flowers, my experience demonstrates that that is quite another matter, for I have found that whilst one kind will grow and flower well in ordinary garden soil, another will grow well but flower very sparingly or not at all in the same medium, whilst a third will neither thrive nor flower in it. From this it is evident that such soil does not supply all the conditions necessary to their well-being under our artificial conditions of cultivation. The soil I have found to suit in most cases is composed of five parts sandy loam, five parts sand, one part old mortar (powdered), and one or two parts of broken brick. Some species,

NURSERY NOTES.

SUTTON & SONS, READING.

A RECENT visit to this famous nursery firm proved enjoyable and instructive. To the amateur the rapidity with which large specimens are produced by high culture is very remarkable. Recently, for instance, a series of houses were filled with many hundreds of beautiful plants of Gloxinias. Although the seeds were mostly sown early in April, the plants had developed into grand specimens with magnificent blooms of practically endless variety, some delicately spotted with intense colours on light grounds like some of the finest Calceolarias, others of pure white, others of delicate shades of red from pale rose to deepest crimson or pale blue to intense purple with almost every intermediate grade. Her Majesty, with snow-white flowers of great substance, was undoubtedly the best of the whites, and on enquiring as to its history it was interesting to learn that 14 years were occupied in fixing the strain, which now comes true and constant from seed. Seven of these years were devoted to eliminating the last traces of spotting or tinting which characterised the strain whence it was derived. Empress of India, a dark purple form, was the best in that tint, and Sutton's Crimson the choicest of the red-coloured varieties. These and many others belong to the firm's "Giant" strain, which is characterised by large flowers of great substance and convex handsome leaves of the crassifolia type. The flowers of the variety Duchess of York are coloured purple with white edge and spotted throat: those of Duke of York are crimson on similar lines. Amongst the new breaks pointing to fresh types I noticed several in which the marginal lighter tint common to many of the varieties was sharply defined instead of being, as hitherto, shaded off, as it were, into the main tint of the flower. This is a great improvement, and in one plant the edges of the lobes of the corolla were prettily curled upwards at the base of the lobes, a feature which, when more fully developed, would give additional charm to the usually flat petals. Other houses were filled with tuberous-rooting Begonias, both single and double-flowered, all fine specimens, and only six months' growth from the seed. There were batches of scarlet, crimson, yellow, and white flowers, a number displaying also the peculiar feature of crested, or rather a sort of incrustation on the petals, which, when regular, has an extremely pretty effect. Fringed forms and Picotee-edged varieties were also in evidence, while the size and form of the blooms would be difficult to surpass. To recall the comparative insignificance of the flowers of the wild species from which they have been developed is to recognise that the tuberous-rooting Begonia of to-day represents one of the great triumphs of selective hybridisation and cultivation. The starting point in this case was afforded by two small-flowered species of by no means brilliant colouring, but which, when brought together by the hybridiser, has resulted in a race having flowers six inches or even more across, accompanied by practically all the colours save blues and purples. A third species, *B. socotrana*, with small flowers in loose bunches, was then brought in as a third factor, and many handsome forms, pendulous and winter flowering were the result, though these naturally did not figure in the groups of tuberous Begonias I saw. My next visit was to the extensive beds of China Asters in the open, which were just developing into sheets of rich colours of innumerable varieties. Many of them were dwarf forms of the comet or striped section, each petal being margined with rich red, indigo blue and other tints with white centre, and the Victoria strain on simpler lines. The impression given by this collection was that a display of such brilliancy, attainable by sowing seed in

March, should entitle them to a place in every garden.

Tomato plants in great variety, all heavily fruited, were noticed in the open. The vigour of all the varieties, the abundance and fine quality of the fruit proved clearly that, save for forcing purposes, glass is by no means essential for successful Tomato culture. *Chas. T. Drury, V.M.H., F.L.S.*

The Week's Work.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Transplanting trees and shrubs.—In planting new shrubberies a good effect is produced by placing the plants in large or small masses. Before the work is attempted see that the natural drainage is efficient, for few trees or shrubs will succeed where the subsoil is not sufficiently porous; make preparations for planting beforehand, and if large specimen trees or shrubs are to be shifted it is advisable to cut a trench in the soil around and partially underneath the roots, at least 12 months before transplanting. In cutting this trench care must be taken not to injure the young roots: they should be relayed in the trench and covered with the finer soil.

and keep the frame close and shaded during the day, for the first week after planting, but afterwards admit plenty of air, removing the lights entirely on favourable occasions.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Dewager Lady NUNBURNHOLME, Watter Friory, Yorkshire.

Autumn fruiting Raspberry.—The fruits will soon be ripening, and in the case of plants growing in light, poor soils applications of liquid manure will greatly assist the swelling of the berries. Protect the fruits from birds, and remove any growths that are not required, so that those that remain may have the full benefit of the sunshine. Summer fruiting varieties should have the old canes cut away, also any of the weaker newer ones. The shoots will be benefited by liberal doses of liquid manure. Secure the strongest rods to wires or stakes so that they may not be damaged by strong winds.

Mulberries should be gathered before they are fully ripe if they are required for bottling, and care should be taken that they are gathered when quite dry. Mulberries are greatly appreciated by some persons when ripe for dessert. They are also very agreeable when mixed with Apples in tart or with Apple jelly. Birds destroy many of the best fruits, but old trees generally produce sufficient for all purposes. When clearing out sewage tanks the contents, well diluted, may be placed at the roots of these trees.

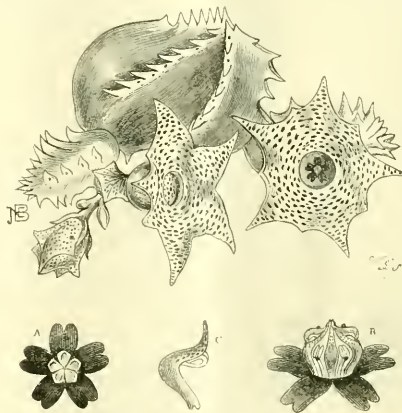


FIG. 87.—*HUERNIA BREVIROSTRIS*: FLOWERS PALE GREEN, WITH PURPLISH SPOTS.

A, front; B, side view of corolla; C, rostrum (enlarged).
(For text see p. 197.)

When fibrous roots are plentiful the specimens may be shifted with a comparatively small ball of earth. Plants removed from a damp situation to a high and dry site seldom do satisfactorily. Care must be taken to injure the roots as little as possible in transit, and in planting they should be laid out straight and afterwards covered with fine soil made moderately firm and well watered. When planting is finished the roots should be mulched and the shoots made secure from damage by winds. At no season of the year is the ground in a better condition for transplanting trees and shrubs than at the present time; the temperature of the soil during early autumn is favourable to the production of new roots, so that the injury and check caused by transplanting is soon made good, and the tree becomes re-established again before winter arrives.

Violets.—Plants intended for winter flowering in cold frames, that have formed strong crowns, should be lifted with good balls of earth attached to their roots and planted about 1 foot apart each way with the foliage as near to the glass as is possible. Soil from old Cucurbit frames mixed with sifted road grit or mortar rubble is very suitable for Violets. Damping causes the greatest trouble amongst Violets in winter; hence the advantage of growing them in a porous soil. Water the plants thoroughly

General remarks.—All mulchings should be removed from trees this month so that sun and air may exercise their influence on the border. Lightly fork up the surface soil, and more especially the ground that has become hard by treading near wall trees. Continue to gather Apples and Pears as they mature, examining the trees every few days for the purpose. Dessert varieties of Plums should also be examined at short intervals for gathering: unless these fruits are protected from the birds and wasps the best ones will quickly be destroyed. Walnuts, too, should be gathered as soon as they will part freely from the husks. When gathered they should be placed on a damp floor to keep them in a moist condition. Cobs and Filberts should be gathered as soon as the kernels turn brown and be thoroughly dried before being stored. Squirrels must be guarded against or these little animals will quickly remove a large quantity of the nuts. Fruit trees that are still infested with American blight or other insect pests should be attended to, and every effort made to thoroughly cleanse the branches with some insecticide before the pests descend into the ground for hibernating during winter. If the trees are large, spray them with the No. 2 fluid previously recommended as soon as the fruits are gathered. Two syringings with this specific completely destroyed the Pear slug worm on our trees. The hoe should be freely plied to keep weeds in check.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq.,
Kerr, Perthshire, S.E.

Cineraria.—The seedlings are ready for shifting into larger pots, as they are making rapid growth and require plenty of root room. Use a similar compost as was advised before. Guard against aphides and other insect pests, and on their first appearance fumigate the house. Any of these plants that are required for large specimens will require another shift after this potting. As autumn advances Cinerarias should receive less shading, and be placed in a south aspect in an unheated frame on a bed of ashes until frost makes its appearance.

Herbaceous Calceolaria seedlings should be pricked out into boxes, the same as was described for Cinerarias, and placed in a close shaded situation. When ready they should be potted into 4-inch pots. See that the receptacles are quite clean, or when turning the plants out again for their final potting damage will be done to the roots. Slugs are very fond of young Calceolarias, therefore they must be guarded against. Apply water with care, for they must not be kept over damp, especially after they are potted into 4-inch pots, though they need sufficient to prevent the roots from becoming dry. Calceolarias enjoy a rich soil. When potting the seedlings do not press the soil too firmly in the pots. As these plants are susceptible to attacks of green fly, they must often be examined for this pest and be fumigated directly it is found. No other place suits these plants better than an unheated frame, where they should be stood on ashes until November or December, after which it is better to place them in a structure where they can be allowed a little fire heat.

Schizanthus.—Plants intended for flowering early in spring should now be potted into 4-inch pots and be placed in an unheated frame close to the glass. Use a light, rich soil with plenty of leaf-mould incorporated with it, for their potting. See that the pots are quite clean when they are used.

Gloriosa.—Any specimens that have become unsightly by reason of their leaves fading should be taken down from the trellis, and have the shoots wound round a stake placed in the pot. They should be placed in some warm, out-of-the-way place where they may ripen their tubers. Water must now be withheld almost entirely; when the plants are ripened, lay the pot on its side in a stove during the winter.

Clorodendron Balfouriana.—Plants that flowered early in the season are now showing signs of test: water should therefore be sparingly given until, when the leaves have all fallen, it should be withheld altogether. The plant needs wintering in a stove temperature and given an occasional watering, just sufficient to keep the wood from shrivelling.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchard Grower to Lt.-Col. G. L. Holford, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cypripedium seedlings.—The present is a favourable time for affording larger receptacles to small plants that are root-bound, as the cool, moist atmosphere will favour a quick growth and free root action. Specimens that are nearing the flowering stage should be given a little more fibrous loam in the rooting medium. Seedlings that are large enough may be shifted from the seed beds. These may be pricked out into 2½-inch pots, placing several in each pot. Employ plenty of material for drainage purposes, and as a rooting material use equal parts of clean chopped Sphagnum-moss and fibrous peat, from which all the finer particles have been shaken out. Fix the seedlings moderately firmly in the compost, and keep them well shaded and frequently sprayed overhead.

Calogyne cristata and its varieties are now growing and rooting freely; therefore healthy, established plants will need copious supplies of water at the roots until the growth of the pseudo-bulbs is complete. At this stage, weak liquid farmyard manure applied twice weekly will prove beneficial to well-rooted specimens. Plants that were newly potted this year will require care in watering, as the new rooting material is very retentive of moisture, and so much wet will cause the soil to become sour and sodden. Admit plenty of light and air to these plants to ensure the pseudo-bulbs becoming

firm and well ripened, which is essential to the production of fine flowers.

Pleione have finished their growth for the season, and, with their leaves fast decaying, the roots will require scarcely any water. The species *P. humilis* is always a little later in maturing than the others, and this will therefore still need a moderate supply of moisture: the underside of the leaves should be frequently syringed in order to dislodge any red spiders that may be present. As Pleiones commence pushing their flowers immediately after the completion of the season's growth, the rooting material should not be allowed to become dust dry, but should be kept moist until the flowering season is over.

Dwarf-habited Odontoglossums.—Small-habited species in the cool house, such as *O. Rossii*, *O. Erstedii*, *O. Cervantisi*, and the natural hybrids, *O. Humeanum* and *O. aspersum*, are now growing away. There should therefore be no delay in attending to the repotting or top-dressing of these plants, carrying out the principles advocated in last week's Calendar. These plants grow best when suspended from the roof rafters, and well-drained pans are the best receptacles for them. In common with all other newly-potted plants, these are best stood on the stage until the roots are active, as the compost does not dry so quickly on a stage as when the plants are suspended. Occasional waterings will suffice to keep the soil in a sufficiently moist state. Established plants may be given a more liberal treatment, but excess of moisture at the roots should always be avoided. This is especially the case with *O. Erstedii*, a species soon injured by over-watering. Even when the pseudo-bulbs are approaching the time when much moisture is needed, the compost should be allowed to dry out before giving a fresh supply of water.

Cochlidia.—The species *C. Noezliana* and *C. virens* are desirable inmates of the cool house for flowering in spring. The plants are of small growth, and, culturally, the requirements are similar to the *Odontoglossums* referred to above. If necessary, new rooting material may be given to any of the plants that are growing actively; but as they dislike root disturbance, repotting should only be done when it is absolutely necessary.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATTECK, The Heade, Monmouthshire.

Root-pruning and lifting Peach trees.—Trees of Peaches and Nectarines that have made unduly strong, or weakly growths, or that have produced fruits with split stones, should, immediately before the leaves fall, be attended to at their roots. Young trees especially often make gross shoots, and whilst this is the case they cannot be brought into a satisfactory bearing condition. The border should be in a moderately moist state before it is disturbed, and the work should be commenced by taking out a trench, with as little injury to the roots as is possible. The roots should be carefully coiled back, moistened, and covered with damp mats, and then, if necessary, the drainage, whether pipes or rubble, should be seen to, and be covered with thin turves. Over these should be placed a fresh compost sufficient to rather more than half fill the vacant space. The roots should next be seen to; any requiring it should be shortened, whilst all suckers and damaged ends should be removed by means of a clean cut. Relay the roots in layers through the upper part of the border, keeping some of the fibrous ones quite near to the surface. The compost should consist of calcareous loam, to which has been added more or less, in agreement with its texture, crushed mortar rubble, wood ashes, or burned soil. The soil should be moderately dry when it is used, and be well firmed by treading as the work proceeds. As soon as the trench is filled in, apply a mulching of manure litter, and give enough water to wet the border thoroughly. For a week or two, that is, until the trees have partially recovered the check, protect them from bright sunshine and draughts, whilst the leaves, branches, and stems should be moistened occasionally during the day with the syringe.

Late Peach house.—Late varieties, such as Thomas Rivers, Late Devonian, Exquisite, Princess of Wales, Nectarine, Sea Eagle, and

Thames Bank will still be furnishing a supply of fruits. If wasps are troublesome, they should be prevented from entering the house by the means of hexagon netting. As soon as the fruits are all gathered, carefully examine the trees, and cut out all wood that will be of no further use, chiefly that which has carried this year's crop of fruit. This will give next season's fruiting wood increased sunshine and air, and thus assist it to mature. Should it be found that too many young shoots have been left, thin them to 5 inches or 6 inches apart. Syringe the trees daily to keep the leaves free from dust and red spider; keep the ventilators fully opened both by day and night; thoroughly moisten the inside borders, and also those out-of-doors if they are dry. Weakly trees should be assisted with doses of diluted liquid manure, or be top-dressed with some suitable artificial manure. If the wood is not ripening satisfactorily, keep the atmosphere of the house warm and dry, but avoid a close, moist condition.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICTOR GIBBS, Aldenham House, Elstree, Hertfordshire.

Mushroom beds should now be made both in the Mushroom house and in the open. Endeavour to collect the materials for the bed when in a fresh condition. Do not separate all the straw from the droppings, but simply the longest pieces, as by employing a reasonable amount of short litter the beds will last longer in a better condition and continue to bear for a much longer period than when droppings alone are used. Whenever possible an open shed should be used for turning and preparing the manure, which should be placed in a layer 2 or 3 feet deep, and be turned every morning for the first week or so. When working the heap take care to place the manure from the outside of the heap in the centre, and vice versa. As the temperature of the litter begins to decline the heap will need turning less often, and it may be placed closer together. When it is well fermented prepare the beds, placing the manure as firmly as possible. Insert the spawn when the warmth is about that of new milk. Beds formed in the open should be made ridge-shaped, and almost any out-of-the-way site may be selected for them. These beds cannot be made too firmly, and the ground at their base should be elevated sufficiently for water to quickly drain away. After the spawning and soiling is completed place some long stable litter to a depth of 12 inches over the bed, and though it is possible one may have to wait some considerable time before the crop appears, there need be no fear as to the results if these methods are carried out and trustworthy spawn is used.

Beds in bearing.—Much less difficulty will now be found in supplying the table with good Mushrooms. Always gather the Mushrooms with a twist; never cut them. Give a thorough soaking to the bed with good farmyard liquid manure after a number of Mushroom- have been gathered.

French Beans growing in pits and frames will need supporting with small stakes. Ventilate freely during the morning when the weather is favourable, but syringe and close the ventilators early in the afternoon. During cold nights the lights should be well covered with some protective material. Make a sowing of *Ne Plus Ultra* or *Canadian Wonder* in 7 or 8-inch pots, which should be well provided with drainage. The compost should consist of two parts fibrous loam, one part old Mushroom-bed manure, and one part leaf-soil. Germinate the seeds in a gentle heat, and immediately the young growths appear elevate the pots on shelves near to the glass and do all possible to promote a stout, sturdy, clean growth. Frost may now appear at any time, and where late crops are in full bearing on a south border it will be wise to afford them some protection whenever frost is apparent. Keep a reserve supply of picked Beans, arranging their stalks in a little water in a cool place.

Parley.—There is yet time to make one more small sowing of this vegetable in a cold frame at a distance of about 9 inches from the glass. Late sowings in the open can now be thinned and the surplus plants pricked out into cold frames.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, SEPTEMBER 14—
United Hort. Ben. and Prov. Soc. Com. meet. Nat. Chrys. Soc. Com. meet.
TUESDAY, SEPTEMBER 15—
Roy. Hort. Soc. Coms. meet. British Gard. Assoc. Ex. Council meet.
THURSDAY, SEPTEMBER 17—
Nat. Rose Soc. Autumn Sh. at Roy. Hort. Hall, Westminster.
SATURDAY, SEPTEMBER 19—German Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—57.8°.

ACTUAL TEMPERATURES—
LONDON.—Wednesday, September 9 (6 P.M.): Max. 65°; Min. 54°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London—Thursday, September 10 (10 A.M.): Bar. 29.8; Temp. 58°; Weather—Bright sunshine.
PROVINCES.—Wednesday, September 9 (6 P.M.): Max. 57° Cornwall; Min. 47° Scotland, N.

SALES FOR THE ENSUING WEEK.

MONDAY—
Twenty-third great Annual Unreserved Trade Sale of Pot Plants, by order of Messrs. H. B. May & Sons, at Dyson's Road Nurseries, Upper Edmonton, by Protheroe & Morris, at 11.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—
Dutch Bulbs in large variety at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

TUESDAY—
Great Annual Trade Sale of Winter-blooming Heaths, &c., by order of Messrs B. Maller & Sons, at Burnt Ash Road Nurseries, Lee, S.E., by Protheroe & Morris, at 11.

WEDNESDAY—
Great Annual Trade Sale of Winter-flowering and other plants by order of Mr. J. Fraser, at the Nurseries, South Woodford, by Protheroe & Morris, at 11.
Tree Ferns, Azorean Lilies, Bulbs, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 5.

THURSDAY—
Twenty-seventh great Annual Trade Sale of Winter-flowering Heaths and Ferns by order of Messrs. H. Evans & Sons, at Longlands Nurseries, Sidcup, by Protheroe & Morris, at 11.

FRIDAY—
Second Annual Trade Sale of Aspidistras, Palms, &c., by order of Mr. W. Madsen, at Lilford Road Nurseries, Camberwell, by Protheroe & Morris, at 12.
Imported and Established Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

Variation and inheritance. It is singularly appropriate that a son of Charles Darwin should have been selected to preside over the British Association during the year which forms the 50th anniversary of the enunciation of his now famous theory of the origin of species. Mr. Francis Darwin's presidential address will have been read by many, and it provides much food for reflection, and it will certainly serve as a stimulus for the prosecution of further research. And to say this is to admit at once that the whole of the views propounded in that Address are not likely to command, at any rate, the immediate and unreserved assent of many who have busied themselves with the matters therein discussed.

The central idea which runs through the whole Address is that plants share with animals a kind of memory, and it is to the permanence of impressions which have become engraven by repetition upon the organism that not only the habits acquired during individual life are due, but the course of development itself is also shaped by something of the same nature.

Mr. Darwin, in advocating these principles—originally developed largely by Scmon—examines the evidence for and against them with an open-minded impartiality that recalls the candour with which the author of *The*

Origin of Species was ever wont to point out the difficulties that seemed to tell against the very explanation that he was himself maintaining.

The "mnemonic" theory which thus formed the principal thesis in the Address, briefly explained amounts to this: We know that animals in general are able to acquire experience, that is, they become more or less consciously aware that certain results will follow certain causes, especially when these affect their own welfare, and thus they do not need, every time a familiar stimulus is applied, to learn the whole lesson again from the beginning. A horse will start at the sound of a whip, without waiting to rediscover by experiment what it has already learned to associate with it. This must mean that some sort of corresponding change has occurred somewhere in the living substance of that horse which is lacking from one that had never undergone the process of being broken in.

Habits, which are obviously related to what we may call memory, offer other examples of the same kind. A man, by practice, may accustom himself to wake at a particular hour, and in time the habit thus formed becomes a part of his life. In respect of this detail, then, we may say that some change occurs regularly and rhythmically and affects his nervous system, without conscious effort on his part, leading him always to wake up at the appointed time.

Now a rhythm of a similar kind is to be observed in plants, and Mr. Darwin has himself contributed much to our knowledge respecting it. Many plants exhibit what are known as "sleep-movements" in their leaves or flowers; that is, the nocturnal position is different from that maintained during the day. Species of Leguminosae—*Phascolus*, for example—exhibit this character in their foliage. If such a plant be placed in a dark room at night, it will be found to retain the nocturnal attitude of its foliage till next day, when, without the admission of light, its leaves will nevertheless assume the daylight position. At about the time when night comes on the leaves will again fall, just as they would have done in the open air. This affords a wonderful example of what we may call "impressed rhythm" in a movement, and we can alter this and other similar kinds of rhythm experimentally by artificially changing the rate of alternation of the two conditions.

Many additional examples of the same sort of thing could be quoted, and it is plain that plants really do possess the capacity of continuing to react as though a stimulus were applied, even when it is really absent at the time the plant has got "accustomed" to receive it. But memory, if one analyses it, comes to mean that the sensations and often their results may be repeated when the external cause that originally excited them is no longer present. The particular stimulus, which in the first instance started those series of internal changes that culminate in the production of a definite response, ceases to be necessary. The sequence of events is short-circuited, so to speak, and may even be started by causes quite different from that which at first set the train in motion. The net result, however, is the appearance of the

response, though the initial provoking cause is no longer apparent. In this sense, then, we may speak of plants as having memory. We may, however, be permitted to doubt whether our knowledge of the hidden causes of rhythmic movement or other manifestation of change is materially advanced by so doing. For ourselves, we think that the better way still lies in the direction of avoiding psychical analogies, and although some distinguished men amongst the biologists have given utterance to their despair of explaining these things in terms of chemistry and physics, we still venture to think that the more fruitful ground lies in this field. Of course we know as yet very little about the chemical and physical state of matter itself—assuming that there is such a thing as matter at all. It is only a few years since we first became aware of the existence of the complexities that are associated with "X" rays, or with the chemical atom, and we are still only beginning to apprehend how intimately chemical and physical change is bound up with the conditions under which the reactions may be proceeding.

If by the mnemonic hypothesis nothing more is meant than that the vital machinery is affected, more or less permanently, by the reactions and changes that are going on within it, we have no objection to offer, although we need not lose sight of the fact that it is just exactly the nature of this affection itself that we want to discover.

When, however, we are also asked to believe that, just as habits may be formed in the individual by the impress of stimuli, so by a similar kind of mechanism these effects may be transmitted to the germ cells of successive generations, we are inclined to pause. The inheritance of acquired characters is a thorny subject, and it has often been discussed in the pages of the *Gardeners' Chronicle*. For the moment it may suffice to say that we regard the case for such inheritance as non-proven. Everyone knows that plenty of instances are repeatedly brought forward, e.g., seeds grown under certain conditions may give rise to plants that are said to thrive best under a similar or definitely related environment, &c., but, so far, such examples, when critically examined, have failed to prove decisive in the affirmative sense.

Again, we find it difficult to regard the steps of development of a plant or an animal, from the egg to the adult, as attributable to the materialisation of echoes of ancestral structures acquired by the progenitors of the race as the result of impressions received from the environment. The secrets of organisation in relation to development are still shrouded in deep obscurity, but perhaps the most outstanding feature that has now become generally recognised is the real, albeit mysterious, nature of that interchange between the various parts of an individual which we designate as Co-ordination. The organism, as a whole, reigns supreme over and above its constituent parts, and not the least marvellous illustration of this is to be seen in the manner in which mutilated bodies, or even detached fragments, may regenerate missing parts, and reproduce the whole irrespective of the morphological nature and past experience of the cells which are

concerned in, or are requisitioned for, the process.

But whatever we may think of the theories and hypotheses that have been advanced to explain variation, and however unsatisfactory we may find them to be, the existence of the thing itself is beyond all dispute. As Charles Darwin recognised fifty years ago, it forms the cardinal point on which the whole possibility of the evolution of new species depends. But given this first step, the further stages in the process are assured by the survival of the fittest for the place and time, and the elimination of the less fitted. In this way the distinctions between the incipiently discontinuous groups become accentuated, and the fact is recognised and expressed in the term "good" species.

Considerable divergence of opinion, of course, exists as to the various steps of the process, and it is likely to continue to do so for a long time to come. But most people will probably continue to regard natural selection as a prime factor in emphasising that process of initial differentiation to which we give the name variation, and such an admission implies that it is, in many cases at least, largely responsible for the gaps which separate the individual species from each other.

OUR SUPPLEMENTARY ILLUSTRATION shows a group of one of the commoner fungi of gardens, *Coprinus micaceus*, growing upon an old oak stump in a garden at Fox Lane, Palmer's Green, London, the residence of Mr. A. E. SMITH, son of Mr. WORTHINGTON G. SMITH. This latter gentleman is well known as a mycologist, and he has furnished us with the following interesting account of the larger species of fungi and Toad Stools that are found in gardens and about dwelling-houses.—*Coprinus micaceus* usually grows in dense clusters upon decaying tree trunks and stumps of all kinds, producing several crops of the spore-bearing organs—the Toad Stools—each year. The photograph from which the picture was prepared was taken in early summer. The fungus is called *micaceus* because when looked at under a lens it is seen to be covered with minute sparkling grains. By its mycelium, or spawn it gradually and completely destroys decaying wood. Gardeners do not generally approve of fungi in gardens, yet some of the higher types are peculiar to gardens, yards, and other places about dwellings; indeed, some species not only grow in gardens, summer-houses, and close to house doors, but they invade the dwelling-house itself. One known as the "gigantic Mushroom" is called *Psalliota villatica*, because its usual place of growth is near villas or country houses. Sometimes it manages to grow inside sheds and outhouses, and it will even enter the villa itself and luxuriate in the cellar. Only a few days ago some newly-dug earth was wheeled from a kitchen garden to a flower garden at Dunstable, and immediately the earth was laid in a heap, a fine crop of a most beautiful and rare fungus—as if by magic—appeared upon the soil. This was *Volvaria Taylori*, a species that seems to be peculiar to gardens. *Coprinus comatus*, a large and handsome edible species, is almost peculiar to parks, gardens, and yards near houses, for which reason it has been called "the agaric of civilisation." It frequently occurs in the small front gardens of London houses. An allied species named *C. atramentarius* is very common in yards everywhere; sometimes it grows in the streets. On two recent occasions it has pushed

itself up through an asphalt pavement at Dunstable. Another species, *C. domesticus*, grows both outside and inside houses, and will appear with startling suddenness in cupboards, in cellars, sometimes on old floors or hanging inverted from ceilings. It appears to greatly appreciate old matting, dishcloths, sacking, and discarded carpeting in outhouses and external offices. *C. apthosus* and *C. fuscescens* both grow in cellars and kitchens, often on the structural woodwork in the cellars under inns. *C. radians* grows in the interior of sculleries, where it graces the walls and hangs from the ceilings. *C. flocculosus* and *C. sociatus* are both common in gardens, the latter sometimes decorates garden walls. *C. radiatus* was sometimes noticed on the linen dressings of wounds before the discovery of the anti-septic treatment. No doubt gardens are very suitable places of growth for some of the larger fungi, because manure is often applied, the earth is dug up and is more or less loose, and the beds are kept open and free from weeds. This, however, hardly accounts for the persistent presence of certain fungi close to one's doors, or on the greasy, steamy walls and ceilings of sculleries. Some of these pretty, uninvited visitors are welcome enough, but others are undesirable and not particularly wanted. The malodorous plant named *thyphallus impudicus* is common in gardens and yards; for some peculiar reason it often grows close to doors and gates, and sometimes even trespasses into the house itself, where it will ensconce itself and luxuriate in a cellar. At times it has been known to insinuate itself between the joints of flooring and develop itself between the rafters, where it soon makes its presence known by a penetrating and truly horrible odour of carrion in a high state of putrescence mixed with coal-gas. It often takes possession of the artistic structures made of old dead branches and stumps mixed with brick-bats in the so-called "rock-work" of town gardens. The "fairyring *Champignon*" *Marasmius oreoedus* is very common on lawns, where, in spite of its edible qualities, it is invariably looked upon as an intolerable nuisance. In many gardens *Leptota cristata* is very common; this is a very pretty white fungus with a bright brown middle, and measuring some 2 or 3 inches in diameter. When smelt, it is found to be possessed of a peculiar, pungent, penetrating mephitic-sulphurous odour, a smell which makes human beings shudder and turn cold, yet the smell is of such a nature, as in that of Henbane, that one generally feels bound to return to it. No attempt is made here to enumerate all the fungi peculiar, or partially peculiar, to gardens and houses. Any such list would be a very long one. Two familiar examples may, however, conclude this short note. Everyone has seen or heard of the huge, dusty, black masses of fungus growth so common in old wine cellars, a growth which clothes bottles and bins with a thick sable garment. This is *Zasmidium cellare*. Publicans, by their subtle arts, are able to produce a spurious *Zasmidium* from old, dusty spider-webs, sawdust, and soot. This they cunningly wind around bottles of "British port" as a proof of age and maturity. The other is the one known as "Dry-Rot"—*Merulius lacrymans*; this cosmopolitan fungus introduces itself to the interiors of palaces and cottages all over the world, and it has a way of always keeping carefully indoors. It is called *lacrymans*, because when detected it is always covered with hypocritical tears, as if pretending to be sorry for what it has done. The fungus itself is a moist or wet one, but it is called "Dry-Rot" because it speedily reduces the woodwork of buildings to dry dust.

ROYAL HORTICULTURAL SOCIETY.—The next meeting will be held at Vincent Square, Westminster, on Tuesday, September 15. At the three o'clock meeting Mr. THOMAS H. MAWSON, Hon. A.R.I.B.A., will give his second lecture on "The Ethics of Garden Making."

THE NATIONAL CHRYSANTHEMUM SOCIETY.

—The exhibitions for 1908 will be held at the Crystal Palace, Sydenham, on Wednesday and Thursday, October 7 and 8; on Wednesday, Thursday, and Friday, November 4, 5, and 6; and on Wednesday and Thursday, December 2 and 3. The Society is making slow but steady progress. During 1907 77 new members (12 Fellows and 65 ordinary members) were added to the roll, as compared with 60 in the previous year. The Floral Committee awarded 44 certificates to novelties, but these were not all granted at the exhibitions, as the Floral Committee meets frequently during the winter months for the purpose of examining plants, cut flowers, &c., submitted for awards. The secretary is Mr. RICHARD A. WITTY, St. James's Villa, Swains Lane, Highgate, N.

HORTICULTURAL TRADES ASSOCIATION.

—This Society has just completed its annual congress, the meeting taking place this year in London. The gathering was a record one as regards numbers, over 100 leading members of the nursery and seed trades attending from all parts of the United Kingdom. The three days allotted were devoted to excursions around London, the evenings being devoted to business meetings for the discussion of topics of trade interest. Among the nurseries visited were those of Messrs. HUGH LOW & CO., Enfield; PAUL & SON, Cheshunt; W. PAUL & SON, Waltham Cross; THOS. ROCHFORD & SON, LTD., Turnford; and JAS. VEITCH & SON, LTD., Coombe Wood. Unfortunately the weather on the last day was wet and cold.

THE FRENCH NATIONAL CHRYSANTHEMUM SOCIETY.

—This Society, founded in 1895, has made remarkable progress, and has just succeeded in enrolling its 800th member (inclusive of 59 affiliated Societies). The executive are hopeful that in the near future they may be able to make the membership list up to 1,000.

THE PRESERVATION OF FRUIT IN COLD STORAGE.

—The process of preserving fruits by the artificial application of cold temperatures is making progress. There was shown at Lyons recently a collection of dessert Pears, which had been gathered seven months previously. The degree of preservation of the fruits was complete from every point of view, and no shrivelling was observed. The artificially-produced cold had hindered change in the flesh entirely, paralysed the activity of fungal organisms, and killed all insects that were present. In contradiction of the common belief, the fruits kept better than those freshly gathered when exposed to the air, and they bore long transit better. In opposition to these favourable experiences of the French and United States growers, the Dutch Garden Press asserts that the cold storage treatment has a bad effect on flavour, as compared with the ordinary storage.

THE SEEDING OF CARNATIONS.

—In an interesting article by M. GRIGNAN, which appeared recently in the *Revue Horticole*, an account is given of the yield of seed in Carnations grown under glass. The observations were made on plants cultivated in America, where there is a considerable trade in the winter-flowering sorts. On the whole, the results were what might have been expected. The largest yield and the best quality, both as regards weight and germinative capacity, were obtained from the plants which had been pollinated early. Thus there was a steady falling off from October to February in the results of artificial pollination. No doubt this is due to several factors, the earlier flowers furnish more (and perhaps better) pollen, whilst the plants have not been weakened by the previous production of blossoms. Possibly, also, the time of year itself may exert some influence, inasmuch as the physiological conditions connected with illumination continue to change as the winter advances.

MECONOPSIS SINUATA.

DURING the past few years several welcome additions have been made to the number of cultivated species of this attractive genus. Perhaps the most popular and well-known among these is the handsome Tibetan *M. integrifolia*, with its large and beautiful yellow flowers, borne erect on stout stems. Of quite another character, but possessing a grace of its own, is the red-flowered *M. punicea* from the same region, with its drooping flowers consisting of three large petals. From the Eastern Himalaya and Tibet we have *M. racemosa*, with entire leaves and stems covered with stiff hairs, and racemes of purplish-blue flowers of a semi-double character. A charming little plant is *M. bella*, from the Eastern Himalaya, with *Corydalis*-like leaves, and light blue flowers on stems only 2 or 3 inches high. This species, which grows at a very high elevation, has, so far, proved difficult of cultivation, except in certain localities. It is, however, one of the few perennial species. *M. simplicifolia* resembles *M. punicea* in habit, but has smaller violet-blue flowers, on shorter stems. It is a native of the Central Himalaya. *M. grandis*, from the Eastern Himalaya, with coarsely-toothed leaves and the habit of *M. integrifolia*, has proved of more perennial duration than the others, with the exception of *M. bella*. It bears good-sized, purplish-blue flowers. *M. Henrii*, with flowers of the same colour, comes from Western China, and was introduced with *M. integrifolia*. The latest addition is *M. sinuata*, illustrated at fig. 88. Seeds of this species were received from Kashmir in the spring of 1906, having been sent home by Lieut.-Colonel Appleton, R.E. The typical plant has been supposed to be confined to the Eastern Himalaya, but that it has a wider distribution is proved by the seeds having been collected so much further west. Plants flowered at the Royal Botanic Gardens, Kew, and in the nurseries of Messrs. Jas. Veitch & Son this summer, and Messrs. Veitch exhibited plants of the species at one of the meetings of the Royal Horticultural Society under the name of *M. aculeata*, a plant which it much resembles in general character. In the latter species, however, the foliage is thinner and more deeply lobed. *M. sinuata* has larger leaves, with sinuate margins, and these, as well as the 2 feet high stems, are covered with stiff hairs. The flowers are of a pale purplish-blue colour, while many of the petals have a distinct cusp at the apex; the ripe seed capsules are longer and narrower than in *M. aculeata*. With the exception of one plant, all those that bloomed this year had single flowers, the one exception being that shown in the present figure, which developed flowers of the semi-double character of *M. racemosa*. Both *M. aculeata* and *M. sinuata* take two and sometimes three years from seed to produce flowering plants, which usually die after ripening seed. They both succeed under conditions usually afforded other members of this family, namely, shade and moisture, planted in a mixture of loam, peat, leaf-soil, and sand. Thorough drainage is essential, as the roots are very liable to rot during our winters. W. L.

is wet some dry straw is spread over the heap. When it is well broken up and most of the ammonia has become dissipated, the manure is brought into the cellar to be made up into ridges 16 inches wide and 16 inches high. This is entirely done by hand, placing it in layers 2 or 3 inches thick and well pressing it down with the knees and closed fists as the work proceeds. The bed, when made, is trimmed and the surface made as smooth as possible.

When the heat of the manure does not exceed 65° F., the spawn, which has been previously started in a damp place for a few days, is inserted. Small pinches are set every 3 or 4 inches

spawn is then sorted out, all bad parts being rejected. The fungus is considered to be at its best condition when it shows a bluish colour.

What is not sold is set in thin layers in a shed to dry, and when it is dry it is sold by weight, or the maraichers cover the bed with a layer one-third of an inch in thickness of fine new soil that has been well mixed, when possible, with one-third of sifted old mortar. The virgin spawn is, in the first instance, collected by workmen, who find it on refuse heaps, or against old walls, and sometimes in the open ground. They sell it to the maraichers, who dry it under cover till they are ready to plant it. They allow it to grow in the beds until the first Mushroom appears, when they judge of the quality by the colour, which varies from pure white to grey. The best type of Mushroom has a thick, sturdy stalk, supporting a cap of good size. If the strain has commercial value, the spawn is lifted and dried at once, or set to increase in another bed. It is sold to the Mushroom grower, and this second spawn is called the "Frank spawn."

By saving part of the mycelium brought by the collector and part of the spawn grown direct from the "virgin spawn," the maraichers can grow a good strain for a period of 18 months, after which it always loses some of its vitality. Out of 20 virgin spawns obtained from the collector, sometimes as many as 15 are thrown away as unsuitable. The Mushroom growers store the spawn in a special room, and it is labelled with particulars as to its origin, the date when it was grown, and by whom. P. Aquatius, Mayland, Essex. August 28, 1908.



Photograph by W. Irving.

FIG. 88.—MECONOPSIS SINUATA: FLOWERS PALE PURPLISH-BLUE.

THE FRENCH CULTIVATION OF MUSHROOM SPAWN.

ONE of the chief industries in the French gardens during the winter months is the making of Mushroom spawn. The Mushroom growers generally buy their spawn from the "maraichers," as the French market-gardeners are termed, who always have on their premises a cellar built for the purpose of cultivating the fungus. The maraichers have at this time of the year some manure ready to be brought into the cellar. This manure is from well-fed horses, and it is turned over at least three times; each time the outside portion of the heap is placed in the centre. The manure is watered if too dry; but if the weather

each way. The spawn is not in brick form, but the fungal threads only are used; it is known as "virgin" spawn. Sufficient moisture is afforded by wetting the paths and the walls only. If the heat is too high when the spawn has been set, some apertures are made in the bed at intervals by a stick. It takes about six weeks for the spawn to spread all through the mass, and its growth can easily be known by the shrinking of the bed. The spawn is generally sold to three or four Mushroom growers, who come on an appointed day. The bed is then cut with a special saw into portions each 1 foot in length, the

LILY CULTURE IN SOUTH-WESTERN SCOTLAND.

SIR HERBERT MAXWELL, Bart., who is a great cultivator of Oriental and Occidental Lilies, writes to me as follows in a recent communication:—"Lilium monadelphum var. Szovitzianum is a fine plant, and one of the good-natured Lilies. I have grown it at Monreith for 30 years; but you beat me by 3 feet. The other species which succeed best with me are *Lilium pomponium verum* (scarlet), *Lilium pardalinum*, the highly distinctive Panther Lily of California, *Lilium canadense*, and *Lilium Martagon*, dalmaticum, and album." He also adds, regarding a somewhat miniature Japanese Lily of comparatively recent introduction:—"Lilium rubellum, of which I hoped great things, has succumbed after two years of vigour." My own experience of this unreliable Lily is almost precisely identical with that of Sir Herbert, but with me it only flowered for one short season, and then entirely disappeared. Its bulbs, as I have indicated, are insignificant in dimensions, and only too attractive for the anatomical studies of insect life. It is also very susceptible, like many other Lilies, to the varying influences of the atmosphere and the conditions of the soil. This susceptibility is almost equally characteristic of another and even more exquisite Lily, viz., *Lilium Kramerii*, also a native of Japan. It was discovered in the year 1872 by M. Carl Kramer, growing wild among the Japanese mountains of Senano in the island of Nippon, likewise in other regions at an elevation of nearly 4,000 feet. It was introduced into this country at the request of the naturalist whose name it bears by the late Dr. Wallace, of Colchester. *Lilium Kramerii* is undoubtedly one of the loveliest of all the floral treasures that have come to us from Japan. It is very unfortunate, therefore, that, like *Lilium rubellum*, it almost requires to be planted every year, in certain soils at least, that are too cold, wet, and adhesive for its well-doing. I have to

lament the loss of my plants of *Lilium auratum* this season through rabbits. This, however, might have been prevented by close wire netting, which is, I find, an adequate protection. Of my other Lilies that did not suffer from such unexpected invasions, the finest have been *L. szovizianum*, already characterised, *L. chalcedonicum*, the beautiful Scarlet Martagon, which has bloomed in the same position for the last 20 years, and *Lilium pardalinum*, with its richly-coloured and profusely-flowering derivative, *Lilium Burbankii*. The flowering season of *Lilium speciosum* has not yet come. David R. Williamson.

THE AMERICAN GOOSEBERRY-MILDEW ATTACKING RED AND BLACK CURRANTS.

LAST season I announced, in the *Gardeners' Chronicle*, July 13, 1907, p. 26, the first occurrence in England of the American Gooseberry-mildew (*Sphaerotheca mors-uvale*, Schwein., Berk.) on the Red Currant. It occurred in a plantation in Norfolk, and the variety attacked was the "Grape." This summer I have observed the American Gooseberry-mildew on Red Currants in plantations near Swanley, Rochester and Sittingbourne, in Kent. The varieties which have been attacked are Victoria, Raby Castle, and Long Bunch. In one plantation rows of the two varieties Raby Castle and Victoria adjoined Gooseberry bushes virulently attacked by the mildew, and so far as could be seen the mildew had attacked only the Victoria bushes, and completely passed over the Raby Castle (a variety which in other plantations has been attacked). In this particular case, too, there were indications that the mildew had only just passed on to the Red Currants from the diseased Gooseberries. It appeared that the mildew had not yet perfectly adapted its parasitism to the new host-species, since it was not uncommon to find small patches here and there on the Red Currant leaves, which were brown and dead as the result, apparently, of the too fierce attack of the mildew. A similar phenomenon has been observed in the case of rusts when they pass on to a new host-species to which their parasitism is not perfectly adapted.

A very important feature of this attack of Red Currants by the mildew—and one which is very disturbing from the economic standpoint—is the fact that on this host-plant the mildew forms the brown, felted mycelial patches, containing the *perithecia* and winter-spores, on the under surface of the leaves as well as on the young wood. In the case of the Gooseberry—so far as I have seen in England—the winter stage is produced in the young wood and berries only, and never on the leaves. Consequently there is the possibility—remote though it is—that the disease can be entirely removed from affected Gooseberry bushes by severe pruning in the winter, the measure now being ordered in the Board of Agriculture's "Gooseberry-mildew Orders" in a number of counties. The occurrence of the winter stage on the leaves of Red Currants means that—as in the case of the Hop-mildew—the *perithecia* will fall to the ground and thence re-infect the plant in the spring, despite any pruning of the bush, in the case of the Red Currant. It is one further proof of the utter futility of the measures at present being taken by the Board of Agriculture against this mildew, and should convince them that only the total destruction of diseased bushes is the scientific and economic method.

Further, I have seen, during this summer, the American Gooseberry-mildew on the Black Currant. The specimens were collected by Mr. K. G. Furley, one of the inspectors recently appointed from Wye College by the Kent County

Council, and were obtained near Rochester. The variety was "French Black." The mildew was in the summer (conidial) stage only, and the attack was very slight. I learn from the Board of Agriculture that one of their inspectors has met with a similar case in Huntingdonshire. E. S. Salmon, F.L.S., *Mycologist to the S.E. Agric. College, Wye, nr. Ashford, Kent.*

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

FLORICULTURAL HISTORY.—I have read with much interest J. D.'s review of Mr. Howard Crane's new book on the Pansy, Viola, and Violet. Like many other of our recent writers on florists' flowers, Mr. Crane does not seem to have given much attention to the subject of the history or the literature of the flower with which he deals. Literary and historical research in floriculture nowadays appears to be at a somewhat low ebb, for many of our modern authors simply repeat what has been said before by others, often with the same errors, and original research is practically ignored. Yet this need not be. As J. D. points out, the Pansy, or Heartsease, was known and grown long before Thompson, or Thomson, of Iver, came on the scene. But if our author had desired to show us some of the improvements that have taken place in the flower, he could, as J. D. says, have easily referred to the *Floricultural Cabinet*, where many illustrations of old-time Pansies are to be found. There are also many illustrations of these early seedlings in other floricultural works, not the least interesting of which are those in the *Horticultural Journal or Florists' Register*, about 1830-7, which are executed in far better style than are those of the *Floricultural Cabinet*. Another work giving good examples of the progress of the Pansy in those days is the *Floricultural Magazine*, sometimes bound up and labelled as the *Florists' Museum*. By far the best treatise on the history and culture of the Pansy is that by Sinclair & Freeman, published in 1835 and containing 24 coloured figures of Pansies then grown. Many of these were Thompson's seedlings, and although I make no claim to be considered a Pansy specialist, yet it is open to question whether some of these flowers were very much inferior to those grown to-day. It is not so long ago since I had occasion elsewhere to draw attention to the opening statement of a recent author on the Dahlia, who deplored the fact that material for its history was not so plentiful as could be wished. This depends on whether one knows where to find it, and I do not hesitate to say that there is as much literary and historical matter available for writing a history of the Dahlia as one could possibly desire. So, too, with the Pansy, but our modern authors either have no time or no inclination for the task of original research, and so time after time we get the same story, the last author often repeating the errors and misprints of the previous one. It may be that this is not altogether to be blamed. When a man interests himself in the culture of a flower he may not perhaps feel bound to collect all the literature on the subject. The next best thing is to let it severally alone unless he can gain access to a good library where the material can be found. And here English horticulturists are at a great disadvantage. We have no great horticultural library where we can go for the purpose of original research in matters relating to our favourite flowers. There is practically little or nothing at the British Museum. The Lindley Library, whatever it may be as a scientific, botanical library, augmented by some modern books on gardening, is absolutely useless to the student of floricultural literature. Its catalogue, published ten years ago, is a mere list of authors, and there is no subject index to it, and if there were, what should we find in the way of rare old literary or historical works relating to any of our flowers, such as the Auricula, Hyacinth, Tulip, Carnation, Chrysanthemum, Dahlia, Pansy, Pelargonium, and others? Hence the present-day author, unless

he makes his own floricultural library, must find what historical and literary matter he wants elsewhere. I observe in the R.H.S. book of arrangements that the Lindley Library is described as a "magnificent and unique collection of horticultural books," and that it consists of 6,000 volumes. I wonder whether the person responsible for this somewhat extravagant language is aware that the library of the Massachusetts Horticultural Society consists of 17,000 volumes, and that the library of the National Horticultural Society of France has over 15,000, and why a collection of 6,000 is to be considered "unique" when it certainly does not contain many of the rare old works on gardening that the two other libraries do? I have had practical proof on more than one occasion that this "magnificent and unique collection" is of no use to the average literary worker in floriculture, because it does not contain what is wanted and what might reasonably be expected to be found in a horticultural library. It may be that in other departments, such as fruit and vegetable culture, many important works are missing from the Lindley Library. With that I am not concerned beyond having tested its catalogue for the Strawberry. The result is the same as for Floriculture, absolutely nothing of any account is to be found relating to the Strawberry. It seems to me that what is wanted is an up-to-date supplement, so that literary workers may know what the library does contain. Another thing to be considered is the appointment of a librarian who has some knowledge of horticultural literature, and who could help to build up a library that would be of service to horticulturists of all sections. The R.H.S. is in a prosperous condition, and money spent in making a library of its own or in completing the Lindley Library would be well laid out. The rare old gardening books obtainable to-day cost infinitely more money than they did twenty years ago. In twenty years' time they may be unobtainable altogether, for collectors are numerous and prices are rapidly rising. C. HARMON PAYNE, *1st, Wellmeadow Road, Catford, S.E.*

THE WISLEY COLLECTION OF GRAPES.—When the Royal Horticultural Society transferred its gardens from Chiswick to Wisley cuttings of the vines from the great vineyard and other houses at Chiswick were secured. Many of the varieties have become scarce in commerce, and thus it is that there is now at Wisley in good form a magnificent collection of Grapes. It is pretty generally known that it is the intention of the Council to have bunches of these Grape varieties exhibited at a meeting of the Society towards the end of the present month, but those who are specially interested in Grapes and in the characters of the vines producing them should endeavour at once to see the collection as it now is, as the various characters and growth of each one can be studied with great advantage. The vineyard is a span-roofed structure of average height, 100 feet in length by 30 feet in width. The vines comprise 40 varieties, but only 38 are fruiting, two of the original planting having proved to be wrongly named, and have been replaced by young vines. There are 20 plants on each side of the house, but they are about 5 feet apart, being confined to single rods. They were planted in the spring of 1905. The border is inside, and is at present 4 feet wide by about 3 feet in depth, and is mainly composed of old pasture turves laid one on the other, grass side downwards. The growth of the vines has from the first been vigorous; indeed, last year's rods were so stout that experienced vine growers feared this year a bad break in consequence. Happily, so far from that being the case, the eyes broke splendidly, developing standard bunches, and they now have on them each from six or seven good bunches of Grapes. There are equal numbers of white, and black or coloured varieties. Although the house is in three compartments, no difference seems to have been made in the heat applied, for all have been planted indiscriminately and treated alike. The black or coloured Grapes are: Gros Colmar, Gros Maroc, Black Alicante, Lady Downes, Diamond Jubilee, the poorest cropper of all; West's St. Peter's, Black Prince, Director, Tiesard, Lady Hastings, Black Monukka (seedless), Apple Towerk, Barbarossa, Alnwick Seedling, Muscat Champion, Muscat Hamburg, Black Hamburg,

Grizzly Frontignan, Madresfield Court, and Prince of Wales. This last-named Grape is, as seen at Wisley, the handsomest and best fruited of the whole collection. The remaining coloured variety is Mrs. Pince's Black Muscat, which will doubtless fruit well also in due course. The white or yellow Grapes are Mrs. Pearson, Lady Huty, White Tokay, Trebbiano, White Pine, Foster's Seedling, Chasselas Napoleon, Muscat of Alexandria, Hungarian Muscat, Bowood Muscat, Canon Hall Muscat, Golden Queen, Golden Champion, Duke of Buccleugh, Duchess of Buccleugh, Ascot Citronelle, Diamant Traube, White Frontignan, and Syrian. A. D.

FLOWERS OF SPENSER.—With regard to Mr. Engleheart's interesting note on p. 172 concerning the derivation of Walnut, it may be noted that Walnuts are called Welshnuts by the natives of Dorsetshire and parts of Somerset (cf. Barnes's poem, "The Welshnut Tree"). Without pretending to know whether Walnut is more probably derived from Welshnut or Avelanant, may I point out that the rejection of the Welshnut theory calls for some other explanation of the Dorsetshire provincialism, such words being usually based on some well-founded origin. *Harold Evans, Llanishan, Cardiff.*

THE FORMATION OF DEW.—Reading carefully a very interesting leader of the 29th ult., on "Nectaries and their Origin," written, too, in simple unscientific phraseology, I was a little startled to find that in the fifth paragraph a theory was expounded in relation to the formation of dew which seems to be distinctly the converse of that usually held. Thus in a scientific book I read, "Dew is moisture of the atmosphere deposited on a cool surface, another form of condensation, in fact." Those few words seem to convey the general belief or theory held regarding the formation of dew, that it is the moisture abstracted from the earth and vegetation by warmth during the day, and passing into the air in the form of vapour, which, chilled or condensed by the colder air of the evening, falls or is deposited on the earth's surface and vegetation as moisture. In the paragraph of the leader referred to it is presumably laid down that dew is excessive moisture, forced into vegetable leafage by root action, which, on the withdrawal of the day warmth, such as hitherto has created from it vapour, now suffices to suffuse with water, and thus becomes dew. That theory, as to the correctness of which I would not for one moment profess to question, does seem to place the subject of dew formation in a new light, and one may well desire a matter of so much interest to the student should have the clearest elucidation. I presume the moisture which in winter, and when the air is heavily charged with vapour, settles on all vegetation, even leafless trees, and becomes dense hoar-frost is not produced according to the new theory. More light on the subject would be most acceptable. D.

While in no way questioning the accuracy of the description given in your interesting article on p. 150 of the methods employed by plants to dispose of their superfluous moisture, I cannot help feeling that the writer of that article is at fault when he says that dew on grass is a result of these methods. Surely dew, or by far the greater portion of it, is not exuded by plants, but is deposited, especially on cold surfaces, from the air, which must give up some of its water-vapour as it becomes cooler at night. Thus we get the heaviest dews at seasons when there is the greatest difference between the day and night temperatures. Garments and other objects from which no exudation of moisture can take place become wringing wet with dew. Incidentally this theory of dew as condensed water-vapour has been advanced as the explanation of the Dew Pond, "unfaded that never fails," that is so valuable to the farmer on the dry Sussex Downs, an explanation which, though not thoroughly proved and accepted, is, perhaps, the most feasible that has been put forward. *Harold Evans, Llanishan, Cardiff.*

[It is certainly quite true that dew, i.e., drops of moisture, may be, and often is, formed as the result of condensation of aqueous vapour from the atmosphere in consequence of the chilling of the warm, vapour-laden air. The formation

of clouds and mist are familiar examples of such condensation, and the wetting of clothes or the deposition of hoar-frost referred to by our correspondents, afford other and apt illustrations of the same phenomenon. But it is equally true that much of what passes for dew does not originate in this manner, although D. is quite correct in saying that references in literature are commonly restricted to the former, more purely physical, method of its deposition. But under the conditions specified in our article, the almost sudden appearance of copious "dew" is not satisfactorily explained in this way, and, furthermore, the drops of water may, with care, be observed to exude from a region situated just behind the apex of the grass leaf. It is also a fact, familiar to those who have paid special attention to these matters, that certain plants far more readily exhibit dew-drops than others. These plants are found to possess the water-excreting organs referred to in our article, and their efficiency in connection with the exudation of dew-drops can be easily demonstrated by forcing water into the stems under suitable pressure, thus imitating the root action. Many people have also doubtless observed the drops of water that habitually form, by exudation, on leaves of grass that may happen to be growing under a bell-glass when the soil is warm. Here also the root absorption drives more water into the plant than can be eliminated by ordinary transpiration or evaporation in the close atmosphere of the bell-jar. It was not, of course, intended that an impression should be conveyed by our article that we denied the fact of the condensation of aqueous vapour from the atmosphere, but rather to make it clear that much of the so-called dew, which is commonly attributed to this source, in reality owes its origin to a very different set of conditions.—Ed.]

GRAFTING THE DOUBLE-FLOWERED GYPSOPHILA PANICULATA.—Attention is directed at p. 123 to the grafting of this plant on pieces of roots of the typical species, and the fact is of interest so far as it goes. Unfortunately, species of *Gypsophila* grow rather freely from root cuttings, hence the possibility, or indeed the probability, of the root pieces being themselves forced into growth by being subjected to the temperature of 60° or 65° named. These suckers may not be of a size sufficient to arrest attention when the plants are bedded out, but a very considerable proportion may make fuller growth later on and prove not a little perplexing to the gardener. To-day the causes of sports, reversions, and mutations in plant life are subjects of frequent comment, and if the grafting of this plant is carried out to any considerable extent these single-flowering shoots may be mistaken by the gardener as another instance of the inconstancy of double-flowered plants. *E. H. Jenkins.*

FEMALE FLOWERS ON BEGONIA GLOIRE DE LORRAINE.—On practically every raceme of *Begonia* de Lorraine bloom the last flower produced is a female one. By the time this flower makes its appearance, however, the plant has lost most of its beauty, and the inflorescence is removed before the female flowers open. It follows, therefore, that, to produce seeds of this plant, the inflorescences should not be picked off until every flower has opened. *C. H. Middleton.*

HIBISCUS SYRIACUS.—In his timely note about this beautiful shrub, W. lends himself to the usual misconception of British climate, namely, that its winter severity varies from north to south, instead of from east to west. He describes *Hibiscus syriacus* as being "only hardy in the southern parts of these islands." In fact, it is perfectly hardy all along the west coast as far as Ross-shire; but, being a late bloomer, northern summers do not afford it enough sunshine to produce its flowers before the autumn frosts, unless the plant is trained against a brick wall. So treated, it flowers freely. It is one of the very best shrubs for planting in London, where it enjoys the sun-heat, redoubled by reflection from pavements and buildings, and is indifferent to drought and heat. There is a splendid specimen of the kind, with single white flowers blotched with claret, in the forecourt of one of the old houses in Cheyne Walk, Chelsea. Many a time have I refreshed my eyes with its profuse blossom when the House of Commons has sat late into August. *Herbert Maxwell, Monreith.*

MUTISIA DECURRENS.—I enclose two photographs (not reproduced) of the climbing Composite *Mutisia decurrens*, growing in the garden of Dr. Dukinfield W. Scott, at Oakley, Hants. The plant has successfully weathered last winter in the open. It is planted against a south-east wall, and is in full flower at the present time, making a lovely show, with its handsome orange flowers that measure 5½ inches across. Each leaf ends in a tendril, which attaches itself to the rough surface of the wall. *Rina Scott.*

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

SEPTEMBER 1.—*Present:* Mr. Chas. T. Drury, F.L.S., V.M.H. (in the chair); with Messrs. Jas. Douglas, J. W. Odell, W. Fawcett, J. Fraser, H. T. Gussow, Geo. Gordon, and J. T. Bennett-Poe.

Mildew on Oak leaves.—Mr. Güssow reported that the fungus on certain Oak leaves sent for inspection is probably a new species, as it is in its conidial stage *Erysiphe communis*.

Gall on wild Rose.—Mr. DOUGLAS showed specimens of the Rose gall, *Cecidomyia rosarum*.

Streptocarpus.—Mr. J. W. ODELL showed *Streptocarpus* having (a) in a light-flowered variety a regular perianth corolla with six segments, the whole flower being campanulate; and (b) in a dark-flowered variety the peduncle branched and the bracts foliaceous instead of very small, as is normal.

Abnormal flowering of Laburnum.—Mr. GEORGE GORDON mentioned that at the present time a *Laburnum* was flowering freely in his garden at Kew. The tree had occupied its present position some 15 or 16 years, and, owing to it occupying too much space, the whole of the branches were cut back to within 3 or 4 inches of the main stem. The tree produced new shoots from the stumps of the branches, and of these about two-thirds produced terminal racemes of flowers, which were of a much larger size than the racemes previously produced.

Victoria Plum.—Mr. C. T. DRURY showed a *Victoria Plum* upon which was a group of insect eggs on a stalk, which had at first sight an appearance of being a fungus, but it was determined to be something like the stalk and eggs of the lace-wing fly, than which they were, however, somewhat smaller.

Tomato with enlarged calyx.—Mr. F. FELLOWS WILSON, of Alveston, Chobham, Surrey, sent a *Tomato* with an extraordinarily large calyx, the segments measuring about 3 inches in length. It is not uncommon for the calyx to extend to this extent, particularly if the *Tomato* plants are allowed to bear but few fruits on one branch.

Diseased Apples.—Mr. J. G. HOWLETT, of 36, Bracondale, Norwich, submitted some Green Beaufin Apples which were diseased. Mr. Gussow undertook to investigate the matter.

New blight.—A few diseased sprigs of *Yew* were submitted from Mrs. F. LYELL, of Ruckmans, Oakwood Hill, Surrey; the matter was left with Mr. Güssow to report.

Daffodil poisoning.—Dr. C. B. PLOWRIGHT sent the following interesting note: "Cases in which the handling of Daffodil flowers by the gatherers has caused poisoning is one often heard of, but how many are really due to the flowers themselves and how many to incipient eczema or other skin diseases on the part of the gatherer is not so clear. Cases in which the bulbs themselves are partaken of as food are not nearly so frequent. The following note may, therefore, be of interest. A gentleman in King's Lynn purchased in the month of December, 1907, a number of bulbs. These were, for security, placed in a paper bag upon a shelf in the kitchen. By some mischance the Daffodil bulbs became mixed with the household stock of Onions, and eventually were sliced up together with them and used in the preparation of soup, which was partaken of by the whole family. Shortly after the meal all the members were sick, they vomited freely, and suffered more or less from nausea, but they had neither

abdominal pain nor diarrhoea. Recovery took place in from six to eight hours. The actual number of Daffodil bulbs used could not be ascertained. The remainder of the soup was used on the following day with the same result. This led to the investigation of the Onion stock. That the illness was not due to ptomaine poisoning is shown by the complete recovery in eight hours, and by the absence of pain and diarrhoea."

Alion plants, &c.—Mr. J. FRASER, F.L.S., showed a specimen of *Erysimum alissimum* L., a plant previously recorded as occurring spontaneously in Britain in the *Journal of Bot.*, vol. x., under the name of *Erysimum panicum*, and in the *Flora of Surrey* (1859) as being found as an introduced plant at Battersea Fields. Mr. FRASER had himself found it at East Ham in 1906, at Greycoat Place, Westminster, 1907, on Putney Common, and on the new Kingsway and Aldwych sites this year. The specimen he showed had its petals reduced to the claw, as if resorting to self-fertilisation. In addition to this plant he had found upon the Kingsway and Aldwych sites the following British plants: *Epilobium angustifolium*, *E. hirsutum*, *Senecio viscosus*, *Pyrus Malus*, *Brassica Rapa*, *Cactus arvensis*, *C. lanceolatus*, *Sonchus arvensis*, *Pteris Aquilina*, and *Centaurea cyanus*; and the following aliens: *Erysimum alissimum*, *Salvia verticillata*, *Erigeron canadensis*, *Fragaria chiloensis*, *Eschscholtzia californica*, *Cucurbita Pepo*, *Helianthus annuus*, *Oenothera biennis*, and *Papaver somniferum*.

VEGETABLE TRIALS AT WISLEY.

AUGUST 25.—A meeting of the Fruit and Vegetable Committee was held at Wisley on this date to examine the various vegetables under trial. Present: G. Bunyard, Esq. (in the chair), and Messrs. O. Thomas, G. Woodward, W. Bates, G. Reynolds, J. Davis, H. Markham, C. Foster, J. Willard, and A. Dean. The first inspected was a batch of Cabbages from a sowing made on March 21. There were more than 90 stocks under trial, but many of them, however, were of the coarse Drumhead or Cattle Cabbage type. Ultimately it was agreed to make selections of the varieties under their respective types.

Early White Heart type.—The following, irrespective of any previous awards, were granted Awards of Merit:—Express (Vilmorin); Best of All (Barr & Sons); Sutton's Earliest (Sutton & Sons); Paris Market (Vilmorin); Paris Market (Barr & Sons); and Earliest of All (Jas. Veitch & Sons).

Sugar Leaf type.—Les Etampes (Vilmorin); Les Etampes (Heinemann); All Heart (Sutton & Sons).

Enfield Market or larger type.—Autumn Exhibition (Barr & Sons); Myatt's Early Evesham (Nutting); and Incomparable (Jas. Veitch & Sons).

Offenham type.—Improved Nonpareil (Nutting); Improved Nonpareil (Sutton & Sons); Small Nonpareil (Jas. Veitch & Sons); First Crop (Johnsons); Wheeler's Imperial (Sharpe); Market Garden (Veitch & Sons); Little Gem (Sutton & Sons).

Red Cabbages.—Dark Red Erfurt and Miniature Red (Barr & Sons).

The large and successful trial of Parsleys was again inspected. There were two rows of each stock, and the plants had made full growth. These were put into divisions as follows:—

Dwarf compact Curled.—Massey's Dwarf Perfection.

Fern-leaved.—Sutton's Garnishing (Sutton & Sons) and Johnson's Perfection (Johnson).

Strong-growing Curled.—Beanty of the Parterre (Carter & Co.); Emerald Green (Carter & Co.); Extra Double Curled (Carter & Co.); Hunt's Extra Fine (Barr & Sons); Moss Curled (Nutting).

An outdoor trial of Tomatoes, each variety represented by some 50 to 60 plants, showed that the best cropping and by far the earliest-ripening variety was Lyc's Early Frolinck (Waddes), and it received an Award of Merit.

The Parsleys are to be tested for hardiness during the winter. A sowing of Cabbage seed for autumn planting has been made. Late Cabbages have yet to be inspected, also late Potatoes, and a large trial for tap-rooted Beets.

SEPTEMBER 4.—An inspection of a trial of Dahlias grown at Wisley was conducted by joint sub-committees of the Floral Committee and of the National Dahlia Society on this date.

The torrential rains experienced immediately before the inspection had by no means improved the flowers, and the dull weather generally of the past fortnight has been unfavourable to the plants. The committee considered freedom of flowering, colouring, and value of the plant from the garden standpoint. The following varieties were adjudged worthy of three marks:—

Dahlia Emily Hagood.—The plant is very free in flowering, and the white flowers are borne on erect stems. It belongs to the decorative type, and the shoots attain to a height of 4½ feet.

Dahlia Brightness.—A rather large-flowered variety of the Pompon Cactus type. The colour is scarlet, the growth and flowers alike being erect. The plant reaches 3 feet in height.

Dahlia Avoca.—A free-flowering Cactus form, of crimson-scarlet colour, the florets being tipped with reddish-pink. Height, 4½ feet.

Dahlia Miss Willmott.—A free-flowering variety growing 4½ feet high. The flowers are of medium size, coloured yellow, with orange shading, and are produced with freedom.

Dahlia Stalwart.—The flowers of this fine Cactus variety are rich bright crimson with maroon centre. The height is 3½ feet.

The Floral Committee also examined the trial of Phlox decussata, and each of the following varieties also received three marks:—

Phlox Prosper Henry.—The plant is of dwarf growth, being not more than 18 inches high, but it is remarkable for its free-branched habit. The flowers are large, and almost circular in outline. The petals are pure white, with a conspicuous lilac centre.

Phlox Comtesse de Jarnac.—A variety with leaf variegation of white, cream, and green. This variety was not in flower, the leaf character alone being considered.

The Committee granted the three-mark distinction to:—

Zea japonica gigantea quadricolor.—A beautiful and striking variety of Maize, in which the colour shades are disposed in longitudinal stripes.

AWARD OF MERIT.

Rose Mrs. Littleton Dewhurst.—A white-flowered sport from the well-known Lady Gay variety, the pink-touched buds contrasting well with the purity of the abundantly-produced blossoms. This variety obtained an Award of Merit on September 1, but was omitted from the official list of awards. Shown by Messrs. J. R. PEARSON & SONS, Loddham, Notts.

SCOTTISH HORTICULTURAL.

SEPTEMBER 1.—The monthly meeting of the above association was held at 5, St. Andrew Square, Edinburgh, on the above date. Mr. COMPTON, one of the Secretaries, occupied the chair, and there was a moderate attendance of the members. A paper on "The Pleasures and Penalties of Vegetable Judging, with Suggestions as to Improved Methods of Staging," written by Mr. Thomas Fender, Cultioquey, was read by the secretary. Mr. Fender said, with the exception of Leeks, the best vegetables were always to be found in the "collections," and the way in which these collections were set up amply justified the term "display" which was applied to them in the prize lists of some societies. Cabbages, Savoy, Greenkale, &c., were often placed on the tables without any attempt being made to make them an attractive feature of the show. He had tried light, wooden frames for exhibiting such vegetables as Cabbage, Savoy, Cauliflowers, &c., but he thought, where space was available, that banks or mounds of sand, into which the stalks of vegetables could be stuck, answers well. Such vegetables as Leeks and Celery could not be set up in this manner; these should be supported on light frames inclined at an angle of 45°, and Potatoes, Peas, and similar vegetables could be arranged in plates in front of them.

The committee awarded a First-Class Certificate to a new yellow, early-flowering Chrysanthemum named "D. W. Thomson," raised by Mr. ALEX. THOMSON, Nurseryman, Dean Garden, Edinburgh; a Cultural Certificate was given to Mr. W. WILSON, Prestonfield Nursery, Edinburgh, for plants of Nephrolepis Scottii and N. Piersonii elegantissima; and a Commendation to a number of seedling Carnations raised from border Carnations: X. Souvenir de la Malmaison varieties from Mr. T. VALLANCE, Cardean, Meigle Perthshire.

The paper for the next meeting, on October 6, will be on "Insecticides: Sprays and Spraying," by Professor R. Stewart MacDougall, M.A., D.Sc., F.R.S.E., Edinburgh.

NATIONAL DAHLIA.

SEPTEMBER 3.—This year the annual exhibition of the National Dahlia Society was held at the Horticultural Hall, Vincent Square. The change from the Crystal Palace cannot be declared a great success, for the number of visitors was few, although this may have been partly due to the very wet weather conditions. There was, however, a good display of all types of the flowers, and the exhibition itself was quite equal to any that had preceded it; the entries numbered more than 300, which represents about 60 more than at last year's show, but some intending exhibitors failed at the last minute, which is only to be expected when the weather conditions of the past fortnight are taken into account. The quality of the show Dahlias was not quite so good as is usual, for although the 1st prize exhibit, shown by Mr. WALKER, left little to be desired, the remaining stands were poor in comparison. Among the Cactus section, the blooms appeared quite equal to those of ordinary seasons, and it was a matter of comment that the flowers should be so fine after having had to withstand one of the severest autumnal gales for many years. With the Cactus blooms Messrs. JAMES STREEDWICK & SON again met with remarkable success. For the seventh time they won in the Silver Challenge Cup class, the varieties being all of their own raising, and ten of them were new this year. This firm won the cup outright for the second time. The amateur section was generally well represented, and some of the blooms were quite equal to those noticed in the professional classes. The greatest competition was seen in this section, there being, in some instances, as many as ten or a dozen exhibits in a class. Novelties were very plentiful, and amongst these the committee selected ten for certificates. A new break was seen in Una, a pink-coloured variety, in which the florets are very narrow, and are divided at the tips, forming a kind of cresting.

SHOW AND FANCY DAHLIAS.

In the largest class for show Dahlias, that for 48 blooms of distinct varieties, there were three exhibitors, Mr. J. WALKER, Thame, winning easily. The other contestants were Mr. W. TRESEDER, Cardiff, and Mr. S. MORTIMER, Rowledge, Farnham, Surrey. Mr. TRESEDER was awarded the 2nd prize. In the 1st prize exhibit the varieties were W. Girdlestone (a magnificent flower), Blush Gem, Colonelist, S. Mortimer (a large, shapely bloom), Mrs. J. Greaves, C. Rawlings, Golden Gem (of excellent form), Wm. Keith, Marjorie, Mrs. Rawlings, Gracius, Arthur Ocock (a fine bloom), F. Tranter, Chieftain (a big, bold bloom), T. Pendred, H. Clark, R. Dean, J. T. West, Eclipse (finely coloured), Lord Salisbury, Shirley Hibberd, E. Britton (a delicate soft pink colour), Purple Prince, H. Turner, Dante, Rothesay, Duke of Fife, R. T. Rawlings, Dandy, T. J. Saltmarsh, the Reverend, Gooday, A. M. Burnie, Golden Fleece, Victor, Mrs. Every, D. Cornish, J. Walker, Dr. Keynes (grand specimen), Majestic, Duchess of York, M. Stanton, J. Nicholson, J. Bennett, H. Keith, J. C. Vaughan, A. Rawlings, and Harbinger (a fine bloom of delicate colour). Messrs. TRESEDER had choice specimens of J. Gooday, Richard Dean, Mr. Chamberlain, Sidney Humphries, James Cocker, Florence Tranter, Wm. Keith, W. Powell, T. S. Ware, and George Hobbs.

In the smaller class for 24 blooms of distinct varieties there were also three exhibitors, but neither of them showed anything remarkable, the quality of the flowers being only mediocre. The 1st prize was won by Mr. CHARLES TURNER, Slough, who had moderately good examples of Mr. Glasscock, Colonelist, Mrs. Langtry, Arthur

Ocock, Seraph, T. W. Girdlestone, Gracchus, William Keith, J. T. West, standard, R. J. Rawlings, Hon. Mrs. Wyndham, John Standish, Marjorie, Harry Keith, Harrison Weir, Merlin, Shottesham Hero, Arthur Rawlings, Harbinger, John Hickling, Nansen, Mrs. Gladstone, and Rosamond. Mr. SEALE had very choice blooms of Mr. Glasscock and George Gordon.

FANCY DAHLIAS.

There were two classes for fancy Dahlias, one for 18 blooms, distinct, and the other for 12 blooms. There was not a lot of competition; two growers only staged in the larger class, and four in the one for a dozen blooms. Mr. J. WALKER, Thame, won easily in the class for 18 blooms, his competitor being Mr. Wm. TRESEDER, who was awarded the 2nd prize. The following are the names of Mr. WALKER'S varieties: T. W. Girdlestone, Wm. Sheldon, Emin Pasha, Mrs. Mortimer, Plutarch, Mrs. Saunders, Goldsmith, S. Mortimer, Rev. Camm, Dandy, Prince Henry, Duchess of Albany, Chorister, Mrs. Browning, Comedian, L. Eckford, E. Boston, and Matthew Campbell. Mr. TRESEDER had well-coloured blooms, and although small they were of good shape. His best were John Cooper, Mrs. John Downie, Rebecca, and J. Britton.

The premier stand of 12 varieties was shown by Mr. S. MORTIMER, Farnham, Surrey, and he was followed by Messrs. KEYNES, WILLIAMS & Co., Mr. CHARLES TURNER, Slough, being 3rd. Mr. MORTIMER'S best blooms were: Dazzler, Frederick Hunt, Mrs. Mortimer, Salamander (a fine bloom), Prof. Fawcett, Plutarch, Hugh Austin, and Mrs. N. Hall. In the 2nd prize group were noticed good blooms of Rev. J. B. Camm, Dorothy, Gaety, and Watchman.

SHOW AND FANCY DAHLIAS INTERMIXED.

There was a class for 12 blooms of these, but the response was poor, only two exhibitors showing. This lack of competition was perhaps partly because those who exhibited in the preceding classes were not allowed to enter in this one. The winning blooms were shown by Messrs. JOSEPH CHEAL & SONS, Crawley, and they were a very creditable dozen. The varieties were as follows: T. W. Girdlestone, Gracchus, Geo. Gordon, Emin Pasha, Dr. Keynes, Diadem, Florence Tranter, R. T. Rawlings, the Reverend, Maud Fellows, Mrs. Saunders, and Dorothy.

CACTUS DAHLIAS.

The most important class for Cactus Dahlias was that in which a Silver Challenge Cup was offered. This is held by the winner for one year, and becomes the property of an exhibitor who wins it three consecutive times. As stated, Messrs. JAMES STREWDICK & SONS won the trophy outright this year, and, in addition, the bunch of C. E. Wilkins in this group was adjudged the best in the whole of the nurserymen's classes, thus winning a Silver Medal offered for the best bunch of Cactus blooms. Messrs. STREWDICK showed Dorando (dark red), Snowstorm (white), Saxonia (purple, with magenta tips), Rev. T. W. Jamieson (pink, with yellow base), Evening Star (salmon-red florets, with yellow base), Indomitable (bold, large rose-pink flowers), Diadem (rose-pink, with large incurving florets), Satisfaction (rose and white), Herald (pale pink), Mrs. Alfred Dyer (yellow suffused with rose), J. B. Riding (bronze with yellow centre), Harold Peerman (yel-owl), Ivernina (apricot), C. E. Wilkins, Wm. Marshall, Dr. G. Gray (scarlet), Rev. Arthur Bridge, and Rev. A. Hall.

The first-named ten are new kinds, never before shown on an exhibition table.

The 2nd prize was won by Messrs. JAMES BURRELL & Co., with very creditable examples of William Marshall, Artemis (reddish), Crescent, Ruby Grinstead, Mrs. F. Grinstead (a very fine variety), Caradoc (yellow), Echo and Nelson (a fine shade of pink).

In the smaller classes for twelve varieties, in bunches of six blooms, there were two exhibits, shown by Mr. MORTIMER and Mr. M. V. SEALE, Sevenoaks. Mr. MORTIMER had the Pilot, Adonis (red seedling), Premier (scarlet), White Lady (a good decorative variety), Alexander (mauve), &c.

The most pleasing class for Cactus Dahlias was that in which the blooms were staged in vases and decorated with foliage and fruits of

other plants. There were three exhibits, and they occupied much space. Mr. M. V. SEALE showed the winning vases, but it was difficult to say which was the best, for all appeared about equal in merit. The other exhibitors were Messrs. JOSEPH CHEAL & SONS and Mr. CHARLES TURNER, Slough.

CACTUS DAHLIAS DISPLAYED ON BOARDS.

There were three exhibits in the class for 48 blooms, distinct, and the three growers contested very keenly. Messrs. J. BURRELL & Co. were awarded the 1st prize, Messrs. KEYNES, WILLIAMS & Co. the 2nd, the other exhibitor being Messrs. JAMES STREWDICK & SONS.

We have not space to enumerate all the varieties, but give as a selection the following in the winning group:—Nelson, Wm. Marshall, T. A. Havemeyer, Ruby Grinstead, Nubian, Mercia, Etruria, Seraph, Crepuscule, Beryl, Caradoc, Burletta, Faunus, Lustre, Pearl, Sunset, Leda, Mariner, Comedy, Rev. A. Hall, Fairy, Bridger, Crescent, Rival, Cassandra, Flag of Truce, Niobe, Mrs. Macmillan, Una, and Eveline.

In the smaller class for 24 blooms, distinct, Mr. M. V. SEALE beat all other competitors, but he was closely followed by Mr. TRESEDER.

POMPON DAHLIAS.

Class 11 was for 24 varieties of Pompon Dahlias in bunches of ten blooms each. Mr. CHARLES TURNER was the 1st prize winner, with an excellent lot, having superb specimens of Corsair, Rodney, Portia, Edith Bryant, Komulus, Adelaide, Tommy Keith, Donald, Bacchus, Zerlina, Enia, Hyperia, Queen of Whites, Cyril, Marietta, Blush Gem, Phyllis, Nerissa, Jessica, Clarence, Sybil, Adela, Lufra, and Thora. 2nd, Messrs. CHEAL & SONS, with Phyllis, Clarissa, Marietta, Galatea, Florence, Daisy, &c. 3rd, Mr. M. V. SEALE.

For twelve varieties Messrs. J. BURRELL & Co. were 1st, their only competitor being Mr. JOHN WALKER, of Thame.

SINGLE DAHLIAS.

There was not much competition for these refined flowers, which, although so beautiful, appear to be less in evidence each year at the shows. Messrs. JOSEPH CHEAL & SONS won in the class for 24 varieties, while Mr. JOHN WALKER was the only exhibitor for 12 varieties. Mr. CHEAL had shapely flowers of Kitty, Bertha, Snowdrop, Betty, Miss Roberts, Columbine, Vesuvius, Princess of Wales, Serita, Peggy, Brilliant, Tommy, and Fugi Sae.

AMATEUR CLASSES.

A silver challenge cup was offered in a class for 24 blooms of show or fancy Dahlias or the two types intermixed. Mr. TOM JONES, Ruabon, N. Wales, won the 1st prize, with an excellent exhibit; 2nd, Mr. SYDNEY COOPER, Chippenham; 3rd, THOMAS HOBBS, The Cedars, Downend, near Bristol. The best six blooms of Show Dahlias were shown by Mr. THOMAS HASKINS, Kingswood, near Bristol, and the best twelve blooms of Fancy Dahlias by Mr. A. J. IRONSIDES, 43, Park Lane, Chippenham; while for six blooms of these flowers, Mr. J. COUSINS, Grewaway Lane, Chippenham, was placed 1st.

The Silver Challenge Cup for nine varieties of Cactus Dahlias was taken by Mr. W. E. PETERS, Hastings, who had a fine stand of blooms, especially fine being J. B. Riding (these blooms received the Silver Medal as the best bunch of Cactus Dahlias in the amateurs' exhibits), Mrs. F. Grinstead, Wm. Marshall, G. Wilkins, and Ruby Grinstead; 2nd, Mr. J. SHOEKIDGE.

The Gold Badge offered by Messrs. Dobbie & Co., Rothsay, for 24 blooms, distinct, was won by Mr. JAMES BRYANT, Salisbury.

SINGLE DAHLIAS were best shown by the Rev. A. BRIDGE, The Rectory, Worth, Crawley, and Mr. EDWIN MORLEY, Rosebank, Berkhamsted.

There were numerous other classes in the amateur section and several were provided decorations and floral devices.

AWARDS TO NOVELTIES.

First-Class Certificates were awarded the following new Dahlias:—*Jasper*, a show variety of rosy-magenta shade. *Tom Jones*, this variety, described in our last issue, received a Bronze

Medal and a Certificate on this occasion; both these were shown by Mr. S. MORTIMER. *Una*, a pink variety, with narrow florets that are fringed at the tips, shown by Messrs. J. BURRELL & Co. *Minima*, a plum or purple-coloured Pompon Cactus variety, also shown by Messrs. BURRELL. *Adela*, a white Pompon, shown by Mr. TURNER, Slough. *Mrs. W. Merry*, a reddish-coloured single variety, shown by Rev. S. S. PEAKES. *Betty*, a single, having a magenta colour, with a purple ring next to the yellow stamens, shown by Messrs. JOSEPH CHEAL & SONS. *Rev. F. W. Jamieson*, a large Cactus flower of pale pink colour, fading to yellow at the base of the very curved florets. *Debutant*, a pale pink Cactus with a pale yellow base to the florets and white tips. *Snowdon*, a white flower of the Cactus type, with rather stiff florets. *Mrs. Alfred Dyer*, yellow florets, stained with palest pink at the ends; all these Cactus varieties were shown by Messrs. JAMES STREWDICK & SONS.

NON-COMPETITIVE EXHIBITS of Dahlias were shown by Messrs. DOBBIE & Co., Rothsay (Gold Medal); Mr. J. T. WEST, Tower Hill, Brentwood (Silver-Gilt Medal); Messrs. H. CANNELL & SONS, Swanley (Silver Medal); Messrs. T. S. WARE, LTD., Feltham (Silver Medal); Mr. J. E. KNIGHT, Wolverhampton (Silver Medal); and Mr. J. EMERSON, Grove Road Nursery, Walthamstow (Silver Medal).

Obituary.

THOMAS ACTON.—We regret to record the death of this gentleman at Kilmacurragh, Rathdrum, Co. Wicklow, Ireland. Deceased was the eldest son of Colonel William Acton, for some time M.P. for Co. Wicklow. He was a Justice of the Peace and a Deputy-Lieutenant for the County. For more than forty years he resided at Kilmacurragh, which is situated on rising ground three miles in a direct line from the sea, with a hill some 800 feet high above the house; the soil is a deep, rich loam, on granite and slate, and as the climate of that part of Co. Wicklow is very mild many plants which are not considered hardy in some districts flourish there. The gardens at Kilmacurragh are particularly rich in species of Rhododendron, of which there are many large specimens, including fine trees of *R. lacteum*, *R. Delavayi*, *R. lanatum*, *R. Shepherdii*, *R. Keyssii*, *R. salignum*, *R. lepidotum*, *R. setosum*, *R. Wightii*, *R. cinnabarinum*, and *R. decorum*. Amongst rare trees and shrubs in the collection may be mentioned splendid specimens of *Libocedrus tetragona*, *Saxotheca coarctata*, *Athrotaxis cupressoides*, *A. laxifolia*, *A. selaginoides*, *Cupressus lusitana*, *Tsuga Brunoni*, *Thuja japonica*, *Cunninghamia sinensis*, *Podocarpus chilensis*, *Embothrium coccineum*, probably the largest specimen in the British Isles, *Tricuspidaria lanceolata*, 20 feet high, *Laurelia aromatica*, and *Quercus lusitana*. The demesne covers some 600 acres, and is beautifully wooded. Many tree lovers from all parts have spent an enjoyable day inspecting the gardens, for, although of a retiring nature, the late Mr. Acton extended a warm welcome to all who asked permission to visit his garden. Much of his success with reputedly difficult plants was due to the fact that whenever possible, he purchased three specimens of each variety and planted them in different aspects in order to test their individual requirements. In order to acquire a knowledge of the conditions under which trees and plants grew in their native homes he took, in company with his sister, an extended voyage round the world. Mr. Acton was in his 83rd year, and was unmarried.

CATALOGUES RECEIVED.

BULBS.

CHARLES TURNER, The Royal Nurseries, Slough.
D. G. PURDIE, 6, Waterloo Street, Glasgow.
EDMONSON BROTHERS, 10, Dame Street, Dublin.
M. H. SINGLAI, 16A, Union Street, Aberdeen.
BARR & SONS, 11-13, King Street, Covent Garden, London.

MISCELLANEOUS.

WM. FELLIS & SONS, Hitchin, Herts—Vegetable, flower, and farm seeds.
W. KNIGHT & SONS, Park Nurseries, Heathfield, Sussex.
W. H. SINGLAI, 16A, Union Street, Aberdeen.
W. SAUNDERS & Co., Portland Street, Kilmarnock—Flower roots.

CYANIDING A PLANT STOVE: 7. IV. The following proportions are for 1,000 feet unit:—For the destruction of all scale insects, mealy-bug, thrips, &c., on Camellias, Gardenias, Stephanotis, Passifloras, Dipladenias, Palms, Plumbago, Euphorbias, Orchids, Fuchsias, Azaleas, greenhouse Rhododendrons, Roses, hard-leaved Ferns, Ficus, and many other

subjects, when not actually making a new growth, in a temperature of 50° to 55°, 2 ounces sodium cyanide, 4 fluid ounces of sulphuric acid, and 12 fluid ounces of water, exposure 40 minutes, will be perfectly safe quantities to use. The foliage should be dry, but this is not imperative in the case of dormant plants. Orchids may be "cyanided" safely when the roots are not making growth on the outside of the baskets or in the air.

DRACENAS.—*A. K.* If young free-growing stock is provided annually from cuttings taken from the old stock plants, and grown in a suitable temperature, insects do not, as a rule, attack the plants. Red spider usually appears on plants grown in a dry atmosphere. Syringe the leaves with some weak insecticide, placing the plants on their sides until they drain, and then rearranging them in their proper position. Sponging the leaves, although it takes longer, is the more effective means.

FUCHSIA SEEDLING FOR SALE.—*E. B. B.* We do not know of any firm who would be likely to purchase the stock. Insert an advertisement in one of the gardening papers.

GLOXINIA LEAF BROWNED.—*J. F.* There is no disease present in the leaves; the injury is caused by mites. Spraying the plants with tobacco water every third day will destroy the pests.

GRAPE MRS. PINCE.—*R. H.* There is no disease present in either the berries or the foliage. The latter has been badly scorched, and the berries have failed to mature. Ventilate the house early in the morning so that all moisture is removed from the surface of the leaves before they are caught by the sun's rays.

LILY STEM WOOLLY.—*E. A. G.* There is no disease present in the stems. The coating of hairs is due to some unknown physiological condition that causes the cells of the epidermis to grow out as hairs.

LOBELIA COMPACTA DYING.—*W. A.* The plants are attacked by the well-known Lobelia pest, *Phoma devastatrix*. Remove and burn the diseased plants, and treat the soil with quicklime.

MELON DISEASED.—*A. H., Chertsey.* The death of your plant was due to bacteriosis, which is frequently the cause of trouble in Melon culture. Unfortunately, no cure for the malady is known, and once the plants become attacked they very rarely recover. But you can take precautions against the spread of the disease by burning the old plants and sterilising the soil in which they were grown. Before growing Melons in the same house again, see that the structure is well cleansed and the walls white-washed. It will also be advisable to procure seeds from a fresh source.

NAMES OF FLOWERS, FRUITS, AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable output, both of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time; they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and send dried ripe specimens, which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. *Correspondents not answered in one issue are requested to be so good as to request the following numbers.*

FRUITS: *Cuthush.* Both fruits appear to be Benoni, although No. 2 fruit is not so good in flavour as No. 1.—*H. C. Coles.* 1, Waltham Abbey Seedling; 2 and 3, Cox's Orange Pippin; 4, Lane's Prince Albert; 5, Max's Codlin; 6, Peasgood's Nonsuch.—*W. Rightson.* 1, Cockle Pippin; 2, Newton Wonder; 3, not recognised; 4, Tower of Glamis; 5, Alfriston; 6, Small's Admirable.—*W. K. Malster.*—*Reader.* The fruits are so immature and badly shaped that it is impossible to name them with certainty. If you will send the varieties as they mature we will endeavour to assist you in their naming.—*H. Berks.* 1, Warner's King; 2, not recognised; 3, Sturmer Pippin; 4, Bramley's Seedling; 5, Summer Strawberry; Pear decayed.—*B. Day.* 1, Keswick Codlin; 2, not fully developed; 3, Lady Derby.—*J. Brodie.* *Jargonelle.*—*Crab.*

Transcendent.—*Powall.* 1, Frogmore Prolific; 2, Red Astrachan; 3, Alfriston.

PLANTS.—*A. B. H.* 1, *Sedum Ewersii*; 2, *S. altissimum*; 3, *S. spurium* $\approx$ 4, *Desmodium canadense*; 5, *Galium verum*; 6, *Linaria repens*; 7, *Campanula latifolia*.—*A. Buckingham.* 1, *Populus balsamea*; 2, *Ulmus glabra*; 3, Better specimen required; appears to be a species of *Morus*.—*W. D.* *Ribes alpinum*.—*A. J.* *Acer Negundo*.—*M. W.* 1, *Campanula isophylla*; 2, *Polygonum* species. Send when in flower.—*J. B.* *Begonia discolor* (syn. *Evansiana*).—*F. B.* *Diecksteri*.—*A. Aralia elegantissima*; 2, *Aralia Chabrieri* of gardens (syn. *Eleoedendron orientale*); 3, *Aralia filicifolia*; 4, *Codiaeum Johannis*; 5, *Ascyranthus speciosus*; 6, *Stapelia Hanburyana*.—*T. J.* 1, *Angracum sulcatum*; 2, *Brassia verrucosa*; 3, *Oncidium flexuosum*; 4, *Epidendrum fragrans*.—*T. K.* *Zephyranthes tubispatha*.—*J. F.* *Lapeyrousia juncea*.

NUPHAR AS A PEST.—*J. R. Allan.* We know of no better method of eradicating this pest from a pond than raking out the root stocks. If you attempt to kill the plants by poison you will destroy other vegetation in the water, also the fish, and injure the wild fowl.

ODONTOGLOSSUM LEAVES DAMAGED.—*W. L.* The disfigurement of the leaves is very common in *Odontoglossums*. The cause is some check to the growth of the plants, and which may be more or less temporary. Usually the plants are otherwise healthy. Insufficient ventilation, too high temperature at night, excessive moisture condensing and falling on the plants, and puncture by aphides when the leaves are young, have been mentioned as contributing to such damage, but no definite cause has yet been found. Usually the trouble arises in plants not well grown, and therefore errors in cultivation should be looked for.

PEACH STONE SPLITTING.—*S. K.* The splitting is not due to disease, but to a want of balance between the growth of the stone and the other parts of the fruits. Some varieties are more prone to splitting their stones than others. It generally results from excess of food and moisture in the soil. See reply to *E. G.* in the issue for August 22, p. 196. The neighbouring tree may be furnished with a totally different root system.

RED CURRANTS AND GOOSEBERRY SHOOTS DYING.—*F. E. S. & Co.* The Gooseberry bushes are attacked by the Gooseberry black-knot (*Plowrightia ribesia*, Sacc.), closely related to *Plowrightia morbosus*, Sacc., the widely-distributed "black-knot" of Plum and Cherry trees in the United States and Canada. *P. ribesia* attacks the stem and larger branches of the Gooseberry and of Red and Black Currant bushes in this country, and it is not uncommon to find the disease in neglected gardens, more especially where Currant scale or aphides are present in quantity. The fungus is a wound-parasite, since spores placed on an unbroken surface produce no result, whereas infection follows when spores are placed in a minute wound in the bark. It seems probable that aphides or scale insects enable the fungus to gain an entrance to the living tissues of the plant, as in the case of Larch canker, Apple-tree canker, &c. The first indication of disease is the wilting and yellowing of the leaves, which fall quite early in the season. As a rule, a branch is not killed outright in the first season of the attack, but during the second year the leaf-buds remain in a half-opened condition and the branch dies owing to the presence of the fungus mycelium in the conducting vessels preventing the ascent of water in the branch. The fungus does not show itself externally until the branch is dead, or nearly so, when its fruiting bodies burst through the bark under the form of large elongated and transversely-grouped black warts. These warts are often quite numerous and give a blackened appearance to the bark. Spraying is of no avail in the case of this fungus, but on the first appearance of disease, indicated by wilting of the foliage, infected branches should be removed and burned. Bushes should be kept clear of aphides and Currant scale. These particulars are taken from the *Board of Agriculture and Fisheries's Leaflet No. 215*.

RHOEODENDRON PINK PEARL.—*T. C.* The leaves have been again examined by our mycologist, who reports that no fungus is present on them. The shining particles may be due to deposition from water. The big leaves were very dry when received, and when examined they showed no signs of disease: if a malady was present it had entirely disappeared. When forwarding leaves for examination, they should always be packed so as to arrive in a moist condition.

THE PEAR TREE SLUG WORM.—*J. P.* This pest of Pear trees appears to be spreading, and we hear many complaints as to its damage to the trees. It is figured and described in the *Calendar of Garden Operations*, from which we extract the following:—The perfect insect (saw fly) appears early in the summer, and the eggs deposited by the female on the upper side of the leaves hatch in a few days. The larvae is of bottle-green colour. After feeding for a few weeks upon the leaves, the slug worms go down into the soil around the trees, from which they emerge again as saw-flies. The slug worms are covered with a thick slime. If quicklime or gas-lime be dusted over them they are able to throw it off by exuding from their skins another coating of slime, and shedding as it were the injurious matter. But they are not able to repeat the process many times, except a considerable interval be allowed between the dressings, and it is this fact that affords the gardener an opportunity of destroying them by such means. If the lime be dusted over the trees in such a manner that it will reach the slug worms, and the process be repeated very soon after the first dressing, the second dressing will kill them. Other good methods of destroying the pests include syringing the trees thoroughly with soap-suds, tobacco water, or lime water, using a peck of lime in about thirty gallons of water. Remembering also that as the caterpillars go into the ground, it will be useful to remove the surface soil in the autumn 3 inches deep, burn it, and top dress with fresh materials.

TOMATO DISEASE.—*A. J. B.* We found no caterpillar in the box, but they are not responsible for the trouble. The fruits are attacked by the Spot disease. The spores of this fungus are supposed to gain an entrance to the fruit through minute cracks in the pericarp in the skin; therefore, the use of green stable manure, and of anything likely to produce cracking in the fruits, should be avoided. Over-watering has this effect. As a preventive, ventilate freely, exercise vigilance, and spray the plants at frequent intervals with potassium sulphide, prepared as follows:—Dissolve one ounce of potassium sulphide (liver of sulphur) in a quart of hot water; then make up to two and a half gallons with cold water. Feed the plants with manure water.—*F. H. Z.* The foliage you send is spotted with the disease known as "Septoria apple." You will find much information on this complaint in our issue for August 15, page 121.

WEEPING TREES.—*O. P. Q.* No satisfactory explanation can be given of this habit as yet; indeed, although we know something about the mechanism by which a shoot may grow upwards and a root downwards, we cannot tell why it is that these positions are taken up. The current so-called "explanations" are really no explanations at all.

WORKS ON ROSES.—*F. E. S.* Your references are incomplete. The numbers of the *Gardeners' Chronicle* referred to are in stock, and can be had from our publishing department. Perhaps the late Mr. T. Laxton's sons, the Nursery, Bedford, may be able to help you. The address of Mr. S. Mottet is 7, a Verrières-le-Buisson (Seine-et-Oise).

COMMUNICATIONS RECEIVED.—*R. C. T.*—*J. C. & Son.* *L. E. & B.*—*M. L. L.*—*E. S.*—*F. R.*—*C. G. T.*—*W. W. B.*—*E. C.*—*Cambridge.*—*E. S. B.*—*C. A. J.*—*C. P. J.*—*H. J. G.*—*W. H. D.*—*V. H.*—*Sec. T. S. D.*—*G. S. P.*—*A. B. M.*—*K. C.*—*A. C. B.*—*D. H. C.*—*H. C. G.*—*S. A.*—*F. W. W.*—*P. R. J.*—*M. F.*—*B. J.*—*L. B.*—*A. B. W.*—*E. B. C.*—*J. M. D.*—*V. F.*—*R. F. M.*—*M. T. S.*—*D. R.*—*W. H.*—*W. H. M.*—*J. M.*—*F. M.*—*W. E. B.*—*L. B.*—*H. W. W.*—*H. R.*—*F. B.*—*B. J.*—*F. W. C.*—*J. R. J.*—*W. G. S.*—*H. J. H.*—*J. C.*—*Chloris.*—*C. H. de M.*—*C. S. W. G.*—*S. H. W.*—*W. E. M.*—*C. J. D.*—*R. N. E.*—*C. T. R.*—*J. M. F.*—*J. M. F.*—*S. J. W. M.*—*Ltd.*—*W. W. W.*—*J. S. W.*—*E. G. J.*—*E.*—*Exhibition-Gardener.*



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AUTUMN EFFECT OF TREES AND SHRUBS.

ANY trees and shrubs produce beautiful autumnal effects in the garden, firstly, by their brightly-coloured fruits, and, secondly, by the brilliant tints assumed by their dying foliage. Some shrubs and trees produce both beautiful fruit and handsome foliage, but it will be simpler to treat them separately, so that it may be understood a plant has a double value when mentioned under both heads.

TREES AND SHRUBS WITH BRIGHTLY-COLOURED FRUITS.

The list of these is considerable, and I will describe some of the best of them in alphabetical order. The month of ripening given below is only approximate, as the date will vary according to the summer being cold and damp or warm and dry.

AILANTUS GLANDULOSA (Tree of Heaven).—This forms a tree 60 feet or more in height, the winged fruits being borne in large, terminal bunches. They are of a lovely vermillion, red, and orange colouring. A large tree is a very beautiful object in September and October, especially when lit up by the sun. The sexes are borne on separate trees.

AVICENNA.—A group of female plants of this shrub well-studded with berries forms a pleasing

object in the garden from February to April. The green-leaved variety *vera* is the best to plant for fruiting, as the small leaves allow the bright-scarlet berries to be seen to the best advantage, and, in addition, the plant has a neat, rounded habit. One male plant should be planted close to every six or eight female plants.

BARBERIS.—The majority of the *Barberis* ripen their fruits before the autumn, but from August to October, or even later, the native *B. vulgaris* produces its drooping racemes of orange-scarlet fruits. There are also varieties of our native species with black, purple, and white berries. *B. Thunbergii*, with coral-red, and *B. cinnamomea*, with red and yellow fruits, are also effective in the autumn.

CELASTRUS.—*C. articulatus* is a vigorous climbing and twining shrub from China and Japan and bears small, yellow berries which split open in October and November, displaying the shining scarlet seeds which contrast strongly with the golden-yellow colour of the inside of the fruit. *C. scandens* is a North American representative of the genus with orange-coloured, instead of scarlet berries.

COLUTEA (Bladder-Senna).—The fruits of the *Coluteas* consist of comparatively large, bladder-like pods, and they are freely produced. In August they are of a reddish hue, and they afterwards gradually dry, in which condition they hang until the turn of the year. The pods are not very showy, but rather curious and uncommon-looking.

COTONEASTER.—These handsome berry-bearing shrubs have been extensively planted during the past few years, and no garden can be considered complete without them. *C. frigidula* forms a tall shrub 10 feet or more in height, and produces clusters of scarlet berries persisting to nearly the end of the year. *C. rotundifolia* forms a round, spreading bush 4 feet or so high, and the shoots are covered with bright-red fruits in autumn, and they last throughout the winter. *C. Simonsii* is a tall, thin-growing shrub with scarlet berries borne from end to end of the graceful shoots. *C. horizontalis* has tiny, coral-red fruits, and *C. microphylla* crimson ones. Both are pretty, spreading plants, suitable for the rockery, or for training up a low wall. With the occasional exception of those of *C. Simonsii*, none of the berries of *Cotoneasters* are interfered with by birds.

CRATEGUS.—Practically all the *Thorns* bear fruits of ornamental value, and a good selection is comprised by the following:—*C. Crusgalli* (the Cockspur Thorn) and its varieties bear drooping clusters of scarlet or crimson haws, which last well into winter. *C. coccinea*, *C. macracantha*, and *C. mollis* have clusters of scarlet fruits, which are wonderfully bright while they last, but they soon fall. *C. cordata* (the Washington Thorn) bears bunches of orange-scarlet haws, each about the size of a small pea, which hang a long time if protected from birds. *C. orientalis*, and its var. *sanguinea*, have brilliant-red fruits, which persist for a considerable period. *C. punctata* and *C. pinnatifida* var. *major* bear large haws of a crimson shade. The Fire-Thorn (*Crataegus pyracantha*) with its bright-scarlet clusters of fruits is a well-known and deservedly popular evergreen for walls, but it is equally good when grown as a bush in the open.

EVONYMUS.—There is probably no other shrub that affords such a lovely display of fruit from October to December as does our native Spindle-tree (*E. europaeus*) when the bright-red fruits open to display the orange-coloured seeds within.

HIPPOPHAE RHAMNOIDES (the Sea-Buckthorn) bears bright-orange coloured berries in thick clusters on the stems. They persist until the turn of the year, unless damaged by severe frost. The plant is dioecious, therefore the female plant must be grown for the berries.

ILEX.—The *Hollies* are too well known to need description, but attention may be drawn to *I. Aquifolium* var. *balearica* and *I. Aq. var. maderensis*, both of which bear larger and brighter berries than the type, and *I. Aq. var. fructu luteo*, which bears bright-yellow fruits.

PERNETTYA.—These are dwarf, spreading shrubs rarely more than 2 to 3 feet high with shining, prickly leaves, and small, white flowers that are followed by round, red berries, which last from October to April. In *P. speciosa* the berries are crimson, and in *P. mucronata* they are scarlet. There are varieties with various coloured fruits, but the two mentioned are the best.

PYRUS.—This genus ranks with the *Thorns* in the abundance of species with brightly-coloured fruits, and of these the section *Aria* or White Beam Trees is perhaps the best. Of these, *P. lanata* (*Sorbus majestica*) holds the premier position, as it is covered in autumn with clusters of intense-scarlet, oval fruits, though the allied *P. decaisneana*, *P. vestita*, and some of the forms of the common White Beam Tree (*P. Aria*) are not much inferior to it in this respect. The *Malus* (Crab-Apple) section must not be omitted, such small trees as the Siberian Crab (*P. baccata*), which is laden with bright, cherry-red fruits; *P. Malus var. coccinea* with comparatively large, scarlet Crab-Apples; and the John Downie and Dartmouth Crabs being necessary in every garden for autumnal effect. The Mountain Ash (*P. Aucuparia*) is of no value for a show of fruits in autumn, as the berries are at their best in August, and they prove too attractive to birds, which eat them readily.

RUUS.—The dense pyramidal, crimson fruits of *R. typhina* (the Sumach) are showy in autumn, as also are those of *R. glabra*, an allied species, but the Smoke-bush or Venetian Sumach (*R. Cotinus*) must not be overlooked, as, though the fruit is insignificant, yet the dense, fluffy heads on which the fruits are borne give the plant a distinct and attractive appearance.

ROSA.—To many who are not well acquainted with the species of *Rosa* it may seem out of place to mention them in connection with showy fruits, but a plant of *R. rugosa* is a beautiful picture in autumn when covered with its large, flattened, crimson-red hips. *R. tomentosa*, *R. mollis*, and *R. canina* (the Dog Rose) are also showy subjects when covered with their scarlet fruits, and are well worth a place in the wild-garden. *R. nutkana* and *R. carolina*, both natives of North America, form small bushes, and are laden in autumn with small scarlet hips.

SKIMMIA.—The two hardy species of *Skimmia* bear bright-scarlet fruits, but the best is *S. Fortunei*, a dwarf-growing species which fruits freely, and is very showy during the whole of the winter. *S. japonica* has larger foliage, and does not display its fruits so well as the preceding species. The male form of *S. japonica* is known in nurseries as *S. fragrans*, and the female as *S. oblata*. The form known as *S. Foremanii* is one of the best for a show of fruits.

SYMPHORICARPUS.—The best of this genus is *S. racemosus* (the Snowberry), which is conspicuous from October to the New Year with its snow-white berries.

VITIS HETEROPHYLLA is a native of China and Japan, and, together with its var. *humulifolia*, is very handsome when covered with clusters of blue berries which, however, do not very closely resemble bunches of Grapes. They require a warm corner and not too rich a soil to induce them to fruit well.

TREES AND SHRUBS WITH BRIGHTLY-COLOURED FOLIAGE.

It is rather a difficult matter to say exactly what conditions of climate are necessary to ensure those brilliant tints in the foliage of deciduous trees and shrubs in autumn, which we unfortunately only see in certain years. Of course, there is a certain amount of colour every year, but occasionally we get a season in which the autumn tints are especially magnificent, though there may not have been anything noticeably different in the climatic conditions of the preceding summer. If I remember rightly, the

display for some weeks. *Quercus heterophylla* and *Q. palustris* (the Pin Oak) belong to the same section, but are rather less brightly coloured. The leaves of the Tulip-tree (*Liriodendron tulipifera*) turn to a bright, golden-yellow, as also do those of the various species of *Celtis* (the Nettle-trees). Some of the Birches also, notably *Betula corylifolia*, a little-known species from Japan, possesses leaves which turn to a lovely orange-yellow. The foliage of *Liquidambar styraciflua*, *Nyssa sylvatica* (the Tupelo), and *Parrotia persica* all turn to a brilliant bronzy-red. The Hickories are scarcely known in this country outside botanical gardens, but *Carya tomentosa* and *C. sulcata* are worth growing for the size of their leaves and the rich, golden-yellow tint they assume in autumn. The Norway Maple and the Red Maple (*Acer rubrum*) turns its leaves yellow in autumn, and *Acer saccharinum* (the Sugar Maple) to crimson and gold. *Crataegus pinnatifida* var. *major* as-

from North America turn to a brilliant crimson-scarlet, as also do *Amelanchier canadensis* and the little-known *Euonymus alatus*. The Sumachs are wonderful plants to colour their leaves in autumn, *Rhus typhina*, *R. glabra*, and the poisonous *R. Toxicodendron* turning to various orange-scarlet shades. *Rhus Cotinus* changes to bronzy-red and yellow, and the gem of all, *R. cotinoides*, turns to indescribably fine shades of crimson, scarlet, and gold. The foliage of *Berberis Thunbergii* assumes a rich, scarlet tint, as also do the leaves of *Azalea pontica* and some of the Ghent hybrid *Azaleas*. *Vaccinium corymbosum* and *V. pennsylvanicum* turn to a bright-claret colour, and the feathery *Spiraea Thunbergii* affords a lovely bronzy-red tint, which renders it as effective as flowers for decoration. Of the new or little-known shrubs *Fothergilla alniifolia* (bright red), *Disanthus cecidifolia* (crimson), *Viburnum alniifolium* (crimson), and *Pyrus arbutifolia* (red) can be recommended for autumn colouring.

There are a few climbers that are effective in autumn, of which *Ampelopsis Veitchii* and the Virginian Creeper are perhaps the best known with their crimson and scarlet autumn tints. The leaves of *Vitis Cœngetia*, *V. Romanetii*, and *V. Thunbergii* also turn bright crimson in most seasons, though they are not always to be depended upon in this respect. *J. Clark, Bagshot, Surrey.*

NEW OR NOTEWORTHY PLANTS.

RODGERSIA TABULARIS.

Of all the species of *Rodgersia* in cultivation, the one shown at fig. 89 is the most distinct. Other well-known kinds include *R. podophylla* with digitate leaves, and *R. pinnata* with pinnate ones. In the plant under notice, however, the leaves are peltate, like those of *Saxifraga peltata*. *Rodgersia tabularis* is a native of Northern China and Korea, and is said to grow in dense masses amongst coarse vegetation, close to a lake or riverside. It flowered for the first time in this country at Kew in July of last year, plants having been raised from seeds obtained from the Imperial Botanic Garden of St. Petersburg in 1905. This year the specimens grew to a larger size. As a handsome foliage plant it is a welcome acquisition, the light green peltate leaves, each about 1 foot in diameter, being borne on stems 2 to 3 feet in height. The leaves are irregularly lobed, while the petioles are covered with stiff white hairs which are dark at the base. These hairs disappear to a great extent as the plant develops during the season. The flowering-stems grow about 3 feet high, and bear an arching panicle of white flowers. Seeds are freely produced, and as seedlings are easily raised, the plant should soon become plentiful in gardens, where it is eminently adapted for the waterside or bog-garden. In general appearance this *Rodgersia* resembles a *Saxifraga*, and has been placed in that extensive genus by some botanists, under the name of *S. tabularis*. Heavy, loamy soil seems to suit its requirements, but it must have plenty of moisture at the roots, and partial shade is also beneficial. *W. Z.*

ORCHID NOTES AND GLEANINGS.

ONCIDIUM SPILOPTERUM.

FLOWERS of a very pretty example of this charming species are sent by Mr. H. Haddon, gardener to J. J. Neale, Esq., Lynwood, Penarth. The form of the flower is elegant, and the colouring bright and attractive. The rather small sepals and petals are chocolate purple; the blade of the lip, tips of the side lobes, the face of the column and anther-cap are bright yellow; the large and prominently raised crest is bright purple, the wings of the column being purple and yellow and its reverse side dark



[Photograph by W. Irving.]

FIG. 89.—*RODGERSIA TABULARIS*: A NEW SPECIES FROM NORTHERN CHINA; FLOWERS WHITE.

autumn of 1900 was exceptionally remarkable in this respect, everything being more brilliantly coloured than has since then been the case. Generally speaking, a summer with plenty of sunshine and a good rainfall will be followed by good autumn tints, as in such seasons nothing becomes ripened before its time, and there is plenty of moisture at the right time, and consequently the foliage remains healthy and vigorous to the last.

Among the trees which can be relied upon for giving colour in autumn are the American Scarlet Oaks, such as *Quercus coccinea* and its variety *splendens*, the foliage of both of which turns to a lovely crimson-scarlet, that of the latter being especially rich and affording a fine

sumes a fine bronzy-crimson, which is practically constant every year. Among commoner trees the golden hue of the Black Italian and Lombardy Poplars, the crimson of the Wild Cherry, and the warm, golden-brown tints of the Beech are especially noticeable.

There are a great many shrubs with leaves that colour more or less every autumn, and chief amongst these are some of the so-called Japanese Maples, varieties of *Acer japonicum*, and *A. palmatum*. Of these, the foliage of *A. japonicum* var. *vitifolium*, *A. palmatum*, and *A. p. var. septemlobum* turns to rich crimson shades, while that of *A. p. var. septemlobum* elegans changes to a soft yellow colour. *Acer Ginnale* from Manchuria and *A. circinnatum*

claret. The species was introduced from Upper Paraguay in quantity in 1892, and named *O. Saintingerianum* before its identity with *O. spilopterum* was determined. This *Oncidium* requires a cool intermediate house, the collector stating that in its native habitat it is at times subject to a few degrees of frost.

CATASETUM CLESIANUM.

OUR illustration (fig. 90) represents an inflorescence of *Catasetum Clesianum*, which was awarded a Botanical Certificate at the Royal Horticultural Society on August 18 last, when it was shown by Sir Trevor Lawrence, Bart., K.C.V.O. The species was imported from Brazil in 1892 by Messrs. Linden, of Brussels, and was described in the *Journal des Orchidées*, 1893, p. 267. *Catasetum Clesianum* bears greenish-yellow flowers, and belongs to the section *Pseudocatasetum*, which includes *C. discolor*, to which the species under notice is closely allied. It is characterised by the absence of the antennæ commonly present in this genus of *Orchids*. The function of these organs was closely studied by Charles Darwin, and his results have been confirmed and extended by subsequent investigators. As is well known, the flowers in this genus are trimorphic, being male, female, and hermaphrodite. The identity of the three forms (which were formerly regarded as different genera) was established by Lindley, and also by R. Schomburgk. The antennæ, in those species which possess them, are restricted to the male and hermaphrodite flowers, and their function is to serve as a mechanism connected with the forcible discharge of the pollinia. Probably the absence of the pollinia from the female flowers is connected with the corresponding loss of the antennæ. The pollinia, together with their stalks and attachment disc, form a structure which is arched, and held in a strained position, after the fashion of a steel rod bent like a bow between the thumb and finger. When an antennæ is touched, a stimulus is given which causes an instant loosening of the tissue that connects the disc with the rest of the column, and thus the whole structure straightens suddenly and flies from its attachment to stick on to the body of the insect which has touched the antennæ while searching for nutriment in the flower.

CATASETUMS AT KEW.

KEW GARDENS contain a good collection of species of *Catasetum*, *Cynoches*, and *Mormodes*, the plants exhibiting good culture. The species flower at varying times of the year, but at present a more than usual number is in bloom. The following is a list of the species noted in flower at Kew during the past week:—*Catasetum Bungei*, *C. B. var. aureum*, *C. callosum*, *C. Darwinianum*, *C. fimbriatum*, *C. labiatum*, *C. Lemosii*, *C. macrocarpum*, *C. maculatum*, *C. mentosum*, *C. Oerstedii*, *C. planiceps*, *C. Russellianum*, *C. spinosum*, *C. splendens* and its varieties, *C. tabulare*, *C. t. var. lævis*, *C. uncatum*, *C. viridi-flavum*, *Cynoches chlorochilon*, *C. Egertonianum*, *C. Loddigesii*, *C. pentadactylon*, *C. peruvianum*, *Mormodes badiatum*, *M. b. var. luteum*, *M. Buccinator*, and *M. pardina*.

NURSERY NOTES.

MESSRS. HUGH LOW & CO., BUSH HILL PARK.

LESS than thirty years ago this nursery business was carried on at Clapton, London, N., but owing to the district having become very densely populated it was necessary to remove further away from the centre of population. The larger area available at Enfield enabled the firm to develop the nursery business on wholesale lines and to give more attention to the raising of fruit trees of a hardy kind. The firm also specialises in Carnations, especially in the American or perpetual-flowering varieties, Figs and Vines in pots, stove and greenhouse plants, Orchids, and Water Lilies. The nursery embraces about 10 acres, with many glasshouses, nearly all of which are span-roofed structures. The land is situated at the end of the village street, and is a little less in altitude than Enfield town, which is distant about one and a half miles, Bush Hill Park Station being on the Great Eastern Railway about half a mile distant. The land consists of level tracts which at one time were under pasture and arable culture; the soil is of considerable depth, as

much as 5 feet in parts, and is of good quality to its fullest depth. It consists of a rather heavy sandy loam, which is very suitable for the growing of fruit trees, and imparts to them fine vigour and foliage of a healthy tint.

The trees of hardy kinds form a large stock in standard, bush, dwarf, double or single cordon, and other forms. A speciality is made of cordon trees of Apple, Pear, Plum, and

Nonsuch, Ecklinville Seedling, Cox's Orange Pippin, Allington, and Kerry Pippin Apples as cordons were noted. Fan-trained Apple trees, chiefly desired by Scotch gardeners, were observed in some numbers. Trees with horizontally-trained branches are preferred by the English gardener; but it is not a matter of much consequence in Apples and Pears, although in the case of stone fruits the fan form is the



FIG. 90.—CATASETUM CLESIANUM: FLOWERS GREENISH YELLOW.

Cherry for planting against walls, fences, and buttresses, for which last purpose the double cordon is very suitable. As will be understood, the cordon trees are erect in form, but they are readily bent at any reasonable angle in an oblique or horizontal direction. Excellent examples of Lane's Prince Albert, Peasgood's

only method applicable. The breaks of maiden Pears afforded a perfect picture of uniform growth, the height of the trees averaging 5 feet. Plums have this year made very sturdy shoots, of more than average length.

There were trees of various varieties of Plums as low standards or bushes having stems from

3 to 4 feet high. For this type of tree the demand to-day is a very large one. They are sold under the trade term, "untrimmed." In this nursery the side shoots are not trimmed till the third year from the bud, and then only the lower ones are removed, and the upper left so as to afford strength to the stem. This practice is followed with other fruits, and the result is a stout stem that carries its head without bending under the weight, which it usually does under the "whip stock" style of cutting away earlier all the lateral growths. Nearly 80 varieties of Plums are grown.

Nectarines are worked only on the Brompton Plum stock, and of these a fine lot of dwarf trees were observed. There are this year four acres of trained Plum trees, and among them I noticed the varieties Monarch, Rivers' Late Blue, Denyer's Victoria, Jefferson, Cox's Golden Drop, Greengauge, Red and White Magnum Bonum were largely planted.

Of trained Pear trees there are large numbers, including 2,000 trees of Williams' Bon Chrétien; likewise great quantities of Doyenné du Comice, Louise Bonne of Jersey, Beurré Diel, Pimstap Duchesse, Jargonelle, Marie Louise, &c., all of them being varieties that find a ready sale.

The Cherry makes beautiful growth in this sandy loam, but it is not too rapid, and thus no sign of gumming was apparent in the shoots. There are large breaks of Morello, Belle Magnifique, and Carnation, which possess the Morello character. Some of these trees are trained in the fan form, and the training is so managed that sun and air have access from both sides, consequently perfect ripening of the wood is obtained.

The breaks planted with Peach trees number half a dozen. The trees have stems varying in height from 2 feet to 7 feet. The list of varieties is considerable, and I was informed that Hale's Early, Grosse Mignonne, Sea Eagle, Early Crawford, Thomas Rivers, Late and Early Admirable, Mr. Gladstone, Duchess of York, Peregrine, and Duchess of Cornwall are in greatest demand. Nectarines that are favourites with planters are Pineapple, Elruge, Stanwick, and Dryden. Some breaks of two-year-old Apple trees, worked on the broad-leaved Paradise stock, were noted in fruit, to the number of four to six on each little specimen. The varieties included Peasgood's Nonsuch, Bismarck, James Grieve, a cross between Peasgood's Nonsuch and Cox's Orange Pippin, possessing the flavour of the latter, Cellini, and Worcester Pearmain. Brambles and Bramble hybrids showed healthy growth. They consisted of the Loganberry and the Lowberry, a cross between the common Blackberry and the first-named. It bears capital fruit, which is suitable for dessert, as well as for making jam.

The break of maiden trees of Damsons, such as the Crittenden, Farleigh Prolific, and King of Damsons, leaves little to be desired. Attention must be made of a plantation of standard Apple trees consisting of new varieties, such as Chas. Ross, the fruits of which improve as the tree ages; Allington Pippin, Emmeth's Early (syn. Early Victoria), an Apple from the Fen district which is said to have a future, as being superior to Lord Suffield and bearing transit well. The fruits of Newtown Wonder are as large as those of Bramley's Seedling, and the tree has the advantage of coming earlier into bearing, whilst the fruit is good enough for use as dessert when nearing the end of its season.

A speciality in this nursery are trained Gooseberries, mostly on stems 4 feet in height, useful for growing on warm walls for early ripening and on northerly ones for lengthening the Gooseberry season. The plants are likewise trained on the gridiron pattern. Gooseberries occupy five acres of land.

Of other fruits grown largely I may mention Vines and Figs in pots, the Figs being tall and also short-stemmed, and many of them bearing immature fruit. Golden Privet was observed in great quantity as standards about 4 feet high.

A large stock was seen of *Acer californica aurea*, a beautiful golden-leaved Maple. For effect it is better than *Acer Negundo variegata*. F. M.

CULTURAL NOTES.

WATERING: GOOD METHODS AND BAD.

The summer of 1908 will be remembered by gardeners as one of the most trying in recent years because of the constant need for watering large plants as well as small. In this connection it is interesting to note that there is a fixed theory amongst certain professional gardeners to the effect that if once the watering of border plants is begun, it must be continued practically every day until a really heavy downpour occurs. The gardener who believes in this principle does not put it quite in that way, perhaps, but presumably this is what he means when he says "If you start watering you must keep on," and he argues that if you cannot "keep on," you had much better leave the plants to take their chance of perishing from the drought.

One cannot believe that this argument is entirely sound, although, of course, there is reason in it up to a certain point. But it is only when watering is done improperly or imperfectly that it becomes a daily necessity. Rough and ready watering or, worse still, mere surface sprinkling, is bad, and for good reasons. Flooding the ground roughly by tipping a canful of water out at the roots of a plant, and thereby washing away the soil and exposing the roots, besides creating a hard-washed surface which will cake hard directly it dries again, is certainly bad, since half the water used runs away; while sprinkling simply encourages the plant to form small roots near the surface only to have them dried up again directly the sun absorbs the moisture. Plants watered in either of these haphazard ways cannot flourish and would certainly be better if left alone, but this is not real watering. Watering, if properly done, need not be perpetually repeated, and although it takes much time on each occasion when necessary, its results are lasting and its effect satisfactory to the plant. A plant well watered only once in a long drought must be better than one not watered at all.

Large plants, such as Roses, Dahlias, or ornamental trees and shrubs, are worth extra trouble, and the ground around them should be carefully prepared for watering. A small hoe, gently used, will remove the top inch or two of soil so that the roots are almost exposed; the plant is then thoroughly but gently watered, and the soil drawn back as before after the water has been all absorbed. Smaller plants may be treated in more wholesale fashion with a nozzle of suitable coarseness fixed to the hose or can, and the operation must continue long enough to soak the soil to a depth of some inches. When the surface begins to dry it should be gone over lightly with a Dutch hoe or fork so that the top layer of soil may be rendered friable. A well-worked surface will retain moisture three times as long as one that is caked or lumpy.

If watering be carried out according to either of the foregoing methods there will be no occasion to "keep on," even in the driest weather, for soil thus moistened will remain so for days together. Even better results are obtained by mulching after a good application of water, and subsequent waterings through the mulch will not cake the soil or evaporate quickly. The only disadvantage to mulching is that it is too untidy except in the kitchen garden, as the birds search amongst it for insects in dry weather. The points to bear in mind in applying moisture by artificial means are thoroughness, gentle application, and the prevention of rapid evaporation.

East Sussex.

THE ROSARY.

A ROSE HOUSE.

THE sketch given at fig. 91 shows a section of a most useful and inexpensive span-roofed structure for growing Roses. I have found this type of house to answer admirably, as a portion or even the whole of the roof can be removed entirely during the summer months. Top ventilation can also be given by ventilators regulated by iron rods on either side, opening upwards from the ridge board, and admitting air without creating a draught. The lights, which measure 6 feet by 4 feet, are removable, being held by two screws through each into the purlin and wall plate. The ventilators—4 feet by 3 feet—are hinged on the top of the lights, and open away from the ridge, so that practically the whole roof can be removed by this very simple plan. Front ventilation is secured by movable boards, 9 feet long and 9 inches wide, facing a row of 4-inch hot water pipes. In a house 50 feet long eight posts are required to carry both purlins on either side, and three posts to carry the ridge board, besides the door and end. Up these and along the purlins strong free-blooming Tea and Noisette Roses of climbing sorts can be trained. The front stage can be used for pot plants, or, being removable, it can be dispensed with, and the ground, if desired, be occupied and planted like the rest. The site of the Rose house should run from north to south, and be on well-drained mellow loam, that has been trenched 2 feet deep, and had incorporated with it a good dressing of half-inch bones and well-fermented manure. The digging is best done some weeks in advance of planting, as it allows the ground to settle down. The months of September and October are suitable for this work. In the middle bed I should suggest planting half and quarter standards of sorts given below, and

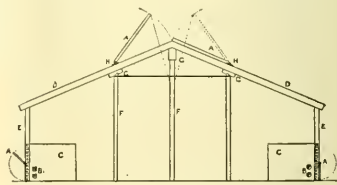


FIG. 91.—A ROSE HOUSE.

A, ventilators, 4 feet x 3 feet; B, hot-water pipes; C, plant stage; D, light, 6 feet x 4 feet; E, sides, 6 feet to eaves; F, standards; G, purlins and ridge board; H, hinge to ventilator.

dwarf plants nearer to the front. Good established Roses in pots for turning out can be procured from most nurserymen, and they can be gently forced the first year, but fresh plants lifted from the ground in October would require to be planted a season to establish themselves in the ground before any attempt is made to force them, so that, in using already established plants, there is a clear gain of a season. For planting out the Hybrid Tea Roses give the best results in freedom and perpetuity of flowering, and any of the following varieties can be selected to answer the purpose:—Lady Battersea, La France, Caroline Testout, Duchess of Albany, Killarney, Mrs. W. J. Grant, Mildred Grant, Perle des Jardins, Niphetos, Safrano, Liberty, Madame Abel Chatenay, and Kaiserin Augusta Victoria. These varieties answer admirably grown either as short standard or dwarf plants. J. D. G.

FLORISTS' FLOWERS.

THE CARNATION AND PICOTEE.

THE month of September is a busy time for the cultivator of the Carnation; it is the month for removing the layers from the parent plants, either for planting out in the open ground or for wintering as pot plants in garden frames. It may be of value at this season to describe the various sections or classes into which the Carnation and Picotee are divided, and also to fully describe their cultural requirements. These charming garden flowers are exceedingly popular, and they are not only

easily cultivated, but are so cheaply purchased that they are within the reach of even the cottager. Those persons who are able to refer to the volumes of the *Gardeners' Chronicle* of 20 years ago will find that as far as border Carnations were concerned the most popular were the florists' types of bizarres and flakes and the white-ground Picotees. The aim of the florists for 100 years and more was to produce perfectly formed flowers, with certain defined colours, and anything outside this standard of excellence was promptly rejected; but it is quite evident that as far as this florists' type is concerned the acme of perfection has already been reached, as during the last half century no real improvement has taken place. The first class of the florists' type is the scarlet bizarre, and the leading point after perfect form of calyx and corolla is a white ground; on this white ground are flakes of scarlet and maroon. The next class is the crimson bizarre, with flakes of crimson and purple on the white ground; there is also the pink bizarre, with pink and purple flakes. Others are known as purple, scarlet, and rose flakes; these contain one of each of these colours in flakes on the white ground.

The white-ground Picotees form a very charming class, and the standard of excellence is well defined. The white ground, as in the Carnation, is a *sine quâ non*. It has taken years of careful selection to obtain the admirable varieties now in cultivation; a true Picotee has a margin of red, purple, rose, or scarlet, of various widths, light, medium, or heavy, but no marks of any colour except on the margin. It requires the production of many hundreds of seedlings to obtain one really perfect white-ground Picotee; but in the process of selection many good self colours are obtained. In crossing two light purple-edged Picotees, the flowers white with a margin of purple, so light as to be scarcely discernible, a fine purple self was raised, and it was put in commerce under the name of Purple Emperor. Self colours are freely produced from the flakes and bizarres, as well as from the white-ground Picotees.

Another class or section is the yellow-ground Picotee. In all respects except colour this class has similar properties to the white-ground Picotees. It is only during recent years that this section has attained to the high standard of excellence of the white grounds. Mr. Martin Smith, Hayes, has produced the best varieties in this class. He made a great advance eight or ten years ago in raising from seed Child Harold; the latest production from Hayes is John Ruskin, a variety with clear yellow ground, perfect in form, and with a margin of red.

The most popular type of border Carnations are the self colours and fancies; they are usually of vigorous growth. The selfs are held in greater estimation than the fancies. A fancy Carnation is not easily described: those with yellow grounds are held in greater estimation than those with white, and it may be stated in brief that any Carnation that does not fit into the above classes is termed a fancy.

The next two sections are practically confined to greenhouse culture. The *Souvenir de la Malmaison* type is well known; the best still are the old blush and pink varieties, but amongst the new varieties there are some of great beauty and value, both for greenhouse and conservatory decoration, as well as for cutting.

The tree or perpetual-flowering Carnations are deservedly popular; these are readily distinguished from the other types by their habit of throwing out growths from the main stem, and their great value consists in producing flowers in winter, if a proper temperature is maintained, but they will not produce good blooms, if any, in an ordinary greenhouse from which frost is merely excluded. It is of great importance in the culture of Carnations that the plants be kept free from insect pests and fungoid diseases. If they are clean at the start their subsequent culture is easy.

Growers are now removing the layers from border Carnations and Picotees, and one moiety is planted out in the open garden, while a number are potted into medium or large 60's, one plant in the smaller and two in the larger pot. First as to planting, for which the ground should be prepared at least six weeks previously. The soil should be deep, not less than 15 inches, and if manure is added it should be placed 6 inches below the surface. The time of planting is not material. Some 25 or 30 years ago the pitmen and mechanics on Tyneside used to produce magnificent blooms of flaked and bizarred Carnations, as well as the white-ground Picotees. The sweepings of Newcastle Cattle Market was considered the best manure, and it was thought the second week in November was the best time to plant out the layers; this may be done any time after the middle of September and on to the middle of November. If there is any reason to fear damp in winter the beds should be raised about 6 inches above the surrounding land, and mortar rubbish is excellent to mix with clay soils. The plants should be set out 15 inches asunder each way. Any plants needing it should have a stick put to them for support, and as a protection from severe frosts in winter a light mulching of manure from a spent hot-bed is excellent. The layers must not be allowed to remain long out of the ground; they should be planted almost at once, covering the stems up to the first pair of leaves. It is well to have some plants of each variety potted up in case of accidents during winter, for hares and rabbits, the leather-coated grub, wireworms, &c., may do mischief; moreover, those who cultivate for exhibition purposes will require a number of the best varieties to be potted now in small flower-pots, to be kept in frames through the winter and reported into their flowering-pots in the following March or April.

The greenhouse and conservatory Carnations—that is the *Malmaison* and perpetual-flowering types—require different treatment to those described. The *Souvenir de la Malmaison* Carnations are propagated either from layers or cuttings. They are layered as soon as the flowering period is over, the earliest in May; and as soon as the shoots are well rooted they are removed from the parent plants and potted into large 60 flower-pots; a succession is obtained by repotting at various times. Two-year-old plants are grown in flower-pots 10 or 11 inches in diameter. The Carnations do best in a minimum temperature of 55°, and will flower in March or April; but for flowering all through the winter the tree Carnations are alone to be depended upon. The earliest slips or cuttings may be taken off and put into a propagating frame in December, and a succession may be propagated until the end of March. These, as soon as rooted, are potted off into small 60's, and they must be grown in a moderately warm house until April; about the end of that month they will do best in ordinary garden frames, and by the end of May they may be put out-of-doors. The main point in their culture is to report them before they become root-bound. The earliest struck slips will be in 7-inch flower-pots by the month of September, and at that time they will produce the finest flowers in an ordinary greenhouse, and will continue so to do well into October. With the advent of November the plants require heat sufficient to bring the night temperature up to 55° and to dispel damp, as much moisture in the atmosphere at that time causes the outer petals to rot. The best potting soil for all Carnations is four parts good fibrous loam, one part decayed stable manure, and one part leaf-mould, with medium-ground oyster shells in lieu of sand, to keep the compost open. As to insect and other pests, red spider attacks the leaves in hot weather, but it can be combated by syringing. Green fly is destroyed by fumigations, and the "rust" which is sometimes troublesome is best treated by cutting off and burning any affected leaves. J. Douglas.

NOTICES OF BOOKS.

* KEW GARDENS.

Kew in its several associations, royal, historical, botanical and horticultural, is a fruitful theme for the able writer. The historical account of Kew to 1841, which appeared in the *Kew Bulletin* in 1891, the jubilee of the establishment as a national institution, is an admirable sifting of the records, local traditions and local histories, showing the origin and development of the Royal Gardens as a place of botanical study. We were promised then, in a subsequent number of the *Bulletin*, the completion of the history up to the present time, and as this can only be given thoroughly by those who have access to the Kew records, it is to be hoped that the present Director will be able to fulfil the promise made by his predecessor, Sir W. T. Thistlethorn-Dyer.

Mr. Hope Moncrieff has dealt with the subject chiefly in its historical associations with royalty, and he has done this exceedingly well. Founded in the sixteenth century, it is supposed by the botanist William Turner, who spoke of his garden at Kew, it continued to be a garden of some repute until Sir Henry Capel acquired it. Evelyn visited him in August, 1678, and again ten years later, and speaks of his beautiful Orangery and Myrtium at Kew. He became Lord Capel, and "his collections may fairly be regarded as the actual starting point in the botanical history of Kew." In 1730, Frederick, Prince of Wales, obtained a long lease of Kew House from the Capel family, and the grounds were laid out under the direction of the celebrated landscape gardener Kent.

After the death of this prince, his widow, the Princess Augusta of Saxe-Gotha, continued to live at Kew, and before her death, in 1772, she gave to Kew Gardens the definitely scientific character they have ever since retained. She was helped by Lord Bute, who appears to have occupied the same position with regard to Kew as that subsequently filled by Sir Joseph Banks. Lord Bute was no doubt responsible for the employment of "Capability" Brown to plan the alterations in the grounds, and also for the selection of John Haverfield, who had charge of the gardens. He it was, no doubt, who engaged in 1759 the young Scotchman William Aiton, one of Philip Miller's Chelsea boys. Aiton's task was to work up a botanic or physic garden, and in doing this he worked himself up also, so that when Haverfield died in 1784 at the ripe age of 90, Aiton took entire charge.

George III., the "Squire of Kew," and his queen Charlotte, appear to have settled down to live the simple life at Kew, farming, gardening and looking after their children. Mr. Hope Moncrieff devotes nearly half of his book to the doings of the Georges at Kew, and it is most entertaining reading. We agree with him that Sir William Chambers did much to disfigure Kew with his "outlandish erections," most of which have long ago disappeared, the pagoda being the most conspicuous of those that remain. William Cobbett and John Rogers were employed as young gardeners under William Aiton, and the celebrated William MacNab was trained at Kew before he was selected, in 1810, as foreman in the Edinburgh Botanic Gardens, where he afterwards became curator. We may note in passing that history has somewhat repeated herself by sending a Kew-trained man to fill Philip Miller's old place in the Chelsea Botanic Garden, and another to that of the curatorship at Edinburgh. The Aitons appear to have shown a strong predilection for Scotchmen; their successors at Kew Gardens were Scotchmen, too.

* *Kew Gardens*, by A. R. Hope Moncrieff, with 21 full-page illustrations in colour, painted by T. Mower Martin, R.C.A. London: A. & C. Black, 1908.

until the record was broken by the appointment, in 1886, of a Yorkshireman. Mr. Hope Moncreiff recognises the great services to Kew of Sir Joseph Banks, "virtually through the greater part of his life Director of the gardens," without salary.

George IV. did not care for Kew, and the second Aiton, being then Director of all the royal parks, allowed the gardens to fall into neglect, though they were still opened to "all well-dressed strangers" on Sundays in summer. At that time Kew had a formidable rival in the Royal Horticultural Society's gardens at Chiswick; Syon Park was also a great garden then. When the late Queen began to reign Kew had fallen so low that it was threatened with extinction, and it is a matter of history that had it not been for the exertions of Dr. Lindley, in 1840, at that time Editor of the *Gardener's Chronicle*, Kew, as a garden, would have ceased to exist. Fortunately for botany, for horticulture, and for the British Empire, "steps were taken and funds provided for bringing the gardens to the present position at once as a popular resort and as a national scientific collection."

always evident in the writings of those who have dealt with matters in which Kew has been concerned. We heartily recommend the book not only to those who want to know about our great national garden, but also to people who find pleasure and profit in good writing.

The 24 full-page coloured illustrations by Mr. T. M. Martin are beautiful little pictures, slightly exaggerated perhaps in colouring, but that is no doubt due to the process of reproduction. They are exquisite in design, and catch the spirit of the view exactly. "Wild Hyacinths," facing page 132, and the "Water-Lily Pond," facing page 64, are almost perfect pictures.

THE CHEDDAR PINK (*DIANTHUS CÆSIUS*).

PINKS, with their carpet-like stretches of foliage, studded in spring and early summer with numerous flowers, may well be termed one of the chief ornaments of the rock-garden. There are many types, from the miniature *D. glaucialis* to the robust and spreading *D.*



[Photograph by W. Irving.]

FIG. 92.—*DIANTHUS CÆSIUS*: THE CHEDDAR PINK.

Sir William Hooker was appointed director, a definite scheme was decided upon, and the State provided the means. Kew is now the envy of nations, whilst its popularity is revealed by the great crowds of visitors to be seen there daily, 50,000 on a Sunday afternoon being quite an ordinary number.

The history and topography of Kew are given by Mr. Hope Moncreiff in delightfully readable style. He does not say much about the inner workings of the establishment, but he says enough to satisfy the layman, and there are other sources of information for the searcher after "specifications." After reading his book, we felt grateful first that we had got out of it a wholesome idea of several eminent persons; secondly, a very good insight into the way that Kew was built, or, should we say, grew; and, thirdly, we were pleased to perceive in the author a right appreciation of the importance and value of Kew, an appreciation not

plumarius. Some are at home on sunny ledges, where their hanging foliage forms a curtain over the face of the rocks; others do well in rocky fissures or cracks of old walls, where they soon form large tufts. One of the most useful and easy of culture is our native Cheddar Pink. In the wild type (see fig. 92) the flowers are rather small, but the plant compensates for this defect by the freedom with which it produces its flowers. Many forms of the species are in cultivation, some having flower-stems 2 to 3 inches high, and bearing large single flowers, while others have branching stems and reach to a height of 6 inches or more. This species hybridises freely with *D. plumarius*, and many intermediate forms between the two exist in gardens, but they are not so neat and carpet-like in growth as in the type of *D. cæsius*. Few plants are so well adapted for planting on old walls or rocky ledges as the one under notice. W. Z.

The Week's Work.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATTICE, The Hendre, Monmouthshire.

The orchard house.—Plum, Apple, Pear, and other fruit trees growing in pots, that cropped early, are in a condition to be repotted. Pot trees require attention at their roots each year, as they soon fill the receptacles with roots that exhaust the soil. Preparatory to carrying out the work, cleanse the trees of any insect pests that may be present. Use clean pots, and put plenty of material for drainage in the bottom; also see that the soil about the roots is moist before the plants are turned out of the pot. As a compost, use rich loam, mixed with a small quantity of finely-broken mortar rubble, wood ashes, and bone-meal. Any trees that require increased root room should be afforded a larger pot; but do not give fully-grown trees extra rooting space. The operation of potting is best performed as follows:—Turn the plant out of the pot, place the ball of soil in a wheelbarrow, so that the stem projects over the wheel side, and, with a pointed stick, pick away the old soil from the ball with as little disturbance to the roots as possible: shorten with a clean cut any strong-growing roots that need it. Pot firmly, using the rammer freely and a piece of thin wood to push the soil down and well into the cavities, so that there may be no bare spaces about the roots. When this is finished, water the plants and place them in a cool, freely-ventilated house, or, if this is not available, they may be stood in the open, selecting a sheltered position for their staging. Stand the plants on a bed of ashes, and cover the pots with short litter. Keep the tree shaded from bright sunshine for a week or two, and syringe them overhead daily. Late-cropping trees, that have developed many vigorous shoots, should be pruned of these latter, for it will not only afford extra nourishment to the buds that are left, but allow extra light to reach the fruits. Ventilate the structure freely, and provide the trees with plenty of moisture at the roots, occasionally giving them a little liquid manure.

Melons.—Plants intended for late cropping should never be allowed to receive a check, and, owing to the altered weather conditions, this is likely to occur with late, more than with early plants. See that the temperature of the Melon pit remains steady, but do not heat the pipes sufficiently to cause a dry atmosphere. It is just as important to guard against an excess of atmospheric moisture, therefore syringing should be done carefully, and on bright days only. When opening the ventilators, particularly on cold and windy days, see that no draughts are set up, and when the sun is declining towards the end of the day, shut up the house entirely. Plants in flower should be afforded a temperature of 65° to 70° at night-time, with the usual increase by day. Pollinate the blossoms, and allow the young fruits to remain for some time after they are set before thinning them, so that no risk of unexpected failure is taken.

Strawberries.—The rains have benefited these plants, and they have made rapid growth. Every means should now be taken to ensure the proper ripening of the crowns. For this purpose, weak side shoots should be removed, and the plant confined to one strong crown. Remove all runners, also any weeds as they appear, and, in order to check the roots from growing through the drainage hole, turn the pots round occasionally. Stimulants, in the shape of weak liquid manure, can still be applied, and on no account allow the roots to become dry.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NEWBURNHOLME, Yorkshire.

Root-pruning and lifting trees.—The time is at hand when these operations must be done, and although it is too early at present to commence the root disturbance, preparations should be made and the necessary loam got ready. Generally speaking, good loam of medium texture is all that is needed, but, according to the nature of the soil, lime rubble, burnt soil, wood ashes, and other material may be added. These are operations that require

care and should never be entrusted to unskilled persons, who may remove too many roots, or otherwise do harm. Young trees grafted on dwarfing stocks rarely require lifting or root-pruning more than once, if the work is done properly. The operations are resorted to more for the purpose of bringing the roots near to the surface than for checking growth altogether. In the case of young pyramid, bush, and other trained trees, lifting is better than root-pruning, as the roots can be easily examined and laid out carefully near to the surface. Large trees should be root-pruned and not lifted, and barren trees especially need root-pruning. If the tree is an old specimen and of no particular value as to variety, it is better to grub it up and plant a new tree in its place. In lifting, commence by taking out a trench at a suitable distance from the stem, varying in depth from 2 to 4 feet, according to the size of the tree. Very large trees may have half their roots lifted one season, and the remaining half the following year. This will not check the trees so much as if the work was done all at once. Sever any deeply-plunging roots, trim the ends of all damaged ones, and shorten others as needed. If the soil is a moderate amount of fresh soil, and if the old staple is very unsuitable, entirely replace it with fresh loam. Place the roots regularly near to the surface, tread the soil about them firmly, and finish the work evenly. Early-fruiting Peach trees are best seen to in October, directly the trees are cleared of their fruit. For stone fruits a little lime rubble should always be added, and in their case it is essential that the soil be trodden firmly.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Souvenir de la Malmaison Carnations.—Shoots that were layered last June are now well rooted, and should be severed from the old plants with a sharp knife. Put them into 3-inch pots, using as a compost good fibrous loam mixed with leaf soil, lime rubble, wood ashes, and sand, but no manure. Use clean pots, and provide plenty of material for drainage purposes. Pot fairly firmly, especially around the collar, and in order that excess of water may not be given fill the pots with soil close up to the rim. Any plants that are leggy or drawn and require a support should be provided with a neat stake. If the plants become loose in the soil they seldom make satisfactory growth. Place the newly-potted plants in an unheated frame, which should be kept closed for a few days, and, if the weather is bright, syringe them once each day. When they have recovered from the check caused by potting, ventilate the frame freely and allow the plants a maximum amount of light, for which purpose they are best stood close up to the glass and facing a south aspect. The bottom of the frame should be provided with a good layer of ashes. They may remain in this structure until frost is apparent, when they must be shifted to warmer quarters. But it must be remembered that in no place do Carnations succeed so well as in cold frames.

Roses in pots intended for early forcing that have had a suitable period of rest should be pruned, repotted, and placed in an unheated frame.

Euphorbia (Poinsettia) pulcherrima.—These plants should now be removed from the heated frame and placed in a structure having an intermediate temperature. Give them a position near to the glass, so that they may enjoy an abundance of light. Afford ventilation freely on bright days, and damp the foliage by means of a syringe each day if weather conditions permit. Maintain a moist atmosphere, and allow plenty of space around each plant, so that they may become sturdy, and not be so likely to shoot up when placed in a warmer temperature. The pots containing Poinsettias soon become filled with roots, and they can assimilate plenty of liquid manure.

Tender plants still in the open should be placed under glass, as frost may occur at any time. See that the floor and other parts of the house are not dry, for plants that have been in the open during the summer months suffer if they are subjected to a dry atmosphere when first brought indoors.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Potatoes.—Main crop varieties promise a heavy yield of tubers, but, unfortunately, the cold, wet weather has favoured the disease which is spreading in some parts, and especially in low-lying districts, where the soil is very heavy and retentive of moisture. The best plan will be to cut off the haulm and burn it before the Potatoes are lifted, but digging should be commenced as soon as possible after this is done, choosing fine weather for the purpose. I know of no better method of storing Potatoes than placing them in clamps. Tubers showing the slightest trace of disease must be rejected, and as the Potatoes are placed in layers a little newly-slaked lime should be dusted over them. As the clamp proceeds place suitable apertures for ventilation at intervals. This will prevent the Potatoes from heating. When they are placed in position a good layer of straw should be used as a covering, and then on top of this sufficient soil to exclude frost. Medium-sized tubers should be selected for next season's planting, and these should be spread out thinly in a shed that is in a dry, airy position, and obtainable from Ireland have again done remarkably well with us, giving far better results than any others. When the digging is completed clear the ground of all diseased tubers, weeds and rubbish, placing these in heaps and burning them at once.

Celery.—The plants in all stages of growth are remarkably healthy and growing vigorously, notwithstanding earlier in the season the foliage was much infested with the Celery fly. Celery will require much attention during the next two months; all unnecessary side growths and damaged leaves must be removed, weeds kept in check, and the plants fed liberally with liquid manure, which should alternate with ordinary waterings, more or less according as to the weather conditions. Frequent dressing of soil and some suitable artificial manure should be given, especially if the weather is showery. It is advisable to employ three persons when digging soil about the stems, one to place the foliage in position, and the others on either side to do the necessary spade work. Avoid adding too much soil to the stems at one time, as when it is placed in small quantities the growth of the plant is better. When specially fine heads are required for exhibition or other purposes, the plants should be done by means of bands of stiff brown paper tied around the stems. In this case also, it is advisable to do the blanching gradually, for which reason the paper should be added about 4 or 6 inches at one time, allowing about 10 days to elapse before another 6 inches is applied. Before commencing to place the band in position, sprinkle a small quantity of fresh soot around the base of each plant.

Beetroot should be examined and roots of a suitable size lifted. It is a mistake to allow this vegetable to remain in the ground after it is large enough for the table; it will keep equally as well whether pulled early or late in the season. Beet may be stored in sand or coal ashes under a north wall. Care should be taken not to damage the ends of the roots; the leaves should be twisted off and not cut.

Turnips.—Thin the plants and hoe the soil in the rows. Lift and store any roots that are of a suitable size. Two or three sowings of this vegetable may still be made.

THE FLOWER GARDEN.

By W. FITE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Flowers for autumn.—The damage caused by recent storms, combined with the natural decay of many of the summer-flowering subjects, gives the flower garden a rather untidy appearance. It is always advisable to include a certain number of autumn-blooming plants, such as *Helenium*, *Liatris*, *Rudbeckia*, *Lobelia cardinalis*, *Veronica Andersonii*, *Solidago tricolor*, *Senecio pulcher*, *S. clivorum*, *S. tanguticus*, *Sedum spectabile*, *Salvia splendens* var. *Zurich*, *S. Pitcheri*, *Chrysanthemums* in variety, hardy *Fuchsias*, including *F. Ricartonii*, and *Montbretias* in variety. These will give a touch of colour in the flower garden when the summer bedding plants are past their season of blooming.

The following plants form an effective combination for an autumn flower-bed:—*Hydrangea paniculata*, *Lilium tigrinum*, *L. Fortunei*, *Ceanothus azureus* (the variety *Gloire de Versailles* being especially fine), and *Lobelia cardinalis*. *Colchicum autumnalis* is very effective when planted amongst grasses such as *Eulalia*, *Gyneryum pumilum*, *G. variegatum*, *Arundo conspicua*, and the finer-growing *Bamboos*, such as *Bambusa gracilis*, *Arundinaria auricoma* (syn. *Bambusa Fortunei*), and its golden variety.

The L. rhacneus border.—The plants need attention, especially in the matter of staking, for the recent winds have displaced many of the shoots, but if these are properly tied and the plants made trim a bright display of flowers may still be expected.

Spring bedding plants.—*Violas*, *Primroses*, *Polyanthus*, *Pansies*, *Aubrietia*, *Arabis*, *Alyssum*, *Daisies*, *Hepaticas*, *Violets*, *Myosotis*, *Silene pendula* and its variety *compacta*, *Honesty*, *Wallflowers*, and other spring-flowering plants are all growing freely. Many of these may be used in conjunction with early-flowering bulbous plants, and this gives a better effect than massing larger quantities of bulbs by themselves. For several years past I have associated bulbs with most of the plants named, and during their season of flowering, which is a long one, they find many admirers. The following varieties of *Tulips* are suitable for the purpose:—*Couleux Cardinal*, *Cottage Maid*, *Grace Darling*, *Prince of Austria*, *Murillo*, *Vermilion Brilliant*, *Proserpine*, *Yellow Prince*, *Prince de Ligne* and *La Candeur*.

Propagation.—The cuttings of *Calceolarias*, *Pentstemons*, *Antirrhinums*, &c., should now be inserted in light sandy soil in a cold frame. Place about 4 inches of soil upon a firm foundation made with ashes, and cover the soil with a thin layer of sand. By this time all cuttings of tender plants used in summer bedding should be inserted.

THE APIARY.

By CHILTONS.

Wintering and autumn feeding.—To have a successful season in 1909 it is necessary that the bees should be well fed during the month of September, and by the end of the first week in October the operation should be completed. Each spring complaints are frequent of stocks dying, and many apiarists are at a loss to understand the cause. When bees have plenty of food they do not go out in search of nectar during the cold and stormy days of early spring. All hives should be completely overhauled in order to ascertain how much food they contain so that those which are short may be replenished. Many beekeepers are of opinion that where bees have 20 lbs. of sealed honey they may safely be left without a further supply, but this depends upon the weather of winter. Should the winter be an open one then the bees are active in the hive and consequently consume more food. To be on the safe side it is always best to leave about 30 lbs. in each hive.

What to avoid when feeding.—At this time of the year bees have little work to do in the fields and are ever ready to rob weaker stocks, and nothing tempts them more than syrup. Always feed bees in the evening, taking the utmost care not to spill the syrup, and close the entrances to prevent more than one bee entering at a time.

To make the syrup.—Take 6 lbs. of cane sugar and boil it for a few minutes in 3 pints of water, adding a little salt. If the feeding on syrup be not completed by the middle of October, then candy must be used.

Making candy.—The easiest way to make soft candy is to take some warm honey and fine sugar and mix them until of the consistency of a stiff dough. If honey be out of the question, then the candy must be made of sugar and water. Take about one quart of boiling water and add 5 lbs. of cane sugar and stir well to prevent burning, draw the saucerpan aside, remove the scum, and return the pan to the fire, allowing the sugar to boil about 15 or 20 minutes. As soon as it candies softly, like butter, it is ready, and should be poured into moulds of paper and then slipped under the quilts.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

APPOINTMENT FOR THE ENSUING WEEK.

SATURDAY, SEPTEMBER 19.—German Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last fifty years at Greenwich—56°.

ACTUAL TEMPERATURES:—LONDON.—Wednesday, September 16 (6 P.M.): Max. 63°; Min. 48°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, September 17 (10 A.M.): Bar. 30.1; Temp. 70°; Weather—Bright sunshine.

PROVINCES.—Wednesday, September 16 (6 P.M.): Max. 61° Ireland S. & W. coasts; Min. 52° Scotland, E.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—Dutch Bulbs, by Protheroe & Morris, at 10.30.

MONDAY—Unreserved sale of 22 Greenhouses, piping, &c.; also stock, at the Nurseries, Church Road, Leyton, by order of Mr. W. Wheeler, by Protheroe & Morris, at 12.

TUESDAY—Unreserved sale of 32,000 Established Orchids, at the Nursery, De Melford Road, Brighthelm, re Camacho & Co., by Protheroe & Morris, at 12.30.

WEDNESDAY—Palms and Plants, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 5.

FRIDAY—Collection of choice Cacti; also Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

A Mountain Alpine Garden.

Amongst the Alpine gardens we have seen on the Continent, the Jardin de Linnaea at Bourg St. Pierre on the Great St. Bernard road in Valais (Switzerland) is one of the prettiest and the most natural; though perhaps a greater number of plants are to be seen at the well-known gardens at Chêne Bourg, near Geneva, which belong to Mons. H. Corveon, who is also the Director of the Jardin Botanique de la Linnaea.

M. Corveon was the President and moving spirit of the Association for the Protection of Plants founded at Geneva in 1883 to struggle against the destruction of the Alpine flora; but this year the association has been amalgamated with the Swiss League for the Protection of Natural Beauty, which corresponds in many respects with our Selborne Society.

In 1894 it became clear that the Jardin d'Acclimation at Geneva could no longer, without further funds, continue to give plants and seeds gratis to other gardens, &c., so M. Corveon took it in his own name and transformed it into a real nursery, and in 1903 he bought land at Chêne and transferred it there; but he still continues to give plants away to botanical gardens and to sell them at reasonable prices to people who want them. The garden is much frequented by the public, for it is open every Thursday afternoon.

The Alpine Garden at Bourg St. Pierre is managed by an International Committee, of which Professor Chodat, of Geneva, is the President. Lord Avebury, the President of the Selborne Society, has always taken a keen interest in it, as also have Dr. Romanes,

and certain other well-known English persons, to several of whom rockeries are dedicated.

Bourg St. Pierre, of which we give a view taken from the Alpine Garden, is a somewhat miserable-looking village about 15 miles on the Great St. Bernard route leading from Martigny in the Rhone Valley to the beautiful city of Aosta in Piedmont, a total distance of 45 miles. But the village contains records of more important days, with which the history of the pass is bound up. The church tower is very ancient, and in the churchyard wall is a Roman milestone of the younger Constantine. The original hospice of the pass was at Bourg St. Pierre as early as the 9th century. Napoleon's visit to the village in May, 1800, on his way over the St. Bernard with 30,000 men is commemorated by the name of the older inn, "Au Déjeuner de Napoleon," the room which he occupied being still shown. But the small new Hôtel du Grand Combin, five minutes beyond the village and immediately below the Linnaea, is a primitive but more pleasantly situated hotel at which to stay.

There is an interesting flora all the way from Martigny to the top of the Great St. Bernard Pass, and in the lower part of the Val d'Entremont above Sembrancher, where the beautiful Val de Bagnes enters the main valley on the east, the botanist will observe many plants usually characteristic of a warm climate, along with sub-Alpine species which have descended from the neighbouring mountains. Thus *Ononis natrix* and *O. rotundifolia*, *Vicia onobrychioides*, *Caulacis grandiflora*, *Euphrasia lutea*, *Campanula bononiensis*, *Bromus squarrosus* and *B. tectorum* may be found with *Scutellaria alpina*, *Sempervivum arachnoideum* and *S. montanum*, *Juniperus Sabina*, *Poa alpina*, &c.

At Sembrancher the celebrated botanist Muriith was born in 1742. He was a Prior of the Great St. Bernard and was the first person to ascend Mount Vêlan, which forms such a beautiful object as seen from the Jardin de Linnaea. Not long ago a variety of *Saxifraga oppositifolia* which grows in the Western Alps and the Pyrenees was named after M. Muriith.

The Grand Combin on the Italian frontier is not visible actually from Bourg St. Pierre, but this superb mountain, one of the highest in the Alps, can be seen from various points of view to the north of the village.

The rocks, though they vary much, both in texture and composition, are chiefly of calcareous nature, and hence are very rich in plants. Granite districts, as is well known, are comparatively poor, the Chamonix Valley being a good example of this. Indeed, the whole massif of Mont Blanc, consisting chiefly of granite, cannot boast of the rich and varied flora of the Zermatt district or of most of the valleys south of the Rhone.

Edelweiss is supposed not to grow at all in the Mont Blanc range, and it certainly prefers limestone or gneiss; but there is a deal of absurd sentiment about this plant, and it is absolutely incorrect to fancy that Edelweiss grows only in difficult places at high elevations. It very often grows in grassy pastures where children could romp, and it is comparatively rare above 8,500 feet. It thrives in a host of localities in dry, broken ground

in warm aspects, but particularly at from 5,500 to 7,000 feet above the sea. Edelweiss is, of course, easily grown in England when propagated from seed.

The Linnaea Garden is situated about 1,694 metres, or approximately 5,550 feet, above the sea, and it occupies a picturesque rocky hillock facing north and immediately overlooking the village. The northern slope is so well screened from the scorching sun by high rocks that Ferns and other shade-loving plants such as *Cortusa Mathioli*, *Saxifraga rotundifolia*, *Achillea macrophylla*, *Eryngium alpinum*, one of the handsomest of Alpine plants, *Actaea spicata*, &c., flourish luxuriantly.

The steep hillside is intersected with small paths, and over 200 Alpine and sub-Alpine plants continue to grow there spontaneously in their natural habitat, while in the cleverly-laid-out rockeries a great many other species of mountain plants are found. A few of these rockeries are devoted to collections of such plants as *Primulas*, *Saxifragas* and *Sempervivums*, the collection of *Primulas* being a particularly fine one. Conspicuous among them at the beginning of July, when the majority had ceased flowering, was *Primula Sikimensis* with its primrose-coloured pendant blossoms, six to eight in a head, and also the far rarer and larger *P. longiflora*, which early in June forms so beautiful an object on the Gletscher Alp above Saas Fée. *P. Sikimensis* is also distinguished by its long, spatulate, serrate leaves, which, however, are not mealy like the stem. It seeds and reproduces itself abundantly at Linnaea.

Many plants of other mountainous countries besides the European Alps are to be found at Bourg St. Pierre. The Pyrenees, Caucasus, Himalaya, Atlas, North America and the Arctic regions are all represented by separate rockeries. Self-sown Poppies (*P. nudicaule*, a native of Siberia and the Arctic regions) in white, yellow and orange, give a blaze of colour to the scene, and the rare *Papaver alpinum* thrives there equally well, but it hybridises freely with *P. nudicaule* and other Alpine species.

Among the Arctic plants noticed were *Epilobium latifolium*, from Labrador, with flowers 2 inches across, *Chrysosplenium campulatum* in great abundance and *Anemone sylvestris* of Siberia, the Caucasus and Central Europe. The beautiful pink *Androsace Chumbyi* from the Himalayas, with its long runners like those of Strawberries, flourishes here, as does another *Primula* (*P. Cashmeriana*) and *Lindelia spectabilis* with its purplish-blue drooping flowers, somewhat resembling a *Cynoglossum*. *Primula cortusoides*, which so well deserves its name, appears from Central Asia.

Saxifraga cochlearis, endemic in the Maritime Alps, grows well at this altitude despite the colder climate, and *S. aizoon rosea* with red stem and calyx but white flowers forms a striking variety of this common but beautiful and very variable *Saxifraga*. The gardener informed us this variety appeared spontaneously and was not the result of artificial cross-fertilisation.

The Pyrenees are well represented with such plants as *Horminum pyrenaicum*,

Saxifraga capitata, *S. longifolia*, *Erinus hirsutus*, *Arenaria purpurascens*, *Reseda glauca*, *Geum pyrenaicum*, *Potentilla alchemilloides*, *Fryngium Bourgatii*, and the tiny *Dianthus brachyanthus* only 2 inches in height.

Saxifraga Campanoli, with its large pure-white flowers, came from the Spanish Sierras, and among the other rare or noteworthy plants observed may be mentioned *Linaria alpina alba*, *Aquilegia Stuartii*, an exquisite hybrid from Edinburgh, mauve outside but with the spurs white inside; the little *Campanula pulla* from the Austrian mountains; *C. Allionii* of the Western Alps; *Potentilla fruticosa*, just as it grows in Teesdale; *Saponaria lutea*, one of the treasures of Mont Cenis and Dauphiné; the orange *Senecio tyrolensis* and bright-red *Hieracium aurantiacum*, which decks several mountain sides between this region and Mont Blanc; *Centaurea axillaris* and the little *Myosotis rupicola*, which is so well known to cultivators of Alpine plants.

Few species are more difficult to grow than the exquisite *Eritrichium nanum*, and although it is established in the garden it was not inclined to blossom this season, and the stems were elongated so that the tufts had lost something of their compact character. *Senecio aurantiacus* is another orange-brown Composite, of which there are several in the Alps, conspicuous by their brilliant colour. It is a good instance of the deepening in colour at high altitudes of a genus of plants, the species of which are almost always characterised by yellow tints in the plains. *Primula* is another genus in which a pale yellow colour predominates in the lowlands, but includes species bearing pink or purple flowers in the high mountains.

Between Bourg St. Pierre and the Great St. Bernard Hospice, at an altitude of only about 6,500 feet, was a specimen of the rare little *Campanula cenisia*, a plant peculiar to a very confined area in Central Europe. The seed had evidently been carried down by the mountain torrent, on the debris of which it was growing, for this plant is rarely seen at a lower elevation than about 8,500 feet and usually it grows at between 8,500 and 9,000 feet. At Linnæa the specimens come from the Valsoray, the beautiful valley leading towards the snow-capped Vêlan, the stream from which falls in a fine cascade visible from the garden, and then thunders down the narrow gorge which separates the garden from the village.

FLORISTS AND THE FACTORY ACT.—Several important concessions have been granted, in the case of florists and some other trades, under the Factory and Workshops Act, 1901. Women and young persons employed in florists' workshops may on a day on which they are employed in the workshop before and after the dinner hour be employed in the business of the workshop, outside the workshop, before or after the period of employment appointed for such persons for that day by the notice affixed in the workshop in pursuance of section 32 of the above Act, for a further period not exceeding two hours which shall not begin before 6 a.m. or end later than 10 p.m. This special exception shall be subject to the following conditions:—(1) To every person employed in pursuance of the special exception an additional interval at least equal to the further period as aforesaid, shall be allowed

during the period of employment, on the same or following day. (2) No person shall be employed continuously whether inside or outside the workshop for more than five hours without an interval of at least half an hour. (3) On each occasion of employment in pursuance of the special exception the following particulars shall be entered forthwith in the general register:—Name of each person so employed. Date, and hours of beginning and ending, of such employment. Date, and hours of beginning and ending, of the additional interval allowed during the period of employment on the same or the following day. Also the period of employment of women may on certain days and subject to

the annual whole holidays or half holidays on different days to any of the women and young persons employed in the factory or workshop or to any sets of those women and young persons, and not on the same days. An exception is also granted permitting women and young persons employed in a florists' workshop to have the times allowed for meals at different hours of the day; and another permits women and young persons during the times allowed for meals in the workshop to be allowed to remain in a room in which a manufacturing process or handicraft is being carried on; subject to the condition that in every workshop the occupier of which avails himself of this exception there shall be affixed a



FIG. 93.—BOURG ST. PIERRE FROM THE JARDIN BOTANIQUE DE LA LINNÆA.

certain conditions be between six o'clock in the morning and eight o'clock in the evening, or between seven o'clock in the morning and nine o'clock in the evening, or between eight o'clock in the morning and ten o'clock in the evening. Provided that it shall be a condition of the employment of any woman in pursuance of this Order that—(1) There shall be in each room in which overtime is being worked at least 400 cubic feet of space for each person employed therein; (2) a woman shall not be employed overtime on any process other than a process named in this Order. A special exception authorises the occupier of florists' workshops to allow all or any of

notice showing the names of the women and young persons employed in the workshop and the times allowed to each of them for meals.

PARKS TO REPLACE FORTIFICATIONS.—Parisians are busying themselves with plans for encircling the city with parks and gardens on the site of the old fortifications and in the near future the manner in which the work is to be accomplished will be decided. The Government has offered the whole of this fortified terrain to the city for a sum of 64 million francs, but the council has declined the offer in the hopes of obtaining the site on more favourable terms.

INTERNATIONAL EXHIBITION OF THE EAST OF FRANCE.—An international exhibition is announced to be held at Nancy from May to October next year, and we have just received the regulations and schedules of the horticultural section. The permanent display will be in the park at Nancy, and consists of 26 classes, including collections of Conifers, trees, shrubs, climbers, aquatic plants, carpet bedding, Roses, and collections of seeds. Provision is also made for exhibits relating to the art of garden design and sundries, including rockeries, kiosques, rustic bridges, &c. Temporary shows, lasting four days, are arranged for novelties, greenhouse plants, outdoor plants, floral art (bouquets, &c.), fruit, and vegetables. These will be held as follows:—June 19 to 23, July 13 to 16, August 21 to 24, and September 25 to 28. All applications should be made to the committee, of which M. GERBEAUX is secretary.

STILL ANOTHER COLOUR CHART.—Quite recently there has been published in France in book form another colour chart, consisting of a portable little volume entitled *Code des Couleurs*. There are about 20 small squares of colours, which are all numbered, but not named either in French or any other language. The publisher announces that, in general use, the colours included in it may be referred to as "C. C. No. —." Some confusion may result with the older work, if the exact title of each is not given when quoting a certain colour. This is all the more necessary seeing that, in the R.H.S. announcement of the *Répertoire des Couleurs*, it is stated to be sufficient if the users will simply quote "Colour Chart, p. —, shade —."

FERRARI.—We are reminded in the visit of Cardinal Ferrari, from Italy, of another Ferrari, who has a place in the annals of horticulture. GIOVANNI BATTISTA FERRARI, a learned Italian Jesuit, who died in 1665, was one of the earliest writers on the Continent to publish a book on flowers. It is a small quarto, written in Latin, the first edition of which, according to PRITZEL, was published in Rome in 1633. Its title is *Flora seu de Florum cultura Lib. IV.*, and a new edition of it appeared in 1664 from the press of J. JANSXONius, of Amsterdam. The plates are numerous and very finely executed, having been drawn on copper by PIETRO DE CORTONE, a celebrated Tuscan painter. There are some elegant plans of flower-gardens in the work, besides examples of floral decorative art in vases. The work contains chapters on the culture of Narcissus, Crocus, Colchicum, Crown Imperial, Tulip, Fritillaria, Iris, Lilies, Orchids, Hyacinth, Cyclamen, Anemone, Ranunculus, Paeonies, Carnations, and Roses.

THE LONDON PARKS.—We are often asked by correspondents the terms of employment in the parks and open spaces under the control of the London County Council. The following particulars are taken from the Council's official *Gazette*:—The under-mentioned are the chief classes of officers and employees in the parks department:—(b) *Boy labourers* (age 14 to 15).—10s. a week for boys under 15, 12s. a week afterwards. Boys, as a rule, are discharged on attaining the age of 16 years. (c) *Improvers* (age 15 to 21).—14s. to 24s. a week. (d) *Watermen*.—6s. a day (the employment is temporary). (e) *Under-keepers, under-gardeners, boatmen, and gymnasium attendants*.—27s. a week. (f) *Gardeners*.—28s., rising to 30s. a week. (g) *Keepers and propagators*.—30s. a week. Vacancies filled by promotion. (h) *Acting keepers*.—28s. a week. Vacancies filled by promotion. (i) *Head keepers*.—37s. to 40s. a week. (j) *Foremen*.—Four classes, initial rate of pay 28s., maximum rate of pay 40s. a week. Vacancies filled by promotion. (k) *Officers-in-charge*.—Four classes, initial rate of pay 27s. a week, maximum rate of pay 40s. a

week. Vacancies filled by promotion. (l) *Park superintendents*.—Four classes, initial salary £100, maximum salary £235 a year. Each park superintendent has a house, with gas and water free. Vacancies filled by promotion. The weekly hours of labour are 48 in winter and 54 in summer. Forms of application for employment as under-gardener or under-keeper may be obtained from the Chief Officer, Parks Department, No. 11, Regent Street, S.W. The age limits are from 25 to 40 in the case of under-gardeners, &c. Vacancies as gardeners are as far as possible filled by promotion, from the ranks of under-gardeners, of such men as pass the examination in practical horticulture held by the Royal Horticultural Society; and in the other ranks by promotion.

WART DISEASE (BLACK SCAB) OF POTATOS.

—The Board of Agriculture and Fisheries has scheduled this disease under the Destructive Insects and Pests Order of 1908. This order requires all occupiers of land on which the disease has appeared to report the fact to the Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. Wart disease has been somewhat prevalent in the Potato crop this year, and cases have been reported from Lancaster, Cheshire, Derbyshire, Leicester, Salop, Stafford, Warwick, Worcester, Merioneth, Glamorgan, and Dumfries. Growers are, therefore, recommended to examine their Potatos carefully, while the crops are being lifted, with the view of detecting this disease, which, if neglected, may do serious injury. When the Potato is only slightly attacked warty excrescences grow out from the eyes; in a bad attack the whole tuber has a distorted, almost sponge-like appearance. A leaflet describing the disease and suggesting preventive measures will be forwarded post free on application to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, S.W.

POTATOS.—The acreage in Great Britain under this crop in 1908 has been estimated at 562,105, as compared with 548,920 in 1907, thus showing an increase of 13,185. Potatoes are amongst the few crops in this country which do not show a decrease in the amount cultivated. In Ireland, however, as we learn from the *Agricultural Statistics*, published by the Department of Agriculture and Technical Instruction for Ireland, the total area of Potatos in 1908 is 587,230 acres as compared with 590,998 acres in 1907, a decrease of 3,768 acres or 0.6 per cent. There is a decrease in Leinster of 2,381 acres, in Munster of 2,313 acres, and in Connaught of 409 acres. In Ulster there is an increase of 1,335 acres. In Leinster the decrease is seen chiefly in Carlow, Kilkenny, King's, Queen's, and Wexford. There is an increase in the area of Potatos in Dublin, Kildare, Louth, and Meath. In Munster there is a decrease in all the counties, but chiefly in Clare, Limerick, and Tipperary. In Ulster the increase is mainly in the counties of Down, Tyrone, and Londonderry. On the other hand, there is a decrease in several Ulster counties, especially in Antrim, Cavan, Donegal, and Monaghan. In Connaught there is an increase in Mayo and Sligo, but a decrease in Galway, Leitrim, and Roscommon.

THE LATE MR. WHITMORE.—It is with much regret that we learn of the death of Mr. C. A. WHITMORE, which occurred on Thursday, September 10. Mr. WHITMORE for many years represented Chelsea in Parliament. He was interested in horticulture, and was an active member of the committee of management of the Chelsea Physic Garden since its reorganisation some years ago.

THE HOP INDUSTRY.—The recent report presented by the Select Committee of the House of Commons appointed to enquire into the past and

present conditions of the Hop industry affords a valuable insight into the nature of the difficulties that altered conditions may introduce into modern life. The report indicates that whilst there has been a fall in the acreage under Hops, the total amount produced has not appreciably fallen off since 1885, owing to the increase in the yield per acre on the land now cultivated for this purpose. Doubtless more can still be done to improve both the quality and quantity of this yield, but the methods of cold storage which are now employed seem likely to check the rise in prices which used to, at any rate, partly make up for a year of short yield. From the growers' point of view, the principal feature of the report will perhaps lie in the statement that the committee are not prepared to recommend the reimposition of an import duty on the foreign Hops, although they think that an indication should be given on the vessel in which the beer is sent out as to whether English or foreign Hops have been used, and they recommend that the Act of 1860, which requires that English Hops shall be marked, shall be extended so as to apply, as far as possible, to imported Hops also.

THE JOURNAL OF THE R.H.S.—The *Journal* of the Royal Horticultural Society for September contains some interesting articles. Amongst them the account of "Gardening in the Western Highlands," by Mr. O. MACKENZIE, will be read with some surprise by those who do not appreciate the wonderful climate (from the horticultural point of view) of the West Coast of Scotland. An article of much value is that by Col. BEDDOME on "Acanthaceae," whilst the report of Mr. E. WHITE's lecture on the "Profession of Landscape Gardening" should give food for reflection to those who have the interests of horticulture at heart. We hope to deal with this subject in our own columns at an early date, for it is one of the points of contact, which are rapidly multiplying, between horticulture and what it is the fashion to call higher education.

HORTICULTURAL DIRECTORY.—We are asked by the editor of the *Horticultural Directory*, 12, Milne Court Chambers, Fleet Street, London, if gardeners will notify him of any changes that have occurred since October, 1907, as regards alteration of title or change of address.

NOTES FROM A "FRENCH" GARDEN.

As work for the following year's crops must now be commenced, this may be termed the new year of the "French" garden. Beds must be prepared for seed sowing, and for pricking of the different sorts of Lettuces, Cauliflowers, and Cabbages, to be grown either on hot-beds, in cold frames, or outside early next spring. In old-established gardens this work is deferred until the last moment, but in new gardens it is preferable to do it as soon as possible. We have sown our Cauliflower seeds very thinly, not more than 500 seeds per light, in a well-prepared bed. Some gardeners sow the seeds thickly and prick out the seedlings when small, transplanting again in November, but there is no advantage in this practice. The seedling Oxheart Cabbages are just appearing through the soil, the dull weather being favourable to their germination.

We are pricking off in well-drained and well-prepared ground the batch of Onions sown on August 15. The seedlings are extremely small and need handling very carefully; they are pricked out 3 inches apart each way, and receive a good watering after the transplanting.

We are planting in their final quarters the Lettuces sown in the first days of August. All decayed leaves are removed, and spotted plants rejected. These Lettuces will be afforded no ventilation unless they grow too fast, which rarely happens. When Lettuces are cultivated on hot-beds in November, they should be pricked

off 30 per cloche, in a well-sheltered place. Neither ventilation nor watering will be required, but should the sun's rays become excessively hot, mats should be spread over the cloches to keep the ground moist. Formerly we used to sow Passion Lettuce in beds in the open on September 10, the seedlings being planted out in their permanent quarters in the middle of October, where they stood throughout the winter. This system has been largely discarded owing to the great losses through the frost and insect pests.

Cauliflowers planted at the end of June, amongst the first batch of Melons, are just maturing their heads. As a rule the earliest inflorescences are the worst; their precocity is generally due to some irregularity, such as a lack of moisture. Another sowing of Lamb's Lettuce can be made now. We are gathering Melons from the last batch of plants planted at the end of June; the fruits are not so large as those grown earlier in the season. This crop is very useful where a long succession of fruits is required, but for commercial purposes they are not very profitable, owing to their lack of sweetness and flavour.

Though the days are getting shorter and the nights cooler, watering must not be discontinued, especially in the case of Cauliflowers, Carrots and Celery, which are quick growers and need plenty of moisture. Now is the best time to paint, glaze, and repair the lights. To keep a light in good order it is necessary to paint the outside every year and the inside every two years. Sixteen-ounce glass is preferable to twenty-one ounce for glazing these lights, as the frames have a slope of 1 inch only. The frames are made to take three lights. The wood

name, as now written, can be traced back by a recognised process of transition to an ancient form, it is unscientific to call in another explanation. Avelana-nut would naturally pass into Walnut, and there is no reason to suppose that the name Avelana was lost. On the contrary, the analogy of Chestnut and Cherry goes to prove that the Roman names of trees imported into Britain were retained. The existence of the local name Welshnut does not, to my mind, invalidate this derivation. The word Avelana would commonly have the plural "s" attached to it, and forms, such as Awlas, Wal(n)s, would arise which would ultimately pass into "Welsh," as being the only current and intelligible word of similar sound. Such modifications are very common; abundant instances are found in English surnames (see *Surnames as a Science*, Ferguson). Safe philological principles must prevail in these enquiries. The derivation of Pansy from *pensee* violates the principle that we must not look on old names with modern eyes. Such a derivation belongs to the sentimental, "language of flowers" point of view, which was foreign to the matter-of-fact, mediaeval Englishman, and probably came in with Italian influence in Tudor times. Pansy, no doubt, is a much older word with a simpler and more material meaning. If its connection with the Banwort is disputed, an alternative and not unreasonable derivation has been proposed from *panaché*, pied or blotched. The old form, *Pawnee*, approaches this more nearly. The history of such names is difficult to trace, because early literature did not commonly, or in any precise way, concern itself with flowers. Therefore, the compilers of even our most erudite standard dictionaries repeat these trite and often false etymologies. G. H. Engleheart.

FLOWER SEEDS.—The uncertain germinating properties of certain seeds referred to by Mr. William Mallett on p. 170, affords an instance of one of those problems in nature, the satisfactory solution of which will never be arrived at. It is the general belief that seeds of Anemone, Hellebore, Primula, Iris, and of plants belonging to the Lily family should be sown as soon as they are ripe, and this has doubtless been followed in many instances with totally different results. I believe the late Professor Michael Foster gave an experience of his in the *Gardener's Chronicle* not long before his death with certain seeds of Iris of his own sowing remaining good and producing plants each year for a period extending to 15 years, and he saw no reason why even that long period could not be extended. In my own experience, I have known seeds of a sowing of Iris to produce plants each year for five years, by which time the whole of the seedlings of light, heat, and moisture can remain dormant and good for 15 years, whilst similar seeds, under the same conditions, germinate within a year of the sowing, we are confronted with a problem. At the same time, I am of opinion, based upon experience, that the seeds of certain plants lose rather than gain in point of time in germination from being sown as soon as they are ripe. Some years ago I took from the opening capsules a large quantity of seeds of *Anthemone* *Lilium* var. *major* and sowed them in several boxes within a few hours. A portion of the same seed was placed in a brown paper bag to await orders, and the season over, the surplus was sown in the usual way. This latter seed, dried and rested for several months, produced plants abundantly in the course of a few weeks from the date of sowing, whilst that sown as soon as ripe remained dormant for upwards of two years, and then the plants appeared as thickly as Mustard and Cress, quite lifting the surface soil that covered them. In this case it would appear that a certain change or development was necessary internally before the seeds were capable of growth, and that such change was more quickly brought about by the dry condition of the seed bag. What is of importance to the gardener and the seedsmen is that they may know to what extent seeds may be kept in the dry state advantageously. Old seeds of the Cyclamen are good as any, and seeds a dozen years old are as full of vitality as the newest. Fresh Primula seed is regarded as essential to success; yet both these plants belong to the same order. Seeds of annuals and biennials usually germinate quickly and in great abundance; whilst seeds of perennials of the same genera

are often slow and erratic in growth, the herbaceous and the annual Phloxes being an example. It is not improbable that, in the case of annuals and biennials, the vitality of their seeds may be influenced, to some extent at least, by the length of the plant's existence. Seeds of Daffodils and Eremuri, if sown two or three months after harvesting, appear with considerable uniformity in the following spring; while year-old seeds of the last-named plants may not appear at all. Daffodil seeds saved four years appear to be as full of vitality as the newest. Many seeds appear to do best when sown in the springtime, and some will refuse to grow if planted two months later. E. H. Jenkins, Hampton Hill.

COLOUR CHART.—As the English "collaborator" of the *Répertoire des Couleurs*, I should like to emphasise the necessity for using the screen or mirette when making comparisons to match colours. It is a simple contrivance, explained on page 33 in the letterpress. Without its use perfect identification is scarcely possible. There is a brilliancy in the colours of this work that makes it peculiarly suitable for florists. C. Harman Payne.

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 15.—The usual fortnightly meeting was held on this date in not very favourable weather. There was a good display of flowers and fruits, a considerable portion of the exhibition consisting of groups of Dahlias and other seasonable hardy flowers, including some very fine Gladioli shown by Messrs. BURRELL & CO., Cambridge. Awards were granted to novelties by all the Committees: the FLORAL COMMITTEE gave one First-Class Certificate and nine Awards of Merit; the ORCHID COMMITTEE conferred one First-Class Certificate and one Award of Merit; whilst the FRUIT & VEGETABLE COMMITTEE gave an Award of Merit to a new variety of Apple. At the afternoon meeting of the Fellows the continuation of the paper by Mr. Thomas Mawson, Hon. A.R.I.B.A., on "The Ethics of Garden Making," was read.

Floral Committee.

Present: W. Marshall, Esq. (in the chair), and Messrs. Henry B. May, J. Binney, Chas. T. Dreary, James Walker, John Green, John Jennings, C. K. Fielder, Chas. Dixon, Arthur Turner, H. J. Jones, Chas. E. Pearson, J. T. Bennett-Poë, Jas. Douglas, E. H. Jenkins, W. J. James, Jas. Hudson, and Walter T. Ware.

Messrs. DOBBIE & CO., Rothesay, arranged at the end of the hall one of the most representative groups of Dahlias we have seen. Cactus varieties largely predominated, and these, displayed in bamboo and other stands, formed quite a feature in themselves. In addition, there were many of the pompon varieties, together with the single "Star" Dahlias, and others of the Peony, single, and decorative classes. The method of arrangement was pleasing, a number of plants of *Kochia* being used for relief to the flowers. (Silver-Gilt Flora Medal.)

Another excellent exhibit of these flowers came from Messrs. CARTER, PAGE & CO., London Wall, the cactus varieties grouped in baskets forming the chief attraction. Some of the more conspicuous varieties were *Gazelle*, *Faunus*, *Mrs. Shoemith* (white), *Caracas* (yellow), *Lydia* (pink), *W. Marshall* (yellow and fawn), and *Daisy Staples* (rose-pink). The same firm exhibited Tufted Pansies. (Silver-Gilt Banksian Medal.)

Another choice exhibit of Dahlias came from Mr. J. T. WEST'S Brentwood Nursery, the group having most of the best kinds in the cactus and pompon varieties. (Silver Flora Medal.)

MESSRS. JAS. CHEAL & SONS, Crawley, showed cactus and single Dahlias in variety. (Silver Banksian Medal.)

Some 14 dozen seeds of Gladioli, shown by Messrs. J. BURRELL & CO., Cambridge, made a particularly good exhibit of these popular flowers, the great vigour of the well-flowered spikes meriting high praise. A large number were of shades of white, pink, and bluish, and the majority were labelled "Seedlings." (Silver Gilt Flora Medal.)

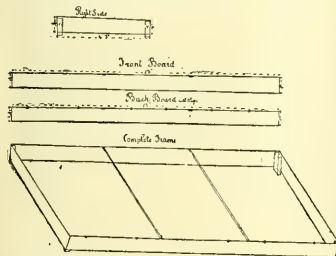


FIG. 94.—FRAME USED IN THE "FRENCH" GARDEN. Dimensions: 13 feet x 4 feet 9 inches; depth in front 13 feet, at back 9 inches.

of which they are made is ordinary deal, 1 inch in thickness, the back board being 9 inches wide and the front board 8 inches. P. Aquilias, Mayland, Essex, September 9, 1908.

FRUIT REGISTER.

APPLE BEN'S RED.

ONE more season's experience with this Apple convinces me of its value as an August dessert variety. It is especially suitable for a small garden, as the trees crop freely when young. In the autumn of 1906 I planted a score or more of trees, quite ill-furnished with branches; in fact, they were maidens of the previous year, and had not been pruned, being about 4 feet high. I merely took the point out of each leading shoot. Last year they did not make much growth, but they are this year giving a full crop of medium-sized, highly-coloured fruits. This Apple ripens before Worcester Pearmain, and has a very pleasing exterior. E. M.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

ETYMOLOGY OF PLANT NAMES.—Mr. Harold Evans's note about the word Walnut (on p. 204) is best answered by the assertion of a principle which, I think, ought to prevail in these enquiries. If a

Messrs. HUGH LOW & Co., Enfield, displayed some fine Carnations, the varieties *Britannia* and *Victory* being very noticeable amongst the blooms of scarlet shades, the pink-flowered varieties being equally well represented by *Enchantress*, *Mrs. Burnett*, and others. (Silver Banksian Medal.)

Messrs. CANNELL & SONS, Swanley, staged well-flowered Begonias, the salmon-pink flowered *Roschbad* being exquisite in the extreme. *Polar Star* (white) and *Mrs. Burden* (deep yellow) were also noted. (Silver Banksian Medal.)

Mr. A. L. GWILLIM, New Eltham, showed blooms of tuberous-rooting Begonias in batches of colours. The shades of pink, salmon, red, scarlet, yellow, &c., seen in the petals were very fine; the blooms, in addition, were large, and represented a choice strain of these excellent bedding and greenhouse plants. (Silver Banksian Medal.)

Messrs. PAUL & SON, Old Nurseries, Chesham, had an interesting collection of choice flowering and fruiting shrubs, in which many good plants were observed. Of the more striking we may mention *Cercidophyllum japonica*, with brilliant red foliage, *Clerodendron dichotomum* (finely in flower), *Rhus typhina laciniata* (a very distinct and graceful novelty), *Spiraea Aitchisonii* (with white terminal sprays of blossoms), and *Eunymus latifolia* (crowded with its scarlet fruits just bursting). (Silver Flora Medal.)

Messrs. PENNELL & SON, Lincoln, brought their new variegated Ivy, *Hedera dentata variegata*, the foliage being pleasingly coloured.

The GUILDFORD HARDY PLANT NURSERY showed a small exhibit of choice plants of a hardy nature.

Mr. AMOS PERRY, Hardy Plant Farm, Enfield, had a showy group of seasonable hardy flowers, in which were noticed masses of *Delphiniums*, *Kniphofias*, *Lilies*, *Pyrethrums* and early-flowering *Michaelmas Daisies*. *Pennisetum japonicum* is a most beautiful hardy perennial grass, possessing the graceful habit of the *Fukula*. (Silver Flora Medal.)

Messrs. LOGGITT & SON brought hardy Ferns in variety; the Misses HOPKINS, Shepperton, staged a small rockwork arranged with Alpine plants. Messrs. R. VEITCH & SONS, Exeter, had some interesting plants, including *Colletia horrida* in full flower, *Dahlia coronata*, the so-called scented *Dahlia* with orange-red flowers on stems that stand well above the foliage, and *Nerine Bowdenii*.

Messrs. G. and A. CLARK, LTD., The Nurseries, Dover, showed a selection of seasonable hardy flowers, amongst which were many *Gladioli*, *Liatis spicata*, *Hunemannia fumariifolia*, with beautiful Poppy-like yellow flowers, *Coreopsis lanceolata*, *Tritomas*, *Zauschneria californica*, &c. (Bronze Flora Medal.)

Messrs. BARK & SONS, King Street, Covent Garden, W.C., showed seasonable hardy flowers, including *Sedum* spectabile in variety, *Bocconia cordata*, *China Asters*, *Liliums*, *Phloxes*, *Gladioli*, *Antirrhinums*, *Salvia splendens* variety *Fire Ball*, *Coreopsis verticillata* and *Zephyranthes*, *Sternbergia lutea*, *Crocuses* and other early-flowering bulbs. (Bronze Flora Medal.)

Messrs. T. S. WARE, LTD., Feltham, had an array of seasonable hardy flowers. (Bronze Flora Medal.)

A similar award was granted to Mr. FRANK BRAZIER, Caterham, for *Phloxes* and early-flowering *Chrysanthemums*.

Messrs. CUTBUSH & SONS, Highgate, London, N., exhibited vases of the winter-flowering Carnation, having excellent blooms of *White Perfection*, *Enchantress*, *Robt. Craig*, and other popular varieties. Adjoining the Carnations was a batch of plants of the red-leaved *Coleus Cordelia*, and in the annexe a selection of named varieties of *Pentstemons*. (Silver Flora Medal.)

Mr. L. R. RUSSELL, Richmond, displayed excellent examples of well-flowered Clematises, the more conspicuous being *Beauty of Worcester* (deep clear blue), *Jackmanii* (snow white), *Ville de Lyon* (burgundy-red or carmine), *Nellie Moser*, and *integrifolia Durandii*, which is best described as dark gentian-blue. It is a very distinct variety. A bordering of variegated *Eunymus* and a background of *Palms* made a capital setting for the flowering plants. (Bronze Flora Medal.)

Messrs. W. WELLS & Co., Merstham, Surrey, showed a very large exhibit of early-flowering

Chrysanthemums in great assortment, also a number of vases of *Pentstemons*. (Silver Banksian Medal.)

Messrs. H. B. MAY & SONS, The Nurseries, Edmonton, showed pot plants of *Zonal Pelargoniums*, also *Heliotropes*, *Bouvardia Humboldtii grandiflora*, *Plumbago capensis*, both white and blue-flowered, and a batch of the finely-coloured *Salvia* *Pride of Zurich*. Ferns were freely interspersed in the group. (Silver Flora Medal.)

Messrs. JAS. VEITCH & SONS, LTD., Chelsea, showed a most interesting collection of hardy fruits and foliage of an ornamental character, many being brilliant in their autumn tinting. There were also many hardy flowering shrubs. Some of the finer were *Vitis Coignetiae*, *V. Henryana*, both brilliantly coloured, *Cornus Mas elagantissima*, *Clerodendron trichotomum*, *Eucymus latifolius*, *Negundo californicum aureum*, *Stephanandra flexuosa*, *Acer palmatum sanguineum* (finely-coloured foliage), *Viburnum rhytidophyllum* in fruit, *Rose hips* in variety, *Pernettyas*, *Ericas*, and *Catalpa bignonioides aurea*. This firm also showed *Eschynanthus grandiflora*, *E. Lobbianus*, *E. pulcher*, *Abutilon*

being tipped with white. These two were shown by Mr. J. T. West, Brentwood, Essex.

Dahlia Adela (Pompon).—This pure white flower is singularly neat and well formed and of an ideal size. From Mr. CHAS. TURNER, Slough.

Dahlia Betty (single).—A rosy-mauve flower, with crimson base. From Messrs. J. CHEAL & SONS, Crawley.

Dahlia Brigadier (Cactus).—The incurving florets are a rich tone of reddish-crimson.

Dahlia Monarch (Cactus).—A very effective flower of a tone of reddish-salmon, with a centre of clear yellow. These were shown by Messrs. J. BURRELL & Co., Cambridge.

Dahlia Snowdon (Cactus).—A pure white variety of much excellence. See fig. 95.

Dahlia Teutonic (Cactus).—The colour approximates to amaranth crimson, with ruby-red shading.

Dahlia Satisfaction (Cactus).—A very pleasing variety, in which the predominant shade is rose; the centre is white. These three were shown by Messrs. JAMES STREDWICK & SON, St. Leonards.



[Photograph by John Gregory.]

FIG. 95.—CACTUS DAHLIA "SNOWDON," REDUCED. (See Awards.)

Golden Fleece, and *Crinum Fothergillii* major. (Silver-gilt Banksian Medal.)

FIRST-CLASS CERTIFICATE.

Populus albus lasiocarpa.—A new Poplar from China, with broadly ovate cordate leaves, having a breadth of about 10 inches and a length of 12 inches as shown in quite small plants. The tree is said to reach a height of 15 or 20 feet, and should, therefore, prove a grand addition to our hardy deciduous trees. The footstalks and the more prominent veins are coloured reddish-scarlet. Exhibited by Messrs. JAMES VEITCH & SONS, LTD., Chelsea.

AWARDS OF MERIT.

Dahlia Flora (Cactus).—A variety coloured yellow and fawn, the tips of the florets being almost white.

Dahlia Nellie Riding (Cactus).—A showy variety of crimson-maroon shade, the florets

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. secretary), Harry J. Veitch, de B. Crawshaw, Sir Jeremiah Colman, H. Little, Stuart Low, K. G. Thwaites, F. J. Hanbury, W. Cobb, A. A. McBean, C. H. Curtis, J. Forster Alcock, Gurney Wilson, W. P. Bound, F. J. Thorne, H. G. Alexander, H. A. Tracy, W. H. White, J. Wilson Potter, and W. Bolton. There were several good groups of Orchids, but the number of plants entered for Awards were fewer in number than usual, and resulted in only one First-Class Certificate and one Award of Merit being given.

Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O., West-birth (gr. Mr. H. G. Alexander), sent three beautiful hybrids, representatives of which had already received Awards. They consisted of *Cypripedium Rossetii* *magnifica* (insigne

Sanderianum x Maudie), a beautiful yellow flower veined with emerald green and with a white tip to the dorsal sepal; Sophro-Lælio-Cattleya medea superba, and Lælio-Cattleya Elva superba, both dark and finely-coloured hybrids.

H. S. GOODSON, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), was awarded a Silver Flora Medal for a group containing a great variety of subjects. Among the rarer specimens were the white and violet-coloured Dendrobium Williamsianum; the crimson-centred Miltonia vexillaria Leopoldi; Cypripedium H. S. Goodson (Swinburnii x T. B. Haywood), a large and finely-shaped flower; C. Fairlawn and C. Olga Bagshaw, both dark and handsome flowers; the singular little white Angraecum distichum; and a selection of Odontoglossums, Cattleyas, Lælio-Cattleyas, &c.

MESSRS. CHARLESWORTH & CO., Heaton, Bradford, secured a Silver Flora Medal for a select group, some of the plants in which were new Lælio-Cattleya flowering for the first time and not yet matured. Among these were several having new tints and combinations of colours. Others noted were Cypripedium Morganiae Langleyense, still one of the finest of all Cypripediums; C. Daisy Barclay, a large white bloom with deep claret-purple markings; C. Io-Charlesworthii (Io-maxima x Charlesworthii) having a deep, rose-netted dorsal sepal; Lælio-Cattleya luminosa and other Lælio-Cattleyas, Cattleya Enid, C. Lord Rothschild var. delicata, C. Alicia (Iris x labiata), C. Harrisoniana alba, C. Gaskelliana alba, various Sophrolabias, Zygopetalum Roebingianum, Z. Burki, and others.

MESSRS. SANDER & SONS, St. Albans, were awarded a Silver Banksian Medal for a group in the centre of which was a plant of the remarkable Cypripedium Eclipse (Stoniei x Calypso, Oakwood variety), the stately flower being perfectly flat, the white dorsal sepal being heavily marked with purple at the back and with dark, purple lines of varying length at the base of the inner surface; the lip and petals are yellowish, tinged and veined with purple. Also a novel example of Vanda corallina (Lb. Digbyana x Schilleriana), with green sepals and petals, the front of the pretty, whitish labellum being striped with rose. Others remarked were Brasso-Lælia Helen var. amabile, a large and quaintly-shaped flower; Brasso-Lælia Doris, Brasso-Cattleya Madame Chas. Maron, Cattleya Davisii, C. Iris inversa, and other hybrids; the species included Cœlogyne Micholitzii, Phalanopsis Esmeralda atrovirens, Cattleya Gaskelliana alba, and Vanda corulea.

MESSRS. MOORE, LTD., Rawdon, Leeds, received a Silver Banksian Medal for a group in which were given examples of Vanda corallina, some very dark-flowered plants of Odontoglossum Harryanum, also Cynoches chlorochilon, various Brasso-Cattleyas, Lælio-Cattleyas, and other hybrids; Trichocentrum albo-purpureum, Cirrhopetalum appendiculatum, and other interesting species.

MESSRS. STANLEY & CO., Southgate, secured a Silver Banksian Medal for a group in which were several plants of Cypripedium A. de Lairesse, a selection of Cattleya Gaskelliana, and other Cattleyas, including the superb white C. Harrisoniana alba, Stanley's variety. (See Awards.)

MESSRS. JAS. CYPHER & SONS, Queen's Road Nurseries, Cheltenham, were awarded a Silver Banksian Medal for an effectively-arranged group of well-flowered Orchids, amongst which were several plants of Oncidium Papilio arranged with Dendrobium, Phalenopsis, Vanda corulea, Cattleya Gaskelliana, C. Pittiana, and other Cattleyas and Lælio-Cattleyas, also Miltonia Bleuana, Cypripedium Maudie, C. Endora, Masdevallia Wallisii stupenda, M. Bocking hybrid, and Zygopetalum rostratum.

MESSRS. HUGH LOW & CO. were awarded a Silver Banksian Medal for a group in which were noticed some rare white and rose-flowered Dendrobium Leeanum, D. sanguinolentum Miltonia Regnellii purpurea, the clear, yellow-coloured Oncidium oblongatum citrinum, Stanhopea oculata, the graceful, white Cœlogyne Veitchii, Vanda Kimballiana, Masdevallia muscosa, M. Peristeria; a selection of varieties of Cattleya Iris, C. Gaskelliana Phyllis, a very pretty and delicately-tinted form; Cypripedium Mrs. F. L. Ames, C. Watsonianum, C. Maudie, &c.

MESSRS. WM. BULL & SONS, Chelsea, again staged a selection of hybrid Cattleyas.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr. Mr. H. J. Chapman), sent Cattleya Angela (intermedia nivalis x labiata Cooksoniae), a very pretty hybrid with well-formed white flowers.

R. G. THWAITES, Esq., Chessington, Christchurch Road, Streatham, showed a selection of Cattleya Adula (bicolor x Hardyana), a strong rival of the favourite C. Iris, and with great variation and beauty in the tinting of the flowers of the different varieties. Also C. Pittiana var. J. M. Black (granulosa Schofieldiana x aurea), and the pure white C. Dusseldorf Undine.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cattleya Harrisoniana alba, Stanley's variety, from Messrs. STANLEY & CO., Southgate.—The finest pure white Cattleya of its class, and when compared with the original form, larger in size and broader in all the segments, a feature being the broad, openly-displayed lip, which has a clear chrome-yellow zone in the centre.

AWARD OF MERIT.

Cattleya Maronii aurea (Velutina x Dowiana aurea), from Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White).—A distinct form much larger than the original, and with broader and flatly-arranged sepals and petals of a clear citron-yellow colour. The broad labellum is marked in the centre with deep, ruby-crimson, changing to reddish-rose towards the margin, the disc being golden-yellow with dark-red markings from the base.

Fruit and Vegetable Committee.

Present: J. Cheal, Esq. (chairman), also Messrs. A. M. Allan, W. Barnes, W. Bates, J. Davis, A. Dean, C. Foster, W. Fyfe, J. Jaques, G. Hey, J. McIndoe, H. Parr, W. Poupard, G. Reynolds, O. Thomas, J. Willard and W. H. Divers.

A small high-coloured Apple, not unlike Worcester Pearmain, but softer in texture, was shown by Mr. A. Weir, Chillery, Exmouth.

Two Melons were tasted by the Committee. One was of medium size, white-fleshed, and not unlike Hero of Lockinge in appearance: it was labelled The Peer; sent by Mr. J. Goatley (gr. to Lady NORTHCLIFFE, Sutton Place, Guildford). The other was much larger, also white-fleshed, and named Barnett Hill Favourite. It was shown by Mr. Michelson (gr. to F. W. COOK, Esq., Womersley, Guildford). The flesh was soft, but highly flavoured, and it was decided to request that the variety may be tried at Wisley next year. A fruiting branch of Vitis Cœngetia was displayed.

Lady NORTHCLIFFE displayed a collection of 23 Melons in three varieties, viz., The Peer, Hero of Lockinge, and Sutton's Al. The fruits generally were of good appearance. (Silver Knightian Medal.)

MESSRS. CARTER, PAGE & CO., London Wall, set up a very handsome and comprehensive collection of 24 named varieties of Tomatos in dishes. Yellow varieties were especially fine; they included Blenheim Orange, Yellow Ponderosa, Golden Perfection, Lemon Blush, and Golden Jubilee having the deepest-coloured fruits of all. Of smaller yellow varieties, Chiswick Peach, Pear-shaped, Plum-shaped, Golden Drop, and Yellow Cherry were excellent. The finest red kinds were Lord Roberts, Masterpiece, Triumph, Dale of York, Debbie's Champion, May's Favourite, Queen Alexandra, and Sunrise. The brick-red forms were Terra Cotta, Ponderosa, and Cooper's Luscious. Of small fruiting reds were seen King Humbert, Red Cherry, Semperfructifera, Nisbett's Victoria, and Burbank's Preserving. (Silver Banksian Medal.)

MESSRS. JAS. VEITCH & SONS, Chelsea, staged a large and representative collection of vegetables, which included white Cabbages, First-crop, Nonpareil, Market Garden, Ellam's Dwarf, and Colewort Drumhead; Savoy, Early Ulm and De Vertus; red Cabbages, Dwarf Red, and Red Dutch; Cauliflower Autumn Giant; Leek, The Lyon; Celery Early Rose and Superb White; also Parsnips, Potatoes, Carrots, Onions, Runner Beans, Tomatoes, Beets, Turnips, Autocrat Peas, and a large number of ornamental Gourds. (Silver Knightian Medal.)

AWARD OF MERIT.

Apple Red Victoria.—The deeply-coloured Apple sent by Mr. G. W. MILLER, Clarkson Nursery, Wisbech, left over for further consideration and comparison from the last meeting, was again presented in some two dozen fruits, also a branch carrying nine fruits, to show its remarkable dropping quality. Most of the specimens were deeply coloured, and of handsome appearance. Though previously thought to resemble Gascoigne's Scarlet Seedling, it has been found to be earlier and to vary in other particulars. It has all the qualities of a fine market variety.

It was definitely announced that the bunches of the fine collection of Grapes now growing at Wisley will be exhibited at the Vincent Square Hall on the 29th inst., the next fortnightly meeting.

ROYAL CALEDONIAN HORTICULTURAL.

SEPTEMBER 9, 10.—The autumn fruit and flower show of this Society, which was held in the Waverley Market, Edinburgh, on these dates, was one of the best which the Society has held, and certainly the best since the great international show of 1905. Although, as compared with the 1907 show, there was a falling off of about 40 in the total number of entries, the quality of the exhibits, generally, was as good. In the fruit classes, especially for Grapes and other hothouse fruits, Pears, Gooseberries, and small fruits generally, there was a deficit; and, notwithstanding an increase of over 100 entries in the Apple classes, there was a shortage in the total entries for fruit of about 100. The exhibits of plants were slightly under last year's numbers, but cut flowers and vegetables were considerably in excess, as were also the entries in the amateur classes.

FRUIT CLASSES.

GRAPES.

The premier prize for fruit was the Scottish Challenge Trophy, offered for Grapes. There were four entries, as compared with eight last year. The trophy, which was presented by Mr. W. H. Massie, Edinburgh, in 1904, and is of the value of 50 guineas, must be won three times (not necessarily in succession) before it becomes the property of the competitor, and up to this show it had been won once by each of the following exhibitors.—Mr. J. H. Goodacre, Elvaston (1904); Mr. J. Beisant, Castle Huntly (1905); Mr. A. Kirk, Norwood (1906); and Mr. T. Lunt, Kirk (1907). Mr. Lunt was a competitor this year, and the contest therefore lay amongst the other three competitors mentioned and a newcomer in the person of Mr. Thomas Ireland, Newstead Abbey Gardens. The 1st prize consists of the Trophy, £15, and a gold badge; the 2nd of £10; the 3rd of £5; and the 4th of £3. The point values were 10 for Muscat of Alexandria, 9 for other Muscats and Black Hamburg, and 8 for all other varieties. Mr. Kirk (gr. to J. THOMSON, Exton, Esq., Newwood, Alton) won with two bunches each of Madresfield Court (7 and 7 points), Muscat of Alexandria (9 and 8 points), Gros Maroc (7 and 6 points), and Directeur Tissarad (6 and 5 points), the total points awarded to him being 57 out of the 70 allowed to the varieties, or 81.4 per cent. of the possible. Mr. GOODACRE was placed 2nd with 55 points out of the 74 allowed for the varieties shown by him, or 74.3 per cent. of the possible. His varieties were Black Hamburg, Muscat of Alexandria, Muscat Hamburg, and Madresfield Court. Mr. BEISANT came 3rd with 52 points out of the 70 allowed; and Mr. IRELAND 4th, with 48 out of 70.

In the class for four bunches of Grapes of distinct varieties, there were nine entries, and the competition was keen. The 1st prize fell to Mr. W. G. Pirie (gr. to C. W. COWAN, Esq., Dvill-housie Castle) (7 points), the 2nd to Mr. J. HIGGATE, Yester Gardens (201 points), and the 3rd to Mr. WM. GALLOWAY, Gosford Gardens (25 points).

For the best two bunches of Muscat of Alexandria, Mr. GALLOWAY was awarded the 1st prize, Mr. H. E. HUGHES, King's Meadows, the 2nd, and Mr. BEISANT the 3rd; and for the two bunches of Black Hamburg, Mr. MILLAR, Cartside, Paisley, was 1st, and Mr. J. MACDONALD, Edinburgh, 2nd.

In the classes for single bunches the leading prize-winners were Messrs. HUGHES, IRELAND,

MCNEILL (Peebles), GORDON (Monreith), HIGGATE, GOODACK, and MATHESON (North Berwick). For the second year in succession there was no entry for American Grapes.

Decorated table of dessert fruit.—The prizes in this class, amounting to £15, are presented by the City of Edinburgh Corporation, but it only drew forth two competitors, Messrs. GOODACK and D. KIDD, Carberry Towers. For adjudicating purposes, this class is divided into two sub-classes, (1) fruit, and (2) decoration, £10 10s. being offered for fruit, and £4 10s. for decoration. Mr. GOODACK was awarded the 1st prize of £5 for fruit, and the 2nd of £1 10s. for decoration; while Mr. KIDD was awarded the 2nd prize for fruit and the 1st for decoration.

The 1st prize for the collection of 12 dishes of fruit was taken by Mr. GOODACK, who was the only competitor; and for a collection of 12 dishes of fruit grown in an orchard house, Mr. GOODACK and Mr. MCKINLAY, West Park, the only competitors, were placed 1st and 2nd respectively. Mr. KIRK was 1st in the class for Pineapples; Mr. W. SCOTT, Drumpark, Dumfries, showed the best green or white-fleshed Melon; and Mr. GOODACK the best scarlet-fleshed Melon; Mr. JAS. DAY, Galloway House, won the premier prize for 12 Figs; Mr. IRELAND excelled in the class for six Peaches; Mr. A. MCKINNON, Clifton Park, was placed 1st for six Nectarines; Mr. B. NESS, Oxfenford, showed the best 12 Appricots; Mr. A. R. SEARLE, Castle Ashby, the best 12 Gage Plums; Mr. MCKINLAY the best 12 yellow Plums; and Mr. H. MACFADYEN, Cuckfield Park, was 1st for 12 red Plums and also for 12 purple Plums.

For a collection of dessert Plums, Mr. SEARLE (gr. to the Marquis of NORTHAMPTON, Castle Ashby) was 1st, followed by Mr. GOODACK. Mr. R. WHITING, Credenhill, was 1st for culinary Apples.

Apples.—In the Apple classes the competition was keen. It was quite evident, however, that in the "open" classes, the Scottish growers had very little chance against the English exhibitors, so far as colour was concerned; but it had also to be noted that, in the class for four dishes of pot or orchard-grown Apples, those shown by Mr. D. NICOLL, Rossie, Forgandenny, were certainly ahead of any others in the show. For the collection of ripe or unripe Apples, in 12 varieties, Mr. WHITING won the 1st prize, Mr. CADDOCK taking the 2nd. In the class for a collection of 12 varieties grown in Scotland, Mr. J. DUFF, Threave House, Castle Douglas, was placed 1st and Mr. J. M. STEWART, Mollance, Castle Douglas, 2nd. For a collection in six varieties, Mr. WHITING won the 1st prize. The best four dishes of pot-grown or orchard-house fruits were shown by Mr. D. NICOLL, Rossie, Mr. GIBSON, Welbeck, being 2nd. Mr. GOODACK won in the class for six dessert Apples, in two varieties. In the 38 single-dish classes for specific varieties the principal prize-takers were:—Messrs. CADDOCK (12 1sts and 6 2nds), LEE (11 1sts and 5 2nds), WHITING (6 1sts and 8 2nds), MCKINLAY, GIBSON, SEARLE, and GRINDROD.

Pears.—For a collection of Pears, in 12 varieties, ripe or unripe, Mr. WHITING was given the 1st prize, Mr. GIBSON winning the 2nd, and Mr. MACFADYEN the 3rd; while for six varieties of Pears grown in Scotland, Mr. GALLOWAY and Mr. R. GREENLAKE, Benthley, Argyleshire, were equal. Mr. GIBSON showed the best four dishes of pot-grown or orchard-house Pears. In the 15 single-dish classes of specific varieties the principal prize-takers were:—Messrs. GIBSON (5 1sts and 2 2nds), GIBSON (7 2nds), HOGG (Luffness), and MACFADYEN.

PLANTS.

An important class was that for a group of miscellaneous plants arranged within a circle 18 feet in diameter on the floor. There were, however, only two entrants, viz. Messrs. DAVIS, Ballathie, Perth, and Mr. KNIGHT, Brayton. Both groups were well arranged, but Mr. KNIGHT exhibited more originality in his design, and his plants were of higher value; but it was somewhat overpowered in effect by Mr. DAVIS's, to which the judges gave the 1st prize. For four stove or greenhouse plants in flower, Mr. MACFADYEN, Lasswade, won the 1st prize, Mr. HUGHES the 2nd; and Mr. G. McKenna, Norton Park, Ratho, the 3rd. For one stove or greenhouse plant in flower, Mr. W. HOGARTH, Peebles, was 1st. The best four Orchids were shown by Mr. SHARP, Freeland.

Ferns.—Mr. A. McMILLAN, Douglas Castle,

won the 1st prize for four exotic Ferns; Mr. L. MOORE, Musselburgh, showed the best Adiantums; while for four British Ferns Mr. W. BRUCE, Murrayfield, was 1st. Mr. J. MCKENZIE, Ratho, won in the class for nine dwarf hardy Ferns; and for six Scolopendriums (not to include more than three Crispsms), Mr. J. TURNBULL was 1st.

Foliage plants.—In the two classes for six foliage plants (excluding Palms) the 1st prize went to Mr. A. McMILLAN, the 2nd to Mr. A. KNIGHT, and the 3rd to Mr. W. P. BELL (Bothwell), respectively, in each class. In the other flowering and foliage plant classes the principal prize-takers were: Messrs. MACMILLAN (Lasswade), BROWN (Dalkeith), KNIGHT, McMILLAN, HUGHES, McKenna and J. FRASER (Inverkeithing).

CUT FLOWERS.

Cut flowers were a feature of the show. In some cases, however, such as in some of the Dahlia classes, the entries were rather meagre. The entries for Sweet Peas, too, have been larger on some occasions, but rarely have better blooms been seen. In both classes for 12 and 6 Gladioli Mr. J. C. FORDY, Warkworth, took 1st honours. For the 12 blooms of double Begonias Mr. T. SIMPSON, East Linton, was awarded the 1st prize; while for the 12 single Begonias Mr. R. BROWN, Dalkeith, was 1st. Mr. W. JENKINS, Cambuslang, took the 1st prize for 12 show or fancy Dahlias; and Mr. R. SUTHERLAND, Kirkintilloch, was 1st for six show or fancy Dahlias, 12 Cactus Dahlia blooms, six bunches of Cactus Dahlias, and six bunches of pom-pom Cactus Dahlias. Mr. J. D. KERR, Duns, won the premier prizes in the classes for nine bunches, the six bunches, and a single bunch of Sweet Peas.

Roses.—The principal Rose prize offered in competition amongst gardeners and amateurs is the Hugh Dickson Memorial. This consists of a silver cup, valued at £15 15s. (to be won three times), and £1 in money. It is offered for 24 Roses in not fewer than 18 varieties. It was won by Mr. A. HUTTON, Usan House, Montrose, Mr. W. FARLANE and Mr. JOHN RUSSELL being 2nd and 3rd respectively. Mr. HUTTON was also 1st for 12 H.T. Roses, and for 12 Tea Roses. Mr. JOHN WOOD, Helensburgh, excelled in the class for six blooms of any variety of crimson Rose. The best vase of Roses was shown by Mr. L. BLACK, and the best six vases of Roses, one variety in each vase, by Mr. FARLANE.

Carnations.—Mr. W. SANDERS, Appleby, and Mr. J. C. WRIGHT, Dunblane, carried off the 1st prize in the two classes for six vases of border Carnations or Picotees respectively. For three vases of tree or perpetual-flowering Carnations there was only one entry: this was from Mr. D. FRASER, Craigmund, and he was awarded the 3rd prize.

Mr. HUGH McCOLL, Linlithgow, carried off 1st prizes for both 12 fancy and 12 show Pansies; and the 1st prize for 12 sprays of Violets fell to Mr. J. JOHNSTON, Law. Mr. W. JENKINS won in the classes for early-flowering Chrysanthemums.

Mr. CHAS. PATTISON, Linwood, Paisley, won the 1st prize for 12 bunches hardy perennials.

In the section open to all exhibitors the classes were restricted to Gladioli, Dahlias, Roses, early-flowering Chrysanthemums, Carnations or Picotees, bouquets, epergnes, &c., and decorated dinner tables.

VEGETABLES.

Never before were finer vegetables exhibited at this show, and the collection staged by Mr. GIBSON, Welbeck, which carried off the 1st prize in the "display" of 18 dishes, left little to be desired, of which the judges' decision to award the Society's Gold Medal along with the prize furnished ample proof. Mr. GIBSON obtained no fewer than 104 points out of 118 allowed for the kinds staged, or 88 per cent. of the possible. Mr. R. STUART, Thirlstone Castle, Lauder, was 2nd with 81 points; and Mr. W. HARPER, Tulliebelton, Perth, was 3rd with 71½ points. For a "display" of vegetables grown in Scotland Mr. GALLOWAY, Gosford, was 1st, Mr. HUGHES, Yeovil, 2nd, and Mr. JESS, Sunnyside, Montrose, 3rd, with 55, 52, and 481 points respectively. The chief prize-winners in the other vegetable classes were Messrs. GIBSON, R. STUART, J. COSSAR (Spot, Dunbar), H. E. HUGHES, and W. HOGARTH.

AMATEURS' CLASSES.

In the amateur section one class of plants which is always well contested is the hardy Ferns, especially the dwarf kinds, and for these Mr. J. JARVIE, Falkirk, and Mr. J. MCKENZIE, Ratho, carried off the 1st prizes. In the other amateur classes the chief prize-takers were:—Plants: R. BROWN, Dalkeith, and W. Y. BRYSON, Edinburgh. Fruit: R. WATSON, R. BINNIE, and A. BRYDON. Vegetables: J. GRAY, Uddingston. Cut Flowers: G. WATSON, Kippen.

Non-Competitive Exhibits.

There were many trade exhibits, and among those to whom Silver-Gilt Medals were awarded were Messrs. R. B. LIND & SONS, LTD., and Messrs. THOS. METHVEN & SONS, Edinburgh, for artistic arrangements of flowering and foliage plants; Messrs. J. FORBES, Hawick, and Messrs. DOBBIE & Co., Rothsay, for collections of florist's flowers, &c.; Messrs. STORRIE & STORRIE, Glencarse, for pot-grown fruits; Messrs. CLIBRANS, Manchester, for a collection of vegetables; Messrs. SUTTON & SONS, Reading, for a collection of vegetables, a group of Gloxinias, Gesneras, &c.; and Messrs. T. S. WARE, LTD., Feltham, for a collection of Begonias.

Silver Medals were awarded to Messrs. WM. CUTBUSH & SONS, Highgate, London, N., for herbaceous and aquatic plants and florist's flowers; to Mr. R. BOLTON, Carnforth, for Sweet Peas; to Messrs. AUSTIN & MACLEAN, Glasgow, for a collection of vegetables; to Messrs. CUNNINGHAM, FRASER & Co., Edinburgh, for herbaceous plants; and to Mr. D. W. THOMSON, Edinburgh, for Apples and Gladioli.

The following received Bronze Medals:—Mr. J. DOWNIE, Edinburgh, for flowering and foliage plants; Mr. I. McDONALD, Crieff, Chrysanthemums, &c.; Messrs. LISTER & SON, Rothsay, for Chrysanthemums, Pansies, and Violets; Messrs. GUNN & SONS, Phloxes, and Messrs. M. CAMPBELL & SON, for Chrysanthemums and Carnations. Amongst other exhibitors were Messrs. A. LISTER & SON, Rothsay, who showed Dahlias; Mr. H. ECKFORD, Wem, Sweet Peas; Mr. J. WILSON, Hereford, who displayed Onions; Messrs. W. WELLS & Co., Merstham, Surrey, Chrysanthemums, &c.; SWANLEY HORTICULTURAL COLLEGE, Apples, Peas, and Plums; and Messrs. MACMILLAN & FULTON, Leicester, Sweet Peas.

AWARDS TO NOVELTIES.

First-Class Certificates were awarded to *Rambler Rose "Christian Curle"*, a sport from "Dorothy Perkins," but several shades lighter in colour, exhibited by Messrs. JAS. COCKER & SONS, Aberdeen; and to *Althamian Daisy "Beauty of Cowslip"*, a double variety, exhibited by Messrs. T. S. WARE, LTD., Feltham.

Awards of Merit were made to *Chrysanthemum "Abercorn Beauty"*, a sport from "Polly," exhibited by Mr. A. BROWN, Abercorn Nursery, Edinburgh; *Chrysanthemum "Rob Roy"*, exhibited by Mr. WM. ROBERTSON, Pilrig House, Edinburgh; *Chrysanthemum "D. W. Thomson"*, exhibited by Mr. A. THOMSON, Dean Gardens, Edinburgh; to *Acahypha Clibranti*, exhibited by Messrs. CLIBRANS, Atrincham; to *Sweet Pea "Rose Sybil"*, exhibited by Mr. MACCOLL, Duns; to new *Croton-leaved Celosia* (for strain) exhibited by Messrs. STORRIE & STORRIE; and to *Dahlia "Sentinel"* (yellow).

THE LONDON DAHLIA UNION.

SEPTEMBER 10, 11.—The annual exhibition of this Society was held on these dates in the Botanic Gardens, Regent's Park. The weather was fine, and the show was a success. The exhibits were accommodated in the large conservatory and corridor, and there were several large displays of Dahlias; also other flowers and a collection of fruit, in addition to those seen in the competitive classes. The Society, in commemoration of their secretary, the late Mr. Richard Dean, award each year two gold medals for the two most meritorious exhibits in a certain section. This year it was offered for the best collection of Pompons, in the professional and amateur classes respectively. There were many new varieties presented for award, and of these no fewer than 19 received the Society's Certificate of Merit. Messrs. DOBBIE & Co. had a bloom of a single Dahlia which is said to exhale a very faint perfume of Violet.

SHOW DAHLIAS.—There were two classes for show Dahlias, and the inclusion of fancy varieties was permitted. The largest class was for 24 blooms of distinct varieties, and this brought forth four exhibits. The 1st prize was won by Mr. S. MORTIMER, Rowledge, Farnham, Surrey, with good blooms of the following: Queen of the Belgians, Glowworm, Joseph B. Service, T. W. Girdlestone (a fine bloom of this beautiful coloured self). Perfection, Claret Cup, Wm. Powell, Willie Garrett, John Walker, Pleasance (an elegant example), Mrs. Langtry, Champion Rollo, George Rawlings, Mrs. Gladstone, Wm. Rawlings, Arthur Rawlings, Tom Jones (cream, with mauve tips), Shirley Hibberd, Mrs. Saunders (yellow, edged with white), Frank Pearce, Nubian, Florence Tranter, and W. H. Williams (a fine bloom). Mr. MORTIMER was easily 1st. He was followed by Mr. CHARLES TURNER, Slough. Although the flowers exhibited by him were not so large as Mr. Mortimer's, they were nicely coloured and well formed, especially good being General Gordon, Arthur Cock, Maud Fellows, T. Standish, Mrs. Glasscock, and T. W. Girdlestone. 3rd, Mr. JOHN WALKER, of Thame.

In the class for 12 blooms were seen also four exhibitors. The 1st prize stand, shown by Mr. J. R. TRAXNER, 5, Hart Street, Henley-on-Thames, contained blooms of moderate quality, including William Powell, William Rawlings, Duchess of York, Rebecca, Florence Tranter, 2nd, Messrs. J. CHEAL & SONS, Crawley, Sussex, their best examples being Blush Gem, Goldsmith, and Maud Fellows. 3rd, Mr. M. V. SEALE, Sevenoaks.

CACTUS DAHLIAS.—The classes for Cactus blooms included some for flowers in vases, others to be shown on the regulation show-boards, and others arranged in bunches. The vase exhibits were perhaps most attractive, and the others, although perhaps the merits of the individual blooms are not seen to such advantage as in the older style of staging. In the class for 12 varieties, staged in bunches of six blooms, some excellent flowers were displayed. The 1st prize was won by Messrs. STREDWICK & SONS, Silverhill Park, St. Leonards, with magnificent varieties very similar to those displayed by this firm in the champion cup class at the National Society's show. We noticed H. Peerman, Snowstorm, Rev. T. W. Jamieson, Evening Star, Dorando, C. E. Wilkins, Mrs. Alfred Dyer, Rev. A. Hall, Satisfaction, Diadem, and J. B. Riding, 2nd, Messrs. J. BURRELL & Co., Cambridge, with very large blooms, though some had dropped when we saw them late in the afternoon. The dark red Burlette was especially good; also Brigadier (another red variety), Crescent, and the Pink Echo. 3rd, Messrs. J. CHEAL & SONS, Crawley.

The 1st prize for the best 24 blooms of Cactus Dahlias, shown on boards, was won by Messrs. J. BURRELL & Co., Cambridge, whose finest examples were those of Nelson, Burlette, Leda, T. A. Havemeyer, Girtan, Brigadier, Carocade, Lustre, and Wm. Marshall. 2nd, Messrs. J. STREDWICK & SONS, Silverhill Park, St. Leonards; their best examples were Wm. Marshall, Clincher, Indomitable, Mrs. Grinstead, and Dr. G. G. Gray. 3rd, Messrs. KEYNES, WILLIAMS & Co., Salisbury. We noticed fine blooms of Great Western and Mrs. Grinstead in the 2nd prize class.

In the smaller class for 12 blooms of Cactus Dahlias, shown on boards, Mr. M. V. SEALE, Sevenoaks, beat three other competitors, including Mr. S. MORTIMER and Messrs. J. CHEAL & SONS, who were 2nd and 3rd respectively. Mr. SEALE's back row contained very fine blooms of Countess Kinnare, Advance, Wm. Marshall, Clincher, Etruria, and Nelson.

BLOOMS ARRANGED IN VASES.—W. Stephens, Esq., Isleworth, presented prizes for three vases of Cactus Dahlias of distinct varieties, shown for the first time in 1907. Six blooms were required in each vase. The winning varieties were Mrs. McMillan (pink, with white centre), Ruby Grinstead (pale rosy-pink), and Wm. Marshall (bronzey-yellow). Exhibited by Mr. C. TURNER.

A prize of a piece of plate was offered by Messrs. R. F. Felton & Sons, Hanover Square, W., for three vases of Cactus Dahlias, each containing nine blooms and arranged with any kind of foliage. Mr. JOHN WALKER secured the 1st prize, being followed closely by Mr. M. V. SEALE. Four growers competed in this class.

There were five exhibits in the class for six blooms of Cactus Dahlias of one variety shown on boards, but as two exhibitors each showed two varieties there were seven exhibits in all. The 1st prize was won by Messrs. KEYNES, WILLIAMS & Co. with Glory of Wilts, a new yellow variety of merit. Mr. MORTIMER took the 2nd prize for the variety Wm. Marshall. **POMPON DAHLIAS.**—The Pompon Dahlias were a feature of the exhibition, so well were they shown. The 1st prize for 12 varieties in bunches of 10 blooms was won by Messrs. J. BURRELL & Co. against five other competitors. As stated, this won the Dean Memorial Medal for the exhibitors. Their varieties were Bacchus, Emily Hopper (pale yellow), Tommy Keith, Midget (pale pink), Ganymede, Nerissa (pink, very neat), Violet, Montague Wooten (red), Donovan (delicately shaded with yellow), Darkest of All (very neat), Kitten Barrett, and Girlie. The 2nd prize was won by Mr. M. V. SEALE, who had well-formed flowers of well-known varieties. 3rd, Mr. CHARLES TURNER, Slough.

SINGLE DAHLIAS.—The single Dahlias appeared to be rather coarse this season, which is due no doubt to the wet weather of the past few weeks. There was one class for these in the open section, the schedule requiring 12 varieties in bunches of six blooms. The 1st prize was won by Messrs. JOSEPH KEAL & SONS, Crawley, with brightly coloured flowers, but rather large. Eclipse, Columbine, Snowdrop, Princess of Wales, Serita, Miss Moreland, and Flora are worthy of special mention. The 2nd prize was won by the Rev. SPENCER PEARCE, Coombe Vicarage, Woodstock; and the 3rd prize by the Rev. A. BRIDGE, North Rectory, Crawley.

A special class was provided for a vase of the large Peony-flowered Dahlias, nine blooms of three varieties with any foliage. Mr. CHAS. TURNER was the only exhibitor, and he was awarded the 1st prize. There was nothing remarkable in this vase save blooms of a very large variety having a yellow ground heavily blotched with red. It is named Geisha.

AMATEURS' CLASSES.
The most important class for Cactus Dahlias was that in which the Hobbies Challenge Cup was offered as the 1st prize, in addition to monetary value. The class evoked a good competition among five exhibitors, the trophy being won by Mr. V. E. PETERS, The Hospice, Bournemouth. He had choice examples of A. Pearman (yellow), Lustre (beautiful red), Wilkins, Ruby Grinstead, Ivern, Rev. A. Bridge, Victorian, Mrs. W. H. Raby, and Wm. Marshall. 2nd, Mr. W. Lockyer (gr. to Rev. G. TRENTYMAN, Greenhill Park, New Barnet). We noticed very choice examples of Wm. Marshall, H. Shoemitch, Mrs. W. Hopkins, and Miss F. M. Stredwick. 3rd, Rev. A. BRIDGE, North Rectory, Crawley. For six varieties of Cactus Dahlias in bunches of three blooms Mr. H. JACKSON, The Lays, Wolm Sands, Beds., was 1st; while for four varieties Rev. A. BRIDGE was successful. This last mentioned proved a very strong class, no fewer than seven persons competing.

Other prize-winners in the amateurs' classes were Mr. W. E. PETERS, Mr. ED. MAWLEY, Rosebank, Berkhamstead; and Mr. JOHN HICKS, Manor Road, Thornton Heath.

AWARDS.

First-Class Certificates were awarded the following new varieties: *Show*: Tom Jones, see p. 206 (MORTIMER); Tasmania, rose-pink (MORTIMER); Cactus: Una, see p. 206 (BURRELL); Indomitable, rose-pink (STREDWICK); Fairy Queen, white (BURRELL); Echo, pink (BURRELL); Mrs. Alfred Dyer, see p. 206 (STREDWICK); Glory of Wilts, deep yellow (KEYNES, WILLIAMS & Co.); Snowdrop, see fig. 95 (STREDWICK); Evening Star, reddish-orange (STREDWICK); Rev. F. W. Jamieson, see p. 206 (STREDWICK); Brigadier, dark red (BURRELL & Co.); *Pompoms*: Amelia, rose-pink (KEYNES, WILLIAMS & Co.); Lufra, dark red (CHAS. TURNER); Adela, see p. 208 (CHAS. TURNER); *Singles*: Winona, reddish-brown (CHEAL); Betty, see p. 206 (CHEAL); and Flora, reddish-orange, with crimson eye (CHEAL); Minima, see p. 206 (BURRELL).

Non-competitive groups of Dahlias were shown by Messrs. DOBBIE & Co., Rothesay (large Gold Medal); HOBBIES, LTD., Dereham,

Norfolk (large Gold Medal); Mr. J. T. WEST, Brentwood (Gold Medal); Messrs. J. BURRELL & Co., Cambridge (Gold Medal); WARNAR & Co. and Dr. G. VAN WAEVER & KRUIFF, Sassenheim, Holland (Silver-Gilt Medal).

Messrs. H. SPOONER & SONS, Hounslow, were awarded a Gold Medal for a collection of hardy fruits.

MARKETS.

COVENT GARDEN, September 16.
Cut Flowers, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, p. dz. bchs.	2	0-30	Lily of the Valley, p. dz. bunches	8	0-10
Bouvardia, per dz.	5	0-60	— extra quality	12	0-10
Calla atropica, p. dozen	2	0-30	Marguerites, per dozen bunches	1	0-20
Carantinas, per dozen blooms			— white and yellow	1	0-26
— best American	1	0-26	Mignonette, per dozen bunches	2	0-30
— various	0	9-12	Odentoglossum crispum, per dozen blooms	2	0-26
— second size	0	9-16	Pelargoniums, show, per doz. bunches	5	0-60
— smaller, per dozen	3	0-60	— Zonal, double scarlet		
Cattleyas, per doz.	8	0-30	— General Jacquinot	0	6-10
Coropsis, p. dz. bchs.	1	0-26	— Kaiserin A. Victoria	1	0-20
Cyrtanthemums, special n	2	0-30	— Niphetos	1	0-26
— smaller, per doz.	5	0-12	— Bridesmaid	1	0-26
— border varieties, p. dz. bunches	5	0-12	— G. Teintout	1	0-26
Cypripediums, per dozen blooms	2	0-26	— General Jacquinot	0	6-10
Dahlias, per dozen	3	0-50	— Niphetos	1	0-20
Eucharis grandiflora, p. doz.	2	0-30	— Bridesmaid	1	0-26
Gaulthias, per doz. bunches	1	0-26	— G. Teintout	1	0-26
Gardenias, per doz.	1	0-20	— General Jacquinot	0	6-10
Gladioli Colvillei, var. dz. bchs.	6	0-90	— Kaiserin A. Victoria	1	0-20
— bronchyleveles, per doz. spikes	1	0-20	— Niphetos	1	0-26
Gypsophila per doz. bunches	2	0-30	— Bridesmaid	1	0-26
— double	3	0-40	— G. Teintout	1	0-26
Lilium auratum, per dozen	2	0-30	— General Jacquinot	0	6-10
— longidorm, per dozen	2	0-30	— Kaiserin A. Victoria	1	0-20
— lancifolium, rubrum and album	1	0-20	— Niphetos	1	0-26
— tigrinum	1	0-20	— Bridesmaid	1	0-26
			— G. Teintout	1	0-26

Cut Foliage, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Adiantum cucunatum, dz. bchs.	4	0-60	Grasses, dz. bchs.	1	0-26
Asparagus plumosus, dozen bunches	3	0-12	Hardy foliage (various), per dozen bunches	2	0-60
— long trails, per dozen	3	0-12	Ivy-leaves, bronze	2	0-26
— medium, per dozen	1	0-20	— long trails, per dozen	1	0-26
— Sprengeri, per dozen	0	9-16	— bundle	0	9-16
Berberis, per doz. bunches	2	0-30	— in 3's, per doz.	1	0-10
Croton leaves, per bunch	1	0-13	Ficus elastica, dz. 8-10-10		
Cycas leaves, each	1	0-20	— repens, per doz.	4	0-50
Ferns, per dozen bunches (English)	2	0-30	— (English) b.	1	0-60
— (French)	1	0-30	— small-leaved	1	0-60
			— French	1	0-16
			Physalis, per doz. bunches	6	0-80
			— on stems, per bunch	3	0-50

Plants in Pots, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, p. dz. dozen	6	0-80	Enunymus, per dz. 10-20-30		
Aralia Brevidifolia, per dozen	4	0-60	— in smalls, per 100	6	0-100
— larger specimen	0	9-12	— in 3's, per doz.	12	0-20
— Moseri	0	6-12	— in 3's, per doz.	12	0-10
Araucaria excelsa, per dozen	12	0-30	Ficus elastica, dz. 8-10-10		
Aspidistras, p. dz. green	15	0-40	— repens, per doz.	4	0-50
— variegated	30	0-40	— (English) b.	1	0-60
Asparagus plumosus, per dozen	0	9-12	— small-leaved	1	0-60
— Sprengeri	0	6-90	— French	1	0-16
— tenuissimus	0	9-12	Physalis, per doz. bunches	6	0-80
— on stems, per doz.	3	0-60	— on stems, per bunch	3	0-50
Campylopus isophylla, blue, per dozen	4	0-60			
— white, per doz.	4	0-60			
Chrysanthemums, best disbudded, per dozen	9	0-12			
— from ground	6	0-80			
Clematis, per doz.	8	0-90			
Coccos Weddelliana, per dozen	10	0-30			
— ana, per dozen	10	0-30			
Coleus, per doz.	3	0-40			
Crotons, per dozen	10	0-30			
Cypripedium alternifolius, dozen	4	0-50			
— axu, per doz.	4	0-50			
Draena, per doz.	8	0-24			
Erica gracilis, per doz.	12	0-15			

Fruit: Average Wholesale Prices.

s.d. s.d.	s.d. s.d.
Apples (English), per bushel ...	Nuts, Brazil, new, per cwt. ...
— Peargood's Nonsuch ... 3-0-6	Walnuts, Green, p. — (English), per bushel ... 1-6-20
— Ecklinville Seedling ... 3-0-6	— (English), per bushel ... 5-0-6
— Lord Derby ... 3-0-6	— Barcelona, bag — Cocoons Suffolk ... 10-1-0
— Lord Suffolk ... 3-0-6	— Cob, p. dz. ... 8-0
— Warner's King per 3 sieve ... 2-9-3	— Nectarines, select'd — best ... 4-0-6
— Yellow Ingestre ... 1-6-26	— seconds ... 1-0-20
— Quarrenden ... 2-6-36	— Oranges, Naples, per case ... 8-0-100
— Beauty of Bath — Worcester ... 1-6-26	— (Jamaica), per case ... 10-12-0
— Pearmain — Do., per box of 2 dozen ... 2-0-26	— Washington Navels (Natal), per case ... 14-10-0
Bananas, bunch: — No. 2 Canary ... 6-0	— (Cape Naart- jes), p. box, 30 ... 1-6-26
— No. 1 ... 6-0-76	Peaches (English), p. dz., selected ... 6-12-0
— Extra ... 6-0-76	— best quality ... 2-0-30
— Giants ... 10-0-10	— second quality ... 1-0-20
— (Claret) ... 5-0-76	— (French), box, Pears (English), sieve ... 2-6-36
— Jamaica ... 5-0-56	— Hesse, bushel ... 2-6-36
— Loose, per doz. ... 0-1-18	— 2 S.S., per box ... 2-6-36
Damsons (Pin), sieve ... 2-0-23	— per barrel ... 23-0-30
Damsons (English), sieve ... 1-9-20	— (French), Wil- liams' Bon ... 6-0-86
Figs (English), — (Guernsey), per dozen ... 0-8-13	— (French), Wil- liams' Bon ... 2-3-80
— (French), box ... 1-3-19	— (French), Duch- esse, crate ... 4-0-80
Grape Fruit, case ... 10-0-60	— (French), Loui- sine, crate ... 4-0-70
Grapes (English), — per lb. ... 0-6-16	Pineapples, each ... 2-0-36
— Muscats (Eng- lish), per lb. ... 1-0-36	Plums (English), — (Lisbon), p. doz. ... 1-6-20
— Madras shield Court ... 1-0-26	— (French), box, Pears (English), sieve ... 2-6-36
— (Lisbon), p. doz. ... 1-6-20	— Hesse, bushel ... 2-6-36
Lemons: — Messina, case ... 7-6-10	— 2 S.S., per box ... 2-6-36
— Naples ... 10-0-10	— per barrel ... 23-0-30
— Lycées, per box ... 1-0-15	— (French), Wil- liams' Bon ... 6-0-86
Melons (English), — (Guernsey) ... 0-6-13	— (French), Wil- liams' Bon ... 2-3-80
— (Guernsey) ... 0-6-13	— (French), Duch- esse, crate ... 4-0-80
— Rock ... 0-6-13	— (French), Loui- sine, crate ... 4-0-70
— Valencia, case ... 4-6-60	Pineapples, each ... 2-0-36
— (American), water, per case (84) ... 16-0-18	Plums (English), — (Lisbon), p. doz. ... 1-6-20
Mangoes, per doz. ... 6-0-90	— (French), box, Pears (English), sieve ... 2-6-36
Nuts, Almonds, per bag ... 45-0	— Hesse, bushel ... 2-6-36

Vegetables: Average Wholesale Prices.

s.d. s.d.	s.d. s.d.
Artichokes (French), per dozen ... 2-0-26	Marrow (English), per tally ... 2-0-30
Beans, Scarlet Run- ners, p. bushel ... 2-0	Mint, per dozen ... 10-16
— Broad, p. bushel ... 1-3-16	— bunches ... 6-0-8
Butter, per bushel ... 1-6-20	Mushrooms, per lb. ... 0-4-06
Cabbages, per tally ... 1-0-16	— broilers ... 0-4-06
— Greens, p. bus. ... 1-0-16	— (French), p. doz. ... 0-6-08
Carrots (English), dozen bunches ... 2-6	— per 3 bushel ... 2-6-30
Cauliflowers, per dozen ... 1-6-20	Mustard and Cress, per dozen bunches ... 1-3
— per tally ... 7-6-10	Onions (Egyptian), per bag ... 6-0
Celery, per roll ... 10-0-10	— picking, per bushel ... 1-6-26
Chow Chow (Ses- bium edule), p. dozen ... 4-0-60	Parsley, 12 bunches per bushel ... 1-6-20
Cucumbers, per dozen ... 1-0-16	Pears (English), — bushel ... 6-0-80
— per flat ... 3-0-36	— bags ... 6-0-80
Endive, per dozen ... 1-0-16	Salsify, per dozen ... 3-6
Horseradish, per dozen ... 10-0-10	— per dozen ... 1-3
Iodine Corn, per dozen ... 1-0-16	Tomatoes (English), per 12 lbs. ... 3-0
Leeks, 12 bundles ... 1-0-16	— yellow ... 1-6-20
Lettuce (English), per dozen ... 0-6-09	— second quality ... 1-6
	— seconds ... 0-9-10
	— French, p. dz. ... 4-0-6

REMARKS.—English Tomatoes are a glut owing to large supplies and a small demand. There is a better demand for cultivated varieties, such as the French Pears, French Peas, and Lord Derby. French Peas are selling well, and prices have advanced for the best fruits of Williams' Bon Chien. French grapes are arriving in large quantities, and are in consequence cheap. Trade generally is quiet. E. H. R., Covent Garden, Wednesday, September 16, 1908.

Potatoes.

s.d. s.d.	s.d. s.d.
Kent ... 3-0-36	Lincolns ... 3-0-36
Snowdrop ... 4-0-46	Sharpe's Express ... 3-6-39
Spur's Express ... 3-9-40	Puritan ... 3-0-36
Epique ... 3-9-36	Evered ... 3-0-36
	Bedfords ... 3-0-36
	Up-to-Date ... 3-0-36
	Puritan ... 3-0-36
	British Queen ... 3-0-36
	Up-to-Date ... 3-0-36
	Blacklands ... 2-9-30

REMARKS.—Both supply and demand are much better, and trade generally shows a great improvement on that of the past few weeks. Edward J. Newborn, Covent Garden and St. Pancras, September 16, 1908.

COVENT GARDEN FLOWER MARKET.

All the ordinary winter plants are now seen, including Ericas, and although there is not a large trade for pot plants the Heaths have sold fairly well. E. hymalis will be seen in the course of a week or so, also E. Caffra, but since the white variety of gracilis has been available E. Caffra is more greatly appreciated. Chrysanthemums have been selling fairly well. The best plants of Lady Fitzgibbon have made from 24s. to 30s. per dozen. Plants taken from the ground and not potted may be purchased for 2s. 6d. to 3s. per dozen. Solanums with ripe berries are seen, but they have little

demand. They are later than usual this season, and will sell better a month later. Good Marguerites in flower are rather scarce. Fuchsias are now of uncertain quality. Plants of Campanula, which are very well flowered; the white variety principally is seen.

Foliage plants are well supplied, especially Ferns. The best plants of Aralia, Moseri are worth 6s. per dozen in 4 inch pots. Ficus elastica is very cheap. Hardy shrubs, climbers, &c., for autumn planting are now procurable.

CUT FLOWERS.

Chrysanthemums are the leading feature amongst cut flowers. The best white blooms have been selling fairly well at about 2s. 6d. to 3s. per dozen, but small flowers make very low prices. China Asters are prominent, the varieties Comet, Ostich Plum, and Queen of the Market being most appreciated. Liliums are more plentiful, but prices for best samples have not fallen much. Roses vary little; best quality blooms are not always to be had, but there are large supplies of ordinary quality. Carnations are well supplied, including good blooms grown under glass. Eucharis, Gardenia, Tulip, and White Lapaena can be had in plenty. A. H., Covent Garden, Wednesday, September 16, 1908.

ENQUIRY.

Can any reader inform me of the best method of preserving Walnuts during the winter months? E. G. R.

ANSWERS TO CORRESPONDENTS.

ANCHUSA ITALICA: D. C. The Dropmore variety does not revert to the type, but, unless liberally fed, old plants deteriorate, so that to ensure large spikes of flowers, it is advisable to replace old specimens with young plants about every third year. If the young plants are to occupy the same position you should enrich the soil before planting, or, better still, replace it with fresh loam from another part of the border. A sunny position should be selected. A stock of plants may be obtained from seeds, which germinate readily; or, as you suggest, by taking root-cuttings.

APPLE GRAVENSTEIN: Dr. B. We have a very high opinion of this variety as a dessert Apple, although the flesh is hard and rather acid. It is in excellent condition for eating at this season. The reason that it is not more cultivated is that, although an old variety, it is not generally known. Until such time as Apples are exhibited for flavour and not for appearance, this variety will not be greatly in evidence. Good as it is, it is not suitable as a market variety, because the demand is for varieties of showy appearance, such as Worcester Pearmain.

BOOK OF WATER GARDENING: G. M. R. The work is published by A. T. De La Mare Printing and Publishing Co., New York.

COLLECTION OF FRUIT: Exhibitor. According to the Code of Rules for Judging drawn up by the Royal Horticultural Society, the words kind and variety are used in the following sense, viz., Peaches, Nectarines, Apples, Plums, &c., for exhibition purposes, distinct kinds of fruit; Peas, Cabbages, Kales, Savoy, Brussels Sprouts, Carrots, Broad Beans, and Kidney Beans, are distinct kinds of vegetables; Roses, Chrysanthemums, Phloxes, are distinct kinds of flowers; Royal George, Noblesse, Alexander, are distinct varieties of Peaches. As a general rule, for the purpose of exhibiting, all natural genera are kinds, and all variations within a genus are varieties. Peaches and Nectarines, and the Cabbage tribe are notable exceptions to this; Black and White Grapes are also for exhibition allowed as distinct kinds of fruit.

EDELWEISS FROM SEED: G. H. F. Edelweiss is perfectly easy to grow from seed in this country. If you sow in a box or in a cold frame in ordinary good soil germination takes place readily. Plant out in soil to which old mortar or other calcareous matter has been added. Although a perennial, the plants lose their beauty in most gardens after a year or two.

PERNS: A. G. S. It is against our practice to recommend individual firms.

GLOXINIAS AT WARSAW HOUSE GARDENS: E. L. We are informed that the Gloxinias which formed the subject of the Supplementary Illustration in our issue of August 1 belong to the strain known as Sutton's Erect.

GRAPES: H. C. Your Grapes were so badly packed that they arrived in a condition of pulp, and the letter was rendered illegible.

MARKET WEIGHTS AND MEASURES: R. S. The following weights are recognised in Covent Garden market.—Apples, "bushel" = 42 lb.; "pot" = 63 lb.; "case" = 40 lb.; "barrel" = 140 lb. Peas, "case" = 20 lb. Beet, "pot" = 70 lb. Brussels Sprouts, "pot" = 40 lb.; "hamper" = 60 lb. Onions, "Dutch bags" = 110 lb., taken as 1 cwt.; "Valencia case" = 120 lb. Spinach, "bushel" = 24 lb. Turnips, "pot" = 60 lb. Potatoes, "load" = 252 lb. a "bag" of foreign Potatoes = 1 cwt.

MATERIALS FOR THE "FRENCH" GARDEN: J. J. E. Glass cloches and handlights are supplied by Messrs. Boulton & Paul, Ltd., Norwich. You can also obtain them from Mr. Auguste Danré, 29, Rue Victor Hugo, Algerville, Seine, France. This firm also supplies lights, mats, clips, iron bars for frames, and all tools required. When ordering clothes from France, ask for "Cloches Maraisières," to be delivered in crates (re-usable), to hold from 200 to 300 cloches. This large package will save breakages, as the crates have to be lifted by machinery and are not bundled about by hand. Allowance for breakages is 9 per cent.

MELONS FAILING: H. W. See reply to A. H. in the last issue, p. 208.—T. K. D. There is no fungus disease, but the leaves are swarming with the debris of insects. Sprinkle the plants with tobacco water.

NAMES OF FRUITS: H. C. Golden Knob.—R. Butterworth. You did not number your specimens: the coloured Apple is Red Astrachan, the Russet Golden Knob.—E. S. 1. King of the Pippins; 2. Cox's Orange Pippin; 3. Duchess of Oldenburg; 4. Anna Elizabeth; 5. Wealthy; 6. Lord's Suffolk; 7. D. C. W. You send twelve varieties instead of six; 1. Norfolk Dumpy; 2. Radford Beauty; 3. Grenadier; 4. Warner's King; 5. Colonel Vaughan; 6. Emperor Alexander; 7. Sturmer Pippin; 8. Braddick's Nonpareil; 9. Cox's Orange Pippin; 10. Worcester Pearmain; 11. Irish Peach; 12. Clapp's Favourite.—F. Carr. The Red Plum was smashed, it is probably Pond's seedling; 2. Diamond.—A. C. E. 1. Knight's Monarch; 2. Camille; 3. Court Penda Flat.—Punch. Bush Plum.—Lanchry. 1. Smashed; 2. Coe's Golden Drop; 3. Goliath.—Pownall. 1. Diamond; 2. Emerald Drop; 3. Damas de Septembre; 4. Prince Englebert; 5. Reine Claude de Bavy; 6. Dalrymple Damson.

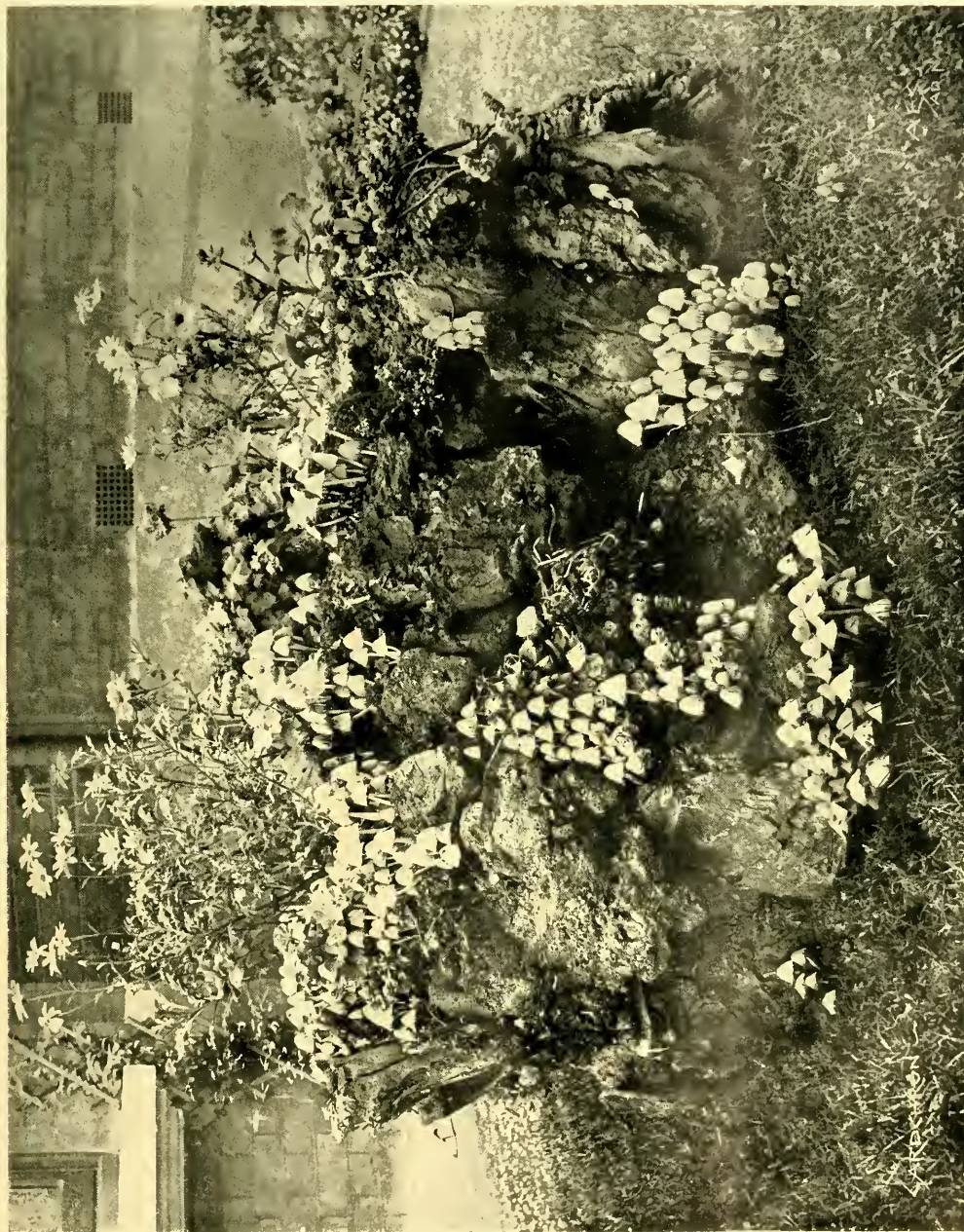
NAMES OF PLANTS: Constant Subieter. Cattleya Warszewiczii, commonly known in gardens as Cattleya gigas.—Foreman. Dendrobium moniliforme; 2. Eria amica; 3. Dendrobium Parishii; 4. Adiantum caudatum.—Chase. 1. Mimulus cardinalis; 2. Amaryllis Belladonna; 3. Polygonum Brunonis; 4. Acanthus spinosissimus; 5. Abelia repens; 6. Viburnum Opulus. E. S. 1. Erythraea; 2. Phyllaea decora (syn. P. Vilmorena); 3. Olearia Haastii; 4. Thymus occidentalis var. ericoides; 5. Juniperus chinensis aurea; 6. Raphiolepis japonica.—G. W. R. Populus nigra.

TOMATOS DISEASED: W. B. Most probably your Tomatos are attacked by the Potato disease, but it is not fully developed. It is unwise to plant Tomatos near to Potatos. Burn all the diseased plants at once.

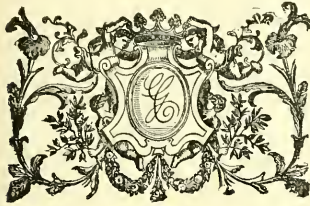
TO PROPAGATE ERICAS AND MENZIESIAS: C. E. Ericas can be readily propagated by cuttings of the current season's growth dibbled into pots containing peaty soil and made very firm. The pots should first be half filled with broken potsherds and covered with a bell-glass or hand-light placed in a cool frame.

On sunny days tiffany or any similar material should be laid over the frame to prevent the cuttings from flagging or wilting by reason of the sunshine. Every morning the moisture that has collected on the inside of the glasses should be removed with a sponge or cloth. Cuttings may be inserted at the present time. Menziesias are best raised from seeds sown in light peaty soil in shallow boxes or pans, in a gentle heat in spring.

COMMUNICATIONS RECEIVED.—R. D. L. B.—F. C.—M. W.—D. R.—A. W.—A. E.—L. D.—F. M.—F. M.—H. B.—F. L.—W. D. B.—R. H.—W. F. K.—D. R. W.—P. D. O.—W. F. & Co.—Rev. H. A. N.—T. J.—A. J. B.—M. D.—W. D.—R. D.—R. P.—U.—H. W.—D. R.—S. & Co.—T. C.—G. T.—C. G.—T. C.—G. A.—E. S.—F. M.—Equiper—J. R.—J. C.—J. D.—G.—J.—W.—W. C.—F. H.—J.—H.—E. B.



COPRINUS MICACEUS, A FUNGUS GROWING ON AN OLD TREE STUMP.



THE Gardeners' Chronicle

No. 1,135.—SATURDAY, September 26, 1908.

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GATTON PARK, REIGATE.

(See figs. 96, 97 and 100, also Supplementary Illustration.)

THE beautiful Surrey residence of Sir Jeremiah Colman, Bart., with its gardens and pleasure grounds are well known, at least by repute, to most of our readers, and in all its history it is doubtful whether it was ever more interesting or more beautiful than at the present time. Gatton stands in one of the most beautiful spots in the South of England, and certainly no place near London can lay claim to more beautiful natural features than are seen about Reigate and the neighbourhood. The gardens of Gatton are full of horticultural treasures, though, probably, the palm must be given to the magnificent collection of Orchids which the glass-houses contain. The gardener, Mr. W. P. Bound, is a well-known orchidist, and his cultural skill has been exemplified on many occasions in the beautiful groups which he has staged at Vincent Square and elsewhere. As was announced in the issue for September 5 last, Mr. Bound is just on the point of leaving

Gatton to embark in a business career for himself, having taken a nursery and seedsmen's business in the neighbourhood.

Gatton Park has several dominating features. The extensive grass lands with pasture of a beautiful verdure are studded with noble trees commanding the undulations of the park, that is singularly fine and full of artistic beauty. The view of the landscape from the front of the mansion is as broad and

sense of wonder and evokes the highest admiration.

Notwithstanding the calcareous nature of the soil, with a subsoil of pure chalk, coniferous plants succeed well in these grounds, especially beautiful being the rich gold shoots of Cupressus Lawsoniana aurea and the blue tints of Abies pungenis glauca and A. nobilis glauca. Retinospora orientalis is another handsome tree that lends its beauty to



[Photograph by H. N. King.]

FIG. 96.—A PATH WITH ARCHWAY IN THE GROUNDS OF GATTON PARK, THE RESIDENCE OF SIR JEREMIAH COLMAN, BART.

extensive as it is beautiful. Embowered in a grove of lofty trees as though protecting it from harm or decay, there stands on columns, without sides and with roof only, what in ancient days was the Town Hall of Gatton Borough.

The celebrated marble hall, which forms the entrance hall of the mansion, is, however, the chief architectural glory of the place. This apartment has no rival in the kingdom, and, when entered, it creates a

place, and of equal grandeur is Cedrus atlantica. The enumeration of other beautiful trees of this class could be continued almost indefinitely, for their numbers and variety are very extensive. Near to the lakes of which there are three, for Gatton is well furnished with water scenery, the Golden Willow (Salix alba vitellina) and the Weeping Willow from St. Helena form beautiful features. There are, of course, many shrubberies, mostly planted for colour

effect. The purple-leaved *Prunus* (*P. Pissardii*) is planted in masses, affording colouring to the surroundings and bringing into relief the golden colour of the variegated Privet, which is planted round about them. Elsewhere is seen a big mass of *Ceanothus Gloire de Versailles* and another of *Ceanothus Ceres*. *Spartium junceum* is pegged down to form a carpet for fine plants of *Spiræa Lindleyana*, the edging about them being formed of *Hypericum* (*St. John's Wort*). These are but examples of the many beautiful colour effects produced by hardy shrubs, for, with the exception of a couple of very large vases filled with scarlet-coloured *Pelargoniums*, no flower gardening is practised in the pleasure grounds. But along the sunken margin of the lawn in front of the mansion are a series of massive vases planted with the pink-flowered ivy-leaved *Pelargonium Madame Crousse*. Standing near these flower-vases one can enjoy a glorious range of pastoral scenery of exceeding beauty. In

rambling up poles or forming festoons from the supports. In another direction a rock-garden has been formed for the purpose of masking the kitchen garden from the glass-houses. On the stones of this rockery a perfect carpeting of close dense greenery is afforded by *Herniaria glabra*, and about the rockery *Fuchsias* and other plants thrive admirably, especially noticeable being specimens of *Potentilla Miss Willmott*, with its single cup-shaped flowers of rich deep rosy-red colour; also *Origanum Dictamnus*. A picture of this rockery forms the top portion of our Supplementary Illustration, the bottom of the picture representing the Iris garden, the path through the centre being carpeted with *Daisies* and *Myosotis*. This garden also contains fine clumps of *Eufalia japonica* and *Bamboos*; the stately *Galtonia candicans* (*syn. Hyacinthus candicans*) blooms in profusion. On the opposite side of this Iris garden is another of a more uncommon character with a carpet of Alpine and bulbous

santheums was noticed, ready to be accommodated a little later on in the glasshouses, for *Chrysanthemums* with *Zonal Pelargoniums* are much employed for brightening the conservatories and glasshouses in winter. Hardy fruits are very abundant, especially plentiful being Apples. Several hundreds of fruit trees have been planted in grass orchards, and the young trees are carefully trained and attended to, so that the fruits were of exceptional quality, those of Cox's Orange Pippin glowing with bright red colour. A very prolific fruiter at Gatton is Bramley's Seedling, the orchard trees of this variety having a wonderful crop. In the kitchen garden the Apple trees have given splendid crops of fine fruit. Pears are also plentiful, especially on cordon trees against walls. Vegetables are also well cultivated at Gatton. The Gladstone Pea is a favourite for late cropping. There are broad quarters planted with Dwarf Gem Brussels Sprouts, and in the whole of the plants I did not notice a single "rogue." Long rows of Standard Bearer Celery were noticed without seeing any trace of maggot spot. Best of All Runner Bean crops heavily in these gardens, and I also noticed Beet in variety, Parsnip, Carrots, Little Gem Cabbage (the only variety cultivated at Gatton), Cauliflowers, and many others, all exhibiting skill and care in their culture. A. D.

NEW OR NOTEWORTHY PLANTS.

NIGELLA INTEGRIFOLIA, REGEL.

(*SYN. N. DIVERSIFOLIA*, FRANCHET.)

This pretty annual was first described by Regel (*Bull. Soc. Nat. Mosc.*, vol. xliii, i., p. 246) in 1870, and again by Franchet (*Ann. Sc. Nat.*, série 6, vol. xv., p. 220, t. 10) in 1883, he having overlooked Regel's description. Both had received specimens of the plant from Turkestan. The late Dr. J. E. T. Aitchison, who was attached to the Afghan Delimitation Commission, rediscovered it in the Hari-Rud Valley in 1885, and it is included in the enumeration of his collections (*Trans. Linn. Soc.*, 2nd series, Bot., vol. iii., p. 30, t. 2), where it is suggested that *N. diversifolia* and *N. integrifolia* are the same species. When, or by whom, it was first brought under cultivation, I have not been able to ascertain, but it has been in cultivation at Kew ever since 1894. It was received there from different sources, under the different names, from which we may infer that it was probably originally distributed from both St. Petersburg and Paris. At all events, both botanists describe the seeds.

It is noteworthy that the cultivated plant is quite different in habit from all the wild specimens at Kew, which are similar to those figured in the *Transactions of the Linnean Society*. That is to say, they are erect and stiff, ranging from 2 to 15 inches high, with few branches, or even unbranched and bearing a solitary terminal flower; whereas the cultivated plants are much branched and the branches flexible, sinuous and trailing or procumbent. As seen thus, *Nigella integrifolia* might be mistaken for a *Campanula*; the blue, bell-shaped flowers completing the illusion. But on closer examination the floral structure is found to be quite different. The upper two or three leaves, divided into very narrow segments, and inserted nearly close together, form a false involucre to the separate



[Photograph by H. N. King.]

FIG. 97.—STONE SEAT IN THE GARDENS AT GATTON PARK.

the foreground is seen a large sheet of water, a delightful and bright feature, having as a background a belt of noble trees. Three triangular beds are planted with *Fuchsia Riccartonii* which bloom profusely in their season. The landscape is dotted with Cedars of Lebanon, Yews, and Hollies, one of the last-named plants being of perfect pyramidal shape, 60 feet in height, and almost covered with its scarlet berries, forming a most elegant specimen. Mr. Bound directed my attention to a fernery which is carpeted with the *Woodruff*, *Asperula odorata*, while the lesser *Periwinkle*, *Vinca minor*, has been introduced with great success as a margin to the adjacent shrubbery. In fig. 97 is seen a beautifully carved stone seat, from which extensive views of the landscape are obtained.

The principal path through the kitchen garden is flanked on either side by herbaceous borders, which were gay with flowers set off by a background of many beautiful climbers,

plants growing at the foot of flowering shrubs and stately *Bamboos*. Although bush *Roses* succeed somewhat indifferently in this chalky soil, the climbing varieties grow in profusion. In one part numerous old evergreen shrubs have been cut down to within a few feet of the ground, and climbing *Roses* of the *Wichuraiana* section planted about them. With these are intermingled *Penzance Briars* and *Rosa rugosa*, the whole quarter having a semi-wild aspect, but quite in harmony with the surroundings.

The extensive range of glasshouses is filled with a variety of plants, of which the chief are the beautiful *Orchids* already alluded to. Fruits are also cultivated in the hothouses, *Grapes*, *Peaches*, *Melons*, and other kinds being grown with great success. There is also a house devoted to a collection of *Nepenthes*, and these plants are crowded with the elegant pitchers, of which there are many hundreds. A large collection of *Chry-*

flowers. Within this comes the calyx, consisting of five separate sepals, constituting the conspicuous part of the flower. The sepals are so close together and so placed as to suggest union. The parts of the flower commonly described as petals and sometimes as nectaries, are honey-bearing organs, of which in this species there are usually eight. They are narrow, notched at the tip, shorter than the sepals, and bear a gland on the inside near the base. The stamens number about 20, and there are three carpels.

The illustration was prepared from specimens kindly supplied by Mr. W. E. Gumbleton. *W. Botting Hemslley.*

PLANT NOTE.

GLORIOSA SUPERBA.

THIS is a rare plant in this country, and but few gardeners succeed in its cultivation; and in the florists' shops it is rarely observed. Yet it is a highly decorative subject, either as a plant or as a cut flower. The flower has a certain resemblance to a Japanese Lily, with small petals turning backwards, which at the first are yellow and change to a scarlet colour. The plant is of scandent habit, the growths dying down in the autumn. It is grown from seed in the U.S.A., where the flowers are much appreciated; the seedlings produce flowers when two years old. The best month to start the tubers into growth is February; the course of treatment being the same as that usually afforded the tubers of Caladiums. The plant requires a high degree of warmth and full exposure to sunlight, and it grows best when planted in a bed of soil, although it will grow satisfactorily in a large pot or tub. The growths may be trained on wires fixed to the rafters of the stove, or on a slight trellis of wire. Some well-developed flowers were observed in Mr. Reuthe's exhibit at the Royal Horticultural Society's meeting on the 4th inst. *F. M.*

CULTURAL NOTE.

TROPEOLUM TRICOLORUM.

Now is the time to pot this handsome little creeping plant, which was introduced to our gardens in 1826 from Valparaiso. The tubers, which range from the size of walnuts downwards, require to be planted in a mixture of peat and loam with a moderate proportion of sand. Place four or five of the tubers in a 5-inch pot; this may seem a small receptacle, but I have found them better than the larger sizes. The shoots are trained against a trellis, which is kept in position by placing the 5-inch pot into one with a diameter of 7 or 8 inches, and the space between is filled with moss. The plant grows best in a temperate house, exposed to full sunshine and where plenty of fresh air is admitted. When potting place the tubers on a thin layer of sand and cover them with an inch of the compost. Apply water carefully, and arrange the trellis in position as soon as the growths appear. I have found the shoots readily emit roots and form little tubers if they are layered serpentine fashion in a pan. Towards their flowering season they are much benefited by a weak solution of Clay's manure applied twice weekly. *H. W., Tolvean.*

NEW MONTBRETIAS (TRITONIAS).

THE Montbretia has always been prized as a garden plant, being valuable alike for its decorative beauty and elegant grace when seen in beds or borders in the open ground, and for its charm as a cut flower in vases or epergnes. In the garden the colour range embraced by even the older varieties seems to be endowed with a special fitness for late summer and autumn decoration, when the varying shades of red and flame-orange or crimsoned

the drooping tendency of the blossoms, the more erect carriage of the flower-spikes, and the nearly complete reflex of the flower. It is in the case of such a variety as Prometheus that the greatest advance is seen, and the influence of this variety promises in the near future to give rise to still better varieties.

For this splendid new race of plants we are indebted to Mr. George Davison, who has charge of the estate and gardens of Major Petre, Westwick, Norwich. For fourteen years Mr. Davison has been steadily working to improve this

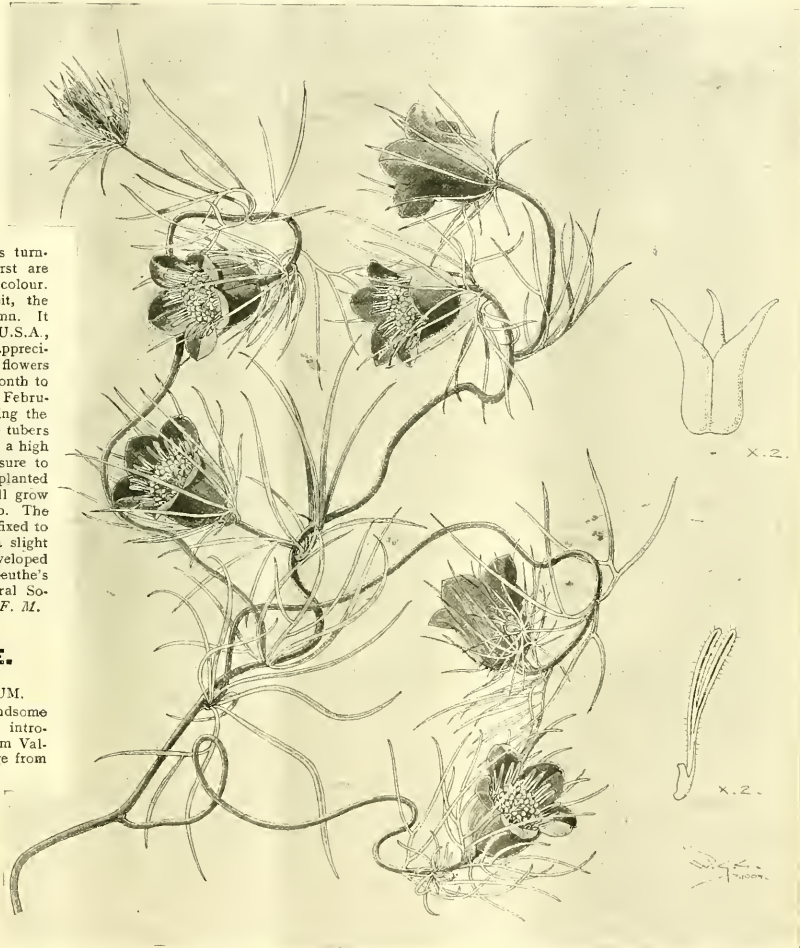


FIG. 93.—*NIGELLA INTEGRIFOLIA* (REGEL), WITH DIAGRAMMATIC FIGURES OF A PETAL OR NECTARY AND THE PISTIL, ENLARGED: FLOWERS BLUE.

flowers appear to be in such perfect harmony with the rapidly maturing foliage around.

The new or improved race of these plants is new in the sense that the small-hooded or tubular-shaped blossoms of the older varieties are now superseded and replaced by spreading blossoms of larger size, and sometimes recurving at the tips of the petals. Their improvement is not merely in stature, vigour, and greater freedom of flowering, but best of all, perhaps, from the garden point of view, by the elimination of

flower, and, as frequently happens when the available material is limited at the start, not much progress was made for some years. By raising seedlings each year and by subsequent selection and cross-breeding the most striking and beautiful varieties of the present race have been evolved. Having been interested in these plants from the first, I was the more anxious to see them in their growing quarters at home, and therefore availed myself of a recent opportunity to visit Westwick, where I was more than ever

impressed by their value and importance. Indeed, it is only possible to judge of the merits of these plants by seeing them in the garden, as the exhibition tent rather detracts from, than enhances, their beauty. The varieties which appealed to one most strongly are those like *Prometheus*, *Westwick*, and *Norvic*, all of which are characterised by dark-coloured stems and leaves, coppery-coloured calyces, and brilliantly-coloured buds. It is the same varieties, too, which arrest attention at a glance, and long before the flower expands there is a richness and intensity of colour that is quite unknown in the older varieties. At *Westwick* the plants are seen in thousands.

The first variety that displayed a marked improvement over all others raised at *Westwick* up to that time was *George Davison*, the stems of which are nearly 4 feet high, the widely-expanded flowers being 3 inches across and coloured a pale orange-yellow, deeper in tone externally. This variety is the first to bloom: it received an Award of Merit from the R.H.S. in 1902. *Prometheus* is regarded by Mr. Davison as the forerunner of the present race. Following close upon this one came *Ernest Davison*, the result of crossing *Germania* and *George Davison*. The flowers of this variety are large and almost flat, coloured a deep orange, flushed and suffused with reddish-carmine.

Prometheus is the giant of the whole race, the plant being of remarkable stature and attaining to 4½ feet high. The blossoms are 4 to 5 inches across, widely expanded, coloured a flame-orange tone and marked by crimson spots at the base of each segment internally. It is a superb variety in every respect, and one that will hold its own for years to come. *Westwick* is in many ways a notable variety, and a conspicuous one withal. The colour is orange-red; the clear golden centre is of large size and surmounted by crimson, rendering it distinct from all others. *Norvic*, a sturdy-growing plant less than 2 feet high, is one of the most valuable of recent novelties. The plant is somewhat late in flowering and remains in bloom till the arrival of frost. This variety expands its flowers on the main stems and laterals simultaneously, and thus furnishes a wealth of colour. The flowers are yellow stained with red. *Norvic* is a most valuable variety for bedding purposes. *Lady Hamilton* is another beautiful kind, tall and graceful in habit, profuse in flowering, and with moderately large *Watsonia*-shaped flowers of a clear golden yellow colour with apricot. *King Edmund* is a variety of rare vigour and attains to a height of fully 4 feet. The widely-expanding flowers are of golden yellow colour, and marked externally with crimson at the base of the segments. *Lord Nelson* is a tall-growing variety with fan-shaped inflorescence and dark purple stems that are very conspicuous even in a large gathering of these plants. It is the deepest in colour of all known *Montbretias*. The flowers are widely expanded and are coloured deep orange-scarlet. Hereward may be best described as a late-flowering *George Davison*, and therefore a great gain. The colour is a clear golden orange, and reddish on the outside. This variety has the flowers arranged around the spike and is seen to advantage from any point of view; the recurring petals also render it quite distinct. It is a pleasing and graceful variety of great freedom in flowering. One of the best of the yellow-flowered green-stemmed varieties is *St. Botolph*. The plant is about 4 feet high, has much-branched stems, and produces large quantities of blossoms. These are the most important of this fine race at the present time, but there are many seedlings of promise.

The cultivation of the *Montbretias* as carried out at *Westwick* is simple in the extreme. The

plants are allowed to remain in the open till cut down by frost, when they are lifted and transferred to frames, pits, or sheds for the winter, to be replanted early in April of the ensuing year. The lifting is by no means essential, as the *Montbretia* is hardy, but the vigour and freedom from disease as seen in the plants in these gardens afford the best proof that the treatment is right. Moreover, it does away entirely with overcrowding, which, as evidenced by the dense and poorly-flowered tufts so often seen in gardens, is perhaps the chief hindrance to a more complete success. E. H. Jenkins.

ORCHID NOTES AND GLEANINGS.

EPIDENDRUM LAMBEAUNUM DE WILD.

Our illustration (fig. 99) represents a portion of the plant of this pretty species, for which Sir Trevor Lawrence, Bart., K.C.V.O. (gr. Mr. W. H. White), was awarded a Botanical Certificate at the meeting of the Royal Horticultural Society on August 18.



FIG. 99.—EPIDENDRUM LAMBEAUNUM: SEPALS AND PETALS WHITISH, LIP CLARET COLOUR.

The species was described by Mons. De Wilde-man from a specimen which flowered with Mons. Lambeau, of Brussels, the plant having been imported with *Cattleya labiata*. It was figured later in *Dict. Icon. des Orchidées*, *Epidendrum* pl. 24. The plant is evergreen, of tufted habit, and belongs to the section *Nanodes*. The sepals and petals are whitish, the lip being claret colour with a lighter margin.

The plant calls to mind very forcibly the species which has been grown in gardens as *E. Mathewii*, for which Sir Trevor Lawrence gained a Botanical Certificate at the Royal Horticultural Society on August 10, 1897, but whether that is identical with the *Epidendrum Mathewii* of Rehb. f. in *Linnaea* (1877) cannot well be determined. Presumably *E. Mathewii* of gardens comes from Peru, and consequently from a district widely separated from that whence *E. Lambeauanum* was obtained.

Epidendrum Lambeauanum is a very pretty and free-growing plant if grown in a basket or pan, suspended near to the glass of the roof, a position best suited to all Orchids of dwarf stature. It should be placed in a *Cattleya* or intermediate house.

THE ORCHIDS OF GRENADA, WEST INDIES.

BELOW are enumerated the Orchids which have so far been recorded as belonging to the flora of Grenada. There are five more species known to me that are not included, viz., one *Vanilla* sp., one *Ionopsis* sp., one *Stelis* sp. (?), and two *Spiranthes* sp. (?), but they are at present of doubtful determination. The identifications have been kindly made by the Kew authorities, also by Professor J. Urban, and Mr. Oakes Ames. Two of the enumerated plants I have not met with, viz., *Eleocharis lepidus* Rehb. f. and *Xylobium* (*Maxillaria pallidiflora* Hort.). These, according to the *Kew Bulletin* of 1892, p. 188, were collected by Mr. R. V. Sherring, F.Z.S. The list comprises 50 species, of which few are valuable for horticultural purposes. One, a *Pleurothallis*, Mr. Ames informs me, is a new species. In the *Kew Bulletin*, 1893, p. 295, in which the Orchids of the neighbouring island of St. Vincent are published, the number falls seven short of the Grenada total. When Mr. Robert Cameron, the curator of the Harvard Botanic Gardens, Mass., U.S.A., came to see

me in Grenada at the latter end of 1905, I had the pleasure of spending a few days in the Grand Etang Woods with him, where, among other botanical gems, many of these Orchids were seen. Being a thoroughly enthusiastic plantsman, he went into raptures of delight with what he saw.

Brachionidium Sherringii (Rolfé, n. sp.): The plant grows upon small trees on the mountains of Fedon's Camp, and St. Catherine. *B. parvum* (Cogn., n. sp.): A tiny terrestrial species, bearing pale yellow flowers; habitat, clay banks between Soulier and Azemar. *Brassavola cucullata* (R. Br.): Flowers white, lasting over many days; a favourite tree upon which it becomes attached is the White Cedar (*Tecoma leucocylon*). *Cranichis muscosa* (Sw.): In the cooler parts of the island, upon partially-shaded banks one may often meet with this plant; the flowers are white. *Cyrtopogon Woodfordii* (Lindl.): A large terrestrial species, making its abode upon banks and in open grassy pastures of the higher districts. *Dichaea muricata* (Lindl.): Occurs on Cocoa trees at Annandale, and appears to be a scarce species. *D. hystrix* (Rehb.): It is found growing upon the trunks of large trees, and also

upon the stems and branches of smaller trees in the cool mountainous parts of Azemar and the Grand Etang. *Eleanthus capitatus* (Rchb. f.): This plant forms large clumps in trees at the Grand Etang and Azemar; the foliage is grass-like. *Eleanthus lepidus* (Rchb. f.): This was not met by the writer, but is established as a Grenada plant from material collected by Mr. R. V. Sherring (see *Kew Bulletin*, 1832, p. 188). *Epidendrum ciliare* (L.): Common on rocks in the shore and lowland parts. *E. ramosum* (Jacq.): Plentiful on neglected Cocoa trees in the mountains, but is also found on other trees. *E. rigidum* (Jacq.): Very few specimens of this plant are met with, and these are found far away from the coast. *E. strobiliferum* (Rchb. f.): An occasional Orchid on boulders and trees of the highlands. *E. jamaicense* (Lindl.): Not uncommon at Annandale and the Grand Etang; the flowers are greenish. *E. difforme* (Jacq.) (= *E. umbellatum* Sw.): Found here and there on Cocoa trees at Annandale. *E. anceps* (Sw.) (= *E. fuscatum* Sw.): A very common plant on boulders in the high lands. *E. miserrimum* (Rchb.): A small epiphytal species of mountain woods; occurs infrequently. *E. globosum* (Sw.): A pest on Cocoa trees of the higher districts. *E. fragrans* (Sw.): Flowers white, with coloured markings, and having a vanilla-like odour; it is plentiful on trees and boulders, especially at Annandale. *E. nocturnum* (L.): There appear to be one or two distinct forms of this species; it is found at varying altitudes, but is never met with along the coastal parts. *E. elongatum* (Jacq.): Occurs in Grenada upon boulders and trees away from the sea. The pretty pink flowers last many weeks. *Hexisea reflexa* (Rchb. f.): An uncommon mountain plant, being only found here and there on trees. *Habenaria alata* (Hook.): A species having greenish flowers, formerly met with in sparing numbers in the parish of St. David's, growing on an exposed bank. *H. maculosa* (Lindl.): Occasionally seen in hard, open ground in the higher parts. *Liparis elata* (Lindl.): Only two plants have been found, one in the Grand Etang road near the Rest House, the other lower down on a bank at Madigras. *Ornithidium confertum* (Griseb.): Common on Cocoa trees at Annandale. *O. coccineum* (Salisb.): Flowers coral red and of horticultural interest; it lives upon Cocoa and other trees in the mountains. *Oncidium altissimum* (Sw.): Found in high trees away from the sea; a fine species and one suited for garden purposes. *O. luridum* (Lindl.): This is a showy species, not often met with. The plant inhabits the lowlands, where it establishes itself on boulders and small trees. *Ornithocephalus gladiatus* (Hook.): Gregarious in one or two spots on Cocoa trees at Annandale; seen also in St. Andrew's parish. *Otomeria graminifolia* (R. Br.): A small running, species, whose flowers are yellowish and fragrant. It occurs in mountain woods. *Pleurothallis punctinosa* (Lindl.): The flowers are pale green; the plant is abundant on Cocoa trees on the mountains. *P. ruscifolia* (R. Br.): A true mountainous plant; revels in trees on the ridges where moisture and wind prevail; the flowers are in clusters and are pale white. *P. orbicularis* (Lindl.) (= *P. biflora* Fockii): the trunks of large mountain trees are the habitat of this species. *P. Broadwayi* Ames (n. sp.): A small species, growing on Cocoa trees in a cool, moist part of Annandale; flowers yellow. *Polystachya luteola* (Hook.): This species favours boulders and tree trunks situated in exposed localities of the higher altitudes; flowers palish yellow. *P. foliosa* (Rchb. f.): Found associated with *P. luteola*. *Prescottia stachyoides* (Lindl.): The whole plant has a reddish appearance; grows in the ground on ridges and mountain slopes, but is not common. *Ponthieva petiolata* (Lindl.): A common terrestrial species, along banks and in mountain woods at the Grand Etang. *P. lancifolia* (Rich): Very local, only once met in fairly large numbers in a very restricted area at Annandale in the ground. *Pelexia setacea* (Lindl.):

Only one plant met, and this at Annandale on a boulder under Cocoa trees. *Physurus hirtellus* (Lindl.): Frequently seen in the ground in the mountains; flowers white. *P. plantagineus* (Lindl.): A much larger species than *P. hirtellus*; grows on the higher mountain peaks; met with near the Grand Etang Lake, also in spongy ground; flowers white. *Pogonia macrophylla* (Lindl.): The only plant I have found this species was in soft ground under large trees at Azemar; flowers reddish. *Scaphyglottis prolifera* (Cogn.) (= *Ponera prolifera*, G. Rchb.): Flowers minute, white, plentiful on tree trunks and branches in the mountains. *Sauroglossum elatum* (Sw.) (Ames, non Lindl.): Plentiful upon boulders in the cooler parts of Grenada; often-times growing in company with *Epidendrum anceps*. *Spiranthes orchidioides* (Hemsl.): A reddish-brown plant which flowers before the leaves are seen: common on dry, hot banks and roads. *S. picta* (Lindl.): A very rare plant, but once collected near the lake at the Grand Etang in damp, shaded ground. *Tetragamestus modestus* (Rchb. f.): Not particularly common: found on Cocoa and other trees in the higher parts. *Xylobium* (*Maxillaria pallidiflora*, Hook.): Collected by R. V. Sherring. See *Kew Bulletin*, 1892, p. 188. *W. E. Broadway, Trinidad, W.I., August 14, 1908.*

NOTICES OF BOOKS.

* MUSHROOMS AND HOW TO GROW THEM.

In the preface to this volume it is stated that in a country with a population of nearly 70,000,000 of people, alert to every profitable, legitimate business, Mushroom culture, one of the most profitable and simplest of industries, is almost unknown. The market grower already engaged in growing Mushrooms appreciates his situation, and zealously guards his methods of cultivation from the public. But the people are becoming alive to the fact that there is money in Mushrooms, and a keen demand has been created for information about growing them.

In these islands the industry is of many years standing, and there are several manuals written by men of great experience, which afford all the information required either by the private or the market cultivator.

With the well-known inventive faculty of the American mind, we expect to find various deviations from our own methods of heating a Mushroom house, cellar, or other locality set apart for Mushroom culture, and in this matter we note the Dosoris' cellar, an excavation made in a sunny part of a garden, in extreme length 83 feet, 8 feet of this space being given up to an entrance pit and heating apparatus. The walls are of brick, and the top of the arch is 2 feet below the surface of the ground. This tunnel is 7 feet in height in the middle and 8 feet wide within, but a raised path 2 feet wide reduces the height in the middle to 6 feet 6 inches. The floor is of earth, no drains being necessary. Three ventilators 16 feet apart are provided in the top of the arch, but this is a mistake, as the condensed moisture in the cellar in the winter from these ventilators always keeps the pit beneath them cold and wet, and almost unproductive. One tall wooden chimney shaft would have been better than the three ventilating holes now there, which are covered with an iron and glass grating.

A 4-inch hot-water pipe passes round the sides about 4 inches from the ground. A three-wide floor of Hemlock Pine is laid for the bottom beds, at a height of 4 inches above the pipe, leaving the space between the earthen floor and the bottom of the bed along the pathway open for the escape of the heated air.

For a cellar of this kind very little heat is required to maintain the proper degree of temperature, and it does not cause dryness of the materials in the bed. These beds, for convenience in making of them, moulding them over, gathering the crop, affording the water, and

removing the spent material, are built against the wall with a rounded face. This gives a surface of 3 feet 6 inches in width as against 3 feet with a flat face. Above the ground another row of beds is constructed the entire length of the cellar. These are only temporary ones and are taken down every year. By having the supporting posts a few inches higher in front, a great part of the weight is thrown on the back walls. The beds have a continuous run of 252 feet, or 756 square feet of surface, and as they are renewed twice a year, 1,512 square feet of surface is provided. A common average crop is three-fifths of a pound per square foot. As the aim is to have a steady supply of Mushrooms from October until May, and not a glut at one time, and a scarcity at another, only two beds are made up at a time, allowing a month to elapse between every two.

When the Mushroom season closes, the cellar is cleared of the manure, the boards cleaned, the walls washed and every part dressed with kerosine to destroy insects and fungi. An upright boiler is used for heating the cellar. Various figures of Mushroom houses are shown, these being sometimes in connection with greenhouses for growing Carnations and other plants; and in greenhouses on close staging and even below those on which Tomatoes are planted. In some cases cited the horse manure is thrown direct into the beds without any preparation, a layer of loam being forked into the manure, 1½ inch deep, so as to form an earthy mat 3 inches deep.

A hint is given that the ammonia arising from prepared horse-dung is likely to prove injurious to other plants in the same house, but no injury is caused if the manure has been previously sweetened by being heated and turned over several times before it is utilised.

It is surprising to learn that no spawn is made in America, but is all imported from Europe, both brick and flake spawn being employed. There is much information that will be of interest to growers on this side of the Atlantic. There are excellent instructions relating to the cooking of the substrate.

The book is furnished with a copious index.

[THE ILLUSTRATED STRAWBERRY CULTURIST.]

This small octavo of 50 pages contains information mainly applicable to the cultivation of Strawberries under the various climatic conditions found in the United States of America; and it also deals with the hybrid race of the Chilean species and *Fragaria virginiana*, which are those mostly grown there. The plants belonging to the first-named species have thicker roots than the latter, and they grow taller. As they are natives of the warmer parts of South America, they are liable to suffer from frost in the northern States. The hybrids from *F. chilensis* and *F. virginiana* are hardier, and are most common in cultivation east of the Rocky Mountains. They succeed when grown on "hills" or in single rows, being unproductive when allowed to run together so as to form beds.

Some of the finer fruited varieties are Charles Downing, President Wilder and Manchester. The rows are usually 3 feet apart, and the plants 2 feet apart in the row. All runners are removed as they appear, say once a week; and winter protection has to be afforded the plants in the more northerly States. When grown in single rows the plants are set out at 1 foot apart in the rows 3 to 4 feet apart. In the south, planting is usually carried out in the late autumn or during the winter, but the earlier it is done the better, the moist, cool weather enabling the plants to become established quickly. In the colder parts of the country, August and September are considered the best months for planting, but they may be also carried out early in the spring. A list of American varieties is given, but few of these are known in this country, namely, Sharples, Juncunda, President Wilder, and Hovey.

A chapter on the history of the Strawberry is given. The sexuality of the plants is briefly stated, and the differences between pistillate and perfect flowers explained. It is a suggestive book worthy of the attention of raisers of new varieties as of the general cultivator.

* By William Falconer. Published by Messrs. Kegan Paul, Trench, Trubner & Co., Ltd., Dryden House, 43, Gerrard Street, Soho, London, W. Price 5s.

† By Andrew S. Fuller. New George Judd Co., 81 and 83 Lafayette Place, New York, N.Y., obtained from Messrs. Kegan Paul, Trench, Trubner & Co., Ltd., Dryden House, Gerrard Street, Soho, London, W. Price 1s. 6d.

The Week's Work.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

The frame ground.—A site in most gardening establishments is devoted to a frame or forcing ground. This should be protected from the north and east winds, but at the same time exposed as much as possible to the south and west, and the sun's rays should not be interfered with by trees or other obstructions, for a maximum amount of light is necessary to success, especially during the winter and early spring months. Every year half the hot-beds in this forcing ground should be renewed, but the other old beds should remain, as they will be found very useful for wintering many kinds of vegetables, and also in the following spring they can be used for affording slight protection to some of the crops. The residue from the hot-beds that are dispensed with will form excellent material for incorporating with the soil in the kitchen garden. It should be placed in a heap in some convenient spot where it may be readily got at during the winter and spring months. The tree leaves for the new beds can be taken straight to the forcing ground, and if sufficient of these are collected they will afford a more lasting heat than manure used by itself. The undisturbed beds will prove admirable places for wintering in cold frames such crops as Endive, Lettuce, Parsley, late sowings of winter Spinach, and many other vegetables. See that plenty of space is allowed between the plants, for if air does not circulate freely about them damping is likely to occur; in all cases give the plants a position as near to the glass as is possible without injuring the foliage. Ventilation should be given whenever the weather conditions are suitable, while the light may be entirely removed should circumstances permit.

Globe Artichokes.—These plants should have all their decayed leaves and old flower-stems removed, and generally be made tidy. They frequently develop a good crop of their inflorescences during September, and these, provided they are uninjured by frosts, are generally of excellent quality. The heads should be cut when they are of a suitable size and the stalks inserted in water, to be stood in a place such as a cellar or cool shed, where they will keep good for a considerable time. The finer varieties of Globe Artichokes are more tender than the coarser kinds, therefore from the best plants good suckers should be taken at this season, potted up into 7-inch pots and wintered in cold frames. If these are planted out early the following spring in rich soil, they will produce a good crop of flowers during the autumn, thus ensuring against risk of failure with the older-established plants.

Late Peas.—The conditions at the time of writing promise a good supply of these vegetables for some time to come. The varieties Autocrat and Cladstone are doing remarkably well, and those in sheltered positions should continue to bear at least another month. It will be advisable to thin out the growths if they are very thick and to pinch out the points of the leading shoots: afford the roots copious supplies of liquid manure.

Cauli flowers.—Make one more sowing of this vegetable, selecting the varieties Magnum Bonum and Walcheren for the purpose. Sow the seeds in a cool frame and prick out the seedlings as soon as they are ready to transplant, placing them 4 inches apart in cold frames in a rather poor soil.

Cabbage.—Continue to plant this vegetable as land becomes vacant, and keep the hoe well plied in the rows between those already planted.

PLANTS UNDER GLASS.

By THOMAS LUTY, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Chrysanthemum pests.—The extra warmth will favour green fly, which will soon make its appearance, therefore this pest must be looked for, and directly it is detected the house should be fumigated, for aphides are especially troublesome in the developing flower-buds, for if green fly gets amongst the petals it is difficult to eradicate, with the result that the flower generally damps or the petals become crippled, and thus the labour of a season is lost.

Chrysanthemums in vineries.—In these gardens it is necessary to winter some of our Chrysanthemums in vineries, and with ripe Grapes hanging ordinary fumigating cannot be practised. The best plan in this case is to use the Empire Hydro. gas powders, and this I have done for a number of years without the slightest damage either to the Grapes or the Chrysanthemums. This hydro. gas imparts neither taste nor smell to the Grapes, and the fruit can be eaten the next day provided they were dry when the operation was performed. Chrysanthemum blooms fully expanded can be subjected to fumigation with the slightest fear of damage to the petals. Support large blooms with a small piece of stake tied close up to the bud, say, within an inch of its base. When the bloom is cut this small stake can be removed with it; this is especially useful in the case of varieties having weak flower-stems.

Chrysanthemums.—Plants intended for furnishing large blooms should now be placed under cover, as they are not safe from frost after this date, especially in Scotland. Before taking them indoors the foliage should be well washed with flowers of sulphur, as mildew is likely to occur on plants newly brought in. The operation is best performed with an "Ideal Powder Bellows," and a large tin tray measuring about 6 feet by 4 feet is also useful. Lay the plant on its side over the tray when applying the sulphur, and turn the pot round so that the powder may reach every leaf. Afterwards give the plant a sharp shake, when most of the superfluous sulphur will fall into the tray and can be used again. Choose a dry, calm day for the operation, or it can be done in an empty plant house. After the plants are housed, see that they do not suffer from insufficiency of moisture, either in the atmosphere or at their roots, as the conditions in a plant house are much drier than in the open. Should the weather be bright and dry, the plants that are not showing colour in the petal should be slightly syringed early in the forenoon for a few days, but where the flowers are colouring a dry atmosphere and shade from bright sunshine is necessary to assist the bottom petals remaining fresh until the bloom is perfectly finished. No manual stimulants should be given at this stage, clean water alone being sufficient. Any plants with flower-buds that it is desired to hasten into growth should be placed in a house by themselves and in a position close to the glass and not shaded. Afford them a little warmth from the hot-water pipes, with plenty of top and bottom ventilation.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Carnation.—The earliest layers should now be removed, as it is not advisable to allow them to remain too long connected to the old plants, or they may sustain too great a check when they are taken off later. Do not injure the roots when parting the layers, and plant them where they are intended to flower in soil well prepared by digging, and, if heavy, incorporated with sand or grit. Make the soil firm about the roots, and if the latter are dry afford a copious watering when planting is finished. Should hot weather follow the planting sprinkle the foliage occasionally in the afternoon with water from a fine rose. It is not wise to plant Carnations in the same soil year after year. In all but very coldest situations border Carnations do best out-of-doors, and especially where the soil is light in texture; the Carnation is essentially a hardy plant and will stand the severest winter, its chief enemies being damp and fog. Carnations in pots should be made firm in the soil and afforded an abundance of ventilation except during very severe frost.

Roses.—The heavy rains have caused a free growth, and the shoots being fairly clear of mildew and other pests, the blooms promise to be more plentiful than was at one time anticipated. Briar stocks that were too late for the first budding may, provided the bark runs freely, be budded now. These late buds will, if a union be effected, remain dormant till the spring, which is an advantage in the case of tender sorts. Loosen or remove the ties around buds on early Briars as may be necessary. The strong shoots of climbing Roses

should be tied, or they may be broken off by the wind. Entirely remove weak and blind shoots that have borne flowers; this will strengthen those that are left.

Tuberous-rooted Anemones.—By successive plantings of these during the flowering season will be considerably prolonged. If the first batch be planted during the present month, and another in October, which is the time for inserting the main batch, it will suffice, as it is almost useless to plant again unless under very favourable circumstances. Anemones of this type delight in a rich loam, in which has been intermixed well-rotted manure; if the soil is heavy mix with it plenty of sharp sand.

THE APIARY.

By CHLORES.

Manipulating bees.—Many people would become beekeepers if they could only make sure of handling the bees without the fear of being stung. In order to do this successfully, it is necessary to frighten the bees. When frightened they at once gorge themselves with honey, and when their bellies are full they cannot easily turn the abdomen to the correct angle to sting. Therefore, anything that will cause the bees to consume the honey will fulfil the purpose. A man who smokes has at hand an intimidant that answers admirably; but generally it is best to purchase a smoker for about 4s. 6d., and place in the fire chamber some lighted brown paper, or fustian, or rag, in fact, anything that will smoulder and create smoke. Having got the "smoker" well lighted, give the bees to be handled a little puff of smoke through the entrance, first taking care that the lighted end of the paper is placed at the bottom of the smoker. When the bellows are not being worked, stand the smoker upright, and it will keep alight as long as may be needed. Give the bees a little time to gorge themselves, say, a minute, then, if the hive contains bar frames, take off the top, and as the quilt is raised puff in a little smoke between the frames. If it be a straw skep, give the bees another puff, and as the hive is overturned, puff in more smoke to drive down the bees from the mouth of the hive.

Veils.—Some people wish to wear a complete bee dress, but it is not necessary, nor advisable. Ordinary gloves are of no use to prevent stings, for the sting can easily penetrate them. Only rubber gloves are serviceable, and these make the manipulator so clumsy in his work that he agitates the bees, and rouses them to greater anger. A veil will always give greater confidence, and these are very easily made at home. Garase black is best for the purpose. Measure off about 1 yard by 18 inches, sew the ends together, and run a hem around the top. In this hem place a piece of elastic sufficiently large to fit the crown of the hat tightly.

Driving bees.—Many bees in straw skeps will be destroyed by sulphur fumes, and, generally, any person who will take the trouble to drive the bees can have them for so doing. Choose fine weather for the purpose. Frighten the bees as previously described by blowing in smoke, then raise the skep and take it away to a quiet spot, and overturn it in a bucket, which will act as a stand. Over the full hive place an empty skep, fastening it down with a meat skewer, which will act as a hinge. Next raise the empty skep and keep it open by the aid of driving irons. Place the hive so that the strongest light is at the back of the operator. Beat the sides of the hive containing the comb and the bees will soon commence to go up into the hive above. The rapping on the hive must not be sufficient to break the combs from the sides, but sufficient to jar them. The drumming must continue till all the bees have ascended, and this will take from five to 30 minutes. It is best to drive two or three colonies, and mix the whole by shaking them up in a bag, having removed all but one queen. Transfer the bees to a hive containing from five to six frames of foundation. Disaster is certain if the foundation be not well fastened in, or, better still, wired. Feed the colony on syrup made by boiling 5 lbs. of best cane sugar in 2½ pints of water, adding about 1 ounce of salt; boil for a few minutes, taking care not to allow the syrup to burn. Continue to feed until the bees have stored at least 25 lbs. of honey.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Dowager Lady NUBURNHOLME, Warter Priory, Yorkshires.

The Apricot.—Continuing my remarks of last week on root-pruning and lifting, any Apricot trees that have made excessive growth should be attended to at the earliest opportunity. The Apricot has earned a bad name in gardens from the susceptibility of the branches to canker and die, but this is often the result of a too rich border, causing the trees to make useless wood and gross shoots which never ripen. The Apricot may often be seen planted against cottage walls, rooting in a hard pathway, and yet laden with fruits, whilst others growing in a rich soil in gardens are barren. Efforts should be made to restore any unsatisfactory tree to a better state of health and more moderate growth by root-pruning, or replanting in a poorer compost. A trench should be taken out as recommended in last week's Calendar for Peach trees, the drainage should be set right, and, if the trees are ramifying in a very rich soil, efforts should be made to restrict their root action. Shorten the strongest roots and then fill in the trench with loam of a rather lighter texture than that generally used for Peach or Plum

rectly labelled. The latest varieties of Apples and Pears should not be gathered before they part readily from the tree. It is a good practice to gather the fruits from the top branches first on pyramid and bush trees; those that are left will improve both in size and quality and help to prolong the season. Standard trees produce their finest fruits on the top branches, but as it entails too much labour to go over these trees twice for gathering, the best fruits should be selected at the time of gathering and stored by themselves.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Dendrobium.—The season has been most favourable for the cultivation of these plants, and they promise well for the future. Amongst those of the deciduous section, the species and hybrids which produce their flowers early in the winter are now rapidly finishing their season's growth. When maturation is completed, which may be determined by the end leaf of each pseudo-bulb being fully developed, the amount of moisture both at the roots and in the atmo-

Dendrobium formosum.—The plants have finished growing and are either blooming or about to expand their attractive white flowers. These are not so pretty as are those of many others in the genus, but they are useful for decorative purposes, and the plants furnish a good display of bloom at a time of the year when Orchid flowers are not over plentiful. The treatment of these plants at this season is similar to that advised for *D. Phalaenopsis*.

Evergreen Dendrobiums such as *D. thyrsiflorum*, *D. densiflorum*, *D. Farmeri*, *D. chrysotomum*, &c., are now fast completing their season's growth. After the shoots have reached maturity, a similar treatment should be afforded these plants as that advised for the deciduous members, with the exception that a more frequent application of water is needed to keep the pseudo-bulbs, foliage, and roots sound and healthy. The species *D. Dalmatianum*, *D. moschatum*, and *D. fimbriatum* are always the latest of this section to finish their growths, and a liberal treatment should be afforded them till the terminal leaf is visible. These plants should remain in the warmest division of the house at all seasons, but during the winter, while resting, infrequent waterings will suffice until the flower-spikes appear in early spring. *D. Byrmerianum* also finishes its growth late in the season. This species should also be rested in the same house that the plants have occupied during their growing season. The rooting materials must not be allowed to become too dry for long together during the plant's inactive period.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LILANGATTOCK, The Hendre, Monmouthshire.

Late-hanging Grapes.—Grapes may be kept upon the vine for a considerable time after they are ripe, but in order to preserve them in the best condition it is necessary to give attention to several details. The temperature should be allowed to fluctuate with the conditions outside, but at no time should it be allowed to fall below 50°. The air in the vinery should be kept in circulation, and both the front and the back ventilators should be opened when the weather is dry, but in wet or foggy weather they should be closed, as on no account must moisture be permitted to condense on the berries. Pot plants that require watering should not be brought into the vinery, as the moisture from these would be injurious. The vine leaves should be gathered and removed directly they fall, and any decaying berries should be promptly cut from the bunches. If watering the border in the house becomes necessary, do this early in the morning of fine days. Before water is applied remove the straw or other material that has been placed on the border to lessen evaporation, and replace it later in the day. Outside borders should be protected from heavy falls of rain by placing large lights or other suitable objects over them.

The early vinery.—Vines intended for starting into growth in November, that have had their shoots shortened as previously recommended, may now be pruned. Make clean cuts and leave two prominent buds at the base of each shoot. When the pruning is finished, thoroughly cleanse and, if required, paint the house. Also remove the loose bark, and especially that about the spurs, for it is in this that red spider and other insect pests lurk. Afterwards wash the rods twice, first using hot soapy water and then before they become dry with a moderately strong, hot solution of Gishurst compound, working the specific well into the crevices. Mealy bug may be destroyed by a mixture of half a pint of coal tar, one wineglassful of paraffin, rather less than one gallon of water, and sufficient clay puddled in it to make the whole of the consistency of paint. The most effectual method of ridding vines of mealy bug is by cyaniding. Instructions for this operation have been frequently given in the *Gardeners' Chronicle*. Attend to the borders; skim off the surface soil and replace it with loam enriched with bone-meal, fine mortar or lime rubble, and wood ashes. Make the surface of the border quite firm again. Outside borders should be covered with glass lights or some other protection to prevent the temperature of the soil becoming lowered by cold rains. If a thick layer of tree leaves is spread on the ground before the covering is applied it will be an advantage.



(Photograph by H. N. King.)

FIG. 100.—VIEW IN THE GROUNDS OF GATTON PARK, REIGATE.

(For text see pp. 225, 226.)

trees, adding about one part in every four parts old mortar rubble. Dispose the roots evenly as the work proceeds and make the soil firm about them by treading. The shoots should also be attended to, and if any appear to need replacing they should be entirely cut out: shorten back the old spurs. Young trees require little or no pruning, the principal requirements in this direction being the removal of a shoot entirely where it is not required. Any trees that have been disturbed at the roots should be given a good watering when the soil has again been made level. Syringe the old branches and the walls with some suitable insecticide, and defer nailing or tying the shoots of young trees that have lifted until the spring.

Gathering and storing fruit.—Only the very soundest fruits should be selected for storing; any that are bruised, deformed, or small should be set aside for immediate use. It is as well to store Pears in a different room from Apples, for they need to be kept at slightly higher temperature. Try to preserve the bloom on the fruits as much as possible, and see that they are cor-

sphere must be decreased. At the same time absolute dryness of the rooting materials must be guarded against. For such plants it is essential that they should be exposed to plenty of fresh air, and be allowed the maximum amount of sunshine, either by grouping them together, at one end of the house, or by removing them to a well-ventilated structure, in which an intermediate temperature is maintained. Any plants that are still actively growing should be induced to reach the resting stage that they may be treated as advised.

Dendrobium Phalaenopsis Schröderiana.—The flower-spikes of these plants are well advanced, and some are already in bloom. Foggy weather of late autumn has a pernicious effect on these attractive flowers, and it is an advantage, especially in gardens near towns, to have the plants in bloom early. Shading should now be dispensed with, except in the case of plants bearing spikes of expanded flowers. There must be no stint of water at the roots of these plants until the flower-spikes are removed, after which a less quantity will suffice.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side ONLY of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor any intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturalists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, SEPTEMBER 29—Roy. Hort. Soc. Coms. meet. Michaelmas, Quarter Day.

WEDNESDAY, SEPTEMBER 30—Fl. Sh. at the Franco-British Exhibition, Shepherd's Bush (3 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—54.3°.

ACTUAL TEMPERATURES—London.—Wednesday, September 23 (6 P.M.): Max. 63°; Min. 56°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Wednesday, September 24 (10 A.M.): Bar. 29.9°; Temp. 60°; Weather—Slight rain.

Provinces.—Wednesday, September 23 (6 P.M.): Max. 67° Ireland S.; Min. 64° Scotland, E.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

WEDNESDAY—Palms, Plant Azaleas, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

WEDNESDAY, THURSDAY—Annual Sale of Nursery Stock at Sunningdale Nurseries, Windlesham, Surrey, by Protheroe & Morris, at 12.30.

FRIDAY—16th Annual Sale of Fruit Trees, &c., at the Nursery, Downham, Norfolk, by order of Messrs. Bird & Vallance, by Protheroe & Morris, at 12.

George Nicholson.

By the death of George Nicholson the world of horticulture has been robbed of a well-known figure, and of a man who commanded the esteem and respect of all with whom he came in contact. His work at the Royal Gardens, Kew, is known to every one, and he was universally recognised as a high authority on arboriculture and horticulture.

Mr. Nicholson, like almost all men who achieve great distinction in any one department of life, was not only a specialist, but a good deal more besides. His knowledge and his interests extended over a wide range of subjects, and he brought into everything he attempted that same enthusiasm which, coupled with his own natural ability, carried him to such a distinguished position in his chosen profession. In this, as in other respects, his example is one that others would do well to emulate, for over-specialisation is one of the evil tendencies of the present time.

Mr. Nicholson was always ready to render valuable assistance to others, and we may here fittingly record our own indebtedness to him for the invariable kindness and courtesy with which he placed his great horticultural and arboricultural experience at our service.

Doubtless his lasting claim to fame will rest on his great Dictionary of Gardening, to which reference is made in another column.

We believe that he took an active interest in the investigations on the wild Fauna and Flora of the Royal Botanic Gardens, the results of which are published from time to time in *The Kew Bulletin*.

Such men as Nicholson are scarce in any walk of life, for it is not given to many to combine exceptional abilities with a disposition that endears its possessor to all around him.

The Pronunciation of Names of Plants.

No one whose business or pleasure leads him to converse with his fellows on the subject of plants can have failed to observe the lack of uniformity which characterises the pronunciation of a considerable number of the names of the genera and species. This is due to a variety of causes, but it is no doubt in a great measure to be attributed to the fact that comparatively few people trouble themselves to enquire as to the sources of the words they employ. To some persons, indeed, the effort involved in tracing a name to its origin appears to be little better than a waste of time, and others who would gladly give the correct rendering of a word if they could do so, are unable, owing to a variety of causes, to ascertain it. We are convinced, then, that a considerable number of those engaged in horticulture would welcome this kind of information if it were made sufficiently accessible. The numerous letters which we have received on the subject have led us to endeavour to take steps to meet the want, and in the present issue we print the first instalment of such a glossary. It has been compiled by the Rev. C. Butler, and is designed to indicate the correct or accepted pronunciation of the more familiar and commonly cultivated genera. We are glad to take this opportunity of thanking not only Mr. Butler himself, but also those other friends, especially the Rev. Prof. Henslow, who have shown an interest in the undertaking, and have afforded much practical assistance in a task which has not proved an easy one.

The list makes no pretence to be exhaustive, although we hope it will be found to include most, at any rate, of the genera likely to be met with at present in cultivation. We are well aware that the mode of pronunciation we have given is not likely to meet with universal acceptance in the case of every word. But the difficulty is one which is inseparable from a work of this kind, and it arises from the lack of definite rules to which we can appeal with the certainty that they will be admitted as valid by every critic. In consequence of this, we have been sometimes obliged to steer a middle course, and to admit the right of ordinary usage to carry weight, even when it contradicts the strictly correct form as dictated by etymological principles. Wherever we conveniently could do so, however, we have endeavoured to keep the pronunciation as far as possible in conformity with the derivation of a word. There are, however, examples—by no means few in number—in which this is hardly practicable. Where custom has so successfully defied technical accuracy, it would seem to be merely idle pedantry to attempt to go behind current usage.

'Quem pene arbitrium est et ius et norma loquendi.'

and the more especially as failure would pretty certainly attend the enterprise. We have, therefore, admitted the common pronunciation of *Veronica* instead of *Veroni'ca*, and, although with greater diffidence, we have allowed *Anemone* to stand instead of attempting to revert to the more strictly correct *Anemo'ne*.

Critical readers will doubtless discover examples which may be adduced as evidence of inconsistency on our part, but we might remark, in passing, that this quality of inconsistency is practically inherent in the subject.

We have not pretended to assume the rôle of the reformer, but have limited ourselves to the more modest task of endeavouring to indicate what we conceive to be the pronunciation most nearly in accordance with the best usage or the highest authority. It is not improbable that some errors may have escaped detection, but we venture to hope, notwithstanding, that the result of these efforts will prove on the whole to be acceptable and serviceable to our readers.

ROYAL HORTICULTURAL SOCIETY.—The next exhibition will be held at Vincent Square, Westminster, on Tuesday, September 29. At the afternoon meeting of the Fellows the concluding lecture on "The Practice of Garden Making" will be given by Mr. T. H. Mawson, Hon. A.R.I.B.A.

POPULUS LASIOCARPUS.—In our issue of last week the name of this new Poplar from China, which gained a First-Class Certificate at the meeting of the R.H.S. on the 15th inst., was erroneously given as *P. alba lasiocarpus*. The mistake arose from the label affixed to the plant at the exhibition bearing the name as originally printed. *Populus lasiocarpus* is, of course, a good species, and is not merely a variety of *P. alba*.

EXHIBIT OF ENGLISH-GROWN GRAPES.—The Royal Horticultural Society propose to exhibit at the fortnightly exhibition of flowers and fruits to be held on September 29 at the Royal Horticultural Hall, Vincent Square, Westminster, about 30 varieties of Dessert Grapes from the collection at Wisley Gardens. The exhibit is intended to be chiefly educational, and attention will be specially directed to some of the smaller-berried varieties, which so vastly surpass in flavour larger and more showy varieties. Vine culture was an important feature in the gardens at Chiswick. In the early part of last century the Society propagated varieties of wine Grapes for gratuitous distribution in the Colonies; and at the present time at the Wisley Gardens experiments are proceeding with an open-air vineyard to test the possibility of such Grape cultivation in suitable districts in England, and to ascertain the best varieties for the purpose. Officers of the Society will be in attendance at the exhibit on September 29 to give information and to answer the enquiries of visitors.

PRESENTATION TO A GARDENER.—Mr. J. A. WASLEY, head gardener at Sherfield Manor, Basingstoke, was, on Wednesday, 16th inst., the recipient of a clock as a token of goodwill from his fellow parishioners of Sherfield-on-Loddon, on leaving for Bedgely Park, Goudhurst, Kent. The presentation took place in the national school, and was attended by a large number of friends and subscribers. Mr. WASLEY has been connected with Sherfield Manor Gardens for the past 19 years under three successive owners, and while at Sherfield has associated himself with various parochial institutions, especially the annual horticultural show.

MR. H. HEMSLEY, the author of *Rock and Alpine Gardening*, who for many years was in the service of Messrs. J. CHEAL & SONS, Crawley, has recently started into business for himself at Crawley, Sussex. Mr. HEMSLEY has a wide experience in nursery work, and is especially interested in work pertaining to rock and Alpine gardening.

THE LATE FRAU IDA BRANDT.—This lady, who died at Zurich on July 28, will be best remembered as an enthusiastic lover of plants. FRAU I. BRANDT, who was English by birth, in her eighteenth year removed to Russia, and subsequently she and her husband went to live at Zurich. She survived him only 24 days, he having died on July 4 at the Villa Brandt. In 1894 she acquired the considerable collection of Orchids belonging to Consul KRENAST, at Zurich, and continually and with great judgment increased her own collection to the last days of her life. The collection consisted of 700 species, varieties, and hybrids, of which the chief were fine flowering so-called botanical Orchids, rarely met with in the trade. Several Orchids were named in her honour, as *Cypripedium Frau Ida Brandt*, *Dendrobium Phalænopsis Brandtiae*, *Dendrobium Brandtiae*, and *Catasetum Brandtiae*. As so often happens, the heir to the property has no taste for Orchids or their cultivation, and the collection is to be disposed of immediately.

NEW GENERA AND SPECIES OF CYPERACEÆ.

—An important number of the *Kew Bulletin* (additional series viii.) has just been issued, containing the diagnoses of the new genera and species of Cyperaceæ, described by the late Mr. C. B. CLARKE, which are represented by authentic specimens in the Kew Herbarium. Mr. CLARKE was well known as the leading authority in the world on this family of plants, and we learn that he has left a large mass of MS., which is of the nature of a monograph. Much time must elapse before this will be ready for publication, and botanists will be grateful to the Director of Kew for rendering the descriptions of the new species available for citation. Certain diagnoses are, however, included which have already, at least in part, appeared elsewhere. Thus, for example, *Fuirena* (*Epidius*) and *F. subdigitata* were described in a paper on "The Botany of Southern Rhodesia," by Miss GIBBS, which was printed in the *Journal of the Linnean Society*, vol. 38. The species in question, which occur in Africa, exhibit features of considerable biological interest in connection with their adaptation to the special conditions under which they occur in their natural habitat.

* BULBS AND THEIR CULTIVATION.

—Mr. SANDERS has added another excellent little book to the numerous volumes of which he is the author. The work is said to be practical, and it seems worthy to fulfil its object. A feature which amateurs will find useful consists in the table which extends from p. 58 to p. 85, giving the colour, height, flowering period, cultivation, etc., of the plants. We feel inclined to demur to the suggested necessity of rich treatment for *Lilium Martagon* var. *alba*. The plant thrives in quite ordinary soil if planted on the upper part of a rockery, and its rate of increase in such a situation will surprise those who are accustomed to see it listed at 2s. 6d. and upwards per bulb. The chapters on greenhouse culture, &c., of the bulbous plants are excellent, and the illustrations, which are fairly numerous, form an additional attraction to a work that will probably find a welcome place on the shelves of many people who are attracted by the pleasing results afforded by the cultivation of bulbous plants.

* By T. W. Sanders. W. H. & L. Collingridge, 1908. Price 2s. 6d.

NITRIFICATION IN SOIL.—Those who are familiar with the remarkable experimental grass plots at Rothamsted will recall the curious appearance of the herbage in the plot that has been supplied with nitrogen in the form of ammonium chloride and sulphate for a long period of years. The vegetation consists almost entirely of three grasses, *Holcus lanatus*, *Alopecurus pratensis*, and *Arrhenatherum avenaceum*, whilst the surface layer of soil consists of a peat-like mat of semi-decayed plant remains. Recent investigations that have been made in the laboratory show that the soil has become acid, a result that often may occur as a consequence of the long-continued use of ammonium salts. It was found that the organisms that ordinarily oxidise the ammonia to nitrates were only present in small quantities, and their action was almost inhibited owing to the acidity of the soil. The slight amount of nitrification observed, together with other facts, which need not be considered here, point to the conclusion that the oxidation is attributable to the beneficial action of the small residual quantity of lime present in the soil. This acts partly, no doubt, as locally neutralising the acidity, and it is possible that further investigation may show that its influence may also be connected with other physiological properties which this substance is known to possess. The acidity of the soil is, at least mainly, brought about by the action of various micro-fungi, which are able to utilise ammonia, setting free the acid in the soil. The general result of the investigation, which has a practical value of considerable importance, indicates that "the decline in fertility of the acid plots may be attributed to the repression of the normal bacterial activities of the soil, and the encouragement of the growth of moulds." (*Proc. Roy. Soc., B.* vol. 80, p. 212.)

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

THE SPECIFIC NAME OF THE COMMON HYDRANGEA.—A short time since I was asked the correct specific name of the common *Hydrangea*, and at once replied "*Hortensia*," saying that the plant was named in honour of Queen Hortense. This led to my being at once confronted with the last edition of the *Hand List of Trees and Shrubs at Kew*, for it is there given as *Hydrangea hortensis*. I should have regarded this as an error, but for the fact that the specific name of *Hortensia* stands first in the list of synonyms. In the earlier and, I believe, first edition of the same work, published in 1894, the name is given as *Hydrangea hortensis*. It is this continual changing of names which leads the average horticulturist to often think that our botanical friends do not know their own minds for long together. W.

—Our correspondent has touched upon a somewhat complicated case of nomenclature, and one which can hardly be regarded as satisfactorily settled even at the present time. Of course, the reason for the various names (or synonyms) under which a species is known is to be sought in the fact that different authorities, either in ignorance of the older name, or with the deliberate intention of correcting or improving on it, have called the plant by a new one. The history of the synonymy of *Hydrangea hortensis* is briefly as follows, excluding certain obviously erroneous identifications: A. L. de Jussieu introduced the generic name *Hortensia* in 1789, and Lamarck, in the same year, named the species now under consideration *Hortensia opuloides* (*Encycl. iii., 1789*); three years afterwards, J. E. Smith, who gives an admirable figure of the plant, together with a full description and interesting notes, called

the plant *Hydrangea hortensis*, recognising that it should be transferred to this (older) genus. His account (*l.c. pict. plant. rar., 1789-93*) dates from 1792, and he mentions the fact that the shrub was introduced to Kew by Banks, in 1790. Nearly forty years afterwards, Siebold (*Nep. Act. Nat. Cur., xiv., 1829*) introduced the specific name *Hortensia*, the earlier generic one, and it has been commonly used by many writers since his time. But Koch (*Dendrol., i., p. 333*), in 1869, restored the original specific name *opuloides*, while he at the same time recognised the validity of the generic *Hydrangea*. He has been followed by Schneider, in his recent work (*Illustr. Handbuch d. Laubbolskünde*), which appeared in 1906. According to the Vienna Rules, now very generally accepted as authoritative in fixing the principles of nomenclature, there seems no doubt that the plant ought to be known under the name *Hydrangea opuloides*, Koch, since this represents the combination of the earliest recognised specific name with that of the accepted genus. Whether it will come into general use remains to be seen, but in the meantime the two names mentioned by our correspondent, that of *hortensis* is, beyond question, more correct than *Hortensia*.—Ed.

TRAINED FRUIT TREES.—Having recently paid a visit to Messrs. Hugh Low and Co's nurseries, I can fully bear out what *F. M.* says (p. 211) respecting the quality of the stock grown there, but I should like to ask the authority of the statement, "Although in the case of stone fruits the fan form (of training) is the only method applicable?" I venture to entirely differ from this dictum; of course, in the case of Apples and Pears fan training is a thing of the past, although it would seem that some Scottish gardeners still prefer it, but why should horizontal training, which is so generally admitted to be far superior to fan training for Apples and Pears, be unsuited for Plums and Cherries? I maintain that all trees which form fruiting spurs are admirably suited to horizontal training, and perhaps the advantages of this system are better seen with Plums than in the case of any other fruit. To begin with, Plums are rampant growers, for a real dwarfing stock has yet to be found for them; every gardener knows the difficulty of keeping Plum trees within bounds on any wall but an exceptionally high one. This difficulty is done away with by horizontal training, for the shoots, being laid in laterally, can be allowed all the space they require, added to which, this form of training checks their vigour in some measure and causes them to be more fruitful. I think, however, that the greatest gain is to be found in the clothing of the wall space with useful wood, in a horizontally-trained tree the branches are equidistant, and, consequently, can carry fruit upon their whole length, whereas in the case of the fan-trained trees there is a considerable amount of space lost where the branches ramify, and they are so crowded and strong that fruit spurs are conspicuous by their absence. In speaking of Cherries it will be understood that only those which form fruiting spurs are included, for, naturally, the Morello class, which fruits on the young wood, must be trained on the fan system, so that the wood, which has shed its crop of fruit, may be cut out and new growths laid in. If anyone desires a proof of this theory they have only to journey to Gunnersbury House and see the wonderful crops of Cherries which Mr. Jas. Hudson grows on his horizontally-trained trees, or to the Manse at Braeford, where the Rev. C. C. Ellison has a wall of horizontally-trained Plums which last week were simply roped with great fruit. I only mention these two examples because they are familiar to me; many others could be given. May I further trespass upon your space by asking the question where can a really good Gravenstein Apple be procured? Many years ago I read that this was the favourite Apple of her Majesty (then Princess of Wales), and, thinking to obtain it from headquarters, I wrote to one of the leading firms in Denmark for trees. I had some six or seven varieties sent over (speaking from memory); they were a considerable time in coming into bearing, and were promptly discarded when they had been proved, and neither then nor since have I found a Gravenstein worth growing. A. H. Pearson, *Lewtham*.

PRONUNCIATION OF PLANT NAMES.

PRONUNCIATION.—In the first word in each line the accent (') is short; (') is long.

In the second word vowels are to be pronounced as—

arise, át, áge, árt, áir, áll
and, égg, éat, érr, éwe
in, í, íre, íst
on, óter, ówe, ór, ód, ówl, óil
us, útter, úse, úrn
"ch," as in chin; "th," as in thin
"s," as in soft; "f," as in far
"g" as in go.

All other letters are unmistakable.

A

Abelia, á-bé-lí-a
Abies, á-bí-és
Abóbra, á-bóbb'-ra
Abróma, áb-ró'-ma
Abrónia, áb-ró'-ní-a
Abrótanum, áb-rót'-ánum
Abrus, á-brús
Ab'sinth, áb'-sínth
Abutíon, á-bú'-tí-on
Acacia, á-kásh'-i-a
Acána, á-sé-na
Acálypha, á-kál'-í-f-a
Acantholimon, á-kanth-ó-lí'-mon
Acanthophippium, á-kanth-ó-fíp'-
pí-um
Acanthopónix, á-kanth-ó-fee'-nix
Acanthorhiza, á-kanth-ó-rhí'-za
Acanthostachys, á-kanth-ó-stack'-is
Ácer, á'-ser
Áceras, á'-ser-as
Achillea, á-kí'-l-e-a
Achimenes, á-kí-mé-néz
Acíneta, á-sí-né'-ta
Acis, á'-sis
Acmena, ák-mé'-na
A'conite, ák'-ó-nít
A'corus, ák'-ó-rus
Acroclinium, ák-ró-klin'-i-um
Acronychia, ák-ron-ík'-i-a
Acropora, ák-ró-pé'-ra
Acrophylum, ák-ró-fíl'-l-um
Acrostichum, ák-rós'-tí-k-um
Actea, ák-te'-á
Actinella, ák-tí-né-l'-a
Actinidia, ák-tín-id'-i-a
Actinópteris, ák-tín-i-op'-ter-is
Actinócarpus, ák-tín-ó-kár'-pus
Actinómeris, ák-tín-óm'-er-is
Actinophylum, ák-tín-ó-fíl'-l-um
Actinotus, ák-tín-ó'-tus
Adansonia, ád-an-só'-ní-á
Adelobotrys, ád-el'-ó-bot'-ris
Adenandra, ád-en-and'-rá
Adenanthura, ád-en-an-thé'-ra
Adenanthos, ád-en-anth'-os
Adenocarpus, ád-en-o-kár'-pus
Adenophora, ád-en-off'-ó-r-á
Adenostoma, ád-én-ós'-tó-ma
Adesmia, á-dez'-mí-a
Adiantum, ád-i-an'-t-um
Adlúmia, ád-lú'-mí-a
Adonis, ád-ó'-nis
Adoxa, á-dox'-a
Æchmea, ék-mé'-a
Ægiceras, é-jís'-er-as
Ægle, é-glé
Ægopodium, é-go-pó'-d-um
Æranthus, á-ér-anth'-us
Ærides, á-ér-i-déz
Æschynanthus, ésk-í-nan'-thus
Æsculus, ésk'-u-lús
Æthionema, é-thí-on-é'-ma
Æthusa, é-thí'-za
Ægalmyia, á-gal-mí'-a
Agania, á-gan-í'-a
Agapanthus, ág-á-pan'-thus
Agate, á-gá'-te
Agathæa, ág-á-thé'-a
Agathósma, ág-á-thóz'-ma
Agathýrus, ág-á-thís'-us
Ageratum, ád-er-á'-t-um
Aglao-morpha, ág-lá-o-mórf'-a
Aglao-nema, ág-lá-o-ném'-ma
A'graphis, ág'-rá-fis
Agrimonia, ág'-rí-mó'-ní-a
Agrostemma, ág-ro-stém'-ma
Agrostis, á-gros'-tis

Ailanthus, ail-anth'-us
Aitonia, á-tó'-ní-a
A'juga, á'-jú-ga
Akébia, ák-é'-bí-a
Albica, ál-bú'-ka
Alchemilla, ál-ké-mí-l'-ia
A'lder, á'l'-der
Alecost, ál'-kóst
Aleuritis, ál-úr-í-téz
Alhagi, ál-hág'-i
Alisma, ál-iz'-ma
Al'kanet, ál'-kán-ét
Allamanda, ál-la-mán'-da
Allantodia, ál-lán-tó'-d-ia
A'llium, ál'-lí-um
Alloléctus, ál-ló-plék'-tús
Allósorus, ál-ló-só-rus
A'l'nus, ál'-nús
Alócaria, ál-ó-kás-i-a
A'loe, ál'-ó-é
Alómia, ál-ó-mí-a
Alóna, ál-ó'-na
Alonsó, ál-ón-só'-na
Aloysia, ál-óí'-s-i-a
Alpina, ál-pín'-i-a
A'lsine, ál-sí'-né
A'sodia, ál-só-dé'-i-a
Alsophila, ál-só-fí'-l-a
Alstonia, ál-stón'-i-a
Alstroméria, ál-stró-mé'-ria
Alternanthera, ál-tér-nán-thé'-ra
Althæa, ál-thé'-a
Altingia, ál-tín'-j-ia
Alysicarpus, ál-sí-l-kár'-pús
Alýssum, ál-sí'-súm
Alýxia, ál-íx'-i-a
Amaranthus, am-ar'-anth'-us
Amaryllis, am-ar-í-l'-is
Ama-sonia, am-á-sóm'-i-a
Ambrosia, am-bró-sí'-a
Ambrosinia, am-bró-sín'-i-a
Amelanchier, am-el-and'-kí-er
Améllus, á-mé-l'-us
Amerimnum, á-mer-im'-num
Amethystia, am-é-thís'-t-ia
Amhéstia, am-hést'-i-a
Amómbium, am-mó'-bi-um
Amómum, á-mó'-múm
Amorpha, á-mórf'-a
Amorphophallus, á-mórf-ó-fál'-l-us
Ampelopsis, am-pel-óp'-s
Amphicarpea, am-fí-kár-pé'-a
Amphicoma, am-fík'-ó-mé
Amphidensium, am-fí-déz'-mí-um
Amphiphilum, am-fíl-ó-fí'-i-um
Amygdalus, á-míg'-dal-us
A'myris, á-mí'-ris
Anacampseros, an-á-kamp'-ser-ós
Anacardium, an-á-kárd'-i-um
Anacardus, á-nak'-ár-i-us
Anæctochilus, á-nék-tó-kí'-l-us
Anagallis, án-gál'-is
Anáas, án-á'-as
Anantherix, an-an-thér-ix
Anarrhinum, an-ár-rhí'-num
Anastacia, an-as-tá'-i-ka
Anátherum, an-ath-ér'-um
Anchieta, ák-í-é'-ta
Anchomanes, an-ko-má'-néz
Anchusa, ák-kú'-za
Ancylonyne, an-sí-lóg'-in-é
Andersonia, an-der-só'-ní-a
Andira, an-dí'-ra
Androcymbium, an-dro-sím'-bl-um
Andrómeda, an-drom'-é-da
Andropogon, an-dro-pó'-gon
Androsace, an-drós'-á-sé
Andryala, an-dry'-á-la
Anelima, an-i-lé'-ma
Anemia, an-í-mí-a
Anémia, an-é'-mí-a
Anémopsis, an-é-mí-óp'-is
Anémone, an-en-í-on-né
Anéthum, an-éth-um
Anglica, án-jel'-i-ka
Anglónia, án-jel-ó'-ní-a
Angelanthus, an-jí-anth'-us
Angiópteris, an-jí-op'-ter-is
Angréum, an-greek'-um
Anguillaria, an-gwíl-lár'-i-a
Anguloa, an-gú-ló'-a
Anguria, an-gú'-rí-a
Ania, á'-ní-a
Anigósanthus, an-ig-o-san'-thus

Artemisia, ár-te-mís'-i-a
Arthrobolium, ár-thro-ló'-bi-um
Arthropylum, ár-thro-fíl'-l-um
Arthropodium, ár-thro-pó'-d-um
Arthrostemma, ár-thro-stém'-ma
Artocarpus, ár-to-kár'-pus
Arum, ár'-um
Arundina, á-rún-dí'-na
Asagárea, á-sá-gé'-a
A'sarum, á'-sar-um
Ascaricida, ásk-ár-l-sí'-da
Asclépias, ásk-lé'-pí-as
A'scyrum, á'-sír-um
Asimina, á-sím'-i-na
Aspalathus, ásp-al'-á-thus
Aspáragus, ásp-árag'-us
Aspasia, ásp-á'-s-i-a
Asperugo, ásp-er-ú'-go
Asperula, ásp-er'-u-la
Asphodel, ásp-fó-dél
Asphocarpa, ásp-pí-kár'-pa
Aspidistra, ásp-pí-dí'-tra
Aspidium, ásp-pí-dí'-um
Asplenium, ásp-plé'-ní-um
Assonia, áss-ó'-ní-a
Astartea, ást-tar-té'-a
Astelia, ást-té'-l-ia
Astelia, ást-té'-l-ia
Asperphanus, ást-té'-án-us
Aster, á'-ter
Asterantha, ást-ter-kanth'-a
Asteroccephalus, ást-ter-ó-sef'-al-us
Astilbe, ást-í-l'-e
Astragalus, ást-trág'-al-us
Astránthus, ást-tranth'-us
Astrántia, ást-tran'-shí-a
Astræa, ást-trá-pé'-a
Astrocaryum, ást-ro-kár'-i-um
Astrolobium, ást-ro-ló'-bi-um
Astroloma, ást-ro-ló'-ma
Astrouche, ást-rof-rí-ké
Astyria, ást-í'-rí-a
Asytia, ást-í-tá'-s-i-a
Attacia, á-tak'-s-i-a
Atalántia, át-á-lan'-shí-a
Atlándra, át-é-land'-ra
Atlamánta, át-á-man'-ta
Athanasia, ath-an-á'-s-i-a
Atheropogon, áth-er-o-pó'-gon
Atherosperma, áth-er-o-sper'-ma
Athuria, á-th-ú'-rí-a
Athyrium, á-thí'-rí-um
Atzigene, á-tra-gén-é
Atraphaxis, á-trá-fáx'-is
Atropa, átr-ó'-pa
Attalea, át-tá'-l-e-a
Aubertia, ó-bré'-shí-a
Aucuba, áu-kú'-ba
Aubertia, áu-dí-ber'-shí-a
Aoudouina, áu-dou-in'-i-a
Aulax, ául'-ax
Avena, á-vé'-na
Averrhoa, áv-ér-thé'-a
Aycinia, á-yé'-ní-a
Azalea, á-zá'-l-e-a

B

Babiha, bab-í-á'-na
Babingtonia, bab-ing-tó'-ní-a
Bacázia, bak-á'-z-i-a
Báckharia, bak'-kír-is
Báckhousia, bak-hóu'-s-i-a
Báctris, bak'-trís
Báckia, bék'-i-a
Báhia, bá'-í-a
Balanites, bal-an-í'-téz
Balántium, bal-an'-shí-um
Bálistia, bal-bís'-i-a
Ballota, bal-ló'-ta
Balsamina, bál-sam-í'-na
Balsamita, bál-sam-í'-ta
Balsamodendron, bál-sam-o-dén'-
dron
Bambusa, bam-bú'-za
Banisteria, ban-is-té'-r-ia
Bánksia, bank'-s-i-a
Baptisia, bap-tís'-i-a
Barbáccia, bár-bás'-s-i-a
Barbarea, bár-bár'-s-i-a
Barbára, bár-bár'-s-i-a
Barbiera, bár-bí-er'-a

C. Butler.

(To be continued.)

TOMATO TRIAL AT READING.

At Messrs. Sutton and Son's seed farm, at Reading, is to be seen a collection of Tomatoes grown for the purpose of comparison. In all, the trial contains some 230 rows, 10 plants to a row, making a total of 2,300 plants. The average height of the varieties is 3 feet, the most dwarf kinds being about 20 inches, and the tallest 40 inches. The number of varieties is not the same as the number of rows, for, in some cases, several rows are planted with one variety, but they had been obtained from different sources, and were labelled under the various growers' stocks. A remarkable circumstance was the exact truthfulness to character of each stock, a fact which serves to show how thoroughly the characters of Tomato varieties have been fixed. The seeds were, in every case, sown on March 14, the planting-out being done during the second week in June. The plants generally had cropped very heavily, for, although in one or two cases I noticed only few fruits on the haulm, taking them altogether I have never seen a finer trial or heavier outdoor crop, and the plants were remarkably free from disease. It is not to be assumed, however, that the past has been an ideal Tomato season, for warm weather was wanted during early September to ripen the fruits, three-fourths of them being fully grown and needing only sunshine to colour them.

Commencing with the earlier forms of outdoor Tomatoes with their somewhat sutured fruits, the varieties were Early Large Red, Open Air, Magnum Bonum, and similar ones, all very heavy croppers. Then the varieties gradually passed into a smoother section, such as Early Market, Winter Beauty (a splendid cropper and handsome fruits), Princess of Wales (another excellent cropper), Abundance, Up-to-Date, Comet (not a good cropper at Reading), Red Dessert (fruits of medium size on long racemes and very prolific), Holmes' Ideal, a variety not unlike Sunrise, which was also in the trial (both nicely fruited), and Sutton's Al (with Apple-shaped fruits). I also noticed the old Ham Green Favourite, Best of All, and Sutton's Eclipse, all carrying heavy crops of handsome fruits. Then there were Hathaway's Excelsior, Main Crop (of which a much smoother form than the original type now exists), Sutton's Cluster (with long racemes of rounded fruits), Cascade (the fruits of this kind are also borne in racemes, but they are smaller than the last mentioned and suitable for dessert purposes or for ornamental uses), the small-fruited Red Currant, the large-clustered Wonder of Italy, known sometimes as Semperfructifera; Peach Blow, with an immense crop of fruits, though none were coloured; and the products of several fine crosses, in which Satisfaction, Best of All, Up-to-Date, and others have been used as parents. The aim of the raiser of new varieties is to obtain greater solidity of flesh and richer flavour. So far as cropping is concerned it would seem from this Reading trial there is little to be desired, but giant crops are not everything. So far the varieties named have been red kinds; the yellow fruited varieties were massed by themselves. The first I noticed were those two pleasant eating and abundant cropping varieties, Yellow Cherry and the Plum-shaped Golden Nugget. Sunbeam produces egg-shaped fruits; those of Golden Queen are slightly corrugated. The dwarfest grower is Sutton's Dwarf Gem, the plants, 20 inches in height, having good crops of Tomatoes. Golden Perfection is one of the best of the yellow kinds.

The trial throughout has been very carefully conducted; each plant has been given equal opportunities with its neighbour, and all seem to have made the best use of the good culture afforded them. A. Z.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

SEPTEMBER 15.—Present: Dr. M. C. Cooke, M.A., V.M.H. (in the chair); Messrs. W. Fawcett, J. Fraser, W. Hales, H. T. Güssow, A. Worsley, A. W. Sutton, L. de B. Crawshaw, and F. J. Chittenden (secretary).

Mushrooms from spores.—Dr. M. C. Cooke, V.M.H., read a communication concerning a Mushroom, *Agaricus elvensis*, which had occurred in two gardens after pieces of this species had been thrown out, and which had evidently grown from the spores so distributed. They had, after their first appearance, grown in the same spot year after year.

Diseased plants.—Mr. H. T. Güssow reported that he had examined the Apples referred to him at the last meeting; and had found nothing upon them except punctures made by some insect. He had also examined the New shoots, and was of opinion that they had been injured either by something having been poured over them or by fumes.

Spots in Papaver Rhoeas.—W. G. SMITH, Esq., of Dunstable, wrote in reference to the Shirley Poppies with bracts at the base of the flowers and otherwise varying from the normal, saying that he had noticed similar forms at Dunstable in *Papaver Rhoeas*, and he found that these came true from seed, at any rate for several years. He had also noticed forms with several flowers growing from just below the flower in its normal position, reminding one of the "hen and chicken" Daisy, in which inflorescences behave in a similar manner.

Ustilago hypodytes.—Dr. C. P. FLOWERTY sent a specimen of *Ammophila arundinacea* "affected by the so-called *Ustilago hypodytes*. The affected plant has been growing in my garden for the last fifteen years, annually producing the iungus. The spores are produced inside the leaf sheaths, so that they look as though they had been filled with snuff packed in between the stem and the leaf. This year, however, the stems are contorted, and the growth very much distorted. The plant came originally from Wells-next-the-Sea, Norfolk."

Aster tripolium.—Mr. FRASER, F.L.S., drew attention to the strongly entomophilous character of the Sea Aster (*Aster tripolium*), and especially to the great variation in the number of ray florets found in the flower; many plants had the outer florets with broad rays, in some they were narrow, though numerous, in others they were very few, while quite frequently none at all were present. He found, however, that the various forms were all alike regularly visited by insects, especially the hive bee, the humble bee, and various flies (Syrphidae). The pollen was spiny in all, and there were numerous papillae (from which an odour was exuded?) upon the corolla and other parts of the flower.

Sisymbrium Sophia.—Mr. FRASER also showed specimens of *Sisymbrium Sophia*, in which, unlike the usual condition of things, the petals were less than half the length of the sepals.

Carrots splitting.—Several specimens of Carrots splitting lengthwise were exhibited, and Mr. SUTTON said that this almost invariably happened when the roots were left in the soil for a considerable time after they had reached maturity. Another cause of the splitting was the rapid absorption of water after a period of drought.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

SEPTEMBER 3.—Committee present: Messrs. R. Ashworth (chairman), Thorp, Ward, Warburton, Shill, Upjohn, Ball, Keeling, Holmes, Cypher, Ashton, Parker, R. Ashworth, and Weathers (hon. sec.).

Z. A. WARD, Esq., Northenden (gr. Mr. Weatherley), staged a handsome group of plants, in which were several choice hybrids, two or three beautiful forms of *Cattleya* × *Iris* being especially noticeable. (Silver Medal.)

R. ASHWORTH, Esq., Newchurch, also received a Silver Medal for a group of plants composed of good forms of *Odontoglossums*, *Cattleya Gaskelliana* alba, and some hybrids.

G. SHORLAND BALL, Esq., Burton, West-morland (gr. Mr. Herd), staged a collection of *Cypripediums*, amongst which were such choice and well-known plants as C. × Lord Ossulston, C. × Milo var. *magnificum*, C. × Baron Schroder var. *Ardens* (Award of Merit), C. × Victory (Award of Merit), C. *Curtisii* var. *exquisitum*, and C. × *Maudiae*. *Cycnuchos chlorochilon* received an Award of Merit, as did also *Brassia Wrayae* from the same collection. Several interesting plants of botanical interest were also recognised by the committee. A Silver Medal was awarded to this exhibitor for *Cypripediums*, and another for the general collection.

MAX ISAAC, Esq., Blundellsands (gr. Mr. Driver), exhibited *Cypripedium* × *Maudiae* *magnificum* and *Lycaste Deppeii* var. *giganteum*.

E. ROGERSON, Esq., Didsbury (gr. Mr. Price), showed a few plants, including *Cypripedium* × *Piceanum*, a new hybrid between C. × *Harrisianum* and C. × *violaceum* (Award of Merit), C. × St. Mary, C. × *Mandarin*, and C. × *Princess*.

J. MCCARTNEY, Esq., Bolton (gr. Mr. Holmes), staged a group of *Cattleyas* and *Laelias*, for which a Silver Medal was awarded. *Cattleya Gaskelliana* var. *picturatum* was voted an Award of Merit. Other plants in this group worthy of mention were *Laelio-Cattleya* × *callistoglossa*, L.-C. × *bletchleyensis*, and *Cattleya Gaskelliana* var. *alba*.

MESSRS. MOORE & CO., Rawdon, near Leeds, were voted a Silver Medal for a miscellaneous collection, in which were some rare plants, principally of botanical interest.

C. PARKER, Esq., Ashton-on-Ribble, was awarded a Bronze Medal for a group of well-grown *Cypripediums*, including C. × *velutarium* var. *Rougieri*.

S. GRATRIX, Esq., Whalley Range (gr. Mr. Shill), obtained a First-Class Certificate for *Cypripedium* × *Rosetii*, a beautiful plant whose parents are C. *insigne* var. *Sanderianum* × C. *Maudiae*.

A. WARBURTON, Esq., Haslingden (gr. Mr. Dalgleish), gained Awards of Merit for *Cypripedium* × *bingeyense* var. *superbum*, C. × *Lawreli* var. *magnificum*, and *Cattleya* × *Iris* var. *Othello*.

H. J. BROMILOW, Esq., Liverpool (gr. Mr. Morgan), received an Award of Merit for *Cypripedium* × *Germain* *Opoix* Westfield var. C. × *Rappartianum* and C. × *Maudiae* were also shown by Mr. BROMILOW.

Mr. W. SHACKLETON, Bradford, received a vote of thanks for a small display of plants. P. W.

BRITISH GARDENERS' ASSOCIATION. LONDON BRANCH.

SEPTEMBER 10.—The first meeting of the autumn session of the London branch of this association was held at Carr's Restaurant on the above date. Mr. G. Gordon, V.M.H., gave a lecture on "Beautiful Flowering Trees and Shrubs." The lecture was illustrated by lantern slides.

At the last meeting of this association, Mr. E. F. Hawes in the chair, six new members were elected, bringing the total up to 1,363. The question of honorary members was deferred for further consideration. A sub-committee was appointed to consider and report whether it would be possible to establish a garden on co-operative principles so as to give employment to any members out of work and to serve as a centre from which employers could obtain professionally-trained gardeners. The secretary will be pleased to receive any ideas or suggestions on this matter. J. W.

NATIONAL CHRYSANTHEMUM.

SEPTEMBER 14.—The first meeting of the executive committee for the season 1908 was held on the above date at Carr's Restaurant, Strand. Mr. Thomas Bevan occupied the chair. A report of the annual outing, made by the secretary, showed that 160 persons were present, and that the undertaking was a financial as well as a social success. The need for a diploma for honorary fellows was discussed. A report from the committee to consider the desirability of holding the exhibitions in the Royal Horticultural Hall, Vincent Square, was

debated, with the result that it was not considered practicable at the present moment. A report was also submitted from the Market Show Committee, and a resolution passed that this show be abandoned.

The annual dinner will be held at the Holborn Restaurant on November 26, provided the arrangement is suitable for the president.

Several new members were elected.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

SEPTEMBER 14.—The monthly meeting of this Society was held at the Horticultural Hall, Vincent Square, Westminster, on the above date, Mr. Charles H. Curtis in the chair. Four new members were elected, making a total of 52 for the year. The sum paid to sick members since the last meeting has amounted to £39 13s.

Mr. A. Hemsley resigned his office on the committee through pressure of business and inability to attend the meetings. The resignation was accepted with regret, and a vote of thanks was accorded him for his past services.

The annual dinner will be held this year at the Waldorf Hotel, Aldwych, W.C., on Thursday, October 15, at 6.30 p.m. Dr. Botall, of Abinger, has consented to preside on this occasion.

NATIONAL ROSE. (AUTUMN SHOW.)

SEPTEMBER 17.—Another success must be credited to the National Rose Society in their autumn exhibition held on the above date in the Horticultural Hall, Vincent Square, Westminster. The building was well filled not only with exhibits of Roses of all kinds that overflowed into the annexes, but also with visitors. So popular have these exhibitions become that for the members' convenience one hour was set apart for a private view. The weather conditions were glorious, and this contributed not a little to the success of the show. Considering the very adverse weather of the past few weeks it was remarkable to see Roses in such quantity and in such fine condition. There were many varieties presented for awards, and of these four received the Society's Gold Medal, while several others gained a Card of Commendation. The Rose is especially suitable for floral decorations, and the numerous and beautiful exhibits in this section found many admirers.

NURSERYMEN'S CLASSES.

BLOOMS SHOWN ON BOARDS.

The most important class was that for 36 blooms of distinct varieties, and it was competed by seven growers, most of the exhibits being of very fine quality, and especially the two which took the 1st and 2nd prizes, shown by J. COCKER & SONS, Aberdeen, and Mr. HUGH DICKSON, Belfast, respectively. A 3rd prize was awarded to Messrs. ALEX. DICKSON & SONS, Newtownards, who showed a very creditable lot. The blooms in the premier exhibit were: *Marchioness of Londonderry*, *Annie Wood*, *Gustave Piganeau*, *Mme. Jules Gravereaux*, *Mme. J. Bonnaire*, *Captain Hayward*, *Mrs. R. G. Sharman Crawford*, *Oscar Cordel*, *Pharisæer*, *Alfred Colomb*, *Exquisite*, *Mrs. E. Mawley* (a choice bloom), *Hugh Dickson*, *La France*, *Earl of Warwick*, *Caroline Testout*, *Färbekönigin*, *Florence Pemberton*, *John Stuart Mills*, *Mrs. John Laing*, *Mildred Grant*, *Betty*, *Charles J. Grahame* (this flower was considered the best hybrid perpetual Rose in the nurserymen's classes and was awarded a Silver Medal), *Bessie Brown*, *Duc de Rohan*, *Frau Karl Druschki*, *Helen Keller*, *Kaiserin Augusta Victoria*, *Freiherr von Marschall*, *Duke of Wellington*, *Lady Sheffield*, *Rev. Alan Cheales*, and *Mme. Wagram*.

The winner of the 2nd prize, Mr. HUGH DICKSON, Belfast, showed excellent blooms of *Mme. Wagram*, *Comtesse de Turenne* (pale pink), *Hugh Dickson*, *Mme. Eugène Verdier* (very large), *Mme. Joseph Combet*, *Her Majesty* (pale pink with fine centre), *Mrs. Stewart Clark*, *Ulrich Brunner*, *Gladys Harkness* (an exceedingly well-shaped flower of pink colour), *Charles J. Grahame*, *Mrs. Edward Mawley*, *J. B. Clark*, and *Tom Wood* (well-formed).

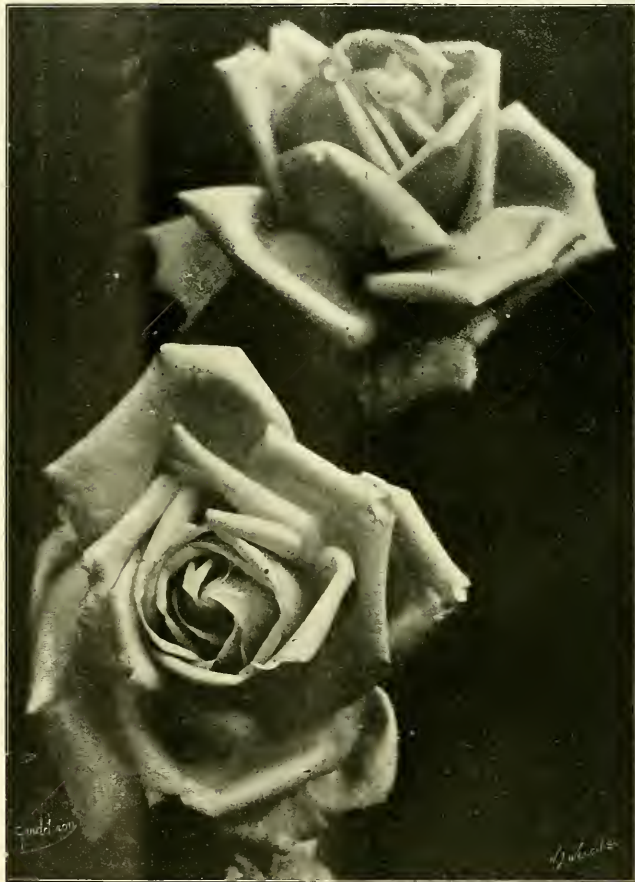
A Silver Medal was awarded to Messrs. ALEX. DICKSON & SONS, Newtownards, for a large,

finely-formed bloom of the variety *Mrs. John Laing* in the 3rd prize exhibit, which also contained fine blooms of *Mme. Joseph Combet*, *Comte de Raimbault* (dark red), *Oscar Cordel*, and *Gustav Grünerwald*.

In the class for 18 blooms of distinct varieties, the 1st prize was won by Messrs. J. JEFFERIES & SON, Cirencester. There were several good blooms in their exhibit, notably *Maman Cochet*, *Mrs. Edward Mawley*, *Mme. Jules Gravereaux*, *Mme. Lambert*, *Perle des Jardins*, *Souvenir d'Elise Vardon* (a grand specimen), *Golden Gate*, *Georges Schwartz* (of the richest yellow), and *Souvenir de Pierre Notting*. Mr. GEORGE PRINCE, Longworth, was awarded the 2nd prize,

Messrs. DICKSON's varieties included *Ulrich Brunner*, *Gladys Harkness* (exceptionally fine), *Mrs. Stewart Clark*, *Frau Karl Druschki*, *Mrs. John Laing*, *Mme. Wagram*, *Comtesse de Turenne* (a very clean-petalled variety), *Chas. J. Grahame*, and *Caroline Testout*. The 2nd prize collection contained good samples of *Betty*, *Mrs. E. Mawley*, *Earl of Warwick*, *Alfred Colomb*, *Captain Hayward*, *Caroline Testout*, *Mrs. J. Laing*, and *Pharisæer*. 3rd, Messrs. W. & R. FERGUSON, Dunfermline.

A class was provided for 12 blooms of one variety. There were five vases; the three premier ones all contained the white *Frau Karl Druschki*, shown by Messrs. J. JEFFERIES & SON,



[Photograph by J. Gregory.]

FIG. 101.—ROSE ALEX. HILL GRAY; RICH YELLOW TEA VARIETY.

(For text see p. 237.)

and among his collection we remarked fine flowers of *Mrs. E. Mawley*, *Auguste Comte*, *Mme. Vermorel*, and *Maman Cochet*. The 3rd prize was won by Messrs. D. & W. CROLL, of Dundee, with principally yellow and white varieties.

BLOOMS SHOWN IN VASES.

The class for 12 distinct varieties staged in a space not exceeding 6 feet by 3 feet was of much importance, and occupied a considerable amount of space. There were seven exhibits, much the best being that shown by Mr. HUGH DICKSON, of Belfast, for although the 2nd prize exhibit, shown by Messrs. J. COCKER & SONS, Aberdeen, had some finely-formed and well-coloured blooms they were not so large. A selection of

Cirencester, Messrs. W. & R. FERGUSON, Dunfermline, and Messrs. J. COCKER & SONS, Aberdeen, respectively.

A very large display was formed by the collections of Roses staged in a class for 36 distinct varieties in trusses, arranged as far as possible to show the foliage and habit of growth of each variety. There was a good competition amongst five growers, the 1st prize falling to Messrs. FRANK CANT & Co., Colchester, for a bright lot in big bunches, especially well arranged. As a selection we may enumerate *Marie Van Houtte*, *Papa Gontier*, *Mme. Hoste*, *Lohengrin*, *Dean Hole*, *Hugh Dickson* (shown especially well), *Lady Ashton*, and *Wm. Shean*. In the 2nd prize group, shown by Messrs. B. R. CANT &

Sons, Colchester, were many garden varieties, and they were beautifully fragrant, whilst, apart from the very bright flowers, the foliage and buds were also pleasing. Their best examples were Marie Van Houtte, Georges Nabonnand, Maman Cochet, Morning Glow, Perle von Godesberg (an exquisite yellow kind), Pharisæer, Florence Pemberton, Mme. Jules Grodzke, General Schablikine, Mme. Ravary, and Sulphurea.

DECORATIVE ROSES.

The exhibits in this section were required to be arranged so as to show as far as possible the foliage and habit of growth of each variety. There was a class for 24 distinct varieties in which not fewer than three nor more than seven trusses of each variety were permitted, and the space was restricted to 8 feet by 3 feet. There were three groups, and generally the blooms were small. In the winning selection, shown by Mr. JOHN MATTOCK, Oxford, were seen Peace, Mons. Paul Ledé, Irish Elegance, Lady Battersea, Gen. Schablikine, Lady Waterloo, Carolina La Tosca (an elegant little variety), Viscountess Folkestone, Betty, and others. 2nd, Messrs. F. CANT & CO., Colchester, with Rainbow, Beryl, Eclaire (a notable vase), Peace (also very fine), Mme. Antoine Mari (a very pleasing colour), General Gallieni (with peculiar coloured petals, being wine colour outside and pale rose internally), and Mme. Chedane Guinoisseau (of a beautiful yellow colour, with pretty small buds). 3rd, Messrs. J. JEFFERIES & SON, Cirencester.

There were three exhibitors in the class for 12 varieties, the winners being Mr. J. J. PENARTH, Messrs. W. & R. FERGUSON, Dunfermline, and Messrs. GEORGE PRICE, Longworth, who won in the order in which their names are given.

In the class for 12 distinct varieties in trusses arranged in bamboo stands, two competitors entered, the 1st prize going to Mr. JOHN MATTOCK, whose vases were artistically arranged on the board. The 2nd prize fell to Messrs. J. JEFFERIES & SON, of Cirencester. Some notable stands in the 1st prize exhibit were those containing Bardou Job (fine single Rose of a dark red colour), Mme. Abel Chateau (very effective), Gruss an Teplitz, Catherine Mermel, and Irish Elegance. Among those staged by Messrs. J. JEFFERIES & SON were Lady M. Bathurst (a beautifully formed yellow Rose), Gruss an Teplitz, Hermosa, and Mme. Lambard. There were six entries to the class for dwarf Polyantha or Pompon Roses. Each exhibitor showed, in vases, six trusses of 12 distinct varieties. The three prizes awarded were taken by Messrs. B. R. CANT & SONS, Colchester, Messrs. PAUL & SON, Cheshunt, and Messrs. W. & J. BROWN, Peterborough. The premier blooms Schneewittchen (clusters of little white flowers), Eugenie Lamesch (large trusses of pale yellow blooms, but inclined to be darker in the open flowers), Perle d'Or, Mme. Zelia Bourgeois (with tiny flowers), Katherine Zeimet, Leonie Lamesch (very pretty colouring of a reddish tint). The flowers shown by Messrs. PAUL & SON were not greatly inferior to those displayed by the winner of the 1st prize. They included Katherine Zeimet, Gloire des Polyantha, Cecile Brunner, Perle d'Or, and Rosalinde.

GROUPS OF ROSES.

No space is allotted to non-competitive exhibits of Roses at this show, but the exhibits of groups of Roses by nurserymen, for which the schedule made provision in three classes, take their place. In that for a representative group of Roses arranged in a space not exceeding 100 square feet, and including all the types of Roses, either as pot plants or as cut flowers in vases, &c., and relieved with suitable foliage plants, there were two competitors, Messrs. PAUL & SON, Old Nurseries, Cheshunt, and Messrs. HOBBIES, Ltd., Dereham, Norfolk, the 1st and 2nd prizes being awarded in the order given. Each group was arranged in a corner of the building, Messrs. PAUL having neat bunches in vases and baskets, with pot plants at the back, relieved with Ferns and Palms, and edged with a row of Adiantum Ferns. They showed Paula, Marie Van Houtte, Frau Karl Druschki, Victor Hugo, Mrs. J. Laing, Heinrich Schultze, La Tosca (very fine samples), S. M. Rodocanachi, pot plants of Eugenie Lamesch, and others. Messrs. HOBBIES had rather a different arrangement, using at the back tall trained plants in

pots and epergnes filled with fine blooms, Carolina, Dainty, General MacArthur, Marie Van Houtte, and Georges Nabonnand being a selection of the varieties shown.

Class II was for a representative group of cut Roses arranged on staging in a space not exceeding 18 feet by 6 feet. Four fine displays were seen, all exhibiting great skill in arrangement. The best was adjudged to be shown by Mr. GEORGE PRICE, Longworth, his group being comprised of tall epergnes filled with blooms of well-known varieties and a groundwork of vases containing such varieties as Killarney, Betty, White Maman Cochet, Marie Van Houtte, La Tosca, &c. The 2nd prize exhibit, shown by Messrs. W. & J. BROWN, Peterborough, was also very pleasing, with tall stands at the back facing banks of Roses, in bunches and vases. Most of the best kinds in season were displayed in this group, also in a very pretty exhibit arranged by Messrs. HOBBIES, LTD., which was awarded the 3rd prize.

AMATEURS' CLASSES.

In the class for 18 blooms of distinct varieties, open to any amateur cultivator irrespective of the number of plants he grows, Messrs. R. & T. PARK, Bank House, Aiskew, Bedale, took the 1st prize with a very bright and clean set of blooms, amongst which were noticed good examples of Francois Michelon, Alfred Colomb, Hugh Dickson, White Maman Cochet, President Carnot, and Gladys Harkness. The Rev. J. H. PEMBERTON, Havering, Romford, was a good 2nd, his

plants, Mr. WALTER BENTLEY, Lombard Street, E.C., was given 1st place in a keen competition, his best specimens being Frau Karl Druschki, J. B. Clark, Killarney, and Mrs. Theodore Roosevelt. He was closely followed by Mr. STUART HOGG, Hertingfordbury.

The Rev. J. H. PEMBERTON gained the 1st award for 12 distinct varieties, the most effective blooms being Gruss an Teplitz, Frau Karl Druschki, Fellenberg, Trier, Caroline Testout, Mme. Alfred Carrière, Gustav Grünerwald, Lady Ashtown, and Florence Pemberton. 2nd, Mr. J. R. DARLINGTON, Park House, Potters Bar.

TEA AND NOISSETTE SECTION.

In the Tea and Noisette section Mr. CONWAY JONES secured the premier award of 12 blooms of distinct varieties, with choice blooms of Lady Roberts, Mrs. Edward Mawley, Maman Cochet and its white form, The Bride, and Anna Olivier. 2nd, Messrs. R. & T. PARK.

For nine blooms, distinct varieties, open to growers of fewer than 500 plants, Mr. C. H. F. LESLIE was a good 1st with Innocente Evola, Ernest Meiz, Marie Van Houtte, Cleopatra, Souvenir de Pierre Notting, Souvenir d'Elise Vardon, and Mrs. Edward Mawley in good form.

Mr. W. O. TIMES excelled for six blooms, distinct, the finest flowers being Niphetos, Rubens, Maman Cochet, and Mme. Lambard. Mr. STUART HOGG had good flowers of Catherine Mermel, Mrs. E. Mawley, Marie Van Houtte, and Bridesmaid, with which he won the 2nd prize.

EXHIBITION ROSES IN VASES.

In the class for six distinct varieties, not more than two varieties of Tea or Noisette Roses, five blooms of each, the Rev. J. H. PEMBERTON was again 1st with Bessie Brown, Caroline Testout, Frau Karl Druschki, Earl of Warwick, Hugh Dickson, and Florence Pemberton.

There was only one entry in the class for decorative Roses, the Rev. J. H. PEMBERTON showing a fairly representative set, for which he was awarded the 1st prize.

For six distinct varieties a greater competition resulted, Mr. EDWARD MAWLEY being placed 1st, Mr. J. R. DARLINGTON obtaining the 2nd place.

GOLD MEDAL ROSES.

Lady Alice Stanley (see fig. 102).—A Hybrid Tea variety of pale-rose colour, the inner surface of the petal being of a silvery sheen; the centre is somewhat globular, and although the flower is not, perhaps, of the choicest form, it possesses fragrance, an attribute not always to be found in new Roses.

His Majesty, a fine dark red Rose, sweetly scented, and with a well-formed form. Both these were shown by Messrs. MCGREDY & SON, Portadown.

Alex. Hill Gray (see fig. 101).—A beautiful yellow Tea variety, with very elegant form and richest shade of colouring.

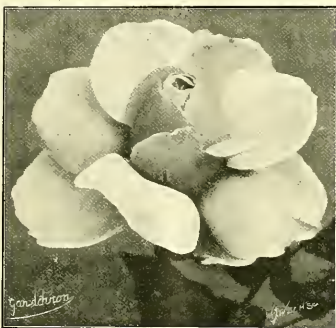
Dr. O'Donnell Brown, H.P.—A good red Rose, slightly paler on the exterior of the petals, which are of good substance. These two last-named were shown by Messrs. ALEX. DICKSON & SONS.

DEBATING SOCIETIES.

CARDIFF GARDENERS.—The members of this association visited the Fair Oak Nurseries, Bassaleg, on September 9, to inspect the fruit crops. It was surprising after the great falls of the previous week to find such a large quantity of fruit on the trees, especially after being informed by Mr. J. H. BENTLEY that the trees had been blown down. The crops of some of the varieties of Pears had been injured by the cold weather in spring, but the majority of trees were freely fruited. Some fine specimen fruits were seen on pot trees in the extensive orchard house. The chairman and honorary secretary being away on their holidays, the arrangements for the outing were made by Messrs. MOUNTNEY and Julian.

CROYDON & DISTRICT HORTICULTURAL.—This Society resumed its meetings for the coming session at the Sunflower Temperance Hotel, and the first paper was on "The Benefits of Gardeners' Mutual Improvement Societies to Gardeners and their Employers." The hon. secretary (Mr. Harry Bosbury) was the reader of the paper.

At the meeting on Tuesday, 15th inst., the lecturer for the evening was Mr. M. E. MILLS, Coombe House Gardens, his subject being "Flowering Annuals," and to illustrate some of the varieties under notice he showed several lantern slides.



[Photograph by J. Gregory.]
FIG. 102—ROSE LADY ALICE STANLEY, H.T.:
COLOUR PALE SILVERY ROSE.

finest examples being Caroline Testout, Mrs. Theodore Roosevelt, and Gustav Grünerwald; 3rd, Mr. CONWAY JONES, Hucclecote, Glos. The Silver Medal for the best bloom of H.P. in the amateurs' section was awarded to Mr. E. B. LINDSELL, Bearton, Hitchin, for a bloom of Mrs. J. Laing, and shown in this class.

For 12 blooms, distinct varieties, open only to growers of fewer than 2,000 plants, the 1st prize was secured by Mr. W. O. TIMES, Bedford Road, Hitchin, whose finest flower was those labelled Lady Ashtown, Bessie Brown, Countess of Gosford, Countess of Derby, Mrs. J. Laing, and Frau Karl Druschki; 2nd, Mr. G. SPEIGHT, Market Harborough, with a clean set of blooms, including Mme. Wagram, which was awarded the Silver Medal for the best H.T. shown by amateurs; 3rd, Mr. M. WHITTLE, Belgrave, Leicester.

Mr. O. G. ORFEN, Colchester, secured the Silver Medal for the best Tea Rose with the variety White Maman Cochet.

Mr. W. URRON, Belgrave, Leicester, obtained the 1st prize with an even set of blooms for nine distinct varieties amongst growers of fewer than 1,000 plants, the most notable blooms being Maman Cochet, Frau Karl Druschki, Mrs. J. Laing, Mme. Hoste, J. B. Clark, and White Maman Cochet; 2nd, Mr. E. B. LEHMANN, field, Crawley.

In the class for six blooms, in not fewer than four varieties, open to growers of fewer than 200

MARKETS.

COVENT GARDEN, September 23.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It is sent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Ed.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, p. dz. bchs.	20-30		Lily of the Valley, p. dz. bunches	9-10-0	
Bouvardia, per dz. bunches	5-6-0		— extra quality	12-0-15	
Calla aethiopica, p. dozen	20-30		Marguerites, per dozen bunches	20-30	
Carnations, per dozen blooms	1-2-6		— white and yellow	20-30	
— best American	1-2-6		Mignonette, per dozen bunches	20-30	
— second size	9-10-0		Ox-eye daisy, per dozen bunches	20-30	
— smaller, per dozen bunches	9-10-0		— crispum, per dozen bunches	20-2-6	
— border varieties, p. dz. bunches	9-10-0		Pelargonium, double	20-30	
Cattleyas, per doz. blooms	6-10-0		— show, per doz. bunches	50-60	
Chrysanthemums, specimen	20-30		— Zonal, double	80-50	
— small, per doz. bunches	5-10-0		Roses, 12 blooms, Niphetos	10-2-6	
Coronopsis, dz. bchs.	1-2-6		— Brechtmaid	10-2-6	
Cypripediums, per dozen blooms	20-2-6		— C. Testout	10-2-6	
Dahlia, per dozen bunches	9-10-0		— General Jacqueminot	0-6-10	
Eucharis grandiflora, per doz. blooms	20-30		— Kaiseria A. Victoria	10-2-0	
Gaillardias, per doz. bunches	1-2-6		— (various), per dozen bunches	10-2-0	
Gardenias, per doz. blooms	10-2-0		— Liberty	10-2-0	
Gladioli, French-leaved, per doz. spikes	20-30		— Mrs. Chateaufort	1-2-6	
Gypsophila per doz. bunches	20-30		— Mrs. J. Laing	1-2-6	
Lilium auratum, per dozen	2-3-6		— The Bird	1-2-6	
— longifolium	2-3-6		Scabiosa, per doz. bunches	10-1-6	
— lanceifolium	1-2-0		— Sprea, p. dz. bchs.	0-8-0	
— rubrum and album	1-2-0		— Statice, per dozen bunches	20-30	
— tigrinum	1-2-0		— Stock, per doz. white, per doz. bunches	10-1-6	
			— Sweet Peas, per dozen bunches	16-2-6	
			— Sweet Sultan, per doz. bunches	20-30	
			— Tuberoses, per doz. blooms	4-0-6	
			— on stems, per bunch	1-2-6	

Cut Foliage, &c.: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Adiantum cuneatum, dz. bchs.	4-0-6		Grasses, dz. bchs.	10-2-6	
Asparagus plumosus, long trails, per doz.	10-2-0		Hardy foliage (various), per dozen bunches	20-6-0	
— medium	8-10-0		ivy-leaves, broaze	20-2-6	
— bunch	1-0-20		— long trails per bundle	...	
— Sprengeri	9-10-16		— per doz. bunches	...	
Berberis, per doz. bunches	2-6-30		per dz. bunches	16-2-6	
Croton leaves, per bunch	10-1-8		per doz. bunches	16-2-6	
Cycas leaves, each	1-2-0		per doz. bunches	16-2-6	
Ferns, per dozen bunches (English)	20-30		per doz. bunches	16-2-6	
— (French)	20-30		per doz. bunches	16-2-6	
	1-0-30		per doz. bunches	16-2-6	
	2-0-30		per doz. bunches	16-2-6	
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	2-0-30		per doz. bunches	16-2-6	
	1-0-30		per doz. bunches	16-2-6	
	2-0-30		per doz. bunches		

Plants in Pots, &c.: Average Wholesale Prices.

Plants in Pots,	s.d.s.	Atteridge Wholesale Prices	s.d.s.
Ampelopsis Veitchii, per dozen	60-80	Ferns, in thumbs, per 100	60-10-0
Aralia Sieboldii, p. dozen	40-60	— in small and medium	120-20-0
— larger specimens	90-120	— in 48's, per doz.	40-10-0
— Mosses	10-20-0	— in 36's, per doz.	40-10-0
Araucaria excelsa, per dozen	120-300	Ficus elastica, dz.	80-10-0
Aspidistra, p. dz., green	10-20-0	— repens, per doz.	60-8-0
— variegated	30-40-0	— Helianthus, per doz.	40-6-0
Asparagus, plumosus nanus, per dozen	10-20-0	— Isoplepis, per dozen	10-30-0
— Sprengeri	60-80	— Fostera, per dozen	10-30-0
— tenuissimus	90-120	— Helianthus, per doz.	40-6-0
Asters, per dozen	10-20-0	Latania borbonica, per dozen	12-10-18
Campanula isophylla, blue, per dozen	40-60	Lilium longifolium, per doz.	10-15-10
— white, per doz.	40-60	— lanceifolium, per doz.	10-15-10
Chrysanthemums, per dozen, best	10-15-0	— white, per doz.	10-15-10
— discoloured	10-15-0	Lily of the Valley, per dozen	19-30-00
— from ground	90-120	— Marguerite, white, per dozen	40-6-0
Clematis, per doz.	10-15-0	Pelargoniums, per dozen	80-6-0
Coccos Weddelliana, per doz.	10-15-0	— in pots, Zonal	40-6-0
— Selaginella, per doz.	10-15-0	— Scilla, per doz.	40-6-0
Coleus	30-40	Salonams, per doz.	80-10-0
Crotons, per dozen	18-30-00	Spiraea japonica, p. dozen	40-6-0
— Cyperus alternifolius, dozen	40-60	Verbena, Miss Willmott, per dozen	80-6-0
— latus, per doz.	40-60	Violets, English double and single	16-2-10
Dracenas, per doz.	9-20-40	— per dozen	
Erica gracilis, per doz.	12-10-15		
— gracilis nivalis, per dozen	15-10-18		
Enonymus, per doz.	40-60		

Fruit: Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples (Nova		Melons, Rock	10-2-6
Scotland), per		— Valencia, case	60-8-6
barrel:		— (American),	
— Graevenstins	12-10-0	water, per case	10-10-0
— (English), per		— Mangos, per doz.	60-9-0
barrel:		Nuts, Almonds,	
— Peasgood's		per bag	45-0-0
Nonsuch	30-4-6	— Brazil, new,	
— Seedling	20-2-6	per cwt.	45-0-50
— Lord Derby	30-3-6	— Walnuts, Green,	
— Lord Suffield	30-3-6	per bushel	16-2-0
— Warrington's	30-4-0	— (English), per	
King		dozen lbs.	10-5-6
— per sieve:		— Barcelona, bag	80-9-10
— Yellow Ingestre	30-5-0	— Cocoa nuts, 100	11-0-6
— Quarrenden	2-6-3	— Cob, p. dz. lbs.	80-0-0
— Beauty of Bath	2-6-3	— Nectarines, select	60-12-0
— Worcester Pearmain	16-2-6	— best (English),	40-0-0
— Do, per box of		seconds	10-2-0
dozen	20-2-6	Oranges (Naples),	
— Cox's Orange		per case	80-10-0
Pippin	40-6-0	— (Jamaica), per	
— Windfalls, per		case	10-12-0
bushel	10-1-6	— Washington	
Bananas, bunch:		Navel (Natal),	
— No. 2 Canary		per case	110-10-0
— Extra	60-7-6	— (Cape Natives),	
— Extra	80-9-0	p. box	16-2-6
— Giants	100-10-0	— (Natal), per	
— (Clare)	50-6-6	box	63-7-8
— Jamaica	50-6-6	Peaches (English),	
— Loose, per dz.	0-9-18	p. dz. lbs.	60-12-0
Damsons (Pin),		— best quality	20-30-0
p. dz.	20-30	— second quality	10-2-0
— (English), p.		— (French), p. dz.	13-1-9
sieve	16-80	Pineapples, each	20-30-0
Figs (Turkey),		— (U.S.), per box	20-30-0
p. dozen	0-8-18	— (French), Dutch,	
— (Guernsey),		crates	40-8-0
p. dozen	0-8-18	— (French), Dutch,	
— (Lyon), box	13-1-8	crates	26-6-8
— (Lyon), box	10-6-0	— Bonne, crates	26-6-8
— (Lyon), box	10-6-0	— Pineapples, each	20-30-0
— (Lyon), box	10-6-0	Plums (English),	
— (Lyon), box	10-6-0	p. sieve	40-5-0
— (Lyon), box	10-6-0	— Seedling	40-5-0
— (Lyon), box	10-6-0	— Bush Plums	16-2-0
— (Lyon), box	10-6-0	— Monarch	80-4-0
— (Lyon), box	10-6-0	— Magnum	80-4-0
— (Lyon), box	10-6-0	— (California),	
— (Lyon), box	10-6-0	p. box	60-7-0
— (Lyon), box	10-6-0	Raspberries	
— (Lyon), box	10-6-0	(Scottish), per	
— (Lyon), box	10-6-0	basket	20-2-6
— (Lyon), box	10-6-0	— (Scottish), per	
— (Lyon), box	10-6-0	basket	20-2-6

Vegetables: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes (French), per dozen	20-2-6		Marrow (English), per tally	30-4-0	
Beans, runner, per dozen, p. bushel	20-2-6		Mint, per dozen bunches	10-1-6	
Beetroot, per bushel	13-1-6		Mushrooms, per lb.	0-6-0	
—, per bushel	20-2-6		—, per lb.	0-6-8	
Cabbages, per tally	20-3-0		—, buttons, per lb.	0-6-8	
—, per bushel	20-3-0		—, per bushel	1-6-2	
Carrots (English), dozen bunches	2-6-0		Mustard, per lb.	1-3-0	
Cauliflowers, per dozen	2-6-0		Onions (Egyptian), per dozen p. bushel	1-3-0	
—, per tally	5-8-0		Onions, per bag	60-0-0	
Celery, per roll	0-10-0		—, pickling, per bushel	1-6-2	
Chick peas, per bushel	10-10-0		Farsley, 12 bunches per bushel	1-2-0	
—, humul edule, p. dozen	10-6-0		—, per bushel	50-6-0	
Cucumbers, per dozen	16-2-0		—, bags, per dozen	80-10-0	
—, per flat	30-4-0		Salsify, per dozen bunches	8-6-0	
Endive, per dozen	10-10-0		Turnips, per dozen bundles	20-2-6	
Horseradish, per dozen	10-10-0		Tomatoes (English), per 12 lbs.	30-0-0	
—, per dozen	10-10-0		—, yellow	30-0-0	
Integro Corn, per dozen	10-1-6		—, second quality	1-6-0	
Leeks, 12 bundles	10-1-6		—, seconds	0-10-0	
—, per dozen	0-6-0		—, French, crate	14-1-6	
			Watercress, p. dz.	40-6-0	

REMARKS.—A few Apples (Graevenstins) arrived last week from Nova Scotia, but they were of poor quality. Cob Nuts are a good trade, 8d. per pound being their average price. English Plums are a little finer than smaller arrivals. Up-to-date of the crop, English Grapes are a big supply and cheap. English Tomatoes are still a glut. Prices for Cucumbers are firmer and likely to be for a week or so. Supplies of Peaches are short, best coloured fruits being especially valuable; the same may be said of Nectarines. Yellow Tomatoes have hardly any demand. Trade generally is quiet. E. H. K., Covent Garden, Wednesday, September 23, 1908.

Potatoes. s.d. s.d. s.d. s.d.
— Sharp's Express ... 3-6-3
— Sharp's Express ... 3-6-3
— Epicure ... 3-6-3
— Bedford ... 3-6-3
— Up-to-date ... 3-6-3
— Lincoln ... 3-6-3
— British Queen ... 3-6-3
— Up-to-date ... 3-6-3
— Blacklands ... 3-6-3
REMARKS.—Trade is steady and the supply is plentiful. Disease is seen in several varieties, including British Queen and Up-to-date. E. H. K., Covent Garden, Wednesday, September 23, 1908.

COVENT GARDEN FLOWER MARKET.

Mistletoe is already seen in the market. Autumn foliage is exceptionally well coloured this season, the leaves of Ampelopsis Veitchii being the brightest red. Berberis (Mahonia) aquifolia is remarkably good, some of a very

bright colour being received from Madeira. There is a much larger demand for all foliage with red autumn tints than formerly. Asparagus in long trails, Smilax asparagus, and the fronds of the larger types, also Croton leaves, have had a fair good sale.

CUT FLOWERS.

Most Roses grown in the open ground are damaged by frost and stormy weather generally, although when the outer petals are removed the flowers are very bright. Supplies of Roses have been more than equal to demands, and their prices are very low. Carnations of the best quality have been sold at 1s. 6d. and the prices for the flower have advanced slightly. Chrysanthemums are now freely offered, especially those from the open ground. The best of the blooms from the glass are 8d. and 9d. offered slightly in value. Asters have been sold very cheaply; they appear to have succeeded wonderfully well this season. Most growers, and supplies have been excessive. Gaillardias are now extremely grown, and though they keep fresh longer than most flowers I noted this morning that there were large quantities thrown away. Choice indoor flowers are not quite so plentiful. Liliums of the best quality have made better prices, also Eucharis, Stephanotis, Gardenias, &c., but with all cut flowers it is extremely difficult to estimate prices. Prices of Nectarines (Wednesday) there were heaps of good flowers left unsold at closing time, and I noticed that the costers' barrows were loaded with surplus blooms.

POT PLANTS.

The best Chrysanthemum season is clear cut very well, but those of second quality do not sell so freely. Asters in pots are good, but their prices are extremely low. Most of the plants of Campanula isophylla have erect growth, instead of hanging, which is considered a great improvement when they were first introduced. Plants of Erica gracilis and the white variety "nivalis" are very good. Some fine specimens of the latter are now on the market. Veronicas, Zonal Pelargoniums are of good quality. Azalea mollis is procurable, and I observed a few days ago that the stray plants in the garden and in the pots were with well-coloured blue flowers. Liliums in pots have advanced a little in value, yet prices for these plants are still below the average for the season. All foliage plants are abundant, and some of the best quality are on the market. In some instances really good Ferns in 48's pots are sold at about 2s. 6d. per dozen. A. H. K., Covent Garden, Wednesday, September 23, 1908.

THE WEATHER.

THE FOLLOWING SUMMARY RECORD OF the weather throughout the British Islands, for the week ending September 19, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The weather was almost continuously unsettled, with much cloud and very frequent rain in the western and northern districts, but in the east and south of England the conditions were much fairer. Thunderstorms were experienced at various stations over the northern half of England on Tuesday.

The temperature was above the average in Ireland, Scotland, and the north-east and north-west of England, but below it in England S.E. and the English Channel, while in the east, centre, and south-west of England it was almost identical with the normal. The highest of the maxima occurred late in the week, and ranged from 78° in England E. and 70° in England N.E. to 66° in Ireland N. The lowest of the minima were recorded on Tuesday, and ranged from 58° in England S.W. (at Llangamarch Wells) the thermometer fell to 29° in Scotland E. to 30° in England S.E. and E. to 29° in the north-east and at Eallanrue the water was colder than in the Midlands Counties to 42° in the English Channel, and to 42° in Ireland N. The lowest grass readings reported were 22° at Llangamarch Wells, 22° at Greenwich, West Linton, and Raunds, and 21° at Eallanrue, Cockle Park (Morpeth), Birmingham, and Newton Ragged.

The mean temperature of the sea.—Except at a few places in the north-east and at Eallanrue the water was colder than during the corresponding week of 1907, the greatest differences being 9° at Margate and 6° at Cleggan. The actual figures for the week ranged from 50° at Margate to 51° at Lerwick, and to 43° at Aberdeen. The rainfall exceeded the average except in England E., S.E., and S.W., and in Scotland S. and S.W. In Scotland and Ireland, and also in England N.W., the excess was again large. More than an inch of rain fell at Douglas on Wednesday, and 16 in England S.E., to 12 in Ireland N.W., and to 16 in Scotland W.

THE WEATHER IN WEST HERTS.

Week ending September 23.

The warmest day for six weeks.—The day temperatures were mostly high during the week, and on September 19 the highest reading in the thermometer screen was 71°, or higher than on any day since the early part of August. The nights were also, as a rule, warm, but on one night the cold was so pronounced that the grass pots were frozen, notwithstanding the warm weather of the past week, the ground is still cold for the time of year, being at the present time 2° below the normal. The thermometer on September 19 fell on four days, but except on one day the amounts deposited were so small that the total measurements only amounted to 0.1 inch. The weather was generally dry and moist for the middle of September, as is shown by the fact that on two days during the week measurable quantities of rainwater have passed through the percolation gauge on which short grass is growing on the surface. On September 19, for 4 hours a day, which is three-quarters of an hour a day short of the average for the month. The average amount of moisture in the soil at a depth of 16 inches was 1.5 quantity for that hour by 5 per cent. E. M., Dorking, September 23, 1908.

Obituary.

GEORGE NICHOLSON.—We regret to have to record the sad death of Mr. G. Nicholson, F.L.S., V.M.H., on Sunday, the 20th inst. His retirement from the curatorship of Kew in July, 1901, in consequence of heart disease, brought on, it is to be feared, by mountain climbing in Switzerland in search of plants, was distressing to his many friends and a great loss to the establishment with which he had been connected since 1873, when he entered the service in the capacity of assistant to the curator, John Smith II, whom he succeeded in 1886, and it has been said of Nicholson that he was an ideal curator. The son of a Ripon nurseryman, trained in the nurseries of La Mouit, Paris, and of Messrs. Low & Co., Clapton, and endowed with quite exceptional capacity for work and close study, he early developed a fitness for a post where zeal and intelligence were needed, and he found full scope for his gifts at Kew. When he became a member of the staff, Sir Joseph Hooker was actively engaged in forming the Kew arboretum, and he found in Nicholson an apt assistant. This gave him his opportunity, and he made full use of it, the result being that he soon knew more about hardy trees and shrubs than any man in Europe, and became the recognised authority in all questions of tree nomenclature. At the same time, Nicholson was not a specialist, for there were very few plants in cultivation with which he was unacquainted. He was a most competent British botanist, knowing native plants as few men ever get to know them. It was almost impossible to entangle him over a plant name, he knew them all so accurately. His enthusiasm was astonishing. A 20-mile walk on a Sunday to some locality where he had marked a particular plant so as to secure its fruit he thought nothing of. His herbarium of British plants, so rich in critical forms, mostly collected by himself, he presented a few years ago to Aberdeen University. He collected specimens of all cultivated hardy trees and shrubs that were known, and the herbarium he thus formed has played a most important part in the building up of the unique collection of hardy ligneous plants now cultivated at Kew.

Nicholson was gardener, botanist, chemist, traveller, linguist (he spoke French and German with great fluency), a man of many accomplishments, and, as everyone who became acquainted with him soon found out, of agreeable personality. When he retired from the curatorship of Kew, his friends and colleagues, wishing to show their appreciation of his sterling qualities, subscribed a testimonial as an expression of their admiration of him "as a man of science and a gardener and their appreciation of his worth as a friend."

Nicholson did much valuable work at Kew. He was a regular contributor to the pages of the *Gardeners' Chronicle*, and his monographs of such genera as Quercus and Acer, published in these pages, are models of critical study and industry. Whilst he was not a very prolific writer, in all that he wrote he was most conscientious. It was therefore most fortunate for horticulture that he was induced to undertake the editorship of the *Dictionary of Gardening*, a work which has done more towards standardising plant names and developing an interest in horticulture than anything published since Loudon's day. It was his intention, had his health permitted, to write a big book on hardy trees and shrubs, for which he had collected much information, some of which has, we believe, been utilised by Messrs. Elwes and Henry in their work on the *Trees of Great Britain and Ireland*, now in course of publication.

Nicholson was a self-taught man. The writer remembers how he would hurry from a botanising excursion to the Surrey Downs to meet a young German from whom he received lessons in German in the evening. He was a quick learner, but he essayed one subject which beat him. Music had great charm for him, and after he had turned 80 he determined to learn to play the piano. How he worked at it; rising at 5 a.m. to practise. But it was of no use; as he put it, "my heart and head are all right, but my hands are too clumsy," and he gave it up. Like most Yorkshiremen, Nicholson was a keen sportsman; rowing and swimming he

loved, and he followed cricket with the greatest ardour.

The great charm of George Nicholson was in his conversational gifts, for he was a most entertaining talker, not about plants only, but about most subjects that interest men. He died comparatively young. Born in 1847, sturdy in figure, full of energy and secure of encourage-



THE LATE GEORGE NICHOLSON, V.M.H., A.L.S.

ment, Nicholson appeared to be of the type that reach or get beyond the term of four score years. He married when about thirty, but was soon left a widower, with one child, a son, who is now a naval engineer.

It was deceased's wish that his body should be cremated, as was that of his friend, the late Mr. Herbst. A funeral service was held at Christ Church, Richmond, and was attended by Lt.-Col. David Prain, the Director of Kew Gardens, Dr. O. Stapf, W. Watson, J. M. Hillier,



THE LATE RICHARD LYE.

A. D. Cotton, and other members of the Kew staff, also Sir George Watts, W. Marshall, J. Walker, C. T. Drury, W. Hales, R. Hooper, Pearson (representing the *Gardeners' Chronicle*), and others. The principal mourners were the son and the brother of the deceased gentleman, and Mr. W. Botting Hemsley. There were present

in the church, Mrs. Ashby (sister) and her daughter, also Mrs. W. Botting Hemsley.

Among the wreaths sent was one from the Director and staff of the Royal Botanic Gardens, Kew. It was formed of bronzed Oak leaves and Maple shoots, interspersed with purple Asters. The Oak and Maple were especially appropriate, seeing that Mr. Nicholson had monographed both these genera. Another wreath was formed of Lilies and white Chrysanthemums.

JOHN OUVVARD, the *doyen* of the French gardeners in England and the raiser of *Pteris Ouvvardii*, one of the most deservedly popular decorative Ferns ever grown, passed away quietly in his eighty-fourth year at his residence at Child's Hill on Tuesday, 22nd inst., after a very short illness. Deceased was a most energetic man, for upwards of forty years he was a conspicuous figure in the flower market, Covent Garden, being a most successful cultivator of flowering and foliage plants. He made his *début* in England at the Wellington Nurseries, St. John's Wood, when these were in all their glory. Mr. J. Ouvvard was the President d'Honneur of the Société Française d'Horticulture de Londres, to which institution he was very devoted. He was a striking illustration of perseverance, and remained in possession of his mental faculties to the very last.

RICHARD LYE.—We regret to record the death of this gardener, on September 16, at the age of 51 years, after undergoing an operation for appendicitis in Newbury Hospital. His death was a great shock to his relatives, as previously his condition was such that they had hopes of his recovery. Deceased was a member of the Fruit and Vegetable Committee of the Royal Horticultural Society. Although probably better known in North Hants. and Berks. than elsewhere, he was esteemed by everyone as a man of a kindly and genial disposition, as well as a capable gardener, and, in earlier years, a first-class vegetable exhibitor. Mr. Lye was gardener and bailiff for some 27 years at Sydmondtown Court, the estate of the Kingsmill family. Considering the distance of his home from London, he was a frequent attendant at the H.S. Committee meetings, where his presence was ever welcome. It was but recently that an Award of Merit was granted to a Tomato at Wisley, named Lye's Early Prolific, raised at Sydmondtown, which proved to be probably the very earliest kind to ripen out-of-doors in commerce. The funeral took place on Monday, 21st inst., in the village churchyard at Echinswell in the presence of many relatives and friends.

CATALOGUES RECEIVED.

BULBS.

THE AGRICULTURAL AND HORTICULTURAL ASSOCIATION, LIMITED, 92, LONG ACRE, London, W.C.
JAMES CARTER & Co., 207, 208 & 27, High Holborn, London.
ARTHUR ROBINSON, 35, Cannon Street, City, E.C.—Also flowering roots.
THOMAS S. WARE, LTD., Feltham, Middlesex—Also roots.
SMITH & SIMONS, 36-38, West George Street, Glasgow—Also nursery catalogue.
JAMES MURRAY, Deptford, S.E.
JAMES MASON, 63, Crawshaw Road, N. Brixton, S.W.—Also Seeds.
PERRY, Hardy Plant Farm, Enfield, Middlesex.—Also Tubers.

MISCELLANEOUS.

CHARLES TURNER, The Royal Nurseries, Slough—Auriculas, Carnations, Picotees, etc.
PROTHEOR & MARRIOTT, 68, Cheapside, E.C.—Register of nurseries, market gardens, &c., to be let or sold.
MISS HEMUS, Halford Hall, Upton-on-Severn—Sweet Peas, CLOBBARS, Altrincham, Manchester, and Bramhall—Carnations.
GEO. COOLING & SONS, Bath—Autumn bulb and plant list.
DANIELS BROS., LTD., Norwich—Bulbs, Roses, Fruit Trees, etc.
WM. PAUL & SON, Waltham Cross, Herts.—Roses, also Fruit Trees.
TOM KIRKBRAY, Cross Roads, Keighley, Yorks.—Seeds.
HORACE J. WRIGHT, Dault Road, Wadsworth, S.W.—Sweet Peas.
WM. WATSON & SONS, LTD., Clontarf Nurseries, Dublin.—Carnations.

TRADE NOTICE.

MR. GEO. G. WHITELEGGE, for some years Gardener and Ornamental Grower to the BRADSHAW, Esq., The Grange, Southgate, has commenced business with Mr. PAGE under the name of Messrs. WHITELEGGE & PAGE, at the Nurseries, Churchst. Kent, as general nurserymen, seedsmen, florists, and Orchid specialists.

GARDENING APPOINTMENTS.

Mr. H. G. BLIZZARD, for more than 14 years Gardener to the late EDWARD CHAPMAN, Esq., M.A., D.L., of Hill End, Mottram-in-Longdale, Cheshire, as Gardener to J. LEBMAN, Esq., West Bank House, Heath Mersey. (Thanks for your contribution of 2s. to the R.G.O.F. box.)

Mr. H. CORNISH, late Foreman in the service of ALFRED BENSON, Esq., as Gardener to the same Gentleman, Upper Gaiton Park, Merstham, Surrey.

Mr. REUBEN SMITH, for nearly 3 years Gardener to Mrs. ROBERTSON, of Caen Lays, Ashfield, Surrey, as Gardener to A. C. NAYLOR, Esq., at the same place, which has been renamed "Florista." (Thanks for 1s. contribution to the Gardeners' Orphan Fund.)

Mr. WALTER SWORD, formerly of Dalkeith, and Royal Gardens, Windsor, and since Foreman at Hollybush near Coupar-Angus, N.B., as Gardener to Colonel and Mrs. TURNOR, Pinkney Park, Malmesbury, Wilts. Mr. SWORD enters on his new duties on the 30th inst.

Mr. M. HADGON, late Gardener and Steward to Sir Wm. GIFF, Bart., Glenville, Waterford, Ireland, and formerly 5 years Head Gardener to Lord ARDLATH, Ashford House, Cong. Co. Galway, as Gardener to P. B. BURGON, Esq., Broadlands, Ascot, Berks.

Mr. A. KILLICK, for the past 24 years Foreman at Bushey Down, Tooting Common, S.W., as Gardener to Sir RALPH BLOIS, Bart., Cockfield Hall, Yoxford, Suffolk.

Mr. R. LEARMOUTH, for the past 64 years Foreman in the Gardens of the Rt. Hon. Lord LLANGATOCK, The Hendre, Monmouth, as Gardener to L. LIGGELL, Esq., Sherfield Manor, Basingstoke.

Mr. F. HAYLER, formerly Gardener to Sir R. BLOIS, Bart., Cockfield Hall, Yoxford, as Gardener to R. S. PAUL, Esq., The Boltons, Sandridge, Herts. Mr. HAYLER commenced his new duties on September 18.

Mr. G. H. COOK, for the past 34 years Gardener to the Hon. H. BOURKE, Wootton Hall, Ashbourne, Derbyshire, as Gardener to J. F. CAMPBELL, Esq., Woodseat, Uttoxeter, Staffordshire.

Mr. F. W. WILES, Gardener to the late Earl SONDES, Lees Court, Paversham, Kent, as Gardener to P. DE PASS, Esq., Middleton, Sandridge, Herts.

Mr. JOHN COLLIER, for the past 11 years Head Gardener to G. SINGER, Esq., Coundon Court, Coventry, as Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Reigate.

Mr. WILLIAM MORRISON, for the past year at Gutter Gardens, Stirling, and previously Foreman at Gartmore House Gardens, Perthshire, as Gardener to Colonel PORTEOUS, Tuffhill, Kinross, N.B.

Mr. I. PRIOR, late of Messrs. CLIBRAN'S Nursery, as Gardener to STANLEY PEARSON, Esq., Park Hill, Hale, Cheshire.

WM. DICK, late Carnation grower at Sandingham, as Gardener to J. H. NICHOLSON, Esq., Balrath Burrely, Kells, Co. Meath, Ireland. Mr. DICK commenced his new duties on the 21st August. (Thanks for 1s. 6d. as a donation to the Orphan Fund Box.)

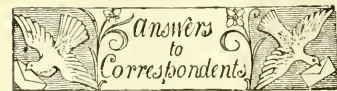
Mr. F. HEAD, Gardener to the late Canon TYNNEY of Penstow, Bude, as Gardener to Hon. Mrs. TREMAYNE, Sydenham, Lewdown, Devon.

Mr. JOHN FORD, for some years Gardener to Lord LAWRENCE, Chetwode Manor, Buckingham, and for the past 2 years at Owlbridge, Cuckingham, as Gardener to CORNELIUS HAMBURG, Esq., Manor House, Little Berkhamstead, Hertford.

Mr. WM. R. RADEB, late Gardener to Sir FRANCIS LEE, Bart., Lealholm, Yorkshire, as Gardener to Mrs. F. BURNS, 530, Blandford Street, Colgate, Alta, Canada. Mr. PEACEY R. HILLS, late Foreman at Kinloch Castle Gardens, and previously 2 years inside Foreman at Chateau de Pontchartrain, S.-et-O., France, as Gardener to Sir GEORGE BULLOUGH, Kinloch Castle, Isle of Rhé, Oban, N.B.

ENQUIRIES AND REPLIES.

PRESERVING WALNUTS.—My grandmother kept her Walnuts in tubs or boxes buried in white sand, and was granted an Award of Merit by the R.H.S. for fruits [Nuts?] which were 12 months old. This was in days long passed, but doubtless they would keep under the same conditions now. A. H. Pearson, Lewdown.



APPLES WITH SCAB: Rustic. The fruits are badly infested with Apple-scab, *Fusicladium dendriticum*. Spray the trees next winter with a solution of sulphate of iron.

BEECH HEDGE: A. G. S. Spray the plants with a strong insecticide, such as Paris Green, which contains arsenic.

BEGONIA RUST: J. F. Dip the plants in tobacco water to destroy the mite.

CATERPILLARS ON PEAR TREES: J. H. The bark of your Pear trees appears to have been infested by the caterpillars of a small moth, but the only trace of the insect found amongst the pieces of bark were the empty chrysalis cases of *Sesamia Woerera*, one of the Tortrix moths. The caterpillars would not penetrate far into the wood.

CELERY: Edgbaston. The earth round the Celery root contained the following: Several small earth worms, a few chrysalides of a small fly, the insects when in the grub state had probably fed on the roots; a number of insects (*Lipura ambulans*), nearly allied to the "springtails" (these are undoubtedly injurious to the roots of many plants); and a number of small white worms belonging to the family Enchytraeidae, which are also very destructive to the roots of plants. There were no wireworms present, but you no doubt mistook the grub of a fly for these. This grub, unfortunately, could not be found when wanted for further examination. The small white worms may be killed by thoroughly soaking the soil with lime water. A dressing of vaporite would probably kill the *Lipura* and the other grubs.

CHRYSANTHEMUM INJURED: Bedford. There is no disease present in the plants. The trouble is due to a mechanical injury, such as might be caused by a mark of the thumb nail where the bud has been pinched.

CURTIS'S "BOTANICAL MAGAZINE": W. U. The early volumes of this work are not so valuable as some of those published in later years, particularly between 1850 and 1870. We have often endeavoured to complete our own set, which is deficient in the numbers issued during this period, but with no success. Should you be in possession of any that appeared about the time mentioned we should be pleased to know. Your best plan for disposing of the books would be to insert a small advertisement in some botanical or gardening paper.

DRY TENNIS COURT: W. A. As you have at your disposal granite, clinkers, and sand, you can obtain a good court by forming a base with the clinkers, making this very firm, and finishing with a layer of sand and granite chips mixed. After this has been well rolled, coat the surface with tar that has been boiled.

DURLOINE: J. S. M. The makers are James Dyson & Co., Atlas Works, Elland, Yorks.

FIR TREES ATTACKED BY A GRUB: J. Geddes. The beetle which is attacking your Fir trees is *Hylurgus piniperda*. Whenever possible, break off the infested shoots and burn them, and remove all dying trees and those which have been recently cut down from the plantations, as the insects breed in felled timber. They lay their eggs just beneath the bark, and the grubs feed on the tissue of the cortex and the wood. Trees which have been felled only a few months may be found with thousands of these insects in all stages. It is useful to leave some boughs with the bark on lying about as traps for this insect, and when the grubs are detected the bough should be burnt.

FRUIT ROOM: W. L. Although the natural soil probably forms the best floor for a fruit house, many of these structures have a concrete bottom. As you state rats are troublesome, we should advise the use of some paving such as a layer of concrete.

GLORINIA SEEDLING: W. D. B. A desirable variety, but no advance upon others already in commerce.

GRUB IN A SILKEN COCOON: D. C. The grub which you found in a silken cocoon had become a chrysalis by the time it reached us, so that it is impossible to give the specific name.

LEAVES SPOTTED: D. C. There is no disease present in either the *Pelargonium* or the *Eucalyptus* leaf sent. The injury is mechanical, caused probably by burning with the sun's rays.

MATERIAL FOR A FRENCH GARDEN: J. J. E. In our last issue M. Auguste Dandré's address should read Alfortville, instead of Algorville. The allowance for breakages is 4 per cent., and not 9 per cent. as stated.

NAMES OF FRUITS: S. H. J. Plum Oullin's Golden Gage, Apple Lord Suffield.—R. Walker. A very fine fruit of Striking Castle. C. Olivier. 1, a bad specimen, too badly grown to name; 2, Royal Russett; 3, Lady Derby; 4, Scarlet Golden Pippin; 5, Stormer Pippin; 6, Winter Nonsuch.—H. W. The Grapes received were not shrivelled in the least. Do you mean cracking or shanking?—Groves. Roundway's Magnum Bonum.—Madley (Edling). 1, Lord Suffield; 2, Cox's Orange Pippin; 3, Emperor

Alexander; 4, Manx's Codlin; 5, Ribston Pippin; 6, Wealthy.—A. W. T. 1, Ecklinville Seedling; 2, Colonel Vaughan; 3, Golden Spire; 4, Worcester Pearmain; 6, Beurre d'Amant.—A. F. C. 1, Duchess of Oldenburgh; 2, Chelmsford Wonder; 3, Emperor Alexander; 4, Pott's Seedling; 5, Adams' Pearmain; 6, Jargonelle.—Gibben. 1, Lord Suffield; 2, The Queen; 3, Duchess' Favourite; 4, Cord Orange Pippin; 5, Lady's Finger; 6, Grenadier.—Myrtle. 1, Kirk's; 2, Prince of Wales.—W. Day. 1, Old English Codlin; 2, not recognised, most probably a local variety; 3, Peter Smith; 4, Lord Lennox; 5, Wellington; 6, not recognised.—T. J. 1, Mère de Ménage; 2 and 5, Peasgood's Nonsuch; 3, Emperor Alexander; 4, not recognised; 6, King of the Pippins.—V. thereby. 1, Prince of Wales; 2, Black Diamonds; 3, Goliah; 4, Rotten; 5, Kirk's.—H. W. Clapp's Favourite.

NAMES OF PLANTS: J. G. Clematis flammula.—Bucks. 1, Cupressus pisifera squarrosa; 2, Cornus Mas variegata; 3, Euonymus europaeus; 4, Hypericum elatum; 5, Berberis vulgaris foliis purpureis; 6, Lycium chinense var.—A. Fuchsia macrostemma gracilis.—M. L. L. A. Fuchsia macrostemma gracilis; B. Helix Scleroli.—S. Sunhedge. Epidendrum triste.—H. J. 1, Abelia rupestris; 2, Zingiber officinalis (Ginger); 3, Saintpaulia ionantha; 4, Chrysanthemum segetum; 5, Chelidonium majus.—A. W. Berberis stenophylla: the plant will thrive on a rocky area you suggest.—H. T. Ireland. 1, A variety of garden Fuchsia; 2, next week; 3, Polygala Dalmaisia; 4, Dracena fragrans; 5, Rhoeo (Tradescantia) discolor; 6, Cassia corymbosa; 7, Fuchsia fulgens.—R. J. Dendrobium bicoloratum; 2, Eric convallarioides; 3, Normodes buccinatus; 4, Oncidium barbatum; 5, Odontoglossum blandum; 6, Ada aurantiaca.—A. H. P. Probably Euryclis Cunninghamii (send when in flower).—A. E. Medicago maculata.—H. B. We do not undertake to name varieties of *Pelargonium*.—W. & Son. Hesperis matronalis, Dame's Violet or Rocket.—W. King. 1, Arundinaria auricoma; 2, Arundinaria Fortunei; 3, Arundinaria (probably humilis); 4, Berchemia racemosa; 5, Escallonia, send when in flower; 6, Escallonia, probably exoniensis; 7, Escallonia rubra. R. P. Aucuba japonica var. 2, Berberis stenophylla; 3, Please send when in flower; 4, Deutzia crenata; 5, Ligustrum japonicum; 6, Veronica species, send when in flower; 7, Neillia opulifolia (probably).

PEACHES: Gardener. Hale's Early, Early Grosse Mignonne, Violette Hâtive, Crimson Galande, Prince of Wales, and Walburton Admirable ripening in the order in which they are given. Nectarines Early Rivers, Dryden, and Pineapple.

PEAR TREES DAMAGED: J. H. Your Pear trees appear to have been attacked by the caterpillars of a small moth, probably *Sesamia Woerera*; but the only trace of the insect found was the chrysalis cases, from which a small moth had escaped.

PRESERVING WALNUTS: J. A. See note under "Queries and Replies."

PRUNING VINES: H. W. It is not good practice to shorten the laterals severely directly the bunches are cut, as the foliage is required to strengthen the shoot. The proper maturation of the shoot is essential for success the following season.

SCARLET RUNNER BEAN: C. G. You are correct in your inference that these pods are fruits, and you would be equally correct in stating them to be vegetable.

TOMATO WITH OUTGROWTH: E. B. The abnormality is frequently seen, and is due in all probability to a rich soil containing an excess of plant food.

VALUATION OF PLANTS: A. W. We cannot estimate the value of Strawberry and Daffodil plants unless we know all the circumstances as to their condition of culture, age, locality, &c. You should seek the advice of some professional valuer.

COMMUNICATIONS RECEIVED:—H. T.—W. S.—H. J.—A. H.—F. E. S. & Co.—A. B.—J. S. C. A. M.—A. W. S.—B.—F. L.—Enquirer.—J. G.—G. M.—W. H. Y.—J. E. T.—E. S.—J. B.—B. & Son.—J. S. & Son.—W. D.—W. G.—W. E. M.—P. A.—B. Ltd.—R. V. & Son.—G. W.—W. L. G. S. M. & Co.—W. F. G.—T. B.—F. E. S. & Co.—F. R. J.—S. & Son.—W. S. & Co.—B. L.—S. B.—G. S.—J. & Sons.—W. S. T.—S. F. W.—A. B.



VIEWS IN THE GARDEN AT GATTON PARK, REIGATE,
THE RESIDENCE OF SIR JEREMIAH COLMAN, BART.

Photograph by H. N. King.



THE

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CULTURE OF TULIPS AT KEW.

ALTHOUGH in this country we can never hope to dispense with the supplies of Dutch-grown bulbs, there is no reason whatever why bulbs should not be grown much more extensively in the British Isles. For some years past in some parts of Ireland, and at Wisbech, Cambridgeshire, the culture of Tulip bulbs for sale has been carried on extensively. The most suitable soil is a light sandy loam, which must be well drained, or, failing this, in winter soon after planting many of the bulbs, especially the early Dutch varieties, will rot or fall a prey to disease. Deep and thorough working of the soil is important.

At Kew the nursery ground where the bulbs are grown was originally a kitchen garden. The manuring is done in spring previous to the planting of *Polyanthus*, *Iberis*, and other spring-flowering subjects, because if Tulips are planted in freshly-manured ground they are more liable to attacks of disease. The manure becomes well incorporated with the soil by the autumn, when the plants are lifted, and it is then in good condition for the bulbs. A light dressing of

lime, or soot and bone-meal, is generally forked in previous to planting. Most of the bulb planting is carried out in October. The illustration at fig. 105 depicts a nursery bed set out with bulbs ready for covering with soil. For convenience of working, the beds are made 4 feet in width, with a path 1 foot in width between each bed. The medium-sized bulbs are set out $1\frac{1}{2}$ inches to 2 inches apart in rows 4 inches apart. The small bulbs and chits are sown thinly in drills the same distance apart between the rows. All are covered with about 3 inches deep of soil. A second method sometimes practised is to chop out shallow drills 3 to 4 inches deep and place the bulbs a similar distance apart in these. No further attention is necessary till the young growths show sufficiently above the surface to permit of the ground being stirred between them with a Dutch hoe. This

of June, or beginning of July, according to the variety.

The flowering bulbs in the beds are lifted towards the end of May, as far as possible in the order of flowering, a start being made with such sorts as *Keizer Kroon* and *La Reine* about May 20, the last to lift being *Parisian Yellow* and *Caledonia*. The bulbs are by no means ripe, but as the beds are required for the summer bedding plants they are carefully lifted with the growths attached, and heeled in coal ashes to complete the ripening of the bulbs. This takes about three weeks or a month, according to the weather and the variety. When removed from the ashes the bulbs are spread out on shelves in a cool, well-ventilated shed, shelves being arranged all round as in a fruit room. Each sort must be carefully and plainly labelled. The cleaning and sorting of the bulbs pro-



[Photograph by C. P. Raffill.]

FIG. 105.—TULIPS PLANTED IN THE "NURSERY" AT KEW GARDENS; BEDS FOUR FEET IN WIDTH.

must be done several times during the season of growth. Any buds which show should be allowed to open, with a view to ascertaining if the plants are correctly named, for in spite of the greatest care "rogues" are nearly sure to occur here and there. As soon as developed sufficiently to distinguish them, the flowers should be nipped off. In gardens however where large quantities of flowers are required for decoration, the blooms may be cut off with one leaf and stem just above the second leaf, without harming the bulb to any considerable extent. The bulbs are left in the ground till the growths have died down before they are lifted, which will be the end

vides work for wet weather. As shown in the illustration, the bulbs are graded into three sizes. (A) Small bulbs and chits, which must be grown for two or three years in the nursery before they reach flowering size. (B) Medium-sized bulbs; many of these will probably flower, but will be better for one more year in the nursery. The flowers if required can be cut for decoration. (C) Good, sound flowering bulbs for planting in the beds.

It is not the intention to convey in these notes the idea that no Tulip bulbs are purchased for bedding. For obvious reasons, especially in a public garden, it is desirable to vary the scheme of bedding more or less

from year to year. As the beds differ in size, sufficient bulbs of the varieties required are not always available. The nursery ground is also restricted, and, of course, varieties new to the collection are added from time to time. To give an idea of the number grown, it will be sufficient to say that over 20,000 first-size bulbs are available for planting this autumn. In addition to these there must be nearly, if not quite, as many small bulbs and chits to plant in the nursery.

Tulip bulbs are sometimes attacked by a disease known by the name of *Sclerotinia* (syn. *Botrytis*) *parasitica*, or Tulip mould. On the stem and leaves it forms dark-brown patches. Under the skin the sclerotia is grey in colour, while in very bad cases it forms masses of black sclerotium. The best means of eradicating the disease is to lift all the bulbs and burn them as soon as it appears. The soil also should be burnt, and the surrounding ground dressed with lime. As a preventive measure it is better not to grow Tulips on the same ground two years in succession, as the sclerotia will live in the soil for sometimes a couple of years, if not more. The ground may also be dressed annually with lime.

EARLY DUTCH TULIPS.

This section is by far the most popular for bedding, as they flower sufficiently early to permit of the bulbs being lifted from the beds in plenty of time to plant out the summer

height 15 inches; Rose Luisante, silky-rose, height 10 inches; Thomas Moore, orange, height 18 inches; White Swan, pure white, egg-shaped flower, height 15 inches; and Yellow Prince, rich yellow, height 12 inches.

PARROT OR DRAGON TULIPS.

This is a very distinct class of Tulips, notable for the size and grotesque shape of the brilliantly-coloured flowers. They are really monstrosities obtained from Tulipa *Gesneriana*. The curious way the blooms twist and tumble about is by some growers regarded as a point in their favour, while for this same reason they are condemned by others. The colours of the flowers include crimson and yellow, being the principal colours either as selfs or a mixture of the two. Ten or a dozen named varieties are catalogued, but the general practice, as at Kew, is to grow a bed of mixed varieties. One unaccountable failing which I have not noticed in any other section of Tulips is that really first-class bulbs sometimes fail to flower. Before this character of the Parrot Tulip was thoroughly understood, we blamed the bulb grower for supplying badly-harvested bulbs, but the same defect sometimes occurs in home-grown bulbs.

DARWIN TULIPS.

Of the Tulips cultivated at Kew, the Darwin section thrive best. As the bulbs are

pleno, Wallflowers, and Polyanthus as a groundwork, can better be imagined than described.

The most popular varieties of Darwin Tulips grown at Kew are Ariadne, fiery crimson; Clara Butt, rosy salmon, height 16 inches; Coquelin, fiery red; Europe, fiery salmon-scarlet, white base, height 12 inches; Fra Angelico, almost black, height 24 inches, one of the earliest Darwins to flower; Harry Veitch, deep maroon, height 20 inches; Isis, large, fiery crimson, 21 inches; La Candeur, also known as White Queen, shaded lilac, passing to white, height 23 inches; La Tulipe Noire, the best black Tulip, height 14 inches; Margaret, silvery blush, blue base; Parthenope, pinky-lilac, height 20 inches; Pride of Haarlem, one of the largest-flowered Darwins, colour cerise-scarlet; Rose Queen, lilac-rose; Salmon King, deep salmon-rose, shaded scarlet; The Shah, rich, dark, cherry-rose; and William Pitt, glowing crimson, height 24 inches.

MAY-FLOWERING COTTAGE TULIPS.

The impetus given to the growing of late-flowering varieties by the introduction of the Darwin Tulips has affected this section considerably. Although a very old section compared with the Darwins, it is only since the introduction of the latter that the May-flowering Cottage varieties have been grown so extensively for spring bedding. Used in conjunction with the Darwins, they impart an additional beauty to both sections, as several colours, notably, yellow, not represented amongst the Darwins are plentiful in the section under notice. Although not so robust in habit as the majority of the Darwin Tulips, they are equally valuable for cutting, many decorators preferring them especially for small vases, as the long, slender stems lend themselves more readily to graceful and elegant arrangements. The selection of colours is very varied, ranging from deep crimson and yellow to pure white.

Amongst the numerous varieties in this section grown at Kew, the following are the most successful:—Bouton d'Or, deep yellow, egg-shaped flower, the best yellow for associating with Darwin Tulips, height 16 inches; Bridesmaid, rose, striped white, height 15 inches; Caledonia, orange-scarlet, height 15 inches; Columbus, yellow, striped red, height 14 inches; Elegans, scarlet, recurved petals, height 21 inches; Gold Cup, yellow, flaked carmine, 15 inches; Inglescombe Scarlet, deep scarlet, black base, long petals, height 20 inches; Isabella, primrose yellow, flushed with rose, height 12 inches; La Merveille, an immense flower, distinct salmon-scarlet colour, delightfully fragrant; Parisian Yellow, bright yellow, pointed petals, rather late, height 18 inches; Picotee, also known as Maiden's Blush, white, suffused rose at tips of petals, height 15 inches; Retroflexa, light yellow, reflexed, twisted petals, height 16 inches; Rosalind, fiery rose, white base; Striped Beauty, rose, shaded deep crimson, and white.

In arranging to plant a set of beds with Tulips two important points have to be considered in addition to the colours of the flowers, namely, the time of flowering and the height at which they flower. Both of



FIG. 106.—TULIP BULBS GRADED.

[Photograph by C. F. Kaffill.]

bedding subjects. For brilliancy of colour there is nothing to compare with them for early flowering either in beds or massed in long borders. Some varieties grow and increase much better than others. In addition to devoting whole beds to their culture very beautiful effects can be obtained by planting the bulbs amongst low-growing spring-flowering plants, such as Double Daisies, Polyanthus, Double and Single Arabis, &c. One of the most effective arrangements of this kind we have ever had was a bed of Lac Doré, a variety with purple flowers edged white, with a groundwork of Double White Arabis. The early Dutch Tulips vary considerably in height, ranging from a few inches in the case of the Duc van Thol varieties, to 16 or 18 inches in that of Thomas Moore.

Amongst the numerous sorts tried at Kew the following succeed best: Artus, rich scarlet, yellow centre, height 12 inches; Duchess de Parma, orange-red, deep yellow margin, height 15 inches; Keizer Kroon, crimson-scarlet, edged yellow, height 16 inches; Lac Doré, purple, edged white, 9 inches; La Reine, white, suffused pink, height 12 inches; Ophir d'Or, canary-yellow, height 12 inches; Prince of Austria, scarlet-orange, fragrant,

late in flowering, it makes us a fortnight late in planting out the summer bedding, if they are grown in beds. Anyone, however, who has seen a really good display made by these beautiful Tulips at the end of May cannot but admit they are worthy of extensive cultivation. In gardens where plenty of money is forthcoming for the purchase of bulbs, 10 days or a fortnight may be gained by lifting the bulbs as soon as the flowers drop and throwing them away, purchasing fresh bulbs each autumn. Provided they are lifted with care, and heeled in ashes, we find it possible to lift the bulbs quicker after flowering than with the early-flowering Dutch varieties. Readers who do not care to grow the Darwin Tulips in beds should plant them amongst the herbaceous perennials in the mixed border, or along the front of shrubby borders. The bulbs can then be left in the ground for two or three years without being disturbed. In addition to their value for garden decoration, their long, stiff flower stalks, the many beautiful shades of colour, and fine blooms make them of great value for cutting. The sight of hundreds of these late-flowering Tulips nodding gracefully in the breeze, with various spring-flowering plants such as Arabis alba flore

these characters, of course, vary somewhat each year, according to the weather. This, however, does not affect the relation in these two respects of one variety with another. To quote an instance of what is meant, according to my notes the variety *Fra Angelico* was at its best on May 2, while the popular variety, *Clara Butt*, flowered 11 days later, namely, May 13. By this circumstance it will at once be seen that due consideration must be given to this point when planting the bulbs.

It will be noticed that no double varieties of Tulips are included in the lists given, as none are grown in beds at Kew. It is found that for effective planting the single varieties are by far the most elegant and useful. A. O.

Noordwijk, where not only Tulips, but Narcissi and Hyacinths are grown in great numbers. At Sessenheim a brief halt was made at the nurseries of Messrs. St. van Waveren and Kruijff, the firm who distributed the pink-flowered *Astilbes*, known as *Peach Blossom* and *Queen Alexandra*. Several acres of these plants were seen in cultivation. Afterwards, the journey was through Lisse, a centre for Hyacinth culture, and to Hillegom, which has developed from a small village into a little town solely by reason of the bulb culture. From Hillegom the way led through Heemstede to Overveen, a district in which bulbs were cultivated almost from the first, and thence to Haarlem, which was approached through what are known as the Haarlem woods or park. An international exhibition of flowering bulbs is to be held in these woods in 1910; if the bulbs are exhibited as growing in beds, the effect will be one well worth witnessing.

Holland commenced to export bulbs in considerable quantities at about the middle of the 18th century, and the industry has not only increased continuously since that time, but recent returns prove that the volume of trade is greater now than in any previous year. Exact returns have been published since 1897, in which year the total exports were 5,701,798 kilograms (kilogramme = 2.2046 lb). In 1900 they were 8,417,482 kilograms, in 1903 9,778,440, and in 1907 15,277,400 kilograms, the value of which is about 10 million florins (florin = 1s. 8d.). According to the published figures Great Britain and Ireland take 40 per cent. of the exports, Germany (including Austria) 25 per cent., the United States 18 per cent., the northern European countries 9 per cent., and France and other Latin countries 5 per cent. It is estimated that there are upwards of 2,000 growers of bulbs, and 150 of these are exporters.



FIG. 107.—TYPICAL DUTCH BULB FARM IN THE NEIGHBOURHOOD OF HAARLEM.

BULBS IN HOLLAND.

At the present time, when the potting and planting of flowering bulbs is in full progress, our mind recalls a visit made to the Dutch bulb fields at the latter end of April last. We had been staying for a short period at Amsterdam, and by appointment proceeded from that city to Leiden, where we were met by Mr. Ernest H. Krelage, president of the Dutch Bulb Growers' Society, and Mr. S. Kruijff, president of the Dutch Bulb Exporters' Association. Our purpose was to make the journey by motorcar from Leiden to Haarlem, the intervening country representing the centre of the Dutch bulb-growing industry, which may now be said to reach as far north as the Dutch Sea Islands, and as far south as the province of Zeeland. Leaving Leiden, our route lay through Rijnsburg, a district in which Tulips are chiefly cultivated; thence to

The reader may imagine the glorious sight the fields of bulbs in full flower presented during our drive, when it is stated that the sun shone brightly all the time, and that the ground is almost as level as a billiard table! Much of the land in the district traversed lies actually below sea level. The lighter, more sandy localities are selected for Hyacinth culture, and the more loamy soils serve for Tulips and Narcissi. The accompanying illustration at fig. 107 will afford some idea of a Dutch bulb farm, the plain building which is used for cleaning and storing being also a feature that may be seen in almost every establishment. As a rule, the varieties are grown together in considerable quantities, presenting great breadths of pink, red, blue, purple, or white, as the case may be, and these are continually repeated until the colours appear to melt into the distant horizon.

The Dutch Bulb Growers' Society was founded in 1860. At the present time it consists of 36 local sections and 2,800 members. This Society publishes a paper twice each week which is sent free to the members. Committees of nomenclature sit during the flowering season, and fix the names of new varieties submitted by members and judge the merits of new seedling varieties or new introductions. In addition to the committee meetings and local shows, the Society organises a great flower show every five years. The next one, as we have already mentioned, will be held in 1910, and will commemorate the half centenary of the Society. There are other newer societies for the promotion of special interests, one of these being the Association of Bulb Exporters, to which we have alluded, and another a union of growers who are not importers. P.

PRONUNCIATION OF PLANT NAMES.

PRONUNCIATION.—In the first word in each line the accent (') is short; (') is long.

In the second word vowels are to be pronounced as—

arise, ät, äge, ärt, äir, äll
end, ägg, äat, ärr, äwe
in, i, iie, sir
on, ötter, öwe, öt, öö, öwl, öil
us, ütter, üse, rin
"ch," as in chin; "th," as in thin
"s," as in soft; "f," as in far
"g" as in go.

All other letters are unmistakable.

B

(Continued from page 234.)

Barkéria, bärk-é-ri-a
Barkhäusia, bärk-häu-zí-a
Barleria, bär-lé-ri-a
Baradésia, bär-nä-dé-sí-a
Barnardía, bär-när-dí-a
Barringtonia, bär-ring-tó-ní-a
Bartholina, bär-tho-lí-ná
Bartonia, bär-tó-ní-a
Bartramia, bär-trá-mí-a
Bartsia, bär-tí-a
Baryósma, bär-í-oz'-ma
Basella, bá-sel'-la
Básil, bá-z'il
Básia, bá-sí-a
Bátatas, bá-tá'-s-a
Batemanía, bá-man'-ní-a
Bátschia, bá-sch'-ia
Bauera, bów-ér-a
Bauhínia, bów-hín'-í-a
Beatonia, bé-tó-ní-a
Beaucarnea, bé-kár-né-a
Beaufortia, bé-í-ór-tí-a
Beaumontia, bé-mon-tí-a
Bécium, bé-sí-um
Begonia, bé-gó-ní-a
Bejaria, bé-já-ri-a
Bellidiástrum, bel-lí-dí-ást'-rum
Bellis, bel'-lis
Bellium, bel'-lí-um
Belopérone, bel-ó-pér-ó-né
Benicása, ben-í-ká'-za
Benthamia, ben-thá-mí-a
Berardia, bé-rár-dí-a
Bérberis, ber'-ber-is
Berchemia, ber-ék'-mí-a
Berckheya, berék'-hé-ya
Bergera, ber'-jé-ri-a
Beringeria, ber-in-jé-ri-a
Bérria, ber-í-a
Berterea, ber-tér-é-a
Bertholletia, ber-thol-lé-tí-a
Bertolonia, ber-tó-ló-ní-a
Berzella, ber-zé'-li-a
Beschorneria, bésch-ór-né-ri-a
Besleria, bez-lé-ri-a
Bössera, bes'-ser-a
Beta, bé-tá-a
Betonica, bé-tón'-í-k-a
Bétula, bet'-ú-l-a
Bíurum, bí-úr-um
Bídens, bí-dens
Bífenaria, bí-fré-nár'-í-a
Bígnonia, bí-gnó-ní-a
Billardiéria, bí-lard-í-é-ri-a
Billbergia, bí-ber'-jí-a
Billotia, bí-ló-tí-a
Biophytum, bí-í-í-í-um
Biota, bí-ót'-a
Biscutella, bí-sch-tel'-la
Biscúrrula, bí-sér-ru'-la
Bivonæa, bí-vóné'-a
Bixa, bíx'-a
Blackbúria, black-búrn'-í-a
Blackwéllia, black-wel'-li-a
Bleria, blé'-rí-a
Blákea, blák'-e-a
Blandfórdia, bland-fórd'-í-a
Bléchnum, blék'-num
Bléchnum, blék'-num
Blépharis, bléf'-ar-is
Bléphilia, blé-í-lí-a
Blétia, blét'-í-a
Blighia, blí'-í-a
Blitum, blí-um
Blumenbach'ia, blü-men-bak'-í-a

Bobártia, bó-bar'-tí-a
Bocónia, bok-ó'-ní-a
Bóbrea, bó-ber-a
Boerhaavia, beer-há-ví-a
Böldöl, bó-dó'-a
Bóleum, bó-le-um
Bolivária, bó-liv-ár'-í-a
Boltónia, ból-tó-ní-a
Bomárea, bó-már'-e-a
Bómbax, bom'-bax
Bonapárea, bom-pá-ré-é-a
Bonátea, bó-nát'-é-a
Bongardia, bong-ard'-í-a
Bonháya, bon-náy'-a
Bonnetia, bon-né-tí-a
Bontia, bon-tí-a
Borágo, bor-á'-go
Borecole, bó-ré-kól
Borbonia, bó-rbó-ní-a
Borkausia, bór-kóu'-zi-a
Borónia, bó-ró-ní-a
Borreria, bó-rer'-í-a
Boscia, bos'-kí-a
Bosea, bó-sé-a
Bossiaea, bos-sí-é-a
Boswéllia, boz-wel'-lí-a
Botrydénia, bó-trí-dé-ní-a
Botrycéras, bó-trí-er-as
Botrychium, bó-trí-í-um
Bougainvillea, bóu-gán-vil'-le-a
Bouréria, bú-ré-ri-a
Boussingaultia, bú-sin-gált'-í-a
Bouvárdia, bú-vár-dí-a
Bovista, bó-ví-tá-a
Bowénia, bó-wé-ní-a
Brabejum, bráb-é-jum
Brachychiton, brák-í-kí-ton
Brachycóme, brák-í-kó-me
Brachylæna, brák-í-lé-na
Brachypodium, brák-í-pó-dí-um
Brachyrhynchus, brák-í-rhín'-kus
Brachyséma, brák-í-sé-ma
Brachystelia, brák-í-stel'-ma
Brassavola, brás-sa-vó'-la
Brassia, brás'-sí-a
Brassicá, brás-sí-ka
Bravoa, bra-vó'-a
Bremonteria, bre-mon-tí-ér'-a
Bréxia, brex'-í-a
Bridelia, brí-dé-lí-a
Briza, brí'-za
Brodiaea, bró-dí-é-a
Bromelia, bróm-é-lí-a
Bromheadia, bróm-hé-dí-a
Bromus, bróm'-us
Brongiaria, brón-gí-á-ri-a
Brosímum, brós-í-mum
Brossia, bro-sí-a
Brótera, brót'-é-a
Broughtonia, brów-tó-ní-a
Broussonetia, bró-són-é-tí-a
Browállia, brów-ál'-li-a
Brownea, brówné'-a
Brownlowia, brówn-lów'-í-a
Brucea, brús'-é-a
Brugmansia, brúg-man'-sí-a
Brúndisia, brún-tel'-zí-a
Brúnia, brú-ní-a
Brunnicchia, brún-ník'-í-a
Brunonia, brún-nó-ní-a
Brunsvigia, brúnsvíj'-í-a
Brýa, brí'-a
Bryanthus, bri-anth'-us
Bryonia, brí-ó-ní-a
Bryophyllum, brí-ó-fíl'-lum
Búcidia, bú-sid'-a
Búddlea, bú-dlé-a
Búffonia, búf-tó-ní-a
Bulbine, bul-bí-né
Bulbocodium, bul-bó-kó-dí-um
Bulbophyllum, bul-bo-fíl'-lum
Bulbostylis, bul-bo-stí-lis
Bumalda, bú-mál'-da
Bumelia, bú-mé-lí-a
Bunchosia, bun-kó'-zi-a
Búnium, bú-ní-um
Buphæa, bú-fá-né
Bupleurum, bú-plér-um
Bupthalmum, búf-thál'-mum
Burchardia, búrk-ár-dí-a
Burchellia, búrchel'-lí-a
Burlingtonia, bú-ling-tó-ní-a
Burrielia, bú-ri-é'-li-a
Bursária, bú-rsar'-í-a

Búrsera, búr-sér-a
Búrtonia, búrt-ó-ní-a
Bútea, bú-té-a
Bútomus, bú-tó-mus
Búxus, búx'-us
Býblis, bý-blis
Byrsónima, býs-óní-ma
Bystrópogon, býs-tro-pó'-gon
Bytténia, být-né-ri-a

C

Cabómba, ka-bóm'-ba
Cacalia, ka-ká'-li-a
Cactus, kak'-tus
Cadia, ká'-di-a
Cæstania, sé-les-tí-ná
Cænopteris, sé-nop'-ter-is
Cæsalpinia, séz-al-pin'-í-a
Cæsia, séz'-í-a
Caiophora, kí-óf-ór-a
Cajanus, ka-já'-nus
Cakile, ka-kí'-le
Caladénia, kal-a-dé-ní-a
Caladium, kal-á-dí-um
Calamagrostis, kala-ma-gros'-tis
Calamintha, kala-minth'-a
Calámpelis, kal-am'-pel-is
Calámus, kal'-a-mus
Calandrinia, kal-an-drin'-í-a
Calánthe, kal-an'-thé
Caláthea, kal-ath'-é-a
Calceolaria, kal-ó-sol-ár'-í-a
Caldasia, kal-á-sí-a
Cálea, ká'-le-a
Caleacte, kal-e-ak'-té
Caléana, kal-e-á-né
Caléctasia, kal-ek'-tí-sí-a
Caléndula, kal-end'-u-lá
Caliphúria, kal-fúr'-í-a
Cállá, kal'-la
Calliandra, kal-li-and'-ra
Calliárra, kal-li-kár'-pa
Calliárra, kal-li-kó'-pa
Calliárra, kal-li-kó'-pa
Calligonum, kal-lig'-o-num
Calliopea, kal-li-ó-pé-a
Calliopsis, kal-li-óp'-sis
Callipéltis, kal-li-pel'-tis
Calliphæra, kal-li-fúr'-e-a
Calliprora, kal-li-prór'-a
Callipsyche, kal-lip-sí'-ké
Callipteris, kal-lip'-ter-is
Callihoa, kal-li-rhó'-e
Callistachys, kal-li-stak'-is
Callistéma, kal-li-stém'-ma
Callistemon, kal-li-sté-mon
Callithaume, kal-li-tháum'-a
Callitriche, kal-li-trí-ké
Callitris, kal'-í-tris
Callixine, kal-líx'-í-ne
Calochilus, kal-ó-kí-lus
Calochortus, kal-ó-kórt'-us
Calodendron, kal-ó-dén'-dron
Calonyction, kal-ó-ník'-ti-on
Calopátalon, kal-ó-pel'-á-ton
Calopálea, kal-óf'-a-ka
Calophanes, kal-óf-an-és
Calophyllum, kal-ó-fíl'-lum
Calopogon, kal-ó-pó'-gon
Caloscórdum, kal-ó-skórd'-um
Calostemma, kal-ó-stem'-ma
Calothamnus, kal-ó-thám'-nus
Calotropis, kal-óf-tó-pis
Cálthia, kal'-thí-a
Cálthrix, kal'-thrix
Calycánthus, kal-í-kánth'-us
Calycotoma, kal-í-kot-ó-ma
Calýso, kal-ip'-so
Calyptanthes, kal-ip-tran'-théz
Calyptaria, kal-ip-tar'-í-a
Calyptrion, kal-ip-trí-on
Calystégia, kal-ís-té-jí-a
Camarotis, kam-á-ró-tis
Camassia, kam-as'-sí-a
Camelina, kam-é-lí-ná
Camellia, ka-mel'-li-a
Cameraria, kam-ér-ár'-í-a
Campánia, kam-pá-ní-a
Campánula, kam-pán'-u-lá
Campella, kam-pé'-li-a
Camphoróma, kam-for-oz'-ma

Campylánthus, kam-pí-lanth'-us
Campylobotrys, kam-pí-lo-bot'-ris
Canarina, ka-na-rí-na
Candélla, kan-dol'-le-a
Cánella, kan-el'-la
Cánna, kan'-na
Cannabis, kan-na-bis
Cantharillus, kan-thar-el'-lus
Cánthium, kan'-thí-um
Cántua, kan'-tu-a
Cápparis, kap'-par-is
Caprifólium, kap-ri-fó'-li-um
Capsella, kap-sel'-la
Cápsicum, kap'-sí-kum
Caragána, kár-a-gá'-na
Caragúta, kár-á-gu-a'-ta
Carállia, ka-rál'-li-a
Carálluma, ka-ral-ló'-ma
Carápa, ka-rá'-pa
Carapichéa, ká-rá-pí-ké-a
Cardamine, kár-dam-í-né
Cardiandra, kár-di-and'-ra
Cardiospermum, kár-di-ó-sperm'-um
Cardunculus, kár-dun-sel'-us
Cardunculus, kár-dun'-kú-lus
Cárduus, kár-du-us
Cárex, kár'-ex
Caréya, kár'-é-a
Cargillia, kár-gíl'-li-a
Cárica, kár'-í-ka
Carissa, ka-rís'-sa
Carlinia, kár-lí'-na
Carlowizia, kár-lo-vítz'-í-a
Carludivia, kár-lu-dí-í-ka
Carmichælia, kár-mí-ké'-li-a
Carolinea, kár-ó-lín'-e-a
Carpinus, kár-pí-nus
Carpodinus, kár-po-dí-nus
Carpodotus, kár-po-dont'-us
Carrichteria, kár-rik-té'-í-a
Cáthamus, kár-tham-us
Cartonema, kár-thém'-ma
Cárum, kár'-um
Caruncularia, kár-un-kú-lar'-í-a
Cárya, kár'-í-a
Caryocarpus, kár-i-ó'-kár
Caryophyllus, kár-i-ó-fíl'-us
Caryopteris, kár-i-op'-ter-is
Caryotis, kár-i-ó'-ta
Casearia, kás-é-ár'-í-a
Casebéra, kás-é-bér'-í-a
Casselia, kás-sé'-li-a
Cássia, kás'-sí-a
Cassine, kás-sí-né
Cassinia, kás-sín'-í-a
Castanea, kás-tá-né-a
Castanospermum, kás-tan-ó-sperm'-um
Castella, kás-tel'-la
Castellaja, kás-tel-lé'-ja
Casuarina, káz-u-a-rí'-na
Cátalpa, kát-al'-pa
Catanáchea, kát-an-á'-ke
Catastium, kát-as-té'-um
Catesbéa, kát-éz-bé'-a
Cáthia, káth'-a
Cathartanthus, káth-arth-anth'-us
Cathartocarpus, káth-art-ó-kár'-pus
Cathartia, káth-kart'-í-a
Cátleya, kát-lé'-a
Caulcays, kán'-kal-is
Calophyllum, kán-l-ó-fíl'-lum
Ceánothus, sé-an-ó'-thus
Cecropia, sé-kró-pí-a
Cedrela, sed-ré'-lá
Cedronella, sed-ro-nel'-la
Cedrus, sé-drus
Celastrus, sé-lást'-rus
Celénia, sé-lé-í-ak
Celériac, sé-lé-sí-a
Celsia, sel'-sí-a
Céltis, sel'-tis
Céchnus, senk'-rus
Centárea, sen-táur-é-a
Centauridium, sen-táur-í-í-um
Centradenia, sen-táur-dé-ní-a
Centrántus, sen-tránth'-us
Centrocarpus, sen-tro-kár'-fa
Centrocilius, sen-tro-kí-lí-um
Centropogon, sen-tro-pó'-gon
Centrospermum, sen-tro-sperm'-um

C. Butler.

(To be continued.)

SAXIFRAGA COCHLEARIS.

REGARDED sometimes as a variety of *S. linguata*, a most variable species with a wide distribution in Southern Europe, *S. cochlearis* is certainly distinct enough to be accorded specific rank. It belongs to the crusted section of the genus, which contains such well-known plants as *S. Cotyledon*, *S. crustata*, and *S. marginata*—all valuable as ornaments for the rock-garden. The photograph of the group shown in the illustration at fig. 108 was taken in June, when the flowering of Saxifrages in this country—which, commencing in January with *S. Burseriana*, continues with other kinds till nearly the end of summer—attains its greatest development. *S. cochlearis* is only found wild in the Alpine regions of the mountains to the north of Nice and Mentone, and differs from *S. linguata* in having smaller rosettes of spatulate leaves, with erect and more open panicles of white flowers. These are very light and graceful, and last for a considerable time in perfection. In cultivation there are two distinct forms, that known as *S. c. var. minor* having much smaller

reliable bulbs are by no means cheap. *Lilium Leichtlinii* is an exceedingly graceful species, the slender flower-spike, which reaches a height of 2 feet to 4 feet, being plentifully furnished with long, narrow leaves. The flowers, whose segments reflex somewhat after the manner of the Tiger Lily, are in colour pale yellow, with a suspicion of buff, and freely spotted with chocolate. The markings are small, and distributed over the entire inner surface of the flower. My experience is that even good bulbs quickly deteriorate, and after the third season flowers may as a rule be sought for in vain; therefore it needs to be constantly imported afresh, and as it does not seem to thrive in Holland it is necessary to fall back on its native country of Japan to avoid losing it altogether. The bulbs of *L. Leichtlinii* are small, and do not travel particularly well, and as imported they are sometimes mixed with those of *L. Batemannii*. They are, when dormant, exceedingly difficult to distinguish from small ones of *L. Batemannii*, but *L. Leichtlinii* starts into growth much earlier than the latter. A pecu-

length resolved to collect and cultivate the bulbs in their actual home, where the plant grows in the mountains of the island of Oshima, situated 800 miles south of Yokohama. The bulbs are collected, and then grown on good soil on the adjacent land. The venture has been eminently successful. In 1907 the first experimental exportation of 300 to 400 chests was made to Europe and the U.S.A., and the results have proved so satisfactory that the demand for the bulbs has increased enormously. Mr. Unger, a former partner in the nursery firm of L. Böhm & Co., Yokohama, has paid a recent visit to the island after 14 years' absence, which has afforded him the opportunity of observing the culture and the freedom of the bulbs from disease. As the bulbs, which are known in the trade as *Lilium longiflorum formosum*, ripen earlier on Oshima than at Yokohama, they are fully one month sooner in a fit condition for exporting, so that the difficulty of getting them to bloom at Easter disappears entirely. F. M.

SOME NEGLECTED ANNUALS.

THERE is some danger that the present craze for novelties in annuals may result in the crowding out of many fine species of earlier introduction. Some perhaps are almost forgotten, and yet they are still deserving of the prominent place which they once held in the best of gardens. The following are a few subjects worthy of culture.

Gilia dianthoides (*Fenzlia dianthiflora*).—A charming, low-growing annual of Californian origin, forming dense tufts of narrow leafage seldom exceeding 6 inches in height, and producing an abundance of large lilac and sometimes purple flowers, with darker or yellowish throats, somewhat resembling single Pinks (*Dianthus*), hence its specific name. It is of very quick growth, perfectly hardy, and is especially recommended as a carpet for Rose beds owing to its dwarf habit and slim growths. It thrives best in a light, sandy, warm position. Seeds may be sown where the plants are required to flower, either in spring or in autumn.

Chorisia heterophylla (*Kaufussia amelloides*).—This plant is of a compact, free-flowering habit, and is especially adaptable for massing or for planting in small beds. The pretty Daisy-like flowers are of a beautiful purple-blue colour, and are produced in abundance. It is an ideal plant for carpeting beds containing taller subjects, and may be had in full bloom within two months of seed sowing, which is best performed in April. Since its introduction two showy varieties have been added, one bearing flowers of a deeper violet colour, while the ray florets of the other are of a showy dark crimson shade. Both are exceedingly pretty varieties. Six inches is the usual height of the type and its varieties.

Omphalodes linifolia.—A very refined South European hardy annual, producing throughout the summer months an abundance of white flowers that are often tinged with blue. They somewhat resemble huge Forget-me-nots and are borne in loose, bractless racemes. The plant is much branched, each branch terminating in a pretty floral raceme. Nine inches is its maximum height. The foliage is flax-like in appearance. The plant thrives in any ordinary soil. The seed should be sown in April, and again in September.

Platystemon californicus.—A beautiful hardy annual of easy culture, native of California, and known as Cream Cup. It is a member of the Poppy family. The shoots are dwarf and trailing, forming dense tufts, which are smothered during the whole summer with pale yellow or cream-coloured Poppy-like flowers. It is the best species of a small genus, and in common with many of the best hardy annuals, delights in a light, sandy loam. It is best sown in the autumn, although good results may be obtained



[Photograph by W. Irving.]

FIG. 108.—SAXIFRAGA COCHLEARIS: FLOWERS WHITE

rosettes and flowers than those of the type, being only a few inches high. It is often grown under the name of *S. valdensis*, a diminutive species that is rare in gardens. Even when not in flower, *S. cochlearis* is one of the most attractive of Saxifragas, forming neat carpets of silvery rosettes. Like all the other members of this section, it enjoys a sunny ledge, planted amongst boulders in stony soil of a calcareous nature. As all these Saxifragas hybridise so freely, the best means of increasing particular species is by division, or by the numerous off-sets. W. Z.

liarity of *L. Leichtlinii*, even more pronounced in the case of the Indian *L. neilgherense*, is, that after leaving the bulb, the flower-stem often travels some little distance underground before it appears above the surface. W.

LILIIUM LONGIFLORUM.

This favourite species of Japanese Lily, Teppo Yuri in Japanese, from teppo, a gun, from the long, tube-like bloom, and yuri, a bulb, is exported from Japan in three chief varieties, viz., *L. longiflorum eximium*, *L. l. multiflorum*, and *L. l. giganteum*. Through intensive cultivation and insufficient care, the first two have developed a disease which has caused the European gardener great vexation and loss, 50 per cent. of the bulbs not producing flowers, and the exporters have received many complaints. A change of habitat for the cultivation of the bulbs was tried, but the disease being present in the substance of the bulbs themselves no good resulted, and it was at

THE BULB GARDEN.**LILIIUM LEICHTLINII.**

This is a charming Lily, but it is not so frequently seen in gardens as it used to be twenty years ago. The plant is a native of Japan, and was first introduced therefrom in 1867. For some years it was very rare, and even now

from spring sowings. Sow thinly in the open border, and thin the seedlings to 6 inches apart.

Polygonum orientale (*Persicaria*).—A delightful annual, of very free growth, from the East Indies, producing flowers of a rosy-crimson colour in abundance in long drooping racemes. The inflorescence is both terminal and axillary, the flowers appearing in August and lasting until destroyed by frost. The plant is of robust habit and is much branched, giving off numerous lateral shoots. The rich green leaves are large, slightly pilose or hairy and oblong in shape. The plant attains to a convenient height, about 3 feet, and is perfectly hardy. Seeds may be sown in the open border in spring, and the seedlings should be thinned so that three occupy one square yard. The species delight in a warm, sunny position. Clumps of this plant dotted at intervals along a mixed border prove interesting and showy.

Salvia carduacea (*Thistle-leaved Salvia*).—A very pretty, small-growing Labiate from California, of dwarf habit and having distinct, elegant, Thistle-like foliage. Its pretty lavender-coloured, tubular-shaped flowers (see fig. 109), with beautifully fringed margins, are set in a woolly calyx, the whole being supported on stout stems scarcely 1 foot in height. Owing to the restricted number of annual *Salvias* of ornamental value, the above-named species is valuable and is well deserving a place in a mixed border of flowers. Seeds should be sown in spring where the plants are to flower. The seedlings should be thinned to 6 inches apart.

Venidium decurrens (*calendulaceum*).—An exceedingly pretty, dwarf, yellow-flowered Composite suitable for growing on warm, dry, sunny slopes. Throughout summer and autumn its golden-rayed, Marigold-like flowers, with dark brown, almost black, disks often 2 inches across, are produced in great profusion. The foliage is glabrous above with white cottony felt beneath. The exceedingly bright flowers and dwarf spreading habit (its height is 6 inches), combined with its adaptability to poor soils, render this species a valuable subject. It will be found especially effective when disposed in large patches in full sunshine at the foot of a plant border. The seeds should be sown in the open ground in April and May. *William Mallott*.

THE ROSARY.

AUTUMNAL ROSES.

THE most precious of all the Roses that adorn our gardens are unquestionably those which have in largest measure what is generally known as the "perpetual" habit, more expressively described as *remontante* by the French rosarians—the capability of flowering freely during the summer, and almost with equal facility, though assuredly with less impressiveness, in the late autumnal months. The flowers that are developed during this season by the finest varieties are necessarily considerably smaller in dimensions than those which charm us during the summer; but, on the other hand, they are not seldom even brighter in colour, while the fascination of their fragrance remains the same. There are certain varieties, especially among the Hybrid Perpetuals, Teas, and Hybrid Teas, on which, in September and early October, we can always rely. Conspicuous among these are the incomparable *La France* and its supposed derivative, *Caroline Testout*, which even at this late period have a freshness and a luxuriance marvellous to behold; *Clara Watson*, introduced by the late Mr. Prince, of Oxford, one of the loveliest of the Hybrid Teas; *Viscountess Folkestone*, which need not be characterised or eulogised here; *Margaret Dickson*, whose remarkable achievements in my garden I have already described; *Clio*, which

much resembles the last-mentioned Rose in appearance, but usually comes like a *Noisette*, with clusters of buds; and *Frau Karl Druschki*, originally and more expressively called "The Snow Queen," undoubtedly the largest and most beautiful white variety that has hitherto appeared. Of the Hybrid Perpetuals and Bourbons the most reliable at this season are *A. K. Williams*, Duke of Edinburgh (unless its first bloom is very late), *Lady Helen Stewart*, *Hugh Dickson*, *Mrs. Paul*, and *Captain Hayward* (the finest of all), while *Madame Pernet-Ducher*, *Papa Goutier*, *Warrior*, *Corallina*, and *Isabelle Milner* are always conspicuous for their beauty in autumn among the Hybrid Teas. Climbing Roses are in many instances luxuriant at this season, especially such fine varieties as *Gloire de Dijon*, *Bouquet d'Or*, *Aimée Vibert*, *Mme. Pierre Cochet*, and *Mme. Alfred Carrière*. Among the best autumnal bloomers are three recent acquisitions, viz., *Harry Kirk*, *Mrs. Isabelle Milner*, and *Mrs. Dudley Cross*. *David R. Williamson*, *Manse of Kirkcaldy*, *Wigtownshire, Scotland*.

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NUNBURGHOLME, WATER PRIORY, YORKSHIRE.

Preparations for planting.—If much planting is contemplated, advantage should be taken of fine, dry weather to prepare the ground, espe-



FIG. 109.—*Salvia carduacea*, AN ANNUAL SPECIES: FLOWERS LAVENDER COLOURED.

cially if it be of a heavy, tenacious character. Opinions differ considerably as to the proper depth for a fruit border, and great attention is given to this matter, but soil and climate should be also studied. In well-drained land 18 inches to 2 feet of rich soil is ample for dwarf trees; whilst tall, wide-spreading standards require a greater depth. Dwarf trees are the most profitable to cultivate, and when their shoots are moderately pruned and the roots mulched and otherwise carefully treated, they do not require so deep a compost as many persons imagine. Cold, heavy land that holds water should be avoided, if possible, for the planting of fruit trees, but this may be greatly improved by thorough digging or trenching and adding sand, lime, lime rubble, road scrapings, wood ashes, &c., as the digging proceeds. No manure should be used, excepting for such fruits as Raspberries, Gooseberries and Currants. Ridge planting, with careful root-lifting every two or three years, is preferable on heavy soils. Thorough digging or trenching of the ground is essential for Apple, Pear, and all bush fruits, and although trenching is the most expensive, its influence is of lasting benefit to the trees. In fresh ground, especially if it be of a heavy nature, efficient drainage should be the first consideration. In the case of light soils resting on chalk or gravel, artificial draining is unnecessary, but a layer of rough lime rubble should

be placed under each tree at a depth of 18 inches or 2 feet. If young trees are to be planted to replace useless or worn-out specimens, the old soil should be removed entirely and replaced with fresh compost, as it is useless to plant again in the old soil. Loam should be mixed with road scrapings, old lime rubble and soot, &c. For stone fruits a little more calcareous matter may be added. The materials should be mixed ready and be protected from heavy rains until required for use. Careful records having been taken of the best varieties for the district, a visit should be paid to a nursery and the trees selected. Remember, the strongest and largest trees are not always the best. Also note the character and qualities of the newer varieties, some of which should be given a trial. I do not advocate the planting of too many varieties, but rather would select a few well-known and proved kinds, sufficient to furnish a supply of fruits from August to April.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LANGATTOCK, The Hendre, Monmouthshire.

Early Peach-house.—The trees having lost their leaves, the shoots should be freed from the trelliswork and tied in bundles. I so that the woodwork and glass of the house may be cleansed with warm, soapy water, and the walls limewashed. If the trees were not pruned immediately after the fruits were gathered, which is undoubtedly the best practice, the work should now be done. In some cases it may be advisable to cut out whole branches that are unsatisfactory, their place to be taken by younger shoots, saved for the purpose. Wash the bark of the trees with a warm solution of Gishurst's Compound, working it well into the crevices of the wood, but the preparation should not be allowed to touch the shoots of the current year, as this would probably lead to the fruit buds dropping. The young shoots should be washed with warm water mixed with a small amount of soft soap. After all these preparations have been completed the trees can be again trained in position, distributing the growths at about 5 to 6 inches apart. Next remove the old mulching material and a portion of the top soil of the border, replacing it with a fresh compost of loam, wood-ashes, crushed mortar, and bonemeal, or some other suitable manure compound. Keep the ventilators of the house fully open and the borders adequately supplied with water until forcing is commenced.

Pineapples in winter.—All shading should be removed from the glasshouses in which these fruits are cultivated. The temperature of the house containing plants for fruiting next summer should be gradually lowered until by the end of October the night temperature is from 55° to 60°, but slightly higher at daytime, and with a bottom heat of 75° to 80°. This will suffice until the forcing season commences. Moisture, both at the roots and in the atmosphere, should also be lessened in winter time, and when the plants are resting a very small amount of water will be required, and it should be slightly warmed before it is applied. Endeavour to keep the plants robust and healthy, but at the same time in a resting condition. A similar treatment should also be afforded to young plants raised from suckers in the autumn, but as they are in smaller pots they may require rather more frequent waterings. Syringing overhead should be discontinued, although an occasional spraying of the surface between the plants may be permitted. Plants of *Smooth Cayenne*, *Charlotte Rothschild*, or *Black Jamaica* varieties that are swelling their fruits should be watered with weak guano water made tepid, and this may be afforded until they commence to ripen their fruits. After the Pines are cut water should be withheld. Keep a fairly moist atmosphere by damping the walks and other bare surfaces of the house. Warmth from the hot-water pipes will be required in order to keep up the temperature to 65° or 70°. Continue to propagate from the suckers as they become ready, and if sufficient of these are not available, which is often the case with the variety *Smooth Cayenne*, the stock may be increased from the old crowns, which should be potted into 6-inch pots and treated in the manner recommended for suckers.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Autumn treatment.—The shortening days, with chilly mornings and evenings, remind us that the autumn is here. The closing month of the past summer was dull and wet, hence the growths of many plants are not so solid as desired. It needs a bright autumn to favour the thorough ripening of the growths on many species, in order that they may be sufficiently matured to pass the coming winter in safety, and to lay the foundation for next season's flowering. The cultivator will therefore need to make the most of the sunshine that we may have during the next few weeks.

Shading.—It is impossible to give any precise directions as to regulating the shading at this season. Much depends on the aspect of the house and the arrangement of the plants. Gradual exposure to the sun should be brought about as naturally as possible, using the blinds during the middle of the day, and then only when the sun being very bright it is likely to injure tender or newly-potted plants. Directly the blinds can be dispensed with they should be taken down and dried, any that need it being repaired before they are stored away for another season.

Watering.—Moisture must be applied to the roots with great care, for all Orchids should be treated alike in this respect. The habits of the various kinds and the condition of each plant must be considered separately and the treatment varied accordingly. In the case of varieties having resting pseudo-bulbs, it is, as I have already advised in these columns, a mistake to withhold water too suddenly, as the roots of many plants are most active just as the new pseudo-bulbs are forming and swelling out. Amongst the larger distichous-leaved Orchids, many are still growing freely, and will require plenty of heat and moisture until the roots show, by the white films covering the points, that they have completed their season's growth. After this, water sufficient only to keep both roots and foliage in a plump and healthy state is needed.

Damping.—There should be less moisture placed about the house than hitherto, as the present conditions of weather do not require it. During bright weather the warm and intermediate divisions of the house may have a moderate damping-down both mornings and afternoons. In the cooler divisions this should only be done in the morning, except on very sunny days, when a light damping early in the afternoon will be beneficial.

Ventilation.—In order to acquire that solidity of texture referred to above, fresh air as well as light should be freely but carefully admitted when the weather conditions permit. Allow the house to become thoroughly dry during the middle hours of the day. This is an important matter, and ensures the proper drying and purifying of the atmosphere necessary for the thorough ripening of the growths.

Temperature.—In accordance with the above remarks, it will be advisable to prepare for winter by reducing the warmth a few degrees in all the houses both at night and daytime. As the cooler divisions of the house should be permitted, it being better to allow a little warmth in the pipes, with the ventilators open, than to close the house without artificial heat, as a saturated atmosphere, with a low temperature, is most injurious to all Orchids.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Cucumbers. Much care and proper appliances are necessary to provide a regular supply of Cucumbers during the winter months. Plants which were put out at the early part of last month should now be coming into bearing, and it is of the greatest importance that the plants shall not be overcropped, especially in their early stages of fruiting. Encourage the plants to make stout, hardened growth before the depth of winter. The plants should be kept scrupulously clean, and a good fire-heat, with a moist atmosphere, should be maintained during night and cold weather. The roof glass should be kept clean, so that the plants may have the full advantage of whatever sunshine there may be.

Stop and regulate the growths as they require it and cut the fruits immediately they are ready for the table; these will keep fresh for several days if the ends are placed in a little water in a warm room or house. Make another sowing of a suitable winter-fruited variety, sowing the seeds singly in small 60-sized pots. Lockie's Perfection is one of the very best for this purpose, being of medium length, very prolific, and possessing excellent quality. The seeds should only be given very little water until after germination has taken place, and it will be necessary to raise them in a brisk bottom heat, and cultivate the young plants quite near the glass until they are ready for planting out.

Tomatoes.—If suitable means are at command, it is easy, by selecting suitable varieties, to provide fresh fruit all through the winter and early spring months. Plants which have been specially prepared for fruiting in winter should now be well established in their final pots and should be removed from the cool house to one having an intermediate temperature. Though it is impossible to fruit Tomato plants satisfactorily during the dull days of winter under conditions of very low temperature, it is almost equally unsatisfactory to subject them to too great a heat, as the growths then quickly become weak and the constitution of the plant is ruined. What is of the utmost importance is that a dry, buoyant atmosphere with a temperature of 55° to 60° should be maintained and the plants must never be over-watered at the root. All surplus growths should be removed and the leaves shortened to about one half their length, exposing the fruits to the light as much as possible. Sunrise and Winter Beauty are, as far as my experience goes, unsurpassed for winter work. Successional plants in small pots should be shifted into larger pots as required, keeping them near to the glass in the intermediate house. These will be useful for fruiting early in spring. Any fruits which must still be unripe in the open air, in very cool houses, pits, or frames, should be cut and laid out thinly in heat to ripen. Though many of these may be quite green, if anything like matured, they will be found to ripen satisfactorily under these conditions.

Cabbage.—The latest plantings of these ought now to be made on land which has been heavily manured and well prepared, choosing an exposed site if possible. Plant them in rows 2 feet apart and allow a space of 12 inches from plant to plant. Insert the plants well up to the heart, and make them very firm about the roots. Plants which were put out earlier should be examined and any vacancies made good. Frequently stir the surface soil with the draught hoe, both to stimulate the growth of the plants and prevent weeds.

Spinach.—Plants raised from early sowings should be thinned out to a reasonable distance. Scatter a little soot frequently over the surface of the soil, and stir the surface with the hoe. Make one more sowing on a south border.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

The Hollyhock.—In a favourable season, under good cultivation, this is one of the most stately of autumn-flowering plants. The Hollyhock will flower freely when raised from seeds sown early in the year, from summer or autumn rooted cuttings, or eyes. The latter should now be potted up and placed near to the glass in a cold frame exposed to sunshine. At this season it is well to overhaul the old plants in beds or borders, digging up the choicest varieties, removing their old leaves, and cutting back the long roots preparatory to potting them into 7-inch or 8-inch pots, to be wintered in cold frames. These old stools will afford a plentiful supply of cuttings in January, February, and March. Insect pests may be destroyed by dipping the leaves in water containing soft soap and flowers of sulphur. The latter substance will also destroy the troublesome mildew to which the plants are subject in autumn and winter.

Pyrethrums.—Herbaceous Pyrethrums form a beautiful and serviceable class of plants, and are perfectly hardy. Unfortunately slugs are particularly fond of the shoots, and they frequently destroy all the young growths as they

appear, ultimately killing the plants. It is desirable, and in many cases necessary, to lift the best varieties, parting them carefully with a plunging fork and putting up the divisions in good loamy soil. Place them when potted in a cold frame or pit for wintering. Strong clumps of commoner kinds may also be increased by division, replanting the pieces in fresh soil.

Marguerite Carnations raised from seeds sown in the spring and grown in the open should now be full of expanded flowers and flower-buds. If desirable, the plants can be lifted with a good ball of soil attached to the roots, and after being carefully potted stored in a cold frame. They should be kept in a close atmosphere for a week or two, and be shaded from bright sunshine till they are re-established. In winter they should be placed in an intermediate house.

Physalis Alkekengi and the stronger-growing *P. Franchetii* are very effective subjects in banks and borders at the present time. If the growths are cut whilst in good condition and dried similar to *Helichrysoms*, *Pampas Grass*, &c., they will be serviceable for decorative purposes in winter.

Chrysanthemums.—The early sorts are now in full bloom, and later varieties promise well. When the flowers are grown especially for cutting, some protection should be afforded them. If grouped together, a temporary framework may easily be erected over them and covered with blinds, mats, or dressed canvas covers. The plants can be moved when in flower; after moving they should not at first be exposed to bright sunshine, and they must never be allowed to suffer from lack of water.

PLANTS UNDER GLASS.

By THOMAS LUST, Gardener to A. STIELING, Esq., Keir, Perthshire, N.B.

Blinds and shading.—All shading must now be dispensed with: blinds should be taken down, dried, and stored in a place free from damp. Substances such as "summercloud" that have been painted on the glass should be washed off, as the maximum amount of light will be required during the dull days of autumn and winter.

Primula sinensis.—The earliest batch of these plants should now be removed from the unheated frame and placed in an airy structure in which a temperature ranging from 50° to 55° is maintained. Allow the plants sufficient space so that they may be turned round twice each week without damaging the brittle foliage. Water should be very carefully afforded from now onward, always keeping the soil a little on the dry side, although never allowing the plants to flag or otherwise suffer from lack of moisture. Watch for decaying leaves, especially about the neck of the plant, for these will communicate decay to the stems. The *Stellata* or star-flowered type should also be placed in a warmer house and be treated as advised for the ordinary kind. *P. obconica* requires a greater amount of water than *P. sinensis*, and it should also be given liberal doses of manurial stimulants all through the winter months. The foliage at this season is very short-stemmed and somewhat crowded, the flower-stems often having a difficulty in pushing their way through them, but with a little care the leaves in the centre of the plant can be disposed to allow the inflorescences to properly develop. This *Primula* should be grown in a moist atmosphere than the two species previously mentioned.

Viols.—Plants that were layered last August are now ready for placing in unheated frames, which should be kept closed for a few days after planting is accomplished. If one thorough soaking of tepid water is given, no more moisture will be required until the spring.

The Gesnera.—Plants that are now forming their flowering spikes should be afforded neat stakes, so that the growths may be properly regulated and trained. Arrange the tallest shoots near the centre of the pot wherever possible, and to encourage an even growth turn the plants round twice each week, so that every portion may receive an equal amount of light. Liquid manure should be given twice each week, or oftener if the plants have filled the pots with their roots.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of Plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unsolicited communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Appointments for October.

SATURDAY, OCTOBER 3—
Soc. Franc. d'Hort. de Londres meet. German Gard. Soc. meet.

TUESDAY, OCTOBER 6—
Nat. Amateur Gard. Assoc. meet.

WEDNESDAY, OCTOBER 7—
Nat. Chrys. Soc. Exh. at Crystal Palace (2 days).
Roy. Bot. Soc. Exh. at Regent's Park.

MONDAY, OCTOBER 12—
United Ben. and Prov. Soc. Com. meet. Nat. Chrys. Soc. Com. meet.

TUESDAY, OCTOBER 13—
Roy. Hort. Soc. Coms. meet. Brit. Gard. Assoc. Ex. Council meet. Nat. Rose Soc. Com. meet.

THURSDAY, OCTOBER 15—
Roy. Hort. Soc. Exh. of British-grown fruit (2 days).

SATURDAY, OCTOBER 17—German Gard. Soc. meet.

MONDAY, OCTOBER 20—Nat. Chrys. Soc. Com. meet.

TUESDAY, OCTOBER 21—
Roy. Hort. Soc. Coms. meet. Croydon Chrys. Show (2 days).

WEDNESDAY, OCTOBER 22—
Kent County Chrys. Sh. at Blackheath (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—52.0°.

ACTUAL TEMPERATURES—
LONDON.—Wednesday, September 30 (6 P.M.): Max. 77°; Min. 57°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London—Thursday, October 1 (10 A.M.): Bar. 30.2; Temp. 69°; Weather—Fair.

PROVINCES.—Wednesday, September 30 (6 P.M.): Max. 79° (Sheffield); Min. 60° (Ireland, W).

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—

Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Frotheroe & Morris, at 10.30.

MONDAY AND TUESDAY—
Two Days' Sale of Nursery Stock, by order of Messrs. S. Ede & Sons, at The Nursery, St. John's, Woking, by Frotheroe & Morris, at 12.

WEDNESDAY—
Seventh Annual Sale of Nursery Stock, by order of Mr. H. A. Bear at The Old Nursery, Spring Grove, Isleworth, by Frotheroe & Morris, at 12.
150 lots Palms, Bays, Azaleas, &c., at 67 and 68, Cheapside, E.C., by Frotheroe & Morris, at 5.

FRIDAY—
Imported and Established Orchids in variety, at 67 and 68, Cheapside, by Frotheroe & Morris, at 12.45.
Sale of surplus Nursery Stock, at Warren Nurseries, Upper Tooting, by order of Messrs. Ritz & Co., by Frotheroe & Morris, at 12.

The International Rubber Exhibition which opened on Monday, September 15, at Olympia is of interest in many ways. It affords the first opportunity which has been given in this country of seeing in a collected form representative exhibits illustrating the chief phases in Rubber production in the principal countries which contribute to the world's supply. The more important Rubber plants of the world are almost, if not all, represented by living specimens. Some have been raised from seed and grain in hot-houses in this country, others merely removed from the Wardian cases in which they have been transported thousands of miles by sea from the Tropics. There are also large trunks, some from trees 20 years of age or more, showing

clearly by their scars the modes of tapping which have been employed in order to obtain the Rubber fluid or latex.

Rubber itself is exhibited in all forms, ranging from the great balls, or "biscuits" as they are technically termed, of Para Rubber from Brazil to the various types of biscuit, sheet, crêpe, worm, and block Rubber indicative of the efforts that are being made by the planters of Ceylon, British Malaya, and elsewhere, to find the best method of producing their produce for the market.

The allied materials, Gutta Percha and Balata, are equally well represented. Living plants are shown, as well as their products as known to commerce.

In addition to the actual specimens of the living plants and their products, there is also a considerable assemblage of herbarium specimens together with a wealth of photographs portraying cultivation and collection. Consequently a careful survey of the exhibition affords an easy way of acquiring a general acquaintance with the principal features of Rubber production as carried on at present in various parts of the Tropics. The exhibition is not, however, confined to illustrating the production of crude Rubber. Machinery connected with its manufacture has been installed and is at work, and some of the processes through which Rubber passes before it emerges in the familiar forms in which it is met with in everyday life can also be watched.

For all connected with or interested in any degree with botanic gardens at home or abroad, the exhibition possesses a special attraction. As is well known, Rubber cultivation has of recent years made great strides. Until about 30 years ago, we were absolutely dependent on the plants growing wild in the great forests of tropical America, Africa, and Asia for our supply of this valuable commodity. But at the present time several hundred thousands of acres are under Rubber cultivation in various parts of the world. It is true that, owing to the fact that the trees take several years to come into bearing, coupled with the circumstance that much of this great development is of quite recent date, the proportion of cultivated to wild Rubber is still quite small, only amounting to little more than 2 per cent. of the whole—but it will attain much greater relative importance in the near future when the acreage already planted comes into bearing. This rapid increase in the plantation of cultivated Rubber is likely to exercise a marked influence on the price, especially if, as seems probable, it should be found that the cultivated product can actually be more cheaply supplied than wild Rubber.

For this desirable state of affairs, the world is largely indebted to the Royal Botanic Gardens, Kew, and also to the botanic gardens of the colonies. The story has often been told how in the seventies, largely due to the foresight of Sir Joseph Hooker, at that time Director of Kew, Mr. H. A. Wickham was commissioned to obtain a supply of seeds or plants of the then botanically unknown plant which yielded the Para Rubber of commerce. This mission was successfully accomplished by Mr. Wickham's enterprise in taking advantage of very exceptional opportunities, and as the result the Royal Botanic Gardens in Ceylon received from Kew a supply of this most valuable Rubber plant.

Since then the work of distribution and introduction into other countries has been actively carried on.

Again, mainly at the botanic gardens and stations, experimental work in tapping and preparing the produce has been prosecuted, notably in the Ceylon gardens, and has helped very materially to establish the commercial success of the new cultivation. At such an exhibition as this we have demonstrated, in a very tangible form, the practical utility of maintaining scientific departments such as those to which we have alluded.

The Wisley Collection of Grapes. The much looked for exhibit of Grapes grown this year in the Wisley gardens was presented in the form of cut bunches at last Tuesday's meeting at Vincent Square, and it naturally attracted considerable attention. In all there were 31 distinct varieties; a few other varieties had been spoiled owing to indifferent ripening. Those who looked for exhibition bunches were doubtless disappointed with the samples staged, but it had not been at any time assumed that the Wisley Grapes were of that order. Still further, it was obvious that the bunches appeared at their best when seen on the trees rather than on the boards, yet such varieties as the red and large-berried Muscat Champion were shown in excellent bunches. Prince of Wales, with long, tapering bunches, and sloe-black berries; Golden Queen, with rich golden-coloured berries, and some others were of such quality that they merited inclusion in the collection from a purely cultural point of view. Grapes like Black Monukka, Muscat of Hungary, Red Frontignan, and Diamant Traube or Scotch White cluster, for instance, would never be likely under any condition to make show Grapes, although they possess merit of a high order regarded from the point of view of flavour. Amongst the popular varieties, Muscat of Alexandria, Canon Hall Muscat, Muscat Hamburg, and Madresfield Court, showed that the highest quality in Grapes, as well as exhibition excellence, was well represented. The collection was essentially an educational one, and doubtless many visitors were well pleased to see these Grapes so prominently exhibited at the meeting.

Leaves were shown with the fruit in order to assist visitors to remember the characteristics of each variety. Black, red, white, and yellow-fruited varieties were fairly evenly divided, there being 17 black and red sorts, and 14 with white and yellow berries. The bunches were staged on the ordinary sloping boards covered with white paper, and they presented an attractive appearance. The Fruit Committee recommended the Council to award a gold medal for the collection, but this commendation it was, not unnaturally, found impracticable to carry out, as the produce was exhibited under the direct auspices of the Council itself.

In most gardens in this country where indoor fruit culture is practised Grapes are considered the most important crop, and if the exhibit on Tuesday last was the means of showing to some Fellows that there are still varieties that, for some quality or another, might be useful to them, in addition to those they already cultivate, the object in making the display will have been served.

OUR SUPPLEMENTARY ILLUSTRATION shows a magnificently-floussum plant of *Odontoglossum Pescatorei*, "Westonbirt variety," in the collection of Lt.-Col. HOLFORD, C.I.E., C.V.O., Westonbirt, Gloucestershire. There are many points of resemblance between *O. Pescatorei* and *O. crispum*, but the former may be readily distinguished from *O. crispum* by the broad, sub-orbicular lip and the truncate wings of the column. The species under notice occurs in the higher declivities of the Eastern Cordillera of New Granada, having been discovered in 1847 by FUNCK and SCHLIM, who sent specimens to M. LINDEN's nursery at Brussels, where it flowered for the first time in cultivation in 1851. M. LINDEN despatched an inflorescence to Dr. LINDLEY, who dedicated the plant to M. PESCATORE, a banker of Paris, who was an enthusiastic Orchid cultivator, having one of the choicest collections of the period. *O. Pescatorei* generally flowers from March to May. The flowers of the Westonbirt variety of this species are 3 inches across, white tinged with rose at the back, the colour showing through on the surface, each segment bearing a few purple spots. By right of priority, the *O. nobile*, Rchb. f. (*Linnaea*, 1849), is the correct name of this species, but as *O. Pescatorei* has been the name invariably used in gardens from its introduction, it is more convenient. The great success obtained in the cultivation of this and other species of Orchids by Mr. ALEXANDER, who has the care of Lt.-Col. HOLFORD's collection, has been demonstrated on many occasions in these pages and at the R.H.S. meetings.

MEMORIAL TO MR. GEORGE NICHOLSON.—A committee is being formed with a view to inaugurating a fitting memorial to the late Mr. GEORGE NICHOLSON, V.M.H., F.L.S., ex-curator of the Royal Gardens, Kew, and editor of the well-known *Illustrated Dictionary of Gardening*. Anyone who is interested in the proposition may obtain further particulars from Mr. WILFRED MARK WEBB, the honorary secretary of the Selborne Society, at 20, Hanover Square, London, W.

—At the meeting of the R.H.S. Floral Committee on Tuesday last, Mr. HENRY B. MAY, who presided, referred in suitable terms to the loss the Committee had sustained in the recent death of Mr. GEORGE NICHOLSON, V.M.H., F.L.S., and subsequently a formal resolution was proposed by Mr. GEORGE PAUL and seconded by Mr. J. T. BENNETT-POE, in which the Committee expressed sorrow for the deceased's relatives, and its sense of the services Mr. NICHOLSON had rendered to the Committee for many years past. Testimony was also borne to Mr. NICHOLSON's kindly disposition, which was one of his most striking qualities. The resolution was adopted by all the members present unopposed.

ROYAL HORTICULTURAL SOCIETY'S EXAMINATION IN HORTICULTURE IN INDIA.—We are informed by the Rev. W. WILKS, M.A., that the enclosed letter has been sent to the directors of the botanic and other gardens in the colonies, as well as to the Colonial Press and others:—"On the invitation of the Government of the United Provinces of India, the general examination of this Society in the principles of horticulture is to be modified so as to fulfil the local requirements, and a first examination will be held in April, 1909, at Saharanpur. This suggests that possibly other countries and districts may feel it desirable to enter candidates for a similarly modified examination, in which case the Council would doubtless be prepared to organise it. The examiners are leading horticulturists in England, and for examinations

abroad will be assisted by suitable experts acquainted with the special horticultural conditions of the various countries desiring to adopt our tests. The general examination is now an acknowledged standard of qualification in horticulture in Great Britain, and it is thought it may be of similar advantage and assistance in your country. Other details arranged will be communicated on application for the examination, but the enclosed prospectus as arranged for 1909 will indicate its general lines and the sort of knowledge required. If you should think at any time of adopting this proposal I shall be glad to hear from you, when also I should greatly value the suggestion of the name and address of a competent person in Great Britain, versed in the horticultural conditions of your country, whom we might ask to co-operate with the other examiners appointed by the Society.—Faithfully yours, W. WILKS."

DUTCH BULB GROWERS' JUBILEE SHOW.—The Dutch Bulb Growers' Society is organising an important flower show to commemorate the half-centenary of the Society's existence: Exhibitions of forced bulbous plants have been held every five years, under the association's auspices, the last exhibition having taken place at Haarlem in March, 1905, when, although the quality of the exhibits was of a high standard, the show as a whole, was not a great success. At the general meeting of the Society it was decided that the next quinquennial show should be held in the flowering season of the bulbs from the first days of April till the middle of May, in 1910. The Haarlem City Council has placed the most picturesque part of the city park at the disposal of the bulb growers as a site for the show.

SOUTHAMPTON CHRYSANTHEMUM SHOW.—The secretary of the Southampton Royal Horticultural Society informs us that, owing to circumstances connected with the hall, the date of the Chrysanthemum Show will be altered from November 2 and 3 to October 28, 29, and 30.

BULB GROWING.—Mrs. LLOYD GEORGE, wife of the Chancellor of the Exchequer, visited Portmadoc recently to plant the first bulbs in connection with an experiment in bulb-growing by the Portmadoc Improvement Association. The experiment is to be made on land reclaimed from the sea many years ago.

EAST ANGLIA.—Messrs. JARROLD & SONS announce they have in the press for early publication a sumptuous volume on the historical homes of East Anglia entitled "Old Norfolk Houses," with 36 illustrations reproduced in colour from the artist's water-colour drawings of many of the most important and picturesque of the old halls and manor houses in the county, with some account of their history; by GEOFFREY BIRKBECK, R.B.A. The issue will be strictly limited to 300 copies.

YORKSHIRE FUNGUS FORAY AT MULGRAVE WOODS.—The most successful of the annual fungus forays so far held in Yorkshire under the auspices of the Yorkshire Naturalists' Union took place from September 19 to 24. The headquarters were at the picturesque seaside village of Sandsend, near Whitby, close to the extensive Mulgrave Woods, the property of the Marquis of NORMANBY. This nobleman kindly gave permission to the Union to investigate the rich mycological flora of these woodlands from Monday to Thursday, September 21-24. The Vicar supplemented this kindness by allowing the members to use the schoolrooms as a general meeting and working centre. Over 20 persons, including two ladies interested in mycological pursuits, from Kew, Cumberland, Derby, Lincolnshire, Lancashire, and Yorkshire, assembled on

the Saturday afternoon. Mr. G. MASSEE, chairman of the mycological committee, was present the whole of the time. It was soon found there would be abundance of material in the woods and adjoining fields. Attention was given to all branches of the subject. Four or five of the members, including Mr. MASSEE, devoted the whole of their time to determining the material collected; thus, more work was got through than on any previous occasion. On summing up the results, it was found that over 500 species had been brought in. Of these, four are new to the British flora—*Tricholoma squarulosum*, *T. carneolum*, *Inocybe comixta*, and *Pholiota sororia*; 28 are additions to the known Yorkshire fungus flora; and a *Clavaria* is probably new to science. On the Monday, Mr. MASSEE gave an address on "Economic Mycology," referring more particularly to the life cycles of some of the parasitic fungi which prey upon Potato tubers. Mr. HAROLD WAGER dealt with "Spore Development in the Basidiomycetes"; Mr. HAWLEY, Boston, with "New Fungi found at Tumbly"; and Mr. J. W. H. JOHNSON with "Fungi found in Polluted West Riding Streams." The named fungi were exhibited on long tables. Many of the villagers, who were allowed to come in and go out just as they pleased, manifested a keen interest in the proceedings. The rooms were open all day, and one or other of the members were always at hand to go round the tables with the visitors to answer questions. There were 18 or 20 edible species. On the Monday evening the place was crowded to hear the lectures.

NOMENCLATURE OF THE PEAR.—We have received a catalogue-index of the known varieties of the Pear referred to in American publications from 1804 to 1907. It has been compiled by Mr. W. H. RAGAN, expert in pomological nomenclature, and is published by the U.S. Department of Agriculture. The name of each variety is accompanied by a brief description and history, including its origin, form, size, colour, texture, flavour, quality, and time of maturity. Under the head of "Improved Nomenclature" it is stated: "In the future we desire to use but one word for the name of a fruit, as with Baldwin Apple, the Bartlett Pear, the Concord Grape, and other renowned fruits which will be perpetually known by appropriate and easily-remembered names. In a word, we desire to establish a system of nomenclature which shall be pure and plain in its diction, pertinent and proper in its application, and an example not only to our own, but to other countries, to strike off the hundreds of *Beurrés* and *Doyennés* from the names of our Pears where it is possible to do so, and to write Anjou, Diel and Boussochs in the place of *Beurré d'Anjou*, *Beurré Diel*, *Doyenné Boussoch*, &c." It is not claimed that all names that appear in the catalogue as leading names represent distinct varieties, as it has often been impossible to determine from the meagre information obtainable that such is the case. All names that have been found in an exhaustive search of the literature of the Pear, conducted as preliminary to the completion of this work, are included in its pages. The first published name for a variety is taken as the accepted and recognised name. The work is to be a standard authority for the nomenclature of the Pear in America, and it insists that the name of a variety of fruit shall consist of a single name, and under this rule are a number of minor rules more or less tending to make for simplicity. Such general terms as seedling, hybrid, pippin, pearmain, beurré, rare, ripe, damson, &c., are not admissible, neither is a possessive noun if used as a name. A long list of abbreviations of publications mentioned in the work is given. The names of the leading varieties are printed in black-faced type and synonyms in italics.

MR. W. H. CLARKE, at present head gardener to Sir WILLIAM and Lady PLOWDEN, Aston Rowant, Oxfordshire, is leaving these gardens in order to take up a partnership in the nursery business of Mr. G. F. LETTS, Hadleigh, Suffolk. Mr. CLARKE contributed a weekly calendar on the culture of fruits under glass to these pages in 1905, and since that time has contributed articles upon various subjects.

FESTIVITIES AT A NURSERY.—The firm of Messrs. JOSEPH CHEAL & SONS, Lowfield Nurseries, Crawley, recently entertained their employees, with their wives and families, to celebrate the marriage of Mr. and Mrs. J. CHEAL's second daughter (Miss HELENA M. CHEAL) to Mr. E. WRIGHT. The gathering numbered some 250 persons.

cost has been reduced from 50 cents per can in 1848 to 7 cents at the present time. With this reduced cost, the output of the factories has increased to an almost incredible extent. The total output of the United States for 1887 was about 3,000,000 cases, of 24 cans each. In 1894 the output was nearly doubled; while in 1904 the trade had grown to 9,000,000 cases, and in 1907 the pack reported was approximately 13,000,000 cases.

FRUIT GROWING IN BRITISH COLUMBIA.

Writing on the above subject, a correspondent in the *Broad Arrow* gives some useful information to intending settlers. He states that, during the last two years, a large amount of land has been bought for fruit culture on Kootenay Lake and river, and in many outlying districts within

system, a number of unknown or forgotten burial places have been traversed, and many coffins in a perfectly sound condition unearthed. Some of these, judging from the coins and buttons found, undoubtedly contained the remains of Spanish soldiers; but, until July 8, no coffin had been found bearing a date or other means of identification. It so happens that nearly all coffins unearthed contained metal name plates, and these were so much corroded that nothing could be deciphered. During excavations at St. Louis and Basinstreets, a coffin was brought to light which bore the inscription, "Hendric Miller, 1803," carved in the wood. This coffin, except for the discoloration of the wood, was as sound as the day it was made, and an iron cross was found which undoubtedly surmounted the grave, but so badly corroded that only a few



FIG. 110.—CHIMONANTHUS FRAGRANS IN FRUIT.

A, longitudinal section of receptacle showing two true fruits; B, transverse section near the base; C, the true fruit or achene.

TOMATO CANNING INDUSTRY.—In America the larger portion of the area devoted to the culture of Tomatos is for the purpose of supplying fruit for the canning factories, and it is the demand of the canneries which, more than any other, has given the great impetus to Tomato culture in the United States. Canned Tomatos as an article of trade owes its origin to Mr. HARRISON W. CROSBY, who made his first venture in 1848, while steward of Lafayette College, Easton, Pennsylvania. There was a ready demand for the goods, and, with increased supply and improved machinery, the

reach of the town of Nelson. The price of land ranges from 25 dollars (£5) to 100 dollars (£20) per acre uncleared, and from 100 to 250 dollars per acre for land cleared and under cultivation; but these prices vary considerably according to location, quality of soil, and facility for transportation. The north-west territories offer practically an unlimited market for British Columbian-grown fruit, especially Apples.

DURABILITY OF CYPRESS WOOD.—We learn from the *Weekly Florists' Review*, U.S.A., that, during the recent excavations throughout the older portions of New Orleans for the new sewer

letters and the date are decipherable. The interest in this centres in the oft-repeated story of the durability of the Cypress (*Cupressus virginiana*), and the fact that the hand-made nails where they are driven into the wood were not rusted, disproves the statement that has sometimes been advanced that Cypress wood contains an acid which will cause iron to rust.

Publications Received.—*The Estate Magazine* (September). Price 6d.—*The Book of Fern Culture*, by Alfred Hemslay. (London: John Lane, The Bodley Head). Price 2s. 6d. net.—*The People's Guide to the Old Age Pensions Act*, by G. F. Emery, LL.M. (London: Bemrose & Sons, Ltd., 4, Snow Hill, E.C.) Price 1d.

CHIMONANTHUS FRAGRANS.

OUR illustration (fig. 110) represents a fruiting spray of *Chimonanthus fragrans*, which we received through the kindness of Sir Edmund Loder, Bart., from the garden belonging to Mrs. Otter, at Bolney Lodge, Sussex.

As in the *Calycantheae* generally, the gourd-like structures which at first sight might readily be mistaken for fruits are really formed from the upgrowth of the hollow receptacle of the flower. Upon the rim of this are borne the stamens, and within them is a zone of barren staminodes, which persist in the mature structure as tongue-like filaments that more or less close the orifice of the cup. Inside and near the bottom of the latter the real fruits are borne. They are one-seeded, dry, chesnut-coloured, bean-like bodies, and are shown in the figure.

The species is a native of Japan, whilst the species of *Calycanthus*, a genus from which *Chimonanthus* is scarcely separable, are North American.

FLOWERS OF SPENSER.

I MAY be permitted briefly to refer to Canon Ellacombe's notes on the "Flowers of Spenser," having spent much leisure time during the winter months of many years in the study of plant names in general and those mentioned in literature in particular. Those who have given the subject nothing more than a cursory attention may be surprised to know that there is no authority on plant names on whom an unreserved dependence can be placed, nor probably will there ever be, the subject being one of great difficulty.

On page 15 I have shown that *Amaranthus* is *Amaranthus tricolor*, and *Astrophel* is not *Aster Triplicolus*. It may be added that Miss Kent, eighty or more years ago, suggested *Myosotis palustris* as the plant, than which no other is quite so near to the description of the poet in *Astrophel*. It is not *Speedwell*.

Belamoure is certainly a flower, and in *The Faerie Queene* the "floure-deluce." The verse in the sonnets in which it appears proves it to be sweet scented, and the sole question is whether the plant be a coloured Iris or I. florentina.

Bulrushes, it might have been pointed out, were *Scirpus lacustris*, and not *Typha latifolia*, the Bulrush of to-day.

Doubtless Spenser had a plant in his mind when he wrote the "floure of Camphora." It occurs in *Alpha*, and is there described as being aromatic. Camphorata was one of the early names of Southernwood, and not improbably this or an allied species is the plant in question. It is important in determining the identity of a plant to take into consideration the medicinal uses to which it was put, and in this case, with the other plants named, it was employed for some feminine disorder. Coltwood is one of the others, and if we may regard this as identical with Cowthord = Cowth or Cowt equalling Colt, we have *Matricaria Parthenium*, which was a renowned herb for female complaints, and also esteemed in pharmacy.

Costmary is by no means obsolete, and long before, as well as after, Spenser's day the plant was cultivated in gardens. It is aromatic in a remarkable degree, and was also known as Cost, Coast, Alecost, Balsam Herb, Maudlin, and in Scotland, Smelling Leaves. It is *Balsamita vulgaris* (*Tanacetum Balsamita*). A plant is certainly referred to in both instances.

One of the names of the wood of the Ash tree was Ebony, and no fact is better authenticated than that spear shafts were on account of the strength and toughness of the Ash formed of that wood. A cheap class of bows, too, was made of Ash, because there was not sufficient Yew to be had or purchasable. Heben, in more than one of the places in which it appears, may therefore be taken to refer to the Ash rather than the Yew.

In *Virgil's Gnat* the Holly is almost certainly named, growing as it does, or did, in positions such as indicated. Spenser's reference to Ilyssop as a vulnerary is quite correct. Culpeper affirms that "the green herb bruised and a little sugar put thereto doth quickly heal any cut or green wounds being thereunto applyed."

That Kingcup is the Marsh Marigold is opposed to every authority up to a recent date.

Peacham's Kingcup flowered in June. Gerarde's was the meadow Ranunculus. Gay wrote:—

"Fair is the Kingcup that in meadow blows,
Fair is the daisie that beside her grows."

There is Cowper's "Kingcups in the yellow mead" and Scott's Jeannie Deans "thinking on the bonny spots of turf sae fu' of Gowans and yellow Kingcups." The plants I knew by that name when a boy were *Ranunculus bulbosus* and *repens*. It hardly needs observing that Spenser's verse is full of anachronisms.

Spenser's reference to the "Orpine growing still" would appear to be not on account of its being evergreen, but because the plant, or, rather, a piece of the plant, was usually set up in a conspicuous part of the poor man's cottage, always on Midsummer Eve, where, with the exception of applied moisture, it continued to grow without any apparent means of support, hence called *Livelong*. *Sedum Telephium* is the *Orpine* of Spenser. *S. tectorum* is the true

used as a name for Parsley, which is "Perse-line."

In Spenser's time three plants were known by the name of Sops-in-Wine, viz., *Trifolium pratense*, *Medicago sativa*, and a *Dianthus*, but not the common Pink, the plant to which it is referred by Messrs. Britten and Holland, because it is frequently named in conjunction with the Pink. It seems to have been applied to *Dianthus superba*. And here it may be remarked that, although Spenser may have derived Coronations from Lyte, and Lyte the word from Corona, it does not follow that Carnation is the same word. We find the latter used as a colour name earlier by Tusser in 1573, and also in *The Gardener's Labyrinth: The Profitable Arte of Gardening*, and in 1568 in a letter which is printed in *Hakluyt's Voyages*, while all the early authorities derive Carnation from a colour—a deep flesh or red.

"Tetra mad" and "Mortal Samnitis" may each be conjecturally named, because the plants



FIG. 111.—FLOWERING SHOOT OF CHIMONANTHUS FRAGRANS: FLOWERS WHITISH OR YELLOW, PURPLISH INSIDE.

Sengreen, a name never applied to *S. Telephium*. The "dead sleeping" and "dull" Poppy is correct, *Papaver somniferum* being the plant, and it is also the species mentioned by Turner in his *Names of Plants*, and not *P. Rhæas*. The references are, of course, to its effects as a drug. The "Queene" Apple was a common garden variety frequently mentioned by early writers.

Spenser differentiates the Sallow and the Willow. In the same canto the latter is "worne of forlorne paramoures" and the "Sallow for the mill." The one is *Salix caprea*, the other *S. alba*.

Savine is not the common Juniper, but *Juniperus Sabina*. In Sussex, *Artemisia maritima* is called Savin, and used medicinally for like purposes as the true Savin.

Smallage is *Apium graveolens*, and was never

to which they can be referred are very few. Mandrake, the Egg Plant, and Henbane were described as making those who partook of them mad or furious, and Mortal was one of the names of *Atropa Belladonna*.

No doubt by an oversight several plant names have been overlooked, e.g., Galingale, Oxeie, Panachea, Polygony, the "Sabine flower," and Patience, and the references to some of those noted are not complete. R. F. Brotherston.

Anything that Mr. Brotherston writes on plant names is worth attentive reading, and I thank him for his criticisms on my papers on the "Flowers of Spenser." But his statements lose much of their value because he does not give his references, and that makes it very difficult to accept them all. For this reason I must content myself with saying that I cannot accept his criticisms altogether. I do not know

what book he refers to by Miss Kent as an authority, and to give one instance where references are needful I would ask for a proof that the Ash was ever called Heben, or that bows were made from Ash. I dare say they were, but I should like the authority. I had the best authority for saying that Spenser's Heben was the Yew. The omissions named in the last line of Mr. Brotherton's letter were overlooked in the writing, and I regret them, for I had noted them for quotation. *Henry N. Ellacombe.*

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

GYNECEUM OR GYNÆCEUM.—As in the issue of July 25 of this journal (p. 70) exception was taken to the use of gynœceum instead of "the more usual (and correct) rendering gynæceum," it may be worth while to note the following facts. The term in question was first used by Røpner in the form "gynœceum." In his *Observationes aliquot in floribus inflorescentiarumque naturam* (Linnæa, vol. i., 1826, p. 438) he says: "Hic verticillus foliis foemineis efformatus habet inapte forsan gynœcei nomine designari potest," adding in a footnote the derivation of the word *ex gym et oikos*. The term was formed in strict analogy with "androecium," which is given and explained (*ex andr et oikos*—sic) on the preceding page. This paper by Røpner had, earlier in the same year, been published in a French translation (by Duby) in Séringé's *Mélanges Botaniques*, vol. ii., No. 5, pp. 71-93. Here the Latin terms were replaced by the French words "gynécée" and "androcée," but with the same derivations, that is "gym," femme et oikos maison, for "gynécée," and "andr," homme et oikos maison, for "androcée." In the following year, however, Røpner had another paper, *Varia*, in Linnæa (vol. ii., pp. 82-86), in which both terms occur repeatedly, but in a different spelling, viz., "gynœceum" and "androecium." No reason is given for the change, but it may be assumed that Røpner had now the classical Greek term *gynœceion* in mind, in Latin gynœceum of gynœceum (W. Smith, *Neo-English Dictionary*). This is a word into which *oikos* does not enter at all, and therefore, quite different from gynœceum. "Androcium," on the other hand, originated, no doubt, from the faulty French "androcée" of Duby—it ought to be "androcée" (Littre, *Dictionnaire*)—and was, in any case, inadmissible. Two years later Røpner used the same terms (gynœceum and androcium) in his important essay, *De Organis Plantarum* (pp. 16 and 17). They are quoted as synonyms in *Die Gleditsch d. bot. Terminologie*, vol. i. (1830), pp. 331 and 132, but on p. 300 "androecium" is given in its correct form, "androcium."

In 1832 Bentham, in his *Labiatularum Genera et Species*, took the terms over in their original form, but with the termination *um* instead of *eum*. Thus, p. xiii., "Gynœcium insidens in gynophorum"; p. xxiv., "The Androcium in Labiate"; and p. xxvi., "The Gynœcium is still further reduced than the Androcium." No reason is given for this alteration, but it was probably due to a desire to make it conform to the Linnæan terms, Monœcia, Diœcia, &c. Then in 1843, Endlicher and Unger, in their *Grundzüge der Botanik*, adopted "gynœcium" (p. 261) from Røpner's *De Organis*, but with the termination "ium," whilst they insisted on "androecium" (p. 223). The frequent use of gynœcium or gynœcium is, however, not due to Endlicher and Unger—at least, I have seen no reference to their work—but to a somewhat loose quotation by Sachs in his *Zehrbuch der Botanik*. I quote from the 2nd edition (1870), where he says, on p. 402: "Die Gesamtheit der mannlichen Geschlechtsorgane einer Blüte wird (nach Røpner) als Androcium, die der weiblichen als Gynœcium bezeichnet." The fact is, as stated, that Røpner has "gynœcium" as well as "gynœceum" for the female, and "androecium" and "androecium" for the male organs. A similar error occurs in Asa Gray's *Structural Botany* (1879), p. 165, footnote 2), where he says in explanation of the terms androcium and gynœcium:—"The male household and the

female household respectively, the terms introduced by Røpner (Linnæa, i., 437, in the form of androcium and gynœcium; but the diphthong in the latter should also be 'æ.' The orthography androcium and gynœcium (early adopted by Bentham, in *Labiatularum Genera et Species*) is conformable to the Linnæan Monœcia, Diœcia," &c.

From all this it is clear that "gynœcium"† and "gynœceum"‡ has the priority over "gynœcium." Etymologically, all these forms are correct, provided that the vowel preceding the final "um" is given the proper quantity, for we have gynœcium from *gynœ-cium*, and gynœcium from *gynœ-cium* (root *gynœ-cium*). But as the term androcium§ is universally adopted, it is evidently desirable that gynœcium should stand in preference to the other forms quoted. Our terminology is already overloaded enough, and we should carefully avoid adding to it by orthographic idiosyncrasies.

Concerning the prevalence of the use of gynœcium or gynœcium, it may be remarked, to quote only some instances, that gynœcium was used by Bentham in his classical introduction to the Colonial Floras [*Flora Hongkongensis*, p. xix. (1861); *Flora Australiensis*, p. xvii. (1863); *Flora of Tropical Africa*, p. xvii. (1865)] it was adopted by Duchartre in *Elements de Botanique* (1867), p. 431; by Asa Gray in his *Structural Botany* (see above); and also by Coulter and Chamberlain in their *Morphology of Angiosperms* (1904), p. 29. On the other hand, Schleiden (*Grundzüge der wissenschaftlichen Botanik*, Engl. Transl. 1849, p. 316); Warming (*Haandbog i den Systematiske Botanik*, Germ. Transl. 1890, p. 474); and Schimper (in Strasburger, Noll, Schenck und Schimper, *Lehrbuch der Botanik*, 1894, p. 365) have gynœcium; but they also consistently spell androcium instead of androcium, whilst the form gynœcium seems to be more confined to the schools of Sachs, Eichler, and Engler, where we find it associated with the discordant androcium. *Otto Staff.*

TITHONIA DIVERSIFOLIA.—Referring to a note by Mr. Alwin Berger on p. 24, I may state that this plant is naturalised here, and flowers almost continually, producing many hundreds of flower-heads. It reaches a height of 5 metres, and even higher. Fruits are abundantly produced, and the plants are spreading rapidly everywhere. I shall be very glad to exchange seeds of the indigenous and naturalised plants of Java for others from foreign countries. *M. Buysman, Hortus Penggerensi, Lawang, Java.*

GLORIOSA.—It seems strange that a plant so long introduced to gardens, so well known to the majority of gardeners, and of which Erasmus Darwin in his quaint poem, "The Love of Plants," remarks, "Proud Gloriosa led three chosen swains," &c., &c., should be referred to as a rare plant" (see p. 227). It may frequently be seen in quite modest establishments. Like other tropical plants of a scandent habit whose season of growth is limited to the few months of summer, its growth is very rapid, and it requires almost daily attention in the matter of tying and training of the shoots. Especially is this necessary if the plant is trained near to the roof. After active growth ceases water should be gradually withheld and the plant thoroughly ripened off previous to storing the tubers for the winter. This thorough ripening is essential, otherwise the tubers may fail to start into growth for some time after being introduced into heat in early spring. For this reason it is wise, as recommended by *F. M.*, to lay them out after the manner of Caladiums, and to pot them up when it is seen that growth has commenced. Several tubers may be planted in a wide, shallow tub, and will give a good effect trained either to the roof; or a few strong, twiggy, pieces of pea-wood may be inserted in the tub and the growths allowed to ramble, tying them out as may be required. Less seldom seen in gardens is *Gloriosa simplex*, with its synonyms *G. Plataniflora* and *G. virens*;—the petals of this variety are wider, less undulate, and, taken altogether, although a de-

sirable variety, it is not so ornamental a garden plant as *G. superba*. More rare still is the magnificent *G. Rothschildiana* introduced some few years ago from Uganda, and occasionally exhibited at the meetings of the Royal Horticultural Society. *Fred. W. Jeffery.*

ETYMOLOGY OF PLANT NAMES.—While agreeing with Mr. Engleheart that one should be wary of etymologies which cannot be supported by evolutionary evidence in literature, I cannot think that he has shaken the accepted explanation of "walnut" and "pansy." In regard to "walnut," Professor W. Skeat, finding no trace of the word in English before the fourteenth century, suspects that it was imported from old Dutch, where the form was *walnoot*. He cites the form *walnut* from *Pierce Plowman's Vision* (B. xi., 251), and the word exists in all Scandinavian languages. The plain meaning being "foreign nut," it seems unnecessary to speculate with Mr. Engleheart on the improbable use of the term *avellana nut*, and its transition to "walnut." The local form "Welshnut" has its parallel in the duplicate German *wälsche nuss*. As for "pansy," Cobgrave, in his *Vocabulary* (A.D. 1606), gives the French "*pensee*, a thought, also the flower *pansie*"; and I fancy few people will discard that for Mr. Engleheart's far-fetched *panache*, a mere guess unsupported by a title of evidence. It would be as reasonable to doubt that "Dandelion" stands for *den-de-lion*, or "Daisy" for "day's eye," though the resemblance of the jagged leaves of the first to the teeth of a heraldic lion is not more obvious than that of the second, as explained by Chaucer, "The dayesye or elles the eye of the day." Chaucer was a mediæval Englishman, untouched by Italian influence, yet both he and the early Scottish poets read much significance into flowers. So let us keep our pansy for remembrance—

"The *pensee* next, which English maids
Call heart's ease—innocent translation;
As if each thought that springs and fades
Were only source of jubilation."
Herbert Maxwell, Monreith.

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 29.—The meeting of the Committees held on this date brought forth an excellent exhibition of fruits and flowers, the Hall being filled, even in the annexes, with a variety of exhibits, amongst which Dahlias, perennial Asters, early-flowering Chrysanthemums, and other hardy garden plants predominated. An exhibit of Rubus and Vitis species was as interesting as it was extensive. Other groups of special merit were displays of Nepenthes and Selaginellas, and varieties of Grapes from the Society's collection at Wisley. The various Committees all conferred awards on novelties, and, in conjunction with the Floral Committee, the National Dahlia Society granted Certificates of Merit to nine Dahlias. At the afternoon meeting the concluding portion of the paper by Mr. T. H. Mawson, Hon. A.R.I.B.A., was read.

Floral Committee.

Present: Henry B. May, Esq. (chairman), and Messrs. C. T. Drury, W. A. Binley, J. W. Barr, J. Green, A. E. Bowles, Geo. Reuther, C. J. Salter, J. F. McLeod, J. Jennings, W. Howe, F. W. Turner, C. Dixon, G. E. Pearson, W. P. Thomson, J. T. Bennett-Poë, F. Page Roberts, E. H. Jenkins, W. J. James, J. Hudson, Geo. Paul, H. J. Cutbush, H. J. Jones, W. G. Baker, A. Turner, R. Hooper Pearson, and R. C. Reginald Nevill.

Before the ordinary business of the meeting commenced, the chairman, Mr. Henry B. May, called attention to the recent death of Mr. George Nicholson, V.M.H., F.L.S., and a resolution was adopted as is stated on p. 249.

Messrs. James Veitch & Sons, Ltd., King's Road, Chelsea, showed several important groups, for which collectively a Gold Medal was awarded, their exhibits of Nepenthes and of Rubus and Vitis species being the most important in the whole exhibition. Never have we seen Nepenthes exhibited in better cultural condition, the plants being crowded with their curious pitchers, and all showing robust health

† The accent is on the penultima, as in Lycœum.

‡ Accent on the antepenultima.

§ Even if spelled "androcium," it is, I believe, always pronounced in English as well as in German with the accent on the antepenultima, as if the e were short.

* The italics are mine.

that is associated with high culture. The species and hybrids represented the pick of those in cultivation, and, although we have no space to name all the kinds, we may instance *N. Radlesiana*, *N. Burkei*, *N. mixta*, *N. ventricosa*, with very elegant rim, *N. Mastersiana*, with quite 50 pitchers, *N. Curtisii* superba and *N. rubella*. Near to the insectivorous plants were arranged greenhouse *Rhododendrons* of the javanic *X. jasminiflorum* type, a batch of *Nerine Fothergillii* major, interspersed with *Abutilons* of yellow and white-flowered varieties, *Begonias* Mrs. Heal, and others of that class, and some flowers of a fine strain of *Streptocarpus*. The *Streptocarpus* represent a great improvement, the shades of rose, blue, purple, lavender, and white seen in the flowers being very fine. The group of vines and *Rubus* species occupied almost the whole length of the building near to the wall, there being about 50 plants of each genera. The most remarkable of the *Rubus* were *R. bambusarum*, *R. leucodermis*, *R. ideabatus*, *R. hypargyrum*, with strong stems like *Rosa canina*, and shoots resembling those of the Blackberry; also several unnamed species. Many of the vines had coloured foliage, the best in this direction being *Vitis Henryana*, *V. Coignetiae*, *V. flexuosa* major, *V. vinifera purpurea*, *V. Thomsonii*, and *V. Thunbergii*.

A representative collection of *Selaginellas* was exhibited by J. GURNEY FOWLER, Esq., Glebe-lands, South Woodford (gr. Mr. Davis), the collection attracting much attention. The examples were of large size, and particularly well cultivated, not a few specimens attaining to 2½ feet across, or some even more. There were some four dozen large examples and a considerable number of smaller plants. The following kinds were the more noteworthy: *S. Kraussiana aurea*, a neat, dwarf-growing variety; *S. K. variegata*; *S. Martensii stolonifera*; *S. Schottiana*; *S. atro-viridis*, with foliage of a dark green colour; *S. grandis*, for which a Cultural Commendation was given; and *S. Lobleyi*, a pleasing and free-growing sort. (Silver-Gilt Banksian Medal.)

Messrs. HILL & SON, Edmonton, showed a group of the Bird's Nest Fern, *Asplenium Nidus*, the plants being remarkable for their excellence of culture, the beautiful broad leaves showing to great advantage in the somewhat subdued light of the annexe, that is usually occupied by the Fruit and Vegetable Committee. (Silver Flora Medal and Cultural Commendation.)

Messrs. H. B. MAY & SONS, The Nurseries, Edmonton, staged *Veronicas* of the Andersoni section, some as standard plants; also a selection of *Carnations*, the different varieties being divided by rows of Ferns. (Silver Banksian Medal.)

Mr. J. T. BOASE, Billingham, showed varieties of ornamental *Cucurbitaceae* fruits. (Bronze Banksian Medal.)

Choice blooms of tuberous-rooting *Begonias* were shown by Mr. A. L. GUILFORD, New Elham, Kent. The blooms were of rich shades of scarlet, red, pink, salmon, yellow, white, &c. Some were named sorts, the variety *Sea Shell*, with crimped edge tinged with soft pink, was of charming beauty.

Messrs. F. CANT & CO., Colchester, showed an assortment of *Roses*, having many beautiful kinds in large bunches of bright and fresh blooms. (Silver Banksian Medal.)

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, staged a bank of *Roses*, arranging the exhibit in a corner near the south annexe. Some were shown as pot plants, others as cut blooms, the group being pleasingly relieved with *Palms*, *Eulalia*, *Adiantum Ferns*, *Retinosporas* and other graceful subjects. The best of the *Roses* were *Gruss an Teplitz* (H.T.), *Paula* (creamy yellow), *Joseph Hill* (finely-formed bloom with elegant petals of creamy-rose colour), *Richmond* (red) and *Mme. Philippe Rivoire* (white, with copper-coloured centre). (Silver Banksian Medal.)

An interesting array of sprays of ornamental shrubs and trees, and many good blooms of *Dahlias*, including a stand of the single type were shown by Messrs. JOS. CHEAL & SONS, Crawley, Sussex. The single *Dahlias* were a very pleasing contribution, this flower being a speciality with Messrs. CHEAL. The trees and shrubs embraced many handsome-leaved and berried species, particularly pleasing being the golden-fruited *Holly*, *Ilex flexilis* *lancea*, *Cornus Spathulifera*, *Desmodium pendulifolium*, *Acer*

virginicum rubrum (with highly-coloured leaves), *Symphoricarpos Heyeri* (a white-berried species), *Acer platanoides laciniatum*, the Dartmouth Crab (finely in fruit), *Azalea pontica* (with intensely-coloured foliage), *Aralia spinosa* (in flower, with very big foliage), and *Kalmia rubrum* (shown in flower). (Silver Banksian Medal.)

Mr. RUSSELL, Richmond Nurseries, Richmond, Surrey, displayed a group of berried and ornamental-leaved plants of a hardy nature, such as ornamental vines, *Ivies*, *Clematis*, *Shrublet*, *Andromeda Marianae* (with intensely-coloured leaves), *Aucuba japonica* (in plants crowded with the red berries), hardy *Fuchsias*, and others. *Vitis Coignetiae* was shown with rich red leaves. (Silver Banksian Medal.)

Mr. CHAS. TURNER, Slough, showed many finely-coloured and berried shrubs, also *Dahlias* in variety. The rich autumnal tints of many of the shrubs were very pleasing, and other arboreal subjects were finely in fruit. We may enumerate *Quercus americana rubra*, *Liriodendron tulipifera* (with golden margins to the leaves), *Cotoneaster frigida* (in fruit), *Quercus pannonica* (showing rich autumn tinting), *Rhus Cotinus* (another handsomely-coloured plant), *Acer* in variety, *Cornus*, *Petelia trifoliata*, and *Viburnum Opulus* as some of the more noticeable. (Silver Banksian Medal.)

Mr. J. WEST, Brentwood, Essex, showed *Dahlias* in variety, somewhat stiffly arranged in long, formal rows, but all the blooms of choice quality and selection as to variety. (Silver Banksian Medal.)

Another exhibit of these seasonable flowers was made by Messrs. CARTER, PAGE & CO., 52 and 53, London Wall, who had also many vase of early-flowering *Chrysanthemums*. (Bronze Banksian Medal.)

A similar group to the last-mentioned was staged by Mr. J. EMBERSON, Hoe Street, Walthamstow.

Messrs. R. H. BATH, LTD., Wisbech, made a pleasing show with perennial *Asters* and early-flowering *Chrysanthemums*. (Bronze Banksian Medal.)

Messrs. W. WELLS & CO., Merstham, Surrey, showed *Chrysanthemums*, principally of the border type, in great variety. (Bronze Banksian Medal.)

Messrs. T. S. WARE, LTD., Ware's Nursery, Feltham, Middlesex, staged a charming group of *Dahlias* and perennial *Asters*, most effectively arranged and comprised of most of the best varieties of these autumn flowers. A prominent position was afforded the fine blue *Aster Beauty of Colwall*, which has received the Society's Certificate of Merit. The white *Grand Duc Alexis* *Dahlia* was shown very finely in this important group. (Silver-Gilt Banksian Medal.)

Messrs. H. CANNELL & SONS, Swanley, Kent, showed *Dahlias* in variety, including most of the best varieties of the Cactus-flowered type, and many of the *Peony*-flowered race. Amongst these latter were many of merit, some of the newer kinds, having a desirable shape and form, in addition to size. We may enumerate *Souvenir de Gustave Douzon* (red) and a sport from this variety in which white as well as red is seen; also *Mme. Van den Dael* (pink), *Sourire de Feu* (reddish with orange centre), *Yellow Colosse* and *La Grand Manitou* (magenta striped with plum colour) as being especially noteworthy. (Silver Banksian Medal.)

Mr. H. J. JONES, Ryecroft Nurseries, Hither Green, Lewisham, showed the great beauty and variety of the perennial *Aster* (*Michaelmas Daisies*) in a charming exhibit of these flowers. The sprays of blooms were lightly arranged with the skill which this exhibitor always evinces in his groups, a white groundwork showing them to greater advantage. We especially noticed *Mrs. S. T. Wright* (large flowers of lavender blue), *Hilda Norris* (very pale blue), *Mrs. Huson Morris* (bright pink), *Robt. Parker* (blue), *Lil Fardell* (big rose-coloured blooms), *Nancy* (pale blue), *White Spray* and *Ryecroft* (pink). (Silver Banksian Medal.)

Messrs. W. CUTBUSCH & SONS, Highgate, London, N., showed excellent blooms of *Carnations*, staged with much skill in fancy vases; also the dwarf perennial flowering *Rose*, *Mrs. W. H. Cutbusch*, and a large batch of the reddish-leaved *Coleus Cordelia*. (Silver Banksian Medal.)

Mr. G. REUTHE, Keston, Kent, staged hardy flowers in variety, and intermingled with these were *Gloriosa superba*, *Guevina avellana*, have-

ing *Grevillea*-like flowers of a pale colour and with pinnate foliage; *Berberidopsis corallina* with its handsome fruits; *Desfontainia spinosa*, *Nerine Powellii*, and other interesting subjects. Messrs. BART & SONS, King Street, Covent Garden, London, W.C., showed seasonable hardy flowers, also *Nerines*, *Vallota purpurea*, a pan of the white variety of *Cyclamen neapolitanum*, *Gladioli primulinus*, the pleasing rose-coloured *Lupinus polyphyllus*, species of *Tulips*, *Colchicums*, &c. (Silver Banksian Medal.)

Messrs. R. WALLACE & CO., Colchester, had many of the best hardy flowers in season and an assortment of *Montbretias* (*Tritonias*) in improved varieties. There were many *Liliums*, *Michaelmas Daisies*, *Colchicums*, *Pentstemons*, *Gladioli*, *Chrysanthemums*, and autumn-flowering bulbous plants noticed in this excellent exhibit. (Silver Flora Medal.)

Messrs. JOHN PEED & SON, West Norwood, London, S.E., showed seasonable hardy flowers as a background to boxes of Alpine plants. Some small pot plants of succulent species were represented in the exhibit, the interesting *Haworthia denticulata* being in flower.

LEOPOLD DE ROTHSCHILD, Esq., Gunnersbury House, Acton, W. (gr. Mr. James Hudson, V.M.H.), showed 18 varieties of hardy *Heaths*.

Messrs. JAS. BACKHOUSE & SON, LTD., York, showed strong blooming plants of *Colchicum speciosum*, also the white and darker-coloured varieties; *Crocus speciosus* was also included in the exhibit. The *Colchicums* were remarkably fine.

The GUILDFORD HARDY PLANT NURSERY CO. showed a select though small exhibit of hardy blooming subjects.

A new tree *Carnation*, named *Hon. R. H. Eden*, was displayed by the WEST OF ENGLAND ROSE FARM, Henlade, Taunton. The colour of the flower is a shade of red approaching an orange tint.

AWARDS.

FIRST-CLASS CERTIFICATE.

Nepenthes x Dr. John MacFarlane.—This new hybrid was exhibited by Messrs. JAMES VEITCH & SONS, LTD., and is from a cross between *N. sanguinea* and *N. Curtisii* superba. The pitchers are 7 or 8 inches long and very similar in shape to those of *N. sanguinea*. In colour the exterior of the pitcher is brownish-red splashed with a little deeper colour, probably obtained from *N. Curtisii* superba. The throat is bright green with frequent purple markings, being exceedingly attractive. The leaves are 5 to 6 inches across, and wider than those of either parent. The plant exhibited bore five large pitchers and several smaller ones.

AWARDS OF MERIT.

Carnation Winona.—This is a rich pink tree *Carnation* with well-formed flowers of considerable size, and fragrant. The petals are slightly fringed. Shown by Messrs. K. H. BATH, LTD.

Pennisetum japonicum.—This is a rare Japanese species, with inflorescences 3 inches or more long, and these are enveloped with reddish-violet bristles of the involucre, with a tuft of white bristles at the apex of the spike. The leaves are from 2½ feet to 3 feet in length, and very narrow. This ornamental grass is described as quite hardy and perennial. Shown by Mr. AMOS PERRY.

Selaginella emiliana aurea.—This is a pretty yellow-tinted variety of the type which will be appreciated for its lighter appearance. Shown by Messrs. J. HILL & SON.

Vitis cornuta purpurea.—This variety was much admired by the Committee for its rich purple flowers and extraordinary freedom in blooming. The individual flowers are small, but the habit of the plant will make it a good border variety. Shown by Messrs. GUNN & SONS, Alton.

DAHLIAS.

The following *Dahlias* were adjudicated upon by a joint committee of the National Dahlia Society and a sub-committee of the Floral Committee of the Royal Horticultural Society, the varieties enumerated thus receiving the First-Class Certificate of the former and the "Award of the Merit" of the latter body:—

Elric Turner (Cactus).—A large flower of the exhibition type, coloured pale fawn and buff.

El-Vino (show).—The well-formed flower is coloured a rosy lilac. Both these were exhibited by Mr. S. MORTIMER, Farnham, Surrey.

Monarch (Cactus).—A large and handsome variety of pale orange shade with a gold centre. From Mr. J. BURRELL, Cambridge.

Nora Reynolds (Pompon).—The blooms of this neat and attractive variety are of a reddish hue.

Lady Bountiful (single).—Of excellent form, and coloured a rosy red shade, the base of the petals being crimson. These two from Mr. M. V. SEALE, Sevenoaks.

Wellington (Cactus).—The primary tone of colour is deep claret red, but the tips of the florets are white.

Satisfaction (Cactus).—A distinct showy variety of rosy-pink colour with a white centre.

Saxonia (Cactus). The colour of the florets is ruby-red with purplish shading, and tipped with white. These three varieties were presented by Messrs. JAMES STREDWICK & SONS, St. Leonards.

Nellie Riding (Cactus).—A handsome variety of crimson-red tone, the pointed florets being lightly tipped with white. Exhibited by Mr. J. T. WEST, Brentwood, Essex.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), de B. Crawshaw, Harry J. Veitch, H. Little, W. Boxall, J. Forster Alcock, E. Ashworth, R. G. Thwaites, F. J. Hanbury, J. Wilson Potter, J. Charlesworth, A. Dye, J. Cypher, H. G. Alexander, W. H. White, H. A. Tracy, H. Ballantine, Gurney Wilson, W. Bolton, R. Brooman-White, Walter Cobb, and Sir Jeremiah Colman, Bart.

H. S. GOODSON, Esq., Fairlaw, West Hill, Putney (gr. Mr. G. E. Day), was awarded a Silver-Gilt Flora Medal for a group in which were several remarkable new varieties, some of which are referred to under "Awards." The group, which was composed of finely-grown plants throughout, had at one end a number of well-flowered examples of *Cypripedium insigne* Sanderae. At the back were good forms of white *Odontoglossum crispum* mingled with the showy flowers of *Cattleya Iris*, various *Lælio-Cattleyas*, a selection of *Brasso-Cattleyas*, *Miltunia vexillaria* Leopoldii, with exceptionally well-developed flowers, a large white-tipped *Miltunia bleuana*, and various hybrid *Cypripediums*.

MESSRS. CHARLESWORTH & CO., Heaton, Bradford, were voted a Silver Flora Medal for a group, principally hybrids, among which were noted the white-petalled form of *Cattleya Lord Rothschild*, a number of the showy *C. Iris*, *Brasso-Cattleya Digbyano-Mendelii*, B.-C. Digbyano Warszewiczii, *Sophrö-Lælio Heatonensis*, with dark reddish-purple flowers, and other *Sophrönites* crosses; varieties of *Lælio-Cattleya Elva*, L.-C. *lunosa*, L.-C. *Aphrodite*, L.-C. *callistoglossa*, the showy *Sophrö-Lælio-Cattleya Marathon*, &c.

MESSRS. SANDER & SONS, St. Albans, secured a Silver Banksian Medal for a group, in the centre of which was a finely-flowered specimen of the rare *Catasetum Russelianum*, with curious, fragrant, whitish flowers, striped with green. With it were a selection of *Cypripedium Fairreanum*, various pretty hybrid *Cypripediums*, and other hybrids and species.

MESSRS. JAS. CYPHER & SONS, Cheltenham, were awarded a Silver Banksian Medal for a well-arranged group specially rich in *Cypripediums*, among which were two good *C. Maudiae*, the finely-formed and dark-coloured *C. Milo Westonbirt* Moore, *C. triumphans*, *C. Transvaal superbum*, &c.

MESSRS. MOORE, LTD., Radwinton, Leeds, showed *Cypripedium Charlesworthii* magnificently, a very large and finely-formed flower, the dorsal sepal being broader than long, white, beautifully tinged, and netted with rose colour. The petals and lip were larger than in the ordinary form, whitish, veined with brownish purple. Messrs. MOORE also showed two forms of *Cattleya Iris*, and a fine head of bloom of *Neobenthamia gracilis*.

MESSRS. HUGH LOW & CO., Enfield, staged a selection of Orchids, which included the large-flowered *Cypripedium insigne* King Edward VII., C. *Marstonia*, C. *Baron Schröder*, C. *triumphans*, and other *Cypripediums*; *Bulbophyllum grandiflorum*, *Lælio-Cattleya Blecheyensis*, with six flowers, *Cattleya Iris*, C. *Atlantia*, &c.

R. G. THWAITES, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. Black), sent several fine forms of *Cattleya Adula*, C. *Iris*, C. *Euphasia*, and four examples of a *Cattleya* obtained by crossing two albinos, viz., C. *Harrisoniana* alba and C. *Gaskelliana* alba; but all the resultant plants were distinctly coloured with light rose-pink.

MESSRS. J. & A. A. McBEAN, Cooksbridge, staged a group of *Odontoglossum crispum* and O. *Harryanum*, together with *Cattleya Iris*, the dark scarlet *Epiphronitis Veitchii*, *Oncidium bicoloratum*, &c.

DE F. CRAWSHAW, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed a splendid plant of his hybrid *Odontoglossum Carmania Rosefieldense* (*Harryanum* × *Lucasiana Thompsonianum*), with a very strong spike of 14 flowers and buds. The expanded blooms were large and broad in all the segments, the ground colour of the sepals and petals being cowslip yellow, heavily marked with dark chocolate purple, the broad white lip having purple blotches around the crest.

MONS. CHAS. MARON, Brunoy, France, showed a selection of very fine hybrids, the best of which, *Cattleya Rutiland*, secured a First-Class Certificate (see Awards). Among the others were *Cattleya Marcel Dayé* (a finely-coloured hybrid), C. *Maronii* (with 10 flowers on a spike), a very pretty rosy-lilac tinted *Brasso-Cattleya*, and a fine specimen of *Lælio-Cattleya Henry Greenwood*.

H. T. PITT, Esq., Stamford Hill (gr. Mr. Thurgood), sent *Odontoglossum grande Pittianum*, a clear yellow form with white lip, having some yellow markings at the base.

MR. G. W. MILLER, Wisbech, sent *Lælio-Cattleya Cassandra*.

F. J. HANBURY, Esq., showed *Cypripedium Fairreanum*, Brockhurst variety.

H. W. PERRY, Esq., sent a fine plant of *Cattleya Warszewiczii* with seven flowers on the spike.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cattleya Venus (*Iris* × *Dowiana aurea*), from H. S. GOODSON, Esq., Fairlaw, Putney (gr. Mr. G. E. Day). A superb hybrid, surpassing that general favourite *C. Iris* in every way, as might be expected by the second introduction of C. *Dowiana aurea* into its composition. The flower is like a very fine form of C. *Iris*, but more ample in all the segments, especially in the breadth of the sepals and petals, which are of a golden-yellow colour tinged with reddish bronze. The lip is of a deep ruby red, with gold veining from the base to the centre.

Odontodia Charlesworthii, Goodson's variety (*Odontoglossum Harryanum* × *Cochlidia Noctitana*), from H. S. GOODSON, Esq. (gr. Mr. G. E. Day). The original plant, which was the centre of attraction in Messrs. CHARLESWORTH'S group at the last Temple Show, was illustrated in the *Gardener's Chronicle*, May 30, 1908, p. 333. Mr. GOODSON'S variety has larger flowers of a rich reddish scarlet colour, with yellow markings on the crest. It is a flower of very fine substance, lasting a considerable time in bloom.

Cypripedium Bianca superbum (*Lecanum Prospero* × *insigne Sanderae*), from Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander). One of the most chastely beautiful of *Cypripediums* and the first to excel the general favourite C. *insigne Sanderae*, which with more it resembles in many particulars, but with more massive and compact form. The large dorsal sepal is snow-white, with a well-defined yellowish-green base, the rest of the flower being pale yellow and the surface shining and smooth.

Cattleya Rutiland (*Maronii* × *Fabia Vigeriana*), from MONS. CHAS. MARON, Brunoy, France. In this the two parts C. *Dowiana aurea*, one C. *labiata*, and one part C. *velutina*, produces a fine flower, equal in size to C. *labiata* and almost entirely of glowing reddish-crimson colour, the lip being the darker.

AWARDS OF MERIT.

Sophrö-Cattleya × *Saxa Westonbirt variety* (C. *Triana* × *Sophrönites grandiflora rosea*), from Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O. (gr. Mr. H. G. Alexander). The flower is large and finely formed of a deep rose-purple colour with orange tube to the lip, which has the front claret-purple, the colour extending over the margins of the side lobes.

Lælio-Cattleya Golden Oriole, Goodson's variety (L.-C. *Charlesworthii* × C. *Dowiana Rosalia*), from H. S. GOODSON, Esq. (gr. Mr. G. E. Day). Flowers with a golden-yellow ground colour, nearly covered with deep brouy red markings.

Oncidium incurvum, from Baron Sir H. SCHROEDER (gr. Mr. H. Ballantine). The fine old species with long branched spikes of pretty white and rose flowers. The plant bore 18 spikes.

BOTANICAL CERTIFICATES.

Acineta densa, from H. T. PITT, Esq., Stamford Hill (gr. Mr. Thurgood). Racemes pendulous; flowers waxlike in substance; yellowish, spotted with rose colour.

Habenaria geniculata.—A slender species from Dnjeleing, with white flowers having green spurs about 2 inches in length.

Cynorchis purpurascens.—A pretty species from Madagascar, with bright green leaves and erect spikes of purplish-rose flowers. Illustrated in the *Gardener's Chronicle*, April 9, 1904, p. 227.

Cirrhopalatum Andersonii.—Plant of dwarf habit. Flowers in umbels each an inch in length, the connivent lateral sepals being ovate, whitish with fine rose spots, and some purple lines in the concave dorsal sepal. The above three plants from Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White).

Catasetum maculatum, from J. GURNEY FOWLER, Esq., Gblelands, South Woodford (gr. Mr. J. Davis). An old but fine species, now rare. The stout, erect inflorescence bears several large flowers, the greenish fleshy labellums spotted with dark-red being inverted, the margin of the opening coloured olive green, plain, and not bearing teeth as in C. *tridentatum*. The sepals and petals are arranged wing-like over the column and lip, and are greenish, blotched with rose colour.

Fruit and Vegetable Committee.

Present: G. Bunnard, Esq. (in the chair); and Messrs. J. Cheal, A. H. Pearson, O. Thomas, G. Woodward, V. Bates, J. Harrison, A. K. Allen, E. Beckett, C. Foster, H. Parr, J. Davis, H. Markham, J. Lyne, J. Willard, P. D. Tuckett, G. Reynolds, W. Pope, P. C. M. Veitch, A. Dean, G. Wythes, J. McIndoe, J. Jaques, W. Poupart, and H. S. Rivers.

A resolution of sympathy and condolence with the widow and family of the late Richard Lye, for several years a member of the committee, was unanimously voted.

Numerous seedling Apples came before the Committee, and some others for comparison. A Cultural Commendation was given to W. Cobb, Esq., Rusper (gr. C. J. Salter), for a superb sample of Apple Charles Ross, grown under glass.

The same award was given to excellent samples of Apple James Grieve from both under glass and outdoors, sent by Mr. C. FOSTER from the University College Gardens, Reading. A sample of the outdoor fruit tasted was of fine flavour.

A similar award was made to Messrs. ROBERT VEITCH & SONS, Exeter, for samples of the true Gravenstein Apple and a large ribbed variety known in the West of England as Red Ribbed Greening or Grand Sultan.

MESSRS. R. SPOONER & SONS, Houslow, sent a broad, somewhat ribbed Apple named Houslow Wonder. The variety appeared to be a good keeper, and it was requested that the fruit be shown to the Committee later, and the tree is also to be inspected.

MR. W. ROUELL, Roupell Park, sent the Grape from which the Sultana of commerce is obtained.

MRS. NICHOL, 144, Audley Gardens, showed very fine samples of Oranges, Rennick Navel and Washington Navel, grown by F. RAWLINGS, Esq., Woodville, South Australia (see Awards). (Silver Knightian Medal.)

MR. R. NOTCUTT, The Nursery, Woodbridge, set up a collection of 42 dishes of superb Apples. Specially attractive were Peasgood's Nonsuch, Charles Ross, Cox's Orange Pippin, Ribston Pippin, Allington Pippin, Gravenstein, Lane's Prince Albert, Bismark, Warner's King, Golden Noble, Golden Spire, Jas. Grieve, The Queen, Lord Derby, and Newton Wonder. (Silver-Gilt Banksian Medal.)

REMARKS.—English Peaches and Nectarines are practically finished; no doubt this week will see the end of them for the season. The home-grown Peaches and Nectarines, as these fruits are arriving from France in a condition of such good quality, are certainly well worth the price, especially the splendid sample. English Pears are also badly traded over to imported Pears arriving in excellent condition. The latter are certainly better than the former are practically without a bruise. There are some choice samples of Cob Nuts on the market, 8d. per lb. being the price. The French Chestnuts are also in good demand, those with long pods are always preferable to those without. About 1,000 cases of Californian seedless Walnuts are expected to arrive in the next few days; they fetch a high price, as much as 19s. to 21s. per case, or 2s. to 3s. per dozen, wholesale. Every case was sold at 10s. per dozen, but the buyers have not yet been received, but they do not pay to send so far south as London, and would be better sold locally; the fruit is not so good as the Californian, but the quality is good. We have practically finished for the season, those that are seen are not very valuable as there are many imported from the States, and these are much better than the home-grown good market. Best English Muscat, consequently it has little demand. Best English Muscat are making a good price, but the quantity is small. The quantity of the first consignment consisting of 200 cases, they are practically finished. The quantity of the second consignment with English Tonsons, which are sold with difficulty.

of ground almost on a level are devoted to them. As we passed by one of the long borders skirting the path we noticed *Rubus phænicalisus*, the Japanese Wineberry, with its conspicuous red stems and bearing at the ends of the shoots large bunches of what appeared to be unopened flower-buds. But the flowering was over, and what we saw were really the fruits, the stipules being persistent and enclosing the fruits as they do the flower-buds. *Rubus canadensis* was noticed in flower, its pink blossoms showing up against the dark greenery of its foliage. Various species of *Vitis*, the *Wistaria*, *Solanum jasminoides*, and other climbers were noticed as we passed. Mr. Ladhams has paid great attention to the cultivation of *Anchusa italica*; both the Drop-mere and the Opal varieties of this plant are made a speciality. A few of the more interesting plants in the herbaceous grounds may be mentioned, including *Convolvulus altheoides*, a variety suitable for a rock-garden; the blue-flowered *Codonopsis ovata*; *Aubrietias* in variety, including *purpurea variegata*, an ornamental-leaved plant; *Oenothera eximia*, with sweet-scented white flowers, a really lovely

geron gigantea, *Liatrix elegans* and *L. pycnostachya*, whose flower-spikes are 4 feet or more in length; *Prunella Webbiana*, a pink-flowered species, forming a very pretty border plant; a double-flowered form of *Geranium pratense*, worthy of inclusion in any hardy plant border; also *Dictamnus Fraxinella*. The ripe fruits of this last-named plant emit a volatile oil, and when we lighted a match close to the brown seed-pods with a flash the vapour ignited, but we found this phenomenon only occurred with the very ripest fruits and the air needs to be perfectly dry, but we were successful in half a dozen cases. The rose-coloured *Lupinus polyphyllus* "Rose Queen" forms an agreeable change from the blue type form. Then there were seen *Bocconia cordata*, with its handsome foliage and pleasing white inflorescences; *Ononis rotundifolia*, *Inula ensifolia*, and *Salvia Sclarea*, a very showy flowering plant, each shoot crowned with a dense spike of flowers (see fig. 116). The double-flowered *Gypsophila* is a great improvement on the single form. We also noticed a very pleasingly variegated variety of *Funkia ovata*,

Oenothera, *Sisyrinchium* (we noticed a fine variegated form of *S. anceps*, the foliage being especially pleasing in the autumn), *Stokesia cyanea*, *Armeria gigantea*, *Polemonium Richardsonii*, *Lythrum variegatum*, *Echinops ruthenicum* and *Hemerocallis flava* in variety, are a few other plants noted in this interesting collection.

The Shirley Pinks are, like the Poppies of another Shirley, well known for their beauty and freedom in flowering. One of the earliest raised was Ernest Ladhams, and the latest success is the beautiful variety named after Princess Christian, that received an Award of Merit from the Floral Committee of the Royal Horticultural Society on August 18. Other beautiful kinds are The King, Elsie, Miss Vince and Rob Roy.

Mr. Ladhams senior is an enthusiastic hybridiser, and before we left he directed our attention to some rows of Sweet Peas that were interesting. He had brought to his notice a most beautiful white variety of Sweet Pea, and he was so impressed with its worth that he procured seeds and planted them. The progeny came white and creamy-yellow, he selected seeds from the white flowers and sowed them the following year, they then gave almost all colours, in which red and pink shades predominated. Like many another hybridist, Mr. Ladhams is of the opinion that Sweet Peas cannot be successfully hybridised, but that all the new kinds arise as sports. He informed us that he had tried repeatedly to cross species of *Lathyrus*, but has as often failed.

THE ROCK GARDEN.

ACANTHOLIMON VENUSTUM.

Of the few *Acantholimon*s in general cultivation, this species is perhaps the best from a garden point of view. It is a native of the mountain ranges of Cilicia, being found at elevations of 4,000 to 7,000 feet. The illustration at fig. 113 represents a plant growing on the rockery in the Cambridge Botanic Garden, where it forms a dense tuft more than one foot in diameter. The drooping flower-stems appear in early summer and attain to a length of 6 to 8 inches, bearing many rose-pink flowers, each of which is a little more than half an inch in diameter. The flowers appear over a period of nearly two months. According to the *Botanical Magazine* there are two or three forms of *Acantholimon venustum*, but these merge one into the other. The plant from which the photograph was prepared differs somewhat from that figured at t. 7,506 of the *Botanical Magazine*, for it is more glaucous in the foliage, and much more drooping in the flower-spikes. E. J. Allard.

NOTES FROM A "FRENCH" GARDEN.

WE are now sowing Cabbage and Cos Lettuces to raise plants for the hot-beds and for cultivation in the open ground next spring. The ground was previously dug and levelled, and the beds covered with a layer, 3 inches thick, of well-broken up manure. There are three rows of cloches on each bed. In the event of the sun being too bright, mats will be spread to keep the soil moist. The Lettuce seeds are sown very thinly under the cloches, and slightly covered with decayed manure finely broken. When a large quantity is required, seeds should be sown every alternate day, say, from October 1 to October 12; thus small, sturdy plants will be ready for pricking off, which should be commenced on the sixth or seventh day after the first sowing.

We proceed with this work as quickly as the weather permits. When the soil has been well prepared, the seeds and young plants do not require any watering, as the dampness of the ground is sufficient.



FIG. 113.—ACANTHOLIMON VENUSTUM; FLOWERS PINK. [Photograph by E. J. Allard.]

species; *Ligularia stenocephala* has very handsome leaves, although the plant is small; *Echium Wildpretii*, *Phyllaea capensis* with scarlet flowers and yellow in the throat, *Phloxes* fruticosa with its hooded yellow flowers in a whorl, *Aquilegia Stuartii* having very large blue flowers; *Centaurea glastifolia*, the yellow Corn-flower; *Delphiniums* in variety, of which the variety *Persimmon* is of a lovely Cambridge blue, like the *Belladonna* strain, but stronger growing. *Spiraea sorbifolia* attracted our especial attention, for its white spikes of flowers were very fine indeed. *Rhus typhina laciniata* is a very elegant plant; the leaves, as the varietal name implies, are pleasingly subdivided. *Ceanothus Gloire de Versailles* reared its fine blue spikes of flowers above its neighbours. Of *Campanulas* there was a whole host of different kinds; the pretty *C. carpatia* and its white variety had carpeted the ground with a profusion of flowers. We also noticed *C. elegans*, *C. pumila*, *C. fragilis*, *C. lactiflora*, of which there were numerous varieties; *C. persicifolia* in great assortment, and many more besides. Eri-

the prettily formed leaves being margined with white. It is a charming little plant suitable for edging purposes. Never have we seen *Michauxia campanuloides* in more beautiful flower or growing with greater luxuriance than in this nursery, a large breadth of these plants making a gorgeous display. Unfortunately the plant is a biennial.

Mr. Ladhams has done much to improve the herbaceous *Lobelia*, and he has effected many good crosses with *L. cardinalis* and *L. syphillicata*, obtaining varieties with a wide range of colour from blue, purple, rose, and pink to almost crimson. *Monarda purpurea* is a well-known plant, but rarely have we seen it doing better than here. The nursery is also the home of many improved forms of *Gaillardias*, the object being to produce varieties of upright habit so that the flowers are well displayed. Mr. Ladhams considers *Rownhams' Queen* to be one of the best of the race. It is a fine large flower and very pleasingly coloured. *Scabiosa caucasica* and *S. c. alba* are useful plants for furnishing cut blooms. *Galegas*, *Erigerons*,

The Ox-heart Cabbages will soon be pricked off. In this garden these are always planted deeply, so as to strengthen the collar and provide shelter from the frost. The ground should be prepared well in advance for the final planting, which should be done in the middle of November.

The Cauliflowers are just appearing above the ground. Should a considerable number be required, another sowing could now be made under cloches to raise plants for planting out at the end of March.

We are now pulling the Carrots which were sown in July in the hot-beds previously occupied by the Cauliflowers. They are a good size and very tender. This ground is therefore available for pricking off Ox-heart Cabbage.

Celery is doing well, and we are at present blanketing a bed of the variety "Chemin" by spreading mats on the tops of the plants.

Endive planted at the end of June is now being tied for blanching. The main batch is doing well, and will be ready for tying in another fortnight.

Spare time is filled up by dispersing the material of the old hot-beds, placing the manure either in heaps, or spreading it where it is required in the garden. We are endeavouring in these gardens to complete before Christmas the heavy work of preparing the ground and material for next spring. *P. Aquinas, Mayland, Essex, October 1.*

THE ROSARY.

ROSES AT THE LEIPZIG SHOW.

A SHOW of Roses cannot be judged from the same points of view as one consisting of trade plants, at which perfectly-finished specimens, fresh from the cultivator's hands, are shown. That idea of a Rose show would doubtless demand the planting of Rose stocks, and their grafting or budding carried out *in situ* at the place of exhibition. For this purpose two years at the least would be required, which is by no means an impossible idea. Bearing this in mind, the verdict that the Leipzig show suffered in the same manner as many other of its predecessors, viz., in the poor development of particular varieties of dwarf Tea and Tea Hybrids, in the faulty grouping of standard Roses owing to the tall and short-stemmed specimens being mixed together. Furthermore, the absence of the great Rose-growing firms could not fail to prejudicially affect an undertaking of this kind taking place in their immediate neighbourhood. Of Dresden rosarians only two put in an appearance. No epoch-making novelty was observed at the show—at least, not in plants.

Varieties of merit that have been brought out in the last five years were either not shown or were so weakly developed that their good points were undiscernible. The out-of-doors show was, in consequence, a new triumph for the older, well-proved, favourite varieties, viz., in dark-red Roses, *Grus an Teplitz*; deep pink, *Caroline Testout* and *Mme. Jules Grolez*; yellow, *Mme. Ravary*; white, *Frau Karl Druschki*, varieties which dominated the groups and were generally remarkable for fine development. Among *remontantes* (H.P.s), *Ulrich Brunner* fits, an excellent variety for forcing and as a cut bloom, was the best. But it is a remarkable circumstance that *Mrs. John Laing*, an equally good Rose for grouping, was but little shown at Leipzig, and seemed to be generally neglected. The show proved anew that as "garden Roses," and also for affording blooms for cutting, the Hybrid Teas are gaining ground, whilst the so-called Hybrid Perpetuals, which no longer answer entirely to that name, are retreating.

Of H.T.s not mentioned previously, which were noted in good form, were the following—*Betty*, in colour of a coppery yellow, with a tinge of pink, a strong grower; *Frau Lilla Rau-*

tenstrauch, of nearly the same colour as the foregoing, but rather paler, its blooms, unfortunately, drooping somewhat; *Pharisæer*, of the tint of *Gloire de Dijon*, a strong grower and a free bloomer; *Prince de Bulgarie*, of a variable colour, but usually flesh pink with a yellow tinge; and *Apotheker Georg Höfer*, purplish-red, a strong grower, with somewhat the character of an H.P., but flowering like other H.T.s.

The newer dark-red H.T.s were not in the best condition, being too weak and the wood cut too long. Concerning the value of *Richmond* and *Etoile de France* an opinion cannot be given when these varieties are grown in the open air, whilst under glass they exhibit quite other characters. Both are regarded more as forcing or glasshouse Roses, where the conditions maintained can be regulated to suit them.

Polyantha Roses have become great favourites, and the variety *Mme. Norbert Levassasseur* was present in large numbers.

One of the lessons brought home to visitors was that in forming groups of Roses special attention must be paid to length of stem, and varieties of poor quality must be excluded, and further that half standards should not be taller than 3 feet, and that they should consist of varieties having an erect habit, and of robust growth. As tall standards, only a few of weak growth, and Tea Hybrids with a pendulous habit should be employed. *R. Stavenhagen in Oesterreichische Garten Zeitung für August, 1908.*

ROSE SOUVENIR DE LA MALMAISON.

THE unfortunate habit of this variety in producing malformed blossoms during the summer months has largely resulted in bringing this deliciously-scented Rose into disfavour. As an autumn bloomer it is almost a perfect Rose, but by that time the Rose shows are almost over, and as so many enthusiasts are exhibitors, this Bourbon variety seems to be rarely grown. If planted against a wall facing north-east, it will be found that the earlier blossoms rarely show any signs of malformation. In these gardens several plants, growing as described, annually produce a succession of perfect blooms from the end of June till November. It is a suitable Rose for house decoration; the buds open well in water, and, when fully open, remain fresh for several days. In country gardens especially it should be more freely grown, if only in borders, for its autumn blossoms. *A. C. Bartlett, Pen-carrow Gardens, Cornwall.*

NOTES ON NEW ROSES.

PERHAPS a few notes and description of various sorts of recent introduction (or of sorts that are not so well known as they ought to be) that have done exceptionally well in my garden may be helpful to those who are hesitating what to order. "Oh!" (some of my readers may say) "we really have no room for any more Roses in our garden." To such I would reply, look carefully over your beds again, and, perhaps, by a little moving or altering the positions of different sorts here and there you can make quite a lot of room without unduly crowding; and nine sorts out of every ten will be all the better for being moved (i.e., lifted) when they have been in the same position for three or more years; as, if you carefully prune away too much coarse or tap roots where you find them and then carefully replant again, the result next year will be less wood and more blossoms.

No, you cannot do this. Well, then give away to some friend a few varieties where you find you can really improve by exchange; for example, surely you need not object to have, say, a "Frau Karl Druschki" in your collection at the expense of parting with a "Merveille de Lyon" or even with a "Margaret Dickson"! Just one word of caution before proceeding, viz., in ordering new sorts procure the same from the raisers, then (excepting, perhaps, from

a few Continental firms) you are sure of getting strong ground plants.

LENA (Tea-scented, Alex. Dickson & Sons, 1906).—In my opinion, this is the most exquisitely beautiful Rose yet raised! Some might describe the colour as deep golden. With me it is a deep glowing apricot; when expanded the edges of the petals approach a primrose-yellow. Its glory is not only in its colour, but in its wonderful shape. The blooms are on slender stalks, yet full. The buds are very long, and every one of them opens perfectly. It is always blooming from early June till the frosts come, and often has a spray of over half-a-dozen, sometimes nine, perfect flowers. I have seen it described as an improved "Beryl." Such a description gives one no idea of its loveliness. Messrs. Alex. Dickson & Sons put up a tripod at the Shrewsbury Show with about a hundred blooms of this Rose. They were superb and created quite a sensation! Mr. Dickson says if only it would grow a little stronger it would be "an ideal garden variety." Well, I do not find any fault with its growth. We do not want all our Rose plants like Gooseberry bushes. *Lena* is my ideal of a perfect garden variety for the front row. Do not hesitate to order plenty of this, the daintiest flower.

"*SOUV. OF STELLA GRAY*" (*Tea, Alex. Dickson & Sons, 1907*).—This is another lovely and distinctly novel variety of moderate growth, though very free and branching. I cannot describe the colour, but have seen it growing in quantity at Ledbury, and the raisers' description is very near the mark, viz.:—"The shades of colour are hitherto unknown in any Rose; the predominating tone is deep orange, with splashes or veining of yellow, apricot, salmon and crimson." The blooms are only small, but are very full, and most beautifully formed. I have just a dozen plants, but am ordering more for next year. I had them this summer in a bed exposed to the sun all day, and the first part of the summer the blooms did not come true, but now they are in perfection and coming truly grand. It is exceedingly fine flowering.

LYON ROSE (Rosa Pernetiana, Pernet Ducher, 1907).—In addition to being an ideal Rose for exhibition, this magnificent new Rose will certainly become one of our most popular garden Roses. It is the result of a cross between the Hybrid Tea "Madame Mélanie Souper" and an unnamed variety, which is itself a direct offspring of "Soleil d'Or." Now, "Madame Mélanie Souper" is quite one of the most perfect H.T.s. Certainly, this variety was as much admired in my garden both last year and this as any of the new sorts. She made her bow to the public commercially in 1905. Many of our friends in the trade were "sold out" of stock early last November, so evidently it has a host of admirers. "Soleil d'Or" is a lovely orange-reddish-golden gem. Our English growers class this under Austrian Briar Roses. Really, it is one of the "Rosa Pernetiana" class, which may be called quite a new race. This race was the result of a cross between "Persian Yellow" (*Rosa lutea*) and the H.P. "Antoine Ducher." These Pernet Roses retain a good deal of the character of *Rosa lutea*, the wood being reddish, but the foliage is largely improved, a very fine, deep green, and like *Rosa lutea*, they are perfectly hardy, and can withstand severe frosts without protection. Though belonging to the class of the *Rosa Pernetiana*, the *Lyon Rose* is possessed of all the good qualities of the Hybrid Teas, from which it has derived the principal characters, and, above all, it has that great advantage of perpetual flowering. The flowers are generally produced singly, though occasionally two or three come on the same shoot; the buds are large, long, and a roundish shape; the colour is a beautiful shade of coral-red tinted chrome-yellow at the base. The blooms are very large, with broad petals of great substance, and very smooth, full and globular and perfect form. The colouring is superb; shrimp-

pink at the ends of the petals, centre coral-red, or salmon-pink shaded with chrome-yellow. The flowers open freely and are very fragrant. There is no doubt but that this novelty will cause quite a furore in the Rose world.

"**MADAME MELANIE SOUFERT**" (*H. T., Pernet Ducher, 1905*).—We may in the future see this pretty Rose exhibited well. This summer, with me, it has not done so well as last year, owing to the long spell of dry heat, but since the last days of August the plants are making up for lost time, and the variety is one of the show things in the garden. Of vigorous growth, it has bloomed quite as freely as *Madame Ravary*. The colour is salmon-yellow suffused with carmine-pink. The buds are long, opening to very large globular flowers with bold petals, not very full. Plants I have in a bed that does not get the midday sun have done very much the

that it has not come the deep sulphur-yellow with me that it does at Newtownards, but then we have not got the Irish climate. If we want a perfect yellow Rose we must wait until we can buy *Alex. Hill Gray*; but that, I believe, will not be distributed till 1910, and were I a millionaire, when that time arrives, I should buy the lot; but to get back to "*Harry Kirk*," this variety blooms continuously, and the blooms are large and full, and of great substance and good form. The buds are fairly long and elegant.

MRS. AARON WARD (*H. T., Pernet Ducher, 1907*).—This is another variety that will prove quite one of our best yellow Roses. It is a very vigorous grower, of free-branching habit, with its blooms on erect and firm foot-stalks. What a great point in a Rose this is! It is a real gem, and such a good grower. The colour

it is growing strongly. Its habit is ideal where you want robust, erect growth. The colour is a lovely shade of coppery-pink, suffused with apricot-yellow, especially at the base of the petals, and these (the petals) are exceptionally large and of great substance. It is undoubtedly, as the raisers say, "quite a unique Rose," and the future is certain sure to see this one of our most popular garden Roses.

MRS. MYLES KENNEDY (*Tea-scented, Alex. Dickson & Sons, 1906*).—Had the writer been given the casting vote for the Nickerson Award for the best Tea Rose introduced since 1902, this is the Rose that he would have declared the winner. Mr. H. C. Molyneux wrote in some notes on new Roses last year, "that at the time the award was made, few, if any, of the judges had grown this Rose out-of-doors." Oh! the pity of it that Mrs. Myles Kennedy did not win this honour! When I first saw it in 1906 I at once thought it the best flower I had ever seen. Last year, with me, as a garden Rose it was wonderful, despite the wretched summer. This year it has been glorious, perfect bloom day after day; all through the drought it has kept its most perfect size, contour and finish. Surely it will take No. 1 position amongst exhibition Teas! And, still better, this beautiful Rose will be one of the best in our garden. The colour is a delicate aqueous silvery-white, shaded buff; deeper pink in the centre, with black edge of petals a slightly deeper shade of pink, giving a picotee-edged effect. This is set off by most beautiful dark green foliage. It has large blooms, and is a vigorous grower. One wants the pen of a poet to attempt to describe this beautiful flower—

"Nurtured of Heaven, thy beauties I'll wear,
Pride of my bosom, I'll cherish thee there."
Leonard Petrie.

(To be continued.)

CYPRIPEDIUM ACTÆUS BIANCA.

This variety gained a First-Class Certificate when exhibited by Lt.-Col. Holford, C.I.E., C.V.O., at the last meeting of the Royal Horticultural Society. The bloom is of much beauty, and is considered to surpass even the handsome *C. insigne* Sanders, which formed one of its parents, the other being *C. Leanum* Prospero. The general colour is pale yellow, of a smooth and shining surface. The upper sepal is very broad, the major portion of its surface being white; the basal part is a yellowish-green colour. It may be added that the plant was exhibited as *C. bianca* superba.

OLEARIA STELLULATA AS A ROCK-GARDEN SHRUB.

The majority of *Olearias* flower about midsummer, early or later according to the locality, but *O. Haastii* forms an exception, as it flowers during August. The flowers bear a resemblance to those of the *Michaelmas* Daisies: the ray florets are white, though not always pure, and the central disc is usually some shade of yellow, darkening to brown with age.

Olearia stellulata forms a fine shrub for the rock-garden. It is a mountain plant, and revels in a scanty root-hold and on dry aspects, such as not infrequently occur in rock plantings. It combines a neat, fastigate habit of growth with elegant, small-toothed foliage, which, particularly in the early stages of growth, is covered with a downy tomentum on the underside. The plant reaches a height of 3 to 4 feet, producing its starry white flowers in June and July, and yields them in such quantities that a few specimens planted together present an effect not unlike a winter snow scene.

Olearia stellulata is easily propagated by layers, or by cuttings of the current season's wood, placed in trenches of sharp, gritty soil during the autumn. Small rooted plants can be



FIG. 114.—CYPRIPEDIUM ACTÆUS BIANCA: FLOWERS PALE YELLOW, DORSAL SEPAL SNOW-WHITE ABOVE.

best. This will in time become a very popular garden variety.

"**HARRY KIRK**" (*Tea-scented, Alex. Dickson & Sons, 1907*).—My plants of this variety have grown as large as ordinary Gooseberry bushes. Our American friends say this is going to be the most popular variety in U.S.A. Dr. Huey, of Philadelphia, writes saying: "We think this Rose superior to 'Killarney,' as 'Killarney' was to other sorts previous to its introduction." Personally, I have found it a gem at the beginning of the season, and again now that August is passed. During the hot, dry weather of July and August it only appealed to me in the bud stage, as the flowers at that time came so thin; but, considering that my garden is situated in one of the hottest parts of England, and this summer has been so exceptionally hot, this should not put a bad mark against this glorious Rose. Can I find any fault with it? Well, only

is most beautiful. The raiser describes it as Indian-yellow, occasionally washed with salmon-rose. I find its colour a marvellous yellow at the base of each petal on the inside. In the bud its shape is not quite as perfect perhaps as we get in "*Lena*," but rather like we get in "*Lady Roberts*" sometimes. It is a wonderfully free-blooming sort, and lasts remarkably well.

DOROTHY PAGE ROBERTS (*H. T., Alex. Dickson & Sons, 1907*).—This is one of the most glorious decorative or garden Roses. Some exhibitors will say it is not sufficiently full. This is another variety that, if allowed to develop, will grow as large as an ordinary Gooseberry bush, so give it plenty of room when planting. During the long drought which prevailed during July and August we had to cut the blooms of this very early in the morning, but there were always lots to cut. In June it was charming, and now again that August is past

inserted in the most limited root run, and if they are carefully looked after until growth asserts itself, they soon establish themselves, and, when in flower, appear like pinnacles of blossom springing abruptly from the rocky face. *Olearia stellulata* is perfectly hardy in all but the bleakest exposures. It winters best in well-drained soils and in aspects where the maximum amount of sunshine is secured to mature the wood upon which the flowers are produced next season. Contrary to the experience of some writers, I find that *Olearias* succeed admirably upon our chalky soil, as the species which we cultivate, beside the one under notice, include *O. Haastii*, *O. macrodonta*, and *O. nitida*, and all of them make vigorous growth and never fail to flower well in their appointed seasons. The illustration (fig. 115) shows a portion of the rockery in these gardens facing south-east. Grouped with the *Olearia* is *Saxifraga lingulata*, whose elegant panicles of flowers are just passing out of season when the *Daisy* bush comes into flower. In the foreground is a planting of *Edelweiss* (*Leontopodium alpinum*), a rock-plant singularly at home upon the chalk. An exhaustive article upon the *Olearia* by Mr. S. W. Fitzherbert will be found in *Flora and Sylva*, Vol. III., p. 324. This authority differs from the *Kew Hand-List* in describing *Olearia stellulata* as distinct, and not, as is generally supposed, synonymous with *O. Gunnii*. Thomas Smith, Walmgate Gardens, Louth.

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NUNBURNSHOLME, WATFET FERRY, YORKSHIRE.

Raspberries.—In some gardens where the soil is of a heavy nature the robust canes which grew during the sunless season of 1907 have not produced this year such fine fruits as usual, but in more favourably-situated places the fruits have been unusually good. Raspberries will succeed in almost any soil provided the water can pass through it easily, and that it is at the same time one that never becomes quite dry. Many failures arise from cultivators allowing the stools to remain upon one piece of ground for too long a time. October is the best month for making a new plantation, and those who have only unprofitable Raspberry canes should now make preparations for planting afresh. If the soil is light in texture and rich in plant food, clean and well-drained, then deep cultivation is all that will be necessary, except for a liberal dressing of well-decomposed manure. In such circumstances the canes may be planted at the end of the present month, but on cold and wet ground some additional preparation is necessary, as the soil must be drained and trenched, or deeply dug, adding during this latter process such materials as burnt refuse, decomposed manure, leaf-mould and road-scraps. Any or all of these materials may be used to make the soil more porous, and they will improve the ground for a number of years to come. The Raspberry being a shallow, rather than a deep-rooting plant, care should be taken to keep the richest compost near to the surface. The method of planting may be arranged according to the aspect of the ground. It is generally best to have the rows extending from north to south, and the stools should be planted in rows made from 4 to 5 feet apart, putting each plant at a distance of from 2 to 3 feet to its neighbour. Apply a light mulch of stable manure or some other light material over the roots. Good varieties to plant are Superlative (True Stock), Baumforth Seedling, Northumberland Fillbasket, and Hornet. A variety called Guinea is one of the best yellow-fruited sorts.

The winter moth.—This pest is most destructive to the leaves and flowers of Apple, Pear, Plum and Cherry trees. At this season of the year the moths emerge from the chrysalis stage. The female moths cannot fly, and, therefore, they have to creep up the stems of trees in order to deposit their eggs in crevices of the bark and near the flower-buds during the months of Octo-

ber, November and December. The eggs hatch in spring, and the caterpillars at once commence to eat the young leaves. As a preventive some cultivators still use grease-proof papers, placing them tightly round the stems of trees at about 2 feet from the ground. If this preventive be adopted, something should be placed underneath the grease paper to prevent it coming into contact with the bark of the tree, and fresh grease should be applied at intervals, or the bands will become sufficiently dry for the wingless moths to walk across them. Winter washes are generally more popular preventives and remedies, and the bands should be applied to the trees both early and late in the season. In the case of badly-affected trees it is a good plan to remove the surface soil from about the roots and burn it, replacing this with fresh compost, and applying a good dressing of quicklime afterwards. All Apples that fall to the ground prematurely should be picked up for use or to be destroyed by fire, as most of them will be found to contain caterpillars.

Figs.—These trees have grown rather stronger than is desirable, and they will not be likely to yield much fruit next season unless every means is taken to encourage the ripening of the wood. The system of little or no pruning may answer very well in specially warm

end of the present month the vines may be placed in position for forcing, plunging the pots in a bed of leaves, in which a small quantity of short stable litter has been mixed. Such a bed will furnish a warmth of 65° to 70°, and care must be taken to prevent the heat increasing much beyond these degrees. Fasten the rods in a horizontal position until the buds break into growth, and, until this stage has been reached, the atmospheric temperature of the house, if derived from artificial means, must not exceed 55°. Promote a moist atmosphere by damping the surfaces in the house, and spray the vines several times each day with tepid water. Little water will be required by the roots until a certain amount of growth has taken place.

Vines for fruiting at mid-season.—These will consist of such varieties as Black Hamburgh, Madresfield Court, and Early Muscats. The vines should be pruned with as little delay as possible after all the fruit has been cut from the canes and the leaves have fallen from the shoots. It is inadvisable to allow the fruits to remain upon the vines for an unnecessary length of time. When the vines have been pruned, it will be necessary to cleanse the house. Wash the vines, and give the same attention to the borders as I have recommended in the case of



FIG. 115.—OLEARIA STELLULATA, SAXIFRAGA LINGULATA, AND LEONTOPODIUM ALPINUM IN FLOWER ON ROCKERY.

districts, but in colder localities it is necessary to train the growths very thinly and to nail them closely to the wall in order to obtain short-jointed, well-ripened fruits. If the trees are growing too strongly the roots must be pruned, and this work may be commenced at the present time. Apply a fresh compost, if necessary, during this process, consisting of loam with a large amount of mortar or brick rubble, and treading it down very firmly as the work proceeds.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LLANGATTECK, The Hendre, Monmouthshire.

Early-fruited vines in pots.—In order to obtain success with the earliest vines it is primarily necessary to have strong, well-matured canes, and these are most frequently furnished by what are known as cut-back vines. Young vines of this description, having been sufficiently hardened, rested, and shortened to the desired length, should now be thoroughly washed with a warm solution of the Gishurst Compound, and have their shortened ends dressed with Styptic. The surface of the soil should be removed, and a top-dressing of fresh compost afforded. At the

the early vines. Let the ventilators of the house be thrown wide open until it is necessary to close them again for the commencement of forcing. In order that this may be done, be careful not to place any species of plants in theinery that would lead to the ventilators having to be closed, or that would be likely to introduce injurious insects or fungi.

Late-fruited Figs.—No variety of Fig is better than Negro Largo for yielding a successive crop of ripe fruits at this season of the year. The best results, however, can only be obtained from a house having a very sunny position, and one in which the shoots of the trees themselves are trained thinly. At this season the roots must be only very sparingly supplied with water; at the same time they must not be permitted to suffer from drought. The atmosphere must be kept dry, otherwise the fruits will be liable to split; for this purpose it may be necessary to keep the water pipes slightly warm upon wet or cold days and during the night. Remove all the small fruit from the points of the shoots, and, after the crop of fruit has been gathered, the house should be freely ventilated, and the trees may be root-pruned if this operation be considered necessary.

THE KITCHEN GARDEN.

By E. BRENNETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

The season.—The recent summer-like weather will have the effect of ripening and consolidating the growth of many vegetable crops intended for winter and spring supplies, thus the better preparing them to withstand severe weather later; especially is this the case in regard to all varieties of Brassica, more particularly Broccoli. Take care to remove decayed leaves and weeds from these crops, because the air will the better circulate between the plants. The ground should be kept clear of exhausted crops and rubbish of any kind, which may be disposed of by burning on the smother fire.

Bedrot.—The whole of the crop ought now to be carefully lifted and clamped, selecting a position for the clamp where water is not likely to collect about its base. Every care should be taken not to break the main root or damage it in any way. Place a moderate amount of wheat straw at the base, and build the roots up into the shape of a ridge by placing the crowns towards the outside. Place a little straw over the roots, and afterwards about 6 inches of soil or ashes, fixing small tufts of straw through the top of the ridge at distances of 3 yards apart for ventilation.

Endive.—Continue to blanch Endive as required. All late sowings should now be lifted and planted in frames or cool orchard houses, allowing the plants sufficient space for the growth to develop properly. The latest sowings of Lettuce in the open garden should be treated similarly.

Carrots.—Late sowings in frames which are intended for keeping up a supply of young Carrots through the winter should be thinned to a distance of 2 and 4 inches apart. Turn the surface soil occasionally, and apply soot and a small quantity of a selected chemical manure. Syringe the plants early on fine afternoons, and close the frames at the same time, doing everything possible to encourage growth. Young Carrots of this description are much appreciated in most establishments during winter.

Celeriac.—This crop has made excellent growth during the past month or six weeks, and the roots had better be lifted at the first sign of severe frost. Trim off the foliage and store the roots either in sand or ashes in a place secure from frost.

Rhubarb.—Stools of the earliest varieties which have been growing in a sunny position will have sufficiently ripened their crowns for lifting. The roots should be taken up intact, and left upon the surface of the ground for a week or ten days, merely placing a little litter over them. After the elapse of ten days, they may be placed in the position in which they are to be forced for supplying Rhubarb during December. There is no better place than the warmer end of the Mushroom house. Keep the crowns moist and the interior of the structure quite dark. It is useless to attempt to force any except the very early sorts.

Seakale may be treated in the same manner as Rhubarb, but better results at the commencement of the forcing season can be obtained in this case by employing retarded crowns; such crowns may be depended upon to yield Seakale fit for cutting in three weeks or a month after the commencement of forcing.

PLANTS UNDER GLASS.

By THOMAS LUSH, Gardener to A. STERLING, Esq., New Fiddlebury, N.B.

Cyclamen.—Plants two or three years old that were planted out in an open frame early in the spring may now be lifted and potted up. For the purpose of lifting these plants, use an ordinary kitchen garden fork, and raise as large a ball as possible, taking care not to break or damage any of the roots. Afterwards take a thin, pointed stake and prick out the loose soil around the roots until a firmer ball is encountered, and so reduce the size of the mass of roots before placing them into well-drained pots. The potting soil should be of a rich and porous nature, and it should first be passed through a sieve having a half-inch mesh, in order that it may be easily rammed in amongst the roots and made moderately firm. Apply a good soaking of tepid water, and place the plants in an unheated frame, keeping the lights closed for a few days

until the roots obtain a fresh hold of the soil. Keep a sharp look-out for evidence of damping, and if any flowers are seen in this condition, pick them clean out with a pair of Chrysanthemum tweezers. After about two weeks the earliest of the plants showing buds may be placed into heat, and they will flower nicely in the first week in November. If any sign of earth worms can be seen on the surface soil, apply a watering with limewater.

Violas.—Plants should now be lifted from the open ground and placed in an unheated frame which has a southern aspect. Let the soil in this frame be made to slope in the same direction and degree as the sashes of the frame.

Pan-cratium.—Plants that have flowered should be removed from the greenhouse into a warmer structure, and if any require to be reported, this work may now be carried out.

Acacia.—Plants that have set their flower-buds freely may be fed liberally with liquid manure for some time to come.

Ferns.—Seedlings should be gathered from the tops of pots or shelves and placed in small thumb pots, plunging the pots in a mild hotbed. Next spring the plants will be ready for shifting into 3-inch pots. Seedlings always make the best specimen plants.

Datura (Brugmansia).—Plants that have flowered should now have their shoots shortened previously to being more severely pruned later. This is done in order to save the plants from suffering too great a check.

The greenhouse.—Plants in flower in cool houses, such as the conservatory or greenhouse, should be given a little fire heat during dull or damp weather, but the ventilators should be opened each day so as to cause a circulation of air and evaporate excessive dampness. Any water that falls upon stone paths should be taken up with a mop, and the interior of the house kept as dry as possible.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Tender bedding plants.—It will now be necessary to remove the tender plants indoors. Such Pelargonium plants as may be suitable for putting into vases next year should be potted into 6 or 7-inch pots, or, failing this, be placed in boxes. Rooted cuttings of various species that are still out of doors should be removed into an unheated pit, which will be all the protection they will need for some little time to come; but it will be well to have some protective material ready for strewn over the glass on occasions when frosts are likely to occur. Strong, healthy young cuttings of Violas may now be obtained, and these, however small, are preferable to the points of old flowering shoots, which, being somewhat hard, are a considerable time before forming roots, and seldom make good plants capable of producing large flowers. Select a hard base, and place upon this from 2 to 3 inches deep of loam, leaf-soil, and sand in equal proportions. Handlights or shallow frames may be placed over this bed and the cuttings inserted at 2 inches apart from each other, but the top of the beds should not be very far from the glass. Pentstemons and many other hardy species of plants may still be propagated from cuttings, but the sort of this kind of work is completed the better results will be obtained. If the cuttings of Coleus, Iresine, and Heliotrope already obtained are not likely to be sufficient for the needs of the garden, some of the old plants should be lifted and potted up in sandy leaf-mould and loam. From these old plants propagation may be commenced early in the new year.

Lifting specimen plants.—In the lifting of standard and bush plants of such species as *Heliotrope*, *Veronica*, and *Veronica*, the ball of earth secured with a cord need not be larger than is necessary to hold a fair number of roots. As a rule, such plants should be put into pots having a diameter of 7 inches. The pots should be perfectly clean and ample drainage should be provided. Place the plants in a warm house, provide them with shade from sunshine for a time, and spray them frequently with clear water. They will soon make fresh roots and growth, and after this stage has been reached, less heat and moisture will be necessary.

Autumn tints.—Conspicuous for their effective tints at the present time are *Acer Ginnala*, with its small crimson foliage, *A. virginianum rubrum*, *A. saccharinum*, *A. purpureum*, and *A. platanoides*. Amongst the Japanese Maples which are effective are *Acer palmatum* and *A. atropurpureum*. The *Amelanchier*, or *Snowy Mespilus*, is equally valuable for its autumn foliage. *Liquidambar styraciflua* is now beautiful, with its orange-red-coloured foliage. *Berberis vulgaris* is extra handsome this season, being a freedom of red and of fine colour. The variety *atropurpurea*, with its rich purple-red leaves, freely fruited, is magnificent. *B. Thunbergii*, a deciduous Japanese shrub, with arching stems, is now glowing scarlet. *Rhus Cotinus*, *R. glabra*, *R. laciniata*, *R. typhina*, *R. coccinea*, *R. elegans*, and *R. sanguinea* are effective from early summer until late autumn.

Lawns.—The season having every appearance of being a late one, keep the mowing machines actively employed, and maintain the lawns and paths in as neat a condition as possible, in order to make the best of the present summer-like weather.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Autumn-flowering Odontoglossums.—While there are other members of this favourite genus that produce flowers at this season, the section containing *O. grande*, *O. Schieperianum*, *O. Inseleyi*, with their varieties, and similar kinds, are those to which the term "autumn-flowering" is usually applied. These species are much the easiest *Odontoglossums* to cultivate, and therefore they are often chosen for flowering in the amateur's greenhouse. The plants should be accommodated in a structure having a cool, intermediate temperature. Root moisture is necessary for them all the year round, the greatest amount being required from the time the flower-spikes commence to develop until the pseudo-bulbs are fully matured. During their period of rest, only sufficient water is needed to keep the pseudo-bulbs plump, and the roots and foliage in a healthy condition.

Laelia praxinos and its allies.—These pretty, dwarf-habited autumn-flowering Orchids are cultivated in the cool intermediate division. When they produce their flowers before the new growths are fully developed, the water supply must not be diminished until they have fully completed their pseudo-bulbs. These flowers are capable of retaining their beauty for one month, and without injury to the plant, providing the specimen is healthy and strong.

Disas.—The tuberous roots of these terrestrial Orchids are best repotted at this season, when the new growths push up from the sides of the old flower-spikes. Employ well-drained pots and a compost consisting of two-fifths Sphagnum-moss, two-fifths turfy peat or Osmunda fibre, and one-fifth turfy loam. These ingredients should be mixed well and rendered porous by adding a liberal quantity of crushed crock, charcoal, and silver sand. After the potting operation give sufficient water only to settle the compost, and afterwards afford just sufficient to keep it moist. Disas require a rather shaded position, close up to the roof glass in a cool, moist, freely ventilated house. It is necessary to keep a sharp look-out for thrips and green fly, the latter pest being nearly always troublesome at this season.

Miltonia.—The attractive species, *M. spectabilis* and its varieties, *Moreliana* and *atrolinea*, with *M. Claretii* and *M. Kegnelli*, are interesting members of this genus for flowering in late summer and early autumn. After the plants have bloomed and the pseudo-bulbs are finished up, gradually decrease the supply of moisture at the roots, and henceforward keep the rooting materials on the dry side till growth becomes active again in the new year.

Trichopilia fragrans.—Plants of this species are now flowering, and care will be needed to prevent slugs and snails devouring the flowers. The best protection is to stand the plants clear of all others, on inverted flower-pots stood in saucers filled with water. After blooming, the plants need a long rest in a cool, intermediate house, and during that period water should only be applied to the roots very seldom.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, OCTOBER 12.—United Hort. Ben. and Prov. Soc. Com. meet. Nat. Chrys. Soc. Com. meet.

TUESDAY, OCTOBER 13.—Roy. Hort. Soc. Com. meet. Brit. Gard. Assoc. Ex. Council meet. Nat. Rose Soc. Com. meet. Hort. Club meet.

THURSDAY, OCTOBER 15.—Roy. Hort. Soc. Exh. of British-grown fruit (2 days). Annual Dinner of United Hort. Ben. and Prov. Soc. at Waldorf Hotel, 6.30 p.m.

SATURDAY, OCTOBER 17.—German Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—50.1°.

ACTUAL TEMPERATURES:—LONDON.—Wednesday, October 7 (6 P.M.): Max. 68°; Min. 49°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London—Thursday, October 8 (10 A.M.): Bar. 30.1; Temp. 69°; Weather—Overcast.

PROVINCES.—Wednesday, October 7 (6 P.M.): Max. 62° Ireland, W.; Min. 58° Cambridge.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY.—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

TUESDAY, AND WEDNESDAY.—Important two days' sale of Nursery Stock, at the Nurseries, South Woodford, by order of Mr. John Fraser, by Protheroe & Morris, at 11.

WEDNESDAY.—Palms, Plants, Azaleas, New Zealand and other Ferns, Bulbs, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 5.

The Freehold Property Harold Court Nursery, with Cottage, Glasshouses, &c.; also three Freehold Residences and Building Land, at the White Hart Hotel, Romford, by order of Mr. W. Green, by Protheroe & Morris, at 4.

THURSDAY, AND FRIDAY.—Two days' sale of Nursery Stock, at Anmer Nurseries, Edgware, Middlesex, by order of Mr. J. J. Foster, by Protheroe & Morris, at 12. Important sale of the whole of the Collection of Rare Orchids, by order of J. Bradshaw, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 1.

FRIDAY.—Choice Duplicate and other Established Orchids, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 1.

The veteran botanist of La Farléde, near Hyères, Mons. Albert, is well known for the work he has achieved during more than forty years in his own neighbourhood, including the publication of several pamphlets; and Mons. Jahandiez, who is an enthusiastic botanist, has already published an interesting volume on the historical and natural history aspects of the islands of Hyères, the Stœchades of the ancient Greeks. That volume, printed and published by the author at Carqueiranne (Var), is beautifully illustrated from drawings made by his brother.

The volume under notice was also printed at the private press of Mons. Jahandiez. The type is excellent, and most of the 16 plates, representing 42 species or varieties, are good, for they are taken from photographs of the plants themselves. The illustrations comprise three plates of *Quercus Ilex* and its varieties, and two plates of *Quercus* hybrids, including *Q. Bertrandi* and two varieties. A plate is also given of Albert's two new varieties of the Grass *Gaudinia fragilis*, of *Ranunculus millefolius*, the handsome and very rare *Delphinium Requienii*, from the Isle of Porquerolles, and a good photograph of *Cirsium tris-*

pinosum, from the island of Levant, giving the habit of the whole plant and three enlarged leaves showing the venation and the arrangement of the spines.

The book is in large octavo, and besides the 44 pages of Prof. Flahault's introduction and the author's preface, there are 613 pages of matter and a coloured map of the Department, drawn by Mons. A. Jahandiez.

We regret to see the authors follow Mons. Rouy in giving the word "forme" precedence over "variety," such an arrangement being sure to cause some confusion. They describe the classification indeed as "a little eclectic." They have followed *La Flore de France* of Rouy as far as the end of Vol. ix., then they have adopted that of Grenier and Godron, with the modifications brought by the recent flora of Abbé Coste. *Orchidacée* has been based on the monograph of Mons. Camus, and grasses on that of Mons. Husnot.

Among the genera particularly well done may be mentioned *Ranunculus*, *Erodium*, *Medicago*, *Vicia*, *Lathyrus*, *Galium*, *Hieracium* and *Quercus*; the varieties of *Solidago Virgaurea* and the varieties and hybrids of *Phagnalon sordidum*, including *P. hybridum* and *P. ambiguum*, of which there are figures.

In the genus *Vicia* we presume Mons. Cavillier's careful note on the characters and affinities of *Vicia elegantissima* was published just too late to be incorporated in the text, though the pamphlet is mentioned in the bibliography. But the same reason cannot be given for the exclusion of *V. monosperma* from Porquerolles (published in the *Journal of Botany* in 1906), for even if the authors consider *V. monosperma* merely an abnormal form of *V. angustifolia*, it is customary to account for all properly-published names when dealing with the flora of any district, and, if possible, to give reasons for the exclusion of any names. In the case of a difficult genus like *Vicia*, which so badly needs monographing, it is particularly desirable to account for all published names of species and varieties when compiling a "Flora" of a country where a particular species or variety has been found.

Under *Juncus*, a new variety of *J. bufonius*, called *minutus*, is briefly described. Judging from the appearance of some of the type specimens, which are only 1 to 2 centimetres high, the new plant seems to represent merely a small, starved form of this very variable *Rush*, and to be hardly worthy of a varietal name. *Juncus pygmaeus*, which is fairly common in France, has very few localities given in Var, and Hyères is not one of them, though it grows in several of the sandy marshes below the town.

Although the work is comprehensive and well done, it appears that very few public herbaria have been consulted for old records, this being always a difficult task to accomplish, but it is unfortunate that several early records of Var plants gleaned from the great herbaria at Geneva reached the authors too late for incorporation. However, the works of Perrymond, Robert, Hanry, Huet, Shuttleworth, Roux, and some others, have been fully noticed.

Since 1853, when Hanry's Catalogue of the Department of Var was published, no further complete list has appeared, although the Department has one of the richest floras in France, and some hundreds of species are now recorded which did not appear in Hanry's list. But as Albert and Jahandiez's classification is framed on a very synthetic plan, rarely adopted in works

of this kind, they give only 2,165 species and 61 hybrids for the Department, but they say in the preface this number could be increased by at least 500 if they had raised to the rank of species certain sub-species and forms, as has so often been done. The 2,165 good species in this Department of France compares with the 2,047 species (excluding *Characæ*) in the tenth edition of the *London Catalogue of British (and Irish) Plants*. There are about 5,600 species of flowering plants in the whole of France, according to Dr. Saint-Lager, in *Les nouvelles flores de France*. Huet and Shuttleworth published in 1889 a *Catalogue des Plantes de Provence*, comprising also a part of Italian Liguria, and this was soon followed in 1891 by that of Roux, but many species from Var are not mentioned there, and frequently the localities are wanting in definiteness.

Orchids have been well done, and they include no fewer than 60 species, 9 varieties and 14 hybrids, whereas there are only 45 species in the British Isles. A new hybrid, *Ophrys Rainei* (*O. Arachnites* × *bombiflora* ?), has been named after the discoverer, Mr. Raine, an English botanist of Hyères, who has done good work among Orchids. It is a pity that the extremely rare *Serapias cordigera* alba, found at Cavalaire by Mr. Pole, of Bristol, in 1907, was not recorded in this book, for this beautiful case of albinism has only hitherto been noticed in Sicily, whence Tineo, in 1844, in the *Flora Sicula*, records it as the variety *B. floribus flavescentibus*, and it is an interesting addition to the flora of France. One of the specimens found was sent to the Kew Herbarium, and another was exhibited at a meeting of the Société botanique de Genève. The flowers and bracts were a greenish-white.

In Prof. Flahault's introduction, which begins with a general description of the physical geography of that part of France, he mentions the highest mountains which lie to the north of the Department, the culminating ridge called la Cèns being 1,713 metres high. The Beech and the Fir (*Abies pectinata*) are the predominating trees at these heights, and Box and the sessile Oak slightly cover the lower plateaux; but all the northern region of pre-miocene date is very sterile. However, we find on these summits certain Alpine species, and among them are such plants as *Anemone alpina*, *Ranunculus pyrenæus*, *Draba aizoides*, *Polygala alpina*, *Alsine Villarsii*, *Alchemilla alpina*, *Antennaria dioica*, *Gentiana verna*, and *G. cruciata*.

Among the rather lower mountains of the Forest of Sainte-Baume are many sub-Alpine species, which are called "sylvaticus," such as *Aconitum Anthora*, *Deutaria pinnata*, *Polygala Chamebuxus*, *Mœhringia muscosa*, *Pyrola chlorantha* and *P. secunda*, *Trifolium alpestre*, *Rubus saxatilis*, *Saxifraga rotundifolia*, *Prenanthes purpurea*, *Vaccinium Myrtillus*, *Arbutus Uva-ursi*, *Gentiana lutea*, and *Daphne Mezereum*. Among the rock plants are *Delphinium fissum*, *Alyssum halimifolium*, *Kernera saxatilis*, *Potentilla caulescens*, *Saxifraga aizoon*, and *Primula marginata*.

In the Forest of Sainte-Baume some of the finest Yew trees in Europe are found, mixed with Beech, Holly and Spurge Laurel. With them also grow *Tilia platyphylla*, three species of *Acer*, *Cornus Mas*, *Fraxinus excelsior* and *Corylus Avellana*.

A sketch is given, in the introduction, of the vegetation from sea level upwards through the various zones, with special reference to the flora of the *maquis*, the name given to the rough entanglement of *Cistus*, *Erica*, *Rosmarinus*,

* "A Catalogue of the Vascular Plants which grow naturally in the Department of Var," is the translated title of a recently published book by Messrs. Abel Albert and Emile Jahandiez, with an introduction by Prof. Flahault, of Montpellier, on the geographical botany of Var and Basse-Provence. Published at 20 francs, by M. Paul Klincksieck, of Paris.

Phillyrea, Daphne Gnidium, Lavandula Stoechas, and Brachypodium ramosum, so characteristic of the Mediterranean coasts and some of its islands. Guy de Maupassant, the famous French novelist, gives a good description of the "impenetrable maquis" in one of his books.

In some interesting remarks on Ecology and plant associations, we are told that Zostera and Posidonia are enough to give character to the submerged sandy shores. Statice minuta, Anthyllis Barba Jovis and Senecio cineraria characterise the maritime rocks which are not calcareous; Medicago marina, Ammophila arenaria, Eryngium maritimum, and Euphorbia Paralias are the principal plants of the shifting sand dunes, just as three of the species are on our English coasts; and Asphodelus microcarpus, Crepis bulbosa, Juniperus phoenicea are those of the fixed dunes. Salicornia, Aster tripolium and Statice Limonium are the chief essentials of Mediterranean salt marshes, just as they are in the south of England.

Plant associations hold as important a place in forming the landscape of the Mediterranean coasts as they do in any other country. Brachypodium ramosum (always the dominant grass of the undergrowth of woods), Cistus monspeliensis, albidus and salvifolius, Erica arborea, Caluna vulgaris, Posidonia oceanica, Zostera marina, Salicornia intricata, Buxus sempervirens are as important in the eyes of the phytogeographer as the rarest species, and precisely because these social species are more characteristic than the others by their very abundance, and because the conditions under which they are found are always the same.

But we must not forget, as Prof. Penzig points out somewhere, that amongst plants often called "characteristic" of the Littoral none are really indigenous except perhaps the Olive. Thus the Cypress and the Pine (Pinus Pinea) are natives of the Orient; the Date Palms were imported from Africa by the Saracens; Oranges and Lemons come from the sub-tropical zone of Asia; Figs from India and Agaves from Central America.

OUR SUPPLEMENTARY ILLUSTRATION depicts a group of fine foliage plants as arranged for exhibition by Messrs. SANDER & SONS, St. Albans. In forming such groups, the two chief points demanding consideration are those of form and colour. Probably the first place must be given to form, so disposing the plants as to accentuate the differences they present in the shape of their leaves, this being a matter of great interest to all collections of ornamental foliage plants. But, next to this, the arrangement of the colours calls for the exercise of artistic taste. The colours, in general, are less brilliant than those of flowers, but scarcely less rich in tone, and that they may present the best effect they should be so placed that the colour of one plant will be brought out, as it were, or even heightened by the effect produced by those adjacent to it. Messrs. SANDER have gained proficiency in these matters by repeated experience, and their groups always possess attractive qualities. In the illustration the reader will easily recognise the plant of Pandanus Sanderi superba in the centre, with its handsome, sword-like, variegated foliage; and, in addition to this plant, there are Pianta Micholitzii, a flowering Anthurium, and other species on the one side, and on the other side Anthurium Laucheanum and Pereskia Godsefiana, which were exhibited for the first time at the Ghent Quinquennial Show in April last.

ROYAL HORTICULTURAL SOCIETY.—A meeting of the Committees will be held in the Society's Hall, Vincent Square, Westminster, on Tuesday, October 13. At 3 o'clock p.m. a paper on "The Influence of Geology on Horticulture" will be given by Mr. C. H. HOOPER, F.S.I.

BOTANICAL MAGAZINE.—In the October issue of this publication there are descriptions and illustrations of the following plants:—

ECHINOPS TOURNEFORTII, tab. 8217.—This species, from Armenia and Persia, is described by Mr. W. BOTTING HEMSLEY as being perhaps the handsomest of the Globe Thistles in cultivation. The flower heads are few and globose, 2½ to 3 inches, or sometimes as much as 5 inches in diameter, terminal on long stalks, each flower surrounded by an involucre of bristles and sharp-pointed bracts. The corolla, which slightly overtops the bracts, is white, and the exerted anthers blue. The achenes are densely clothed with long, straight, coarse hairs. The plant grows from 3 to 5 feet in height, and has large, pinnately-divided leaves, the lower ones being tripinnate. Mr. W. WATSON states that this species flowers in August, along with the other Globe Thistles, and appears as hardy as any of them. The illustration was prepared from a plant which flowered in Canon ELLACOMBE'S garden at Bitton in 1906.

ROSA SERICEA, VAR. *PTERACANTHA*, tab. 8218.—This ornamental variety was figured in the *Gardeners' Chronicle*, October 7, 1905, on pp. 260-1. It occurs in company with the typical form at elevations from 3,000 to 11,000 feet in Western China and Manipur. The plant figured in the *Botanical Magazine*, also those figured in the issue of the *Gardeners' Chronicle* already cited, differ from FRANCHET'S type in being nearly glabrous and not woolly; but two specimens in the Kew Herbarium collected in Manipur by Sir GEORGE WATT in 1881-2 are exactly intermediate in degree of hairiness between the extreme forms. Specimens of *Rosa sericea* itself in the Kew Herbarium show equally varying degrees of hairiness. The extraordinary point about this plant is, as its name suggests, its enormously large, flat, decurrent prickles. These vary from 1 to 2 inches in length, elongated at the base, and frequently extending to the whole length of the internode. The prickles are thin, translucent, of a bright blood-red, rather darker in colour than the *Botanical Magazine* figure, becoming brown and woody with age. The parts of the stem not covered with the large prickles are densely clothed with bristles, which are also of a bright red colour when young. Mr. W. J. BEAN states that, like *Roses* in general, this variety needs a good strong soil to bring out its full attractions; it should preferably be grown in a rich, rather stiff loam. It may be added that the flowers are white and rather smaller in size than those of the species.

ANISOTES DIVERSIFOLIUS, tab. 8219.—This is a genus of Acanthaceæ allied to *Justicia*, and includes one Arabian and four tropical African species, in addition to the endemic Socotran *A. diversifolius*. This species was originally described by BALFOUR in *Proc. Roy. Soc. Edinb.*, vol. XII., 1884, p. 88. According to BALFOUR, the family of Acanthaceæ forms about one-twentieth of the flora of Socotra, comprising 27 species, which are included in 15 genera. Three of the genera and 21 species are endemic, so that over one-seventh of the endemic genera of Socotra and one-tenth of the endemic species belong to the Acanthaceæ. Mr. T. A. SPRAGUE points out that the venation of the corolla in *Anisotes diversifolius* is peculiar. Three veins start from the base of the corolla-tube, one corresponding to the lower lip and two to the upper,

and the two latter each divide into three a short distance above the base. The species is an erect, glabrescent shrub, about 1½ feet high, with greyish bark, and the elliptic-ovate leaves are ¾ to 1½ inches long, and ½ to 1 inch broad, the petioles being ¼ to 1 inch long. The inflorescences are short, axillary cymes, and the flowers are pendulous. The colour of the corolla, which is the showy part of the flower, is flame colour or yellow, 1½ to 2 inches long, conspicuously two-lipped. Mr. W. WATSON states that the species is similar in its habit and requirements to some species of *Justicia*, *Jacobinia*, and *Peristrophe*, and, being easy to propagate by means of cuttings, it may be grown along with the genera already mentioned for conservatory decoration in spring. The plant produces seed under cultivation.

LEWISIA COTYLEDON, tab. 8220.—This is a pretty species from North America, and Mr. W. BOTTING HEMSLEY states that its flowers remind one strongly of those of some species of *Oxalis*. It is a stemless perennial, with a thickened root-stock. The leaves are fleshy, rosulate, oblong-spathulate, 1½ to 2½ inches in length. The flower-scapes are 4 to 5 inches high, 8 to 12 flowered, and bracteate throughout. The flowers are about 1½ inches in diameter, white, with crowded red lines. Sepals two; petals varying in number, usually nine or ten, spatulate notched; stamens seven to ten, shorter than the petals. Ovary one-celled, ovules few. Mr. W. WATSON states that the species grew well and flowered freely in May at Kew, after being potted in sandy soil and placed in an unheated frame. Possibly it will prove hardy in a sheltered position in the rockery. The plant was presented to Kew in 1906. It has not produced seeds, but has developed basal offsets, which, when removed, soon grew into plants.

RAPHIONACME UTILIS, tab. 8221, is a species of Asclepiadaceæ from Angola, and is likely to prove of considerable economic importance, as its tubers are capable of yielding a large quantity of rubber, which is said to be of good quality. It has been identified by Dr. STAFF with the "Ecanda" or "Marianga" Rubber plant, first recorded by Professor GERALES in his *Estudo sobre os latex borrachiferos*, pp. 143-172, published at Lisbon in 1906, and a full account of it is given in the *Kew Bulletin* for 1908, p. 215, from which, according to Professor GERALES, the plant is a native of the interior of Angola, growing in the drier parts of treeless, sandy, and alluvial areas, between the River Kwanza and the River Zambesi, at an altitude of from 4,000 to 5,500 feet above sea level. Mr. N. E. BROWN describes the plant as a perennial herb, with a Turnip-shaped tuber, 2 to 5 inches in diameter, clothed with a dark brown, flaky bark; the stems are of annual duration, 1 to 4 inches long. The leaves are produced in two to five pairs, opposite, or forming a small rosette close to the ground. They have very short petioles. The flowers are produced in small terminal and axillary cymes or clusters; sepals one-eighth of an inch long, lanceolate, acute, purplish, with green tips. The corolla is a bright purple colour, about half an inch in diameter, and deeply five-lobed. Mr. W. WATSON states that *Raphionacme utilis* was presented to Kew in 1907 by the Companhia de Mocambique, who forwarded tubers of it, stating that "Bitinga" rubber was extracted from it. They were planted in soil and placed under tropical conditions, where they quickly started into growth, and flowered in March this year. The tubers do not shrivel nor suffer when kept dry, and they root and grow readily when placed in heat and moisture. Particulars as to the field culture of this plant are given in the *Kew Bulletin* already quoted.

HORTICULTURAL CLUB.—The house dinners of the club will be resumed on Tuesday, October 13, 1908, at 6 p.m., at the Hotel Windsor, when Mr. ARTHUR W. SUTTON will deliver a lecture on "A Holiday on the Nile," illustrated by painted slides from original photographs. Mr. SUTTON's last lecture on "A Camping Tour from Damascus to Petra in Arabia" was so exceedingly interesting that a large attendance is expected.

ASTON ROWANT GARDENS.—The vacancy caused by the retirement of Mr. W. H. CLARKE, gardener to Sir WILLIAM PLOWDEN, as announced in our last issue, has been filled by the appointment of Mr. GEORGE ABBEY, Junr., formerly head gardener for nearly 16 years to the late Colonel NORTH, at Avery Hill.

WART DISEASE IN POTATOS.—The Board of Agriculture and Fisheries desire to notify that 244 cases of wart disease or black scab in this year's Potato crop had been reported to them up to October 3. These cases have occurred in the following counties:—Shropshire 60, Staffordshire 57, Lancashire 50, Cheshire 30, Warwickshire 25, Worcestershire and Leicestershire 4 each, Derbyshire 3, Merioneth 2, and one each in Perthshire, Stirlingshire, Dumfriesshire, Cumberland, Nottingham, Berkshire, Flintshire, Breconshire and Glamorgan. A few cases among field crops have been found in the counties in which the disease is most common, but in the great majority of cases the disease has occurred on allotments or in gardens in which Potatoes are constantly grown. Enquiries made by the Board lead them to think that wart disease is very common in gardens in five at least of the above-named counties. The disease has been known in certain districts for 10-15 years, and as growers have taken no steps to check its progress, it is now causing serious loss. As wart disease may be carried from place to place in infected tubers, it is important to secure "seed" Potatoes free from this disease. At the same time, the greater number of cases reported would appear to be due to the cultivation of Potatoes in soil previously infected, or to the use of manure containing refuse from a diseased crop, and in many instances the seed has been viewed with quite unjustifiable suspicion. It should be remembered that even in counties in which wart disease is common, it has not yet seriously affected field crops, and the percentage of diseased Potatoes offered for "seed" must be inconsiderable. All cases of wart disease must be notified to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. Persons notifying the disease will receive directions as to its treatment. It is believed that under careful treatment this disease can be eradicated, but if neglected it may render the soil unfit for Potato growing. In the case of farmers who sell "seed" Potatoes, notification of the disease is of especial importance, and failure to notify must be regarded as a serious offence. The Board desire to draw the attention of all "seed" growers to the provisions of an Order issued under the Destructive Insects and Pests Acts 1877-1907, which render persons concealing wart disease liable to prosecution and to a penalty of £10. In addition to the names already mentioned, wart disease is locally known as Cauliflower disease, "fungus," and canker.

THE WARM WEATHER.—The commencement of October has been marked by weather of an extraordinary character for so late a season, and probably the fruit trees will gain advantage from the unusual warmth by becoming the better matured. Some growers have told us that one effect of the sudden visitation of summer-like heat has been to cause Apple trees to show such increased activity in respect to sap circulation, that the fruits, being nearly at maturity, have dropped in large numbers. Seedsmen are expecting to gain substantially by having a much better seed harvest. At the middle

of September it appeared as if the yield of Sweet Pea seed in this country would be very deficient. Mr. H. WILLIAMS writes from Redruth, Cornwall, as follows: "We have experienced both extremes of weather recently. On September 13th the thermometer fell to freezing point, and on October 2 we registered 78° Fahr. in the shade, while it ran up to 95° in the sun. On September 25th .50 inch of rain fell in 1½ hours. Up to the present the autumn has not been propitious for the ripening of fruit-bearing wood, and Chrysanthemums have suffered in many places from the recent gales." Mr. W. A. COOK, writing from Leonardslee Gardens, Sussex, on the 30th ult., says: "The temperature to-day has been 76° in the shade, and 59° was the lowest reading last night—the highest of the year!"

A POULTRY RECORD.—We have received the first number of the *Illustrated Poultry Record*, a monthly periodical, edited by Mr. E. P. BROWN, and published by Messrs. BROWN, DODSON & CO., LTD., price 6d. This issue contains 66 pages of letterpress and illustrations, and, although it is hardly fair to judge a periodical by its first issue, we think that this journal will be welcomed by the numerous poultry-keepers in this country, as it contains a great deal of valuable and interesting matter relating to the feathered tribe.

PEAT AND ITS USES.—Most people engaged in horticulture think of peat chiefly from the point of view of compost. But it seems not unlikely that a considerable industry may be erected on the basis of peat, for it has gradually become apparent that it can be made to yield, by appropriate treatment, a large number of valuable products. This has long ago been recognised and acted on in Germany, and it is intended that peat shall be utilised in Ireland in the near future. It is possible to manufacture gas from properly prepared peat, which can be turned to a variety of mechanical uses through the medium of electricity, inasmuch as it will supply the motive power of dynamos. Sulphate of ammonia, methyl alcohol, tar, and charcoal of excellent quality, can all be made from peat, and the last-mentioned substance finds a valuable application in Germany in connection with the manufacture of steel.

JUMPING SEEDS.—In a note on the so-called "jumping seeds," the *Trinidad Bulletin of Miscellaneous Information* states that these again made their appearance in the Botanic Gardens on March 27 last. They were observed on the "Roble" tree (*Platymiscium polystachyum*, Benth.). "Jumping seeds" are not seeds at all, but a portion of the plant inhabited by a small weevil or snout beetle. They have a seed-like appearance, and their name is given because they are sometimes seen to spring a considerable distance from the ground into the air. This is, of course, due to the presence of the living beetle. It has been observed that the larvae of the beetles enter the unopened flower-bud, and, after eating out its interior, change into the pupa form, using the calyx of the flower-bud as a protective case during the dormant period. As they fall from the trees, the larva is apparently full grown, and about to assume the pupa form, and can at this time jump as much as 4 inches from the ground. The insect is as yet undetermined, but evidently belongs to the snouted beetles or weevils (*Rhyncophora*), perhaps to the family Curculionidae.

• THE SUMMER GARDEN OF PLEASURE.—We have read with interest and enjoyment Mrs. BATSON's book, "The Summer Garden of Pleasure." It is written in an easy style and contains excellent advice as to what plants to grow, as well as how and where to grow them. There are many useful suggestions on the management of borders and the methods of

securing a succession of bloom. Such hints will especially appeal to the amateur, who is continually confronted by this difficulty. We are, however, unable to commend Mrs. BATSON's choice of an artist. No attention has been paid by the latter either to form or to due proportion in his coloured plates. Take Plate XI., for example: there we see an arch covered with what appears to be pink *Saxifraga*, suspended in mid air and apparently stalkless; these pink masses are gazing down in wonder upon a plant of what is stated to be the yellow tree Lupin, but a specimen with such enormous flowers has not yet been seen either on land or sea. Future editions of the work, we think, could well dispense with the coloured plates.

A GARDEN CITY AT HELLERAU, NEAR DRESDEN.—Recently the Second Chamber of Saxony has sanctioned the extension of the electrical railway to the boundary of the garden city at Hellerau, and, with this step, vanished the last obstacle which stood in the way of the realisation of the garden city project. The *Deutschen Werkstätten für Handwerkskunst* stands behind the undertaking, and intends to remove its entire plant to this spot. An area of about 150 hectares is already secured. A portion of the land adjacent to the factory and workshops will be reserved for the erection of small-sized dwellings, and houses for letting in flats will be built in the more pleasing parts of the estate. No house may be erected unless the plan has been previously laid before a commission of artists, and their permission obtained, whilst various regulations will be enforced by which land and house speculators are debarred from obtaining a foothold on any part of the estate. The whole undertaking will be under the management of a co-operative company, the *Deutsche Werkstätten* being also financially concerned. It is hoped that this typical precedent of a manufacturing establishment will receive the attention of all national economic, hygienic, and artistic circles, and find imitators among the manufacturers themselves.

WILD FRUITS IN IRELAND.—According to a correspondent in the *Times*, the Department of Agriculture is distributing broadcast among the small farmers and labourers of Cork and Kerry, printed handbills containing elaborate instructions concerning the harvesting, packing and marketing of wild fruits. That the industry is capable of development and that it has recently received more attention than formerly is shown by the export returns. Last year there was sent to England from Ireland 7,506 cwt. of Black or Bramble Berries valued at £3,378, and as a considerable proportion of the fruit pulped, the Department estimates that the total export for the year was little short of 500 tons, valued at £4,500. There is, it is pointed out, a practically inexhaustible demand, not only for Blackberries, but for Bilberries also called Whorts, which grow in upland and mountainous districts. Wild Crab Apples, which in favourable seasons grow in great abundance in the south of Ireland, are eagerly sought by jelly manufacturers. The Sloe, which is the fruit of the Blackthorn, is becoming more generally known in Great Britain; one large buyer has recently asked for a supply of one hundred tons in one year of this fruit. Until the advent of the Department of Agriculture the bulk of this wild fruit was suffered to drop and rot upon the ground.

Publications Received.—*Little Gardens and How to Make the Most of Them*, by H. H. THOMAS. (London: Cassell & Co., Ltd.) Price 1s. 6d. net.—*Schlich's Manual of Forestry*, Vol. V. Forest Utilisation, 2nd edition, by W. R. FISHER. (London: Bradbury, Agnew & Co., Ltd.)—*Holly, Yew, and Box, with chapters on other evergreens*, by W. DALLIMORE. Illustrated. (London: John Lane, The Bodley Head.) Price 7s. 6d.—*Alpines and Bog Plants*, by REGINALD FARRER. Published by Edward Arnold; price 7s. 6d.

* *The Summer Garden of Pleasure*, by Mrs. Stephen Batson; with 36 illustrations in colour by Osmond Pittman. Messrs. Methuen, 15s. net.

HARDY FLOWER BORDER.

SALVIA SCLAREA.

This species ranks among the best of the *Salvias* for planting in the hardy plant border. The leaves are particularly handsome, and are often 8 or 9 inches in length. The main stems are erect, strong, freely branched and somewhat viscid, bearing in whorls large pale blue and white flowers. Two bracts, very broad and long, are situated at each whorl, and are more or less rose-coloured, especially towards the apices; these bracts add much beauty and attractiveness to the plant. *Salvia Sclarea* is a perennial plant, but success is best assured by sowing a few seeds, which are freely produced, each summer. Plants thus raised will flower the following year, as in the case of a hardy biennial. This *Salvia* is popularly known as the "Clary," and is native of Southern Europe. The species, which is figured in the *Botanical Magazine*, t. 2,320, under the name *S. bracteata*, has been in cultivation in this country since 1820. *E. J. Allard.*

p. 173 Mr. Dean says: "Mr. Beckett won £30 10s., Mr. Gibson but £7, yet the distinction was but half a point." This rather shows that they did point the exhibit, as the £10 champion prize is included in the sum, and that, of course, was made by the six judges, thus seeming to prove how close was the pointing by the two sets of judges. *Inquirer.*

WINTER SEVERITY.—Although Sir Herbert Maxwell's statement, on page 204, under "*Hibiscus syriacus*," that our winter severity varies from east to west is more accurate than the general idea that it does so from north to south, it is of course not intended to be taken without any qualification. While it is true, on the whole, that the farther north one goes from the equator the colder it becomes, there are exceptions. As I pointed out in the opening instalment of the flower garden calendar for last year, the comparative mildness of our climate is due to the influence of the Gulf Stream; but, so far from that influence being general over the whole of our islands, it is at times surprisingly local. So much so, that this small county of Cornwall, though a western one, possesses two distinct climates. In the south and extreme west, broadly, from Looe to Penzance, the conditions are almost sub-tropical,

little of its warmth to north Cornwall, and, in consequence, we grow at Pencarrow very few species in the open which cannot be grown around London. Hydrangeas are, perhaps, a noteworthy exception, and these plants were half killed last winter. I met Mr. Cook, of Leonardslee Gardens at the last Truro spring show, and he astonished me by naming scores of things thriving out-of-doors so far east as Leonardslee which would not exist during one of our mildest winters here. Sir Herbert Maxwell mentions the west coast of Ross-shire. It would be interesting to know how far inland half-hardy subjects can be wintered. Last May Mr. Osgood Mackenzie read a paper at a meeting of the Royal Horticultural Society on "Gardening in the Western Highlands." Mention was made of many shrubs which flourish in his garden at Inverewe on the west coast. Although Inverewe is hundreds of miles north of Pencarrow, many of the species are impossible of culture in the open here. For example, *Tricuspidaria*, *Leptospermum*, *Metrosideros*, *Dicksonia antarctica* (this did not survive one of our mildest winters), *Acacia dealbata*, *Correa*, *Callistemons*, and *Mandevilla suaveolens*. Some of the Sikkim *Rhododendrons* manage to live here, but only when planted in the comparatively dry and well-drained rockery; they rarely flower,

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

THE NATIONAL CHRYSANTHEMUM SOCIETY'S SHOWS.—At last I note the committee of the N.C.S. have had under consideration the desirability of holding their shows in the R.H.S. Hall, Vincent Square. Some members of the N.C.S. appear to be so wedded to their ideas of schedule-making that they cannot budge an inch to adapt themselves to circumstances over which they seem to have little control. One thinks the committee (or some members of it) are the only persons who do not consider the R.H.S. Hall a suitable site. *E.*

VEGETABLES AT SHREWSBURY.—The note on this subject (p. 173) is interesting, as are all Mr. Dean's writings. He, however, does not seem to be satisfied with the existing arrangement of the so-called champion class at Shrewsbury, and pleads for an extension to 12 dishes. If my memory serves me right (I am now writing from memory) Mr. Dean was an advocate for the Shrewsbury class of 12 dishes as formerly arranged to be reduced to its present form of nine dishes. How would this arrangement suit Mr. Dean? Offer prizes for 10 dishes and exclude such sorts as Cauliflower, Celery, Leek, and Onion, for examples. This would provide an opportunity for the inclusion of such kinds as Marrow, Beet, Cucumber, and Turnip. Even Cabbage could then be included. I would also ask, is the point list as adopted by the Shrewsbury executive of 7 as a maximum the most satisfactory? Personally I do not think it is, and for this reason. A dish of Marrows when perfectly staged would obtain under this code as high a position in the competition as a dish of Carrots or Leeks. Now does any vegetable grower say they are as difficult to obtain? Surely such a method would be putting a premium upon easily-grown kinds to the prejudice of the really difficult kinds. Mr. Dean knows how difficult it is in some localities to obtain really fine Carrots, and how much labour is necessary to secure the best Leeks in August, and surely that which is the more difficult to produce should be recognised. Now I come to the question of the pointing of the two collections in question. On p. 154 in the *Gardeners' Chronicle* report of the show the total amount of points awarded to the winning collection was 61, presumably by the six judges appointed to award the champion prize. On p. 173 Mr. Dean says: "Mr. Beckett's exhibit excelled the other by half a point only." Now what do we understand in this? Did the first judges award Mr. Gibson's collection 60½ points? Did the six judges point Mr. Gibson's collection or not? If not, and I hardly think they would, being a 2nd prize award, it shows how near was the pointing by the two sets of judges. A little lower down on



[Photograph by E. J. Allard.]

FIG. 116.—*SALVIA SCLAREA*: FLOWERS BLUE AND WHITE.

gradually warming as the west is approached. Here, as the columns of the *Gardeners' Chronicle* have so often shown, anything over 6° Fahr. of frost is a noteworthy occurrence, and a surprising variety of Palms, shrubs, and plants grow luxuriantly in the open air, which at Kew have to be cultivated under glass. It is in this part of Cornwall that the Covent Garden supplies of early Broccoli are grown. Going across from Penzance to St. Ives, not more than a good walk, and along the opposite coast eastwards, quite a different class of vegetation is seen, and by the time one gets beyond Padstow the relative hardness of plants in the open nearly approximates the neighbourhood of London. And the reason for this is not so much the fact that we are going eastwards. The distance is trifling, and, as all garden lovers know, there are many gardens in Dorset, Hants, and Sussex a hundred or more miles east of this part of Cornwall, and farther north as well, which provide congenial homes for many of the usually tender subjects which are grown in the Cornish Riviera; but that that portion of the Gulf Stream which strikes against Land's End divides, and the northern half proceeding up St. George's Channel, yields but

and usually lose most of their leaves during the winter months. Altitude and, in a lesser degree, aspect have also important bearings on this question of winter severity. We are nearly 400 feet above the sea level, and have a north-west exposure, with the result that our spring crops are from a fortnight to three weeks later than those of the nearest part of the town of Wadebridge, which is only three miles distant by road, but lies almost level with the sea. *A. C. Bartlett, Fencarrow Gardens, Cornwall.*

GLADIOLUS.—A seedling has thrown up a flower this year in a manner which is somewhat unusual. The stem, which is quite ordinary and by no means fasciated, is surmounted by two perfect and fully-developed spikes of equal shape, dimensions, and vigour. The blooms are perfectly formed, and appear, as it were, at the four corners of a symmetrical pyramid. Small secondary spikes springing from lower portions of the stem are, of course, very frequently found, in some varieties invariably; but the double spike now described is, in the writer's experience, unprecedented. It will be interesting to see if the corm throws up a similar double spike next year. *P. F. F., Bristol.*

VEGETABLE POINTING AT EXHIBITIONS.—It is a noteworthy fact that whilst the pointing of various fruits in collections at shows rarely leads to controversy, the pointing of vegetables seems to cause dissatisfaction. When the Royal Horticultural Society published its code of judging rules several years since, a special effort was made to obtain the opinions of many experienced growers and exhibitors on the subject prior to its publication so far as vegetables are concerned. Looked at in the light of later experience, that code, so far as it relates to these products, seems not to be quite perfect, and it is with a desire to obtain some full and satisfactory expression of opinion on the subject I submit a revised scale of maximums for each kind of vegetable. This scale is presented in no dogmatic mood, but with a view to securing one that is more perfect, if possible. The basis of the code is chiefly difficulty of culture, and allied to this is the question of table value. Still I hold difficulty of culture must be the dominating factor in any such code. At Shrewsbury, as is now well known, the code is so simple that every kind of vegetable is pointed on the same basis, a maximum of 7 points. That does not give entire satisfaction, and a code based on gradation of maximum values, according to difficulty of culture or production, is probably most in favour. My proposed classification, therefore, is as follows:—*7 points maximum:* Asparagus, Carrots, Celery, Leeks, Onions, Peas, and Seakale; *6 points maximum:* French, Runner, and Long Pod Beans, Cauliflowers, Cucumbers, Potatoes, and Tomatoes; *5 points maximum:* Beets, White Cabbages, Marrows, Mushrooms, Turnips, and Parsnips; *4 points maximum:* Picked Brussels Sprouts, Coleworts, Savoy Cabbages, Lettuces, Mustard and Cress, Radishes, Shallots, Spinach, Chicory, and Endive—30 kinds. *A. Dean.*

TRAINED FRUIT TREES.—On p. 233 Mr. Pearson says: "I maintain that all trees which form fruiting spurs are admirably suited to horizontal training, and perhaps the advantages of this system are better seen with Plums than in the case of any other fruit." Are we to take Mr. Pearson seriously in his reference to Plums? If horizontal training is so advantageous to Plums, why are horizontally-trained espalier Plums so unsatisfactory from a fruiting point of view? I have never yet met a fruit tree grower in a nursery who recommended horizontally-trained Plum trees. I have never found horizontal training check the vigour of Plum trees; it has rather the opposite effect. Will Mr. Pearson say how horizontal training produces more fruit spurs than fan training? The greatest difficulty appears to be in restricting the growth of Plums. Cherries that are horizontally trained. I much prefer the fan training for all kinds of Cherries, and I have no fault to find with the fruiting of our fan-trained trees. As regards Graevenstein Apple, I have a very fine fruit this season. It is a delicious dessert Apple, but does not appear to be very fruitful. *T. H. Slade, Poltmore Park Gardens, Exeter.*

—Mr. Pearson does well to draw the attention of readers to the horizontal method of training Plum trees. He does not name the cordon or single-stem method of training Plums. In some gardens this is a common plan with trees both under glass and in the open, and the results are excellent. As Mr. Pearson says, it is difficult to manage young trees trained fan shape on any but a high wall, especially the vigorous-growing varieties like Belle de Louvain for example. This is especially true where there is a desire to cover the walls quickly irrespective of the shape of the tree, and where, consequently, the non-pruning method is so frequently adopted. *E. M.*

—Knowing what an experienced cultivator of fruits may do with his Plum trees, the paragraph in my account of a visit paid to Messrs. Hugh Low & Co.'s nursery is too sweeping in making use of the word "only" (see p. 211). I have learned that the horizontal form of training the main branches of Plum trees grown against walls is making progress in England, but not in Scotland; and I am sufficiently old-fashioned in my belief that the fan is the more appropriate form. The fruits of the Plum are not always produced on spurs, and I contend that the finest examples are obtained from the well-ripened portions of one-year-old

shoots and on those of two and three years old. The shoots, or rather branches, of the Plum become barren with age, or gumming sets in, and the gardener has no option but to remove them wholly or partially, training in young shoots in their places. This is not a difficult operation in fan-trained trees, but it is almost insurmountable in a horizontally-trained one, unless recourse be made to grafting or budding. Again, fan training makes the rejuvenation of an aged Plum tree an easy matter by the gradual removal of old shoots and branches, and substitution of young wood. A wall for Plum trees should measure not less than 10 feet in height, thus allowing for full extension of the main branches. If a tree makes an excessive quantity of rank shoots, the right method to check this exuberance is not by the use of the pruning knife, but by lifting and replanting at a lesser depth, and in the case of old trees by root-pruning by instalments, taking care to search for the tap roots, and severing these. Our nurserymen should make a trial, as a stock, of *Prunus maritima*, the sand or beach Plum of America. It might tend to prevent exuberant growth of any variety of Plum worked upon it. At any rate the purchaser of Plum trees would have a choice of stocks. The Cherry Plum, or Mirabelle of the French and Belgian nurserymen, would serve a similar purpose; and cuttings of the greenish-yellow fruited variety root readily in porous, damp soil. The yellow Mirabelle is an excellent compute fruit. *F. M.*

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

SEPTEMBER 29.—Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair), Dr. A. B. Rendle, Rev. W. Wilks, Messrs. G. Gordon, W. Hales, E. M. Holmes, H. T. Güssow, A. Worsley, W. Fawcett, G. S. Saunders, J. T. Bennett-Poë, J. W. Odell, and F. J. Chittenden (secretary), with Mr. G. Paul, V.M.H., visitor. *The late Mr. George Nicholson, V.M.H.*—The chairman referred in feeling terms to the great loss the Committee had sustained by the death of Mr. Geo. Nicholson, who had been for many years an active member of this Committee, and Mr. J. T. BENNETT-POË moved, and Mr. G. S. SAUNDERS seconded, a resolution tendering the sincere condolences of the Committee to Mr. Nicholson's relatives. The resolution was carried in silence, the members upstanding in their places.

Sporting in Retinospora.—Mr. G. PAUL, V.M.H., of Cheshunt, showed a specimen of *Retinospora squarrosa sulphurea* which was growing into the adult *Cupressus* form known as "plumosa," and which was still retaining the colour of "sulphurea." The adult form of this variety had not before appeared, though the variety alba had produced the plumosa type. *Retinospora* is the juvenile stage of *Cupressus*, and this being so it is interesting to note that *R. leptoclada* has produced fruit and seeds which germination gave rise to typical lepto-clada plants. The form known as *obtusica* compacta has also produced fertile seeds, but the seedlings have not yet reached a size large enough to judge of their precise character.

Virescent Gaillardia.—Mr. E. M. HOLMES, F.L.S., showed specimens of *Gaillardia* flowers virent. These were taken by Mr. SAUNDERS for further examination. Mr. HOLMES also showed galls on the stem of Willow caused by the dipterous gall fly, *Cecidomyia saliciperda*.

Proliferation in Pear.—Dr. A. B. RENDLE, M.A., showed a Pear from the top of which several leaves were pruning. The fruit had been formed from a late flower, and such proliferation is not uncommon.

Malformation in Streptocarpus.—Mr. ORELL showed flowers of *Streptocarpus* in which there were petaloid outgrowths external to the corolla, these outgrowths being reversed, i.e., the part coloured like the inner part of the corolla being turned outwards.

Doubling in Cardamine pratensis.—Mr. FRAZER, F.L.S., remarked upon the various forms of *Cardamine pratensis*, especially with regard to the doubling which results from axial proliferation, the calyx and corolla being repeated again

and again, and the flowers being therefore infertile. He showed a specimen of the double-flowered form of the variety *palustris* of that plant.

Galanthus Olga.—Mr. E. A. BOWLES, F.L.S., showed flowers and foliage of this autumn-flowering Snowdrop, which has been described as having no green spots on the inner perianth segments, but in this specimen they were well developed. The plants came from Mount Tagaytas, and had commenced to flower at Waltham early in September. The form differs from *G. Octobrensis* in having a rather longer flower and commencing to flower at an earlier period. They are probably both forms of *G. nivalis*.

Vegetative growths on inflorescence.—Mr. BOWLES also showed a well-developed vegetative growth from an inflorescence of *Kniphofia Northia* seedling. There were three such growths upon the inflorescence, and while all the rest of the inflorescence appeared dead, there was a green strip of living tissue up the stem leading to the vegetative growths.

Fasciation in Oxalis crenata.—From Messrs. BARR came a remarkable example of fasciation in *Oxalis crenata*, the stem measuring over 4 inches across. This is the first time a fasciated specimen of any species of *Oxalis* has come before the Committee.

Multigeneric hybrids.—Mr. BOWLES gave notice that at the next meeting the question of the nomenclature of multigeneric hybrids was to be raised.

WISLEY GARDENS.

SEPTEMBER 22.—A meeting of the Subcommittee of the Fruit and Vegetable Committee was held on the above date. The mid-season and late Potatoes and the Beet being grown for trial were examined, and it was resolved to recommend Awards of Merit to Potato 64, Devanha Seedling, from Messrs. W. SMITH, Aberdeen; Potato 84, British Champion, from Mr. G. CARTER, Cottenham, Cambridgeshire; Beet 36, Willow-leaved (for ornamental purposes), from Messrs. DOBBIE, Rothsay; Beet 37, Sutton's Blood Red, from Messrs. SUTTON, Reading; Beet 40, Sutton's Fine Apple, from Messrs. SUTTON, Reading.

A report to the above effect was laid before the full Committee at Vincent Square on September 29, together with samples of the produce. After due consideration and examination of the produce the Committee adopted the report and sent it up to the Council, who confirmed it on the same date. *S. T. Wright, Superintendent; W. Wilks, Secretary.*

FRANCO-BRITISH EXHIBITION.

HORTICULTURAL SHOW.

September 30, October 1, 2.

(Continued from p. 255).

A handsome group was displayed by Messrs. H. B. MAY & SONS, The Nurseries, Upper Edmonton. Codium formed the more conspicuous objects; there were finely-coloured plants of the varieties Reidii, Admiration, Queen Victoria, Mars, Duke of Buccleuch, Montfontainensis, Inimitable, and Prince of Wales. Amongst the Ferns *Polypodium Schneideri*, *Nephrolepis Amerpohlii*, *Asplenium maritimum*, *Adiantum peruvianum*, *A. Veitchii*, *Platycerium alcincore*, and *P. grande* were prominent. The whole was very effectively grouped.

MESSRS. PAUL & SON, The Old Nurseries, Cheshunt, N., made a beautiful show with bouquets, large and small, of Roses, mostly Teas and Hybrid Teas. We remarked Gottfried Keller, Mrs. W. J. Grant, Mrs. E. J. Hill (very prettily coloured in two shades of pink), Betty (a grand bloom of pale fawn and pink), Kaiserin Victoria, Mrs. Crawford, J. B. Clarke, and others. The Roses were intermixed with foliage of hardy shrubs, and bordered with a line of *Adiantum* Ferns.

MESSRS. W. WELLS & CO., Merstham, Surrey, made a central group with cut blooms of *Chrysanthemums* of various classes. Conspicuous varieties were Polly (an incurved Japanese), Cecil Wells, Wells' Pride (a red-orange and white variety), and Con also (a single-flowered variety), President Louber, and the fine sulphur-yellow variety, Capt. Julian. Blooms

of large-flowered Pentstemons and hardy Asters were interspersed in the group, which was backed with tall stands of large-flowered Japanese Chrysanthemums.

Messrs. G. BUNYARD & Co., Maidstone, had a long, narrow group of hardy cut flowers, consisting mostly of Asters, Tritomas, Rudbeckia purpurea, Gladiolus Coquet, Physalis Bunyardii is taller grower than P. Franchetii, Lilium auratum, &c.

Messrs. VILMORIN-ANDRIEU & Cie., 4, Quai de la Mégisserie, Paris, showed *Primula obconica* with large flowers, *Cyclamen grandiflorum* Papilio, in diverse colours, and *C. persicum grandiflorum* in variety. The *Primulas* formed the most interesting item.

Messrs. T. S. WARE, LTD., Feltham, made a show of moderate extent of single-flowering tuberous-rooting Begonias, many of the named blooms being very beautiful, as, for example, Countess of Dartmouth (pale flesh), King Edward VII. (crimson), and of great substance in the petal, Lady Dudley (old rose), and Countess Cadogan (reddish-orange).

Messrs. SUTTON & SONS, Reading, showed intermixed with their exhibits of Melons, Tomatos, Cucumbers, &c., a quantity of flowers and flowering plants of *Nemesia strumosa* in several choice colours, hybrids of *Gesnera splendens*, *Primula obconica grandiflora*, improved *Marguerite Carnations*, single-flowering tuberous-rooting Begonias, and hybrids of *Nicotiana affinis*.

Messrs. W. PAUL & SON, Waltham Cross, exhibited cut blooms of Tea and Hybrid Tea Roses, having choice blooms of Mme. Abel Chateau, Earl of Warwick, Mme. Leon Pain, Frau Karl Druschki, Caroline Testout, Pharisier, and others.

Mr. C. TURNER, Royal Nurseries, Slough, exhibited Dahlias of the Pompon, single-flowered, and Cactus varieties. The quality of the Pompon and florist's varieties was very superior.

Messrs. J. CHEAL & SONS, Crawley, Sussex, had a choice display of Cactus Dahlias.

Messrs. JAMES CARTER & Co., High Holborn, London, combined a floral display with an exhibit of roots, vegetables, and fruit. In the centre a kind of temple was erected, on the supporting rods of which bunches of Asters and Chrysanthemums were slung in tiers, and similarly on connecting wires and arches at the ends. *Physalis Franchetii*, *Lilies*, *Marguerite* and *Ice Carnations* found place amongst the vegetables.

Mr. S. MORTIMER, nurseryman, Rowlodge, Farnham, exhibited show and fancy Dahlias, as did likewise Messrs. KEYNES, WILLIAMS & Co., both contributing capital examples of these autumn flowers.

Mr. W. TRESSEDER, Cardiff, and Mr. SEALE, Sevenoaks, exhibited Dahlias in show and fancy varieties in very fine condition.

ORCHIDS.

Sir JEREMIAH COLMAN, Bart., Gattop Park, Surrey (gr. Mr. W. P. Bound), showed a group of plants, consisting of *Laelio-Cattleya Woodhamiana*, *L. C. tumida*, *Pachystoma Thompsonianum*, *Cattleya Wendlandiana*, *C. Iris*, the new *Sophro-Cattleya Mary* (a brilliantly-coloured bloom 2 inches in diameter), the delicately-coloured *Cattleya Mrs. Pitt*, the new *Bulbophyllum lemniscatoideus*, *Brassia Lawrenceana longissima*, *Miltonia vexillaria Leopoldii*, &c. As fossils to the richly-coloured *Orchids Nepenthes* were used in great variety.

Messrs. STANLEY & Co., Orchid nurserymen, Southgate, N., showed plants of *Cypripedium A. de Lairese* (a grand hybrid), *Odontoglossum grande*, *Cattleya labiata*, *C. elegans*, *C. Gaskelliana*, *Odontoglossum crispum*, *Pescatorei*, *Oncidium varicosum*, *C. bicolor*, *C. minucia*, and others.

MM. CH. MARON ET FILS, Orchid cultivators, Brunoy (Seine et Oise), showed large, beautifully-flowered plants of *Cattleya Maronii* a hybrid of *C. velutina* and *C. aurea*, *Laelio-Cattleya Hy. Greenwood*, *Cattleya Milano*, *C. callistoglossa*, *C. Pittiana*, and other species and hybrids.

FRUIT.

The fruit exhibits were of much interest, if only in showing how greatly the French excel in the matters of colour and general development, more especially in Pears, but also in Apples.

MM. CROUX ET FILS, Chateaux (Seine), exhibited a large assortment, the fruits being arranged on stout metal stands, bound with green velvet and set out about 2 feet apart. Of Pears there were *Burré Bachelier*, *B. Superfin*, *Marie Louise*, *Duchesse d'Angoulême*, *Burré Ballet Père*, *Passé Casanne*, *Président Villermoz*, *General Todleben*, *Burré Diel*, *B. Claircau*, *Doyenné d'Hiver*, *Burré Fourquet*, *Doyenné du Comice*, *Burré Sterckmans*, *B. Hardy*, *Souvenir du Congrès*, and *Chas. Ernest*. The foregoing were the largest Pears. Of Apples we may mention as being of large size *Bismark*, *Calville Rouge d'Hiver*, *Reinette de Canada*, *Belle d'Harcourt*, *Transparent de Courcelles*, *Jeanne Hardy*, *Reine des Reinettes*, *Calville Blanc*, *Calville Duquesne*, and *Alexander the Great*.

From the gardens of Le Comte AMÉDÉE, Pépinières, Louveguignes (Seine et Oise), came an extensive assortment of Pears and Apples, many of them of fine size and free from blemishes. The following Pears were unusually large: *Duchesse d'Angoulême*, *Sucrée de Montouluon*, *Belle de Bruxelles*, *Van Marum*, *Le Lectier*, *Charles Ernest*, *Burré Benoist*, *Mère Pierre*, *Doyenné du Comice*, *Burré Magnifique*. Of Apples we may instance *Pourpre Nationale*, *Reinette de Canada*, *Reine des Reinettes*, *Peasgood's Nonsuch*, and *Lane's Prince Albert*.

THE SOCIÉTÉ REGIONALE D'HORTICULTURE DE MONTREUIL AND BOIS sent combined exhibits. Pears and Apples were mostly of large size and high colour, and in some cases they were ornamented by means of stencils retarding the colouring. Apple *Grand Alexandre* was the largest fruit, the next in size being *Calville Blanc*, and *Reinette de Canada*. Many splendid Peaches were exhibited, but no names were attached to the fruits.

Mr. LÉONARD AINÉ, a Parisian amateur, showed magnificent Pears and Apples, many of the varieties being well known to British growers.

MM. MILLET ET FILS, Bourg-la-Reine, showed 14 boxes of Strawberries, consisting of perpetual fruiting varieties, some known in this country and others not known. Of these last we may mention *Mme. Bottero*, *La Productive*, *Piex*, *La Perle*, *Oregon*, *Four Seasons* (Millet), *Merveille de France*, *Odette*, &c. Numbers of Violets in bunches were also shown.

Mr. PIERRE PASSY, Desert de Reiz, near Chambéry (Seine et Oise), showed Pears of great size, including *Burré Claircau*, *Charles Ernest*, *Nouveau Poiveau*, *Burré Hardy*, *Doyenné du Comice*, *Burré d'Hardenpont*, and *Burré Diel*.

Messrs. T. RIVERS & SONS, Sawbridgeworth, Herts., made a great display of fruit trees in pots, vines in pots, and gathered fruits. The gathered fruit consisted of yellow, red, and black Plums, all fine and large samples. The Grape vines were loaded with fine bunches, and consisted of *Black Alicante* and *Golden Queen*. Cherries in bearing were of the variety *Gaigüe* de Winkler.

Messrs. W. PAUL & SON, nurserymen, Waltham Cross, exhibited gathered fruit of fine quality; also a large number of trees in pots heavily fruited, these consisting of Pears and Apples.

THE ROYAL HORTICULTURAL SOCIETY OF JERSEY showed very fine Pears and Apples. In high colour, general development, and freedom from blemish of every kind, the fruits were ahead of all other exhibits.

Messrs. VILMORIN-ANDRIEU & Cie., Paris, exhibited an extensive collection of Gourds, Squashes, Pumpkins, fruits of varieties of the Egg plant, Capsicums in great variety, Tomatos, Beans (yellow and green podded), Potatos, purple, white, and yellow Turnips, Radishes, Onions, Beet, &c.

VEGETABLES.

M. L. FERARD, horticultural seedsman, Paris, exhibited a large number of varieties of Peppers (Capsicums) in the ripe and unripe state; likewise Potatos and Tomatos in variety.

Mr. Ben. Ashton, gardener to the Earl of LATHOM, Lathom House, Ormskirk, exhibited a collection of clean-skinned Potatos. There were purple, white, and pink skinned varieties, chiefly of the kidney shape.

Mr. G. MASSY, Spalding, had a large exhibit of named varieties of Potatos, and more than 100 unnamed seedlings.

THE SYNDICATE DES MARAÎCHERS DE LA SEINE exhibited a large assortment of market kinds of vegetables, salads, such as Chicory, Lettuces of the Cabbage section, Dandelion (mossy-leaved), Endive, Ciboules (Chiboules of the Scotch), brown (small) and red (large) Chives, Chervil, gigantic Cauliflowers, Celery, Celeric tubers, and Cardoons.

MM. CAUVES ET LE CLERC, successors to E. Fourquet, 8, Quai Mégisserie, Paris, showed Potatos in about 100 varieties both French and English.

Mr. GOODACRE, Elvaston Castle Gardens, Derby, showed splendid Apples, Pears, Peaches, Nectarines, Plums, and black and white Grapes.

An enormous display of Potatos was made by Messrs. SUTTON & SONS, Reading. The produce, in about equal proportions, was of the 1907 and 1908 crops.

Messrs. DOBBIE & Co., Rothsay, showed about 40 varieties of Potatos of exceptional quality.

NATIONAL CHRYSANTHEMUM.

EARLY AUTUMN EXHIBITION.

OCTOBER 7, 8.—The first of this Society's exhibitions for 1903 took place on these dates at the Crystal Palace, Sydenham. Although this early show is not of the importance as are the later ones, there was a brilliant display of blooms, principally of the decorative or border type, and competition was as keen, and probably keener than at any similar show held in October. The blooms generally were especially bright in colour, and they gave promise of a good Chrysanthemum year. There were many new varieties submitted for award, and of these the Committee selected eight as worthy of a Certificate of Merit. It was unfortunate that in an important class all the best exhibits had to be disqualified for not conforming to the schedule. This, however, was not the only instance in which the rules were not strictly adhered to.

CLASSES OPEN TO ALL EXHIBITORS.

The first class in the schedule called for a floral display of Chrysanthemums, including potted and cut blooms, relieved with suitable foliage plants, occupying an area of 14 feet by 7 feet. There were two competitors, the 1st prize being won by Mr. F. BRAZIER, Nurseryman, Caterham Valley, with a bright group arranged in semi-circular form, and containing in Bamboo epergnes many decorative, and a few large Japanese blooms. Especially pleasing were *Goacher's Crimson*, *Wells' Scarlet*, *Polly* (bronze), *Diana*, and *Tapis de Neige* (white).

CUT BLOOMS.

In the class for 24 blooms of Japanese Chrysanthemums in eight varieties, arranged in vases, three blooms in each vase, we could only find one exhibit. This was shown by F. A. BEVAN, Esq., Trent Park, New Barnet (gr. Mr. H. Parr). The exhibit contained many creditable flowers, including Mrs. A. T. Miller (one bloom being especially fine), *Valerie Greenham* (pink), *Lady Henderson* (bronze), *Mrs. E. Mileham* (here again one bloom was much superior to the other two), *Miss P. Chittenden* (a weak vase), *Mrs. R. Hooper Pearson*, *Sapho* (small), and *Formality* (a very choice white kind). The exhibit was awarded the 1st prize.

In the class for 12 blooms of Japanese varieties shown on boards there were three contestants. Some good flowers were seen, especially in the dozen shown by Mr. MARTIN SILSBURY, Shanklin, Isle of Wight, who won the 1st prize. The stand was the more noteworthy in that it included many new varieties of Mr. SILSBURY's raising, one being awarded a Certificate of Merit. He showed *Shanklin* (a new bluish variety), *Glory* (a large yellow seedling), *Valerie Greenham*, *Mrs. G. F. Coster*, *Mrs. L. Thorn* (an incurved yellow Japanese), *Algernon Davies*, *Mrs. A. T. Miller*, *Bessie Godfrey*, and several other seedling varieties of yellow colour. 2nd, Mr. JEREMIAH LYON, Riddings Court, Caterham Valley (gr. Mr. G. Halsey), whose stand contained *Gustave Leroy* (white), *Joseph Stoner* (a fine red bloom with paler reverse), *Mrs. Geo. Mileham*, *Bessie Godfrey*, and others.

3rd, F. A. BEVAN, Esq., Trent Park, New Barnet (gr. Mr. H. Parry).

In the smaller class for six blooms of Japanese varieties of distinct kinds there were four exhibitors, the premier one being shown by T. L. BOYD, Esq., North Finch, Tonbridge. He exhibited six good blooms, the varieties being Mrs. A. T. Miller (a grand flower of this excellent white variety), Marquis V. Venosta, Mrs. George Mileham, Mrs. W. KNOX (good generally, in the various exhibits), J. H. Silsbury, and Mrs. R. Felton. 2nd, Mrs. W. FORD, Parkside, Ravenscourt Park, London, W., his best example being a bloom of the white Mrs. A. T. Miller. Lady Henderson (deep yellow) and Godfrey's Pride were also shown well. 3rd, Miss LANGWORTHY, Gray's House, Holyport (gr. Mr. T. J. Brown).

The best vase of three Japanese blooms of a yellow variety was shown by Mr. G. HALSEY, Caterham, the variety being Mrs. W. Knox, six out of the seven exhibits being of this kind, the other was Bessie Godfrey.

Mrs. A. T. Miller was considered the best in the class for three blooms of a white Japanese variety. It was shown by four competitors out of six, Mr. H. CARR, Barnet, having the best vase. Other varieties exhibited were Beatrice May and Miss A. Byron.

In the similar class for three blooms of a variety other than white or yellow, Mr. A. HORTON, Tonbridge, won with the variety Mrs. G. Mileham.

The best two vases of large flowering varieties, each vase containing nine blooms arranged with suitable decorative foliage, were shown by Mrs. JEREMIAH LYON (gr. Mr. George Halsey). The flowers were arranged with Adiantum Fern, variegated Abutilon foliage, Asparagus Sprengerii and Codium (Crotons). Notable varieties were Joseph Stoney (a rich red colour), Mrs. Geo. Mileham (rose), Mrs. W. Knox (yellow), Bessie Godfrey (yellow), Gustave Henry (white), Mafeking Hero (reddish), and Algeron Davies (a rich yellow shade). 2nd, Mrs. FORD (gr. Mr. F. Blackith).

DECORATIVE AND POMPON VARIETIES.

Mr. JOHN SMELLIE, Pansy Gardens, Busby, near Glasgow, won the 1st prize with no competition in the class for 12 bunches of early-flowering Pompon varieties in not fewer than eight sorts. He had Pieris's Seedling (bronze), Flora (yellow), Scarlet Gem, Blushing Bride (pink), Fred Peale (red), Carrie (a small but shapely flower of yellow colour), Mrs. Selby (pink), Alice Butcher, Filberta (bright yellow), &c.

In the class for twelve bunches of distinct varieties grown in the open and not disbudded occurred the disqualification already referred to. The schedule stipulated that the bunches should not exceed 18 inches in diameter, but all the best exhibits measured considerably more than that breadth and in consequence the 1st prize went to Mr. A. HAWKINS, Gordon Road, Ealing, who had Harrie (bronze), Tuckswold Early, Lillie (pink), Horace Martin (yellow), Goacher's Crimson, Polly (bronz-yellow), Roi de Blanc, &c. 2nd, F. A. BEVAN, Esq. (gr. Mr. A. Parry).

Mr. JOHN SMELLIE, Busby, had the finest flowers, having Elstob Yellow, Gates (a pink), White Massie, Champ d'Or (rich yellow), Roi de Blanc, and others in excellent condition. Mr. GEORGE BOWNESS, another Busby grower, was also disqualified with a choice set, and these two growers were not the only exhibitors whose exhibits were passed over by the judges.

Mr. HAWKINS won the 1st prize in the class for twelve bunches of similar flowers disbudded, having no competitor. He showed Lillie (pink), Bronze Masse, Roi de Blanc, Agnes, Marie Masse (pink), Le Cygne (white), Goacher's Crimson, Nina Blick and Yellow Mme. Desgrange.

In the amateurs' classes the principal prize winners were Mr. A. W. TROSSELL, Beckenham; Mr. A. HOGGAN, Busby; Mr. W. H. CHALK, Slough, and Mr. D. B. CRANE, Highgate.

Competition was keen in the decorative classes, tables arranged with Chrysanthemums being very numerous. There were eleven exhibits in the open class for a decorated table, the best being adjudged that shown by Mr. Stevens (gr. to W. H. STONE, Esq., Laurie Park, Sydenham). Mr. Stevens utilised small

blooms of yellow and red varieties interspersed with grasses, Kochia scoparia, Asparagus, &c. Mr. A. W. TROSSELL, Beckenham, was placed 1st in the amateurs' class for a decorated table in competition with four other exhibitors. Miss C. B. COUS, Feltham, excelled in the classes for a hand basket of Chrysanthemums arranged with ornamental foliage, and for a hand basket of berries and autumn foliage, but few persons would care to carry such large baskets as this lady utilised.

CERTIFICATES OF MERIT.

The following new varieties received the Society's Certificate of Merit.

Master James.—A big Reflexed Japanese variety of rosy-chestnut colour with a golden reverse. Shown by Mr. H. PERKINS.

Mrs. J. Kempley.—A small Japanese variety of old rose colour.

Kathleen Lambrick.—Of the same type as the last-named variety, but with blush-pink flowers. (These two were shown by Mr. W. SEWARD).

Shanklin.—A large Japanese bloom, with broad, bluish-white florets. Shown by Mr. SILSBURY.

Nellie Riding.—A single variety of terra cotta colour.

Fee Parisienii.—A pink decorative variety.

Province.—Also a decorative variety of a pleasing salmon-pink shade with a golden centre. The plant is bushy in habit and free in flowering, making it a desirable border plant.

October Gold.—A variety of the Source d'Or type, a shade of old gold. (The last four varieties were from Messrs. W. WELLS & CO., Merstham.)

NON-COMPETITIVE EXHIBITS.

Gold Medals were awarded to Messrs. HOBBS, LTD., Dereham; Mr. NORMAN DAVIES, Framfield; Messrs. W. WELLS & CO., Merstham; and Messrs. T. S. WARE, LTD., Feltham.

Silver-Gilt Medals to Messrs. S. SPOONER & SONS, Hounslow; Mr. H. J. JONES, Hither Green; and Messrs. J. CHEAL & SONS, Crawley.

Large Silver Medals to Mr. T. BRAZIER, Caterham; Messrs. J. LAING & SONS, Forest Hill; Mr. PHILIP LADDS, Swanley Junction; Mr. G. W. RIELEY, Herne Hill; Mr. J. WILLIAMS, Ealing; and Messrs. J. PEEB & SONS, Norwood.

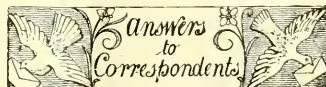
LAW NOTE.

FLOWER SHOW PROSECUTION.

AT Ashbourne (Derbyshire) Petty Sessions, on October 1, a cottage gardener was summoned by the Thorpe and Dove Dale Horticultural Society for attempting to obtain, by alleged false pretences, two sums of three shillings each on the occasion of the annual show held at Thorpe on August 19 last. Mr. Gordon Fraser, hon. sec. to the Society, said the defendant was awarded a first prize for a collection of fruit, which consisted of Apples, Pears, Plums, &c., but the money was withheld in consequence of certain information which reached the committee. A visit was paid to defendant's garden, and no Pear tree could be seen there, while the other fruit trees did not correspond with the exhibits. Smith admitted that he had obtained the Pears from a neighbour, but claimed that he had grown all the other specimens. Mr. Fraser advised that the Society, which had recently been revived, after some years' cessation, had lost a number of subscribers owing to a practice which had prevailed of persons sending in as their own produce exhibits, which had been obtained elsewhere. The officials had issued a warning that such exhibits would be forfeited, and that "further proceedings might be taken." Witness submitted a copy of the preliminary schedule, showing the rules, one of which was that all exhibits must have been on the premises and in the possession of the intending exhibitor at least three weeks before the date of the show. The chairman of the Bench said the rule was faulty, and while the Society had done well to bring the case before the court, there could be no conviction. The rule should have made it plain that the exhibit was the bona-fide produce of the exhibitor. The summonses were dismissed, Mr. Fraser stating that the rules would be altered as suggested.

ENQUIRIES AND REPLIES.

PRESERVING WALNUTS (see pp. 224, 240).—The method adopted here for preserving Walnuts and Filberts is to dig holes in the open ground, into which are sunk Sealake pots up to the rims. A piece of slate is laid at the bottom to prevent worms from working in. The nuts are put into the pots, and the lids kept on securely. In these circumstances they will remain in a fresh and firm condition for several months. The Walnut trees here, which are full-sized and 11 in number, are carrying full crops—the first time for four years, owing to late spring frosts in previous seasons. W. Lavender.



BLACK SPOT DISEASE OF TOMATOS: H. F. B. You will find an illustration of Tomatos affected with this disease in the *Calendar of Garden Operations*, a small work issued by our publishing department for 7d., post free. In the text it is recommended to spray the plants at frequent intervals with potassium sulphide (liver of sulphur) in the proportion of one ounce to two and a half gallons of water. Green stable manure and anything else likely to cause cracking in the fruits should be avoided in the soil. Use manure water freely. The disease is found on plants at all seasons.

CELERY DISEASED: A. B. and H. F. The plants are attacked with a disease known as Puccinia apii. Remove the diseased leaves and burn them. Spray the plants with dilute Bordeaux Mixture.

CHRYSANTHEMUM: S. B. The brown spots on the leaves are caused by a pernicious mould, Botrytis cinerea. It is advisable to burn all infected leaves at once, or the plants if they are badly affected. Spraying with Bordeaux Mixture may assist you, but the mould is dangerous, as it attacks many other plants.

COLCHICUM AUTUMNALE ALBUM: B. L. This is merely an albino form of the type. Colchicum autumnale is a native of this country, and in some parts of Europe it occurs with such freedom as to give the fields a pink hue. The plant is quite hardy and easy of cultivation. It forms a pleasing subject for the wild or rock-garden.

CRESS AND RADISH CULTIVATED UNDER GLASS: H. J. G. Your system appears to be correct. It would be a little wasteful, but the hot water pipes, especially at night-time. The Cress should be ready for cutting in a few days, and the Radishes may be pulled in about three to five weeks from seed sowing. It will be necessary to provide for a succession by sowing a portion only at one time. You might rotate the two crops. Why address the publisher on such a matter?

CYCLAMEN INJURED: A. K. The grubs attacking the roots of your Cyclamen are either those of the "black vine weevil" (*Oryctolynchus sativus*) or the "clay-coloured weevil" (*O. picipes*). The best method of destroying them is to pick them out from among the roots, or you can kill them by making four holes in each pot, about 3 inches deep and half an inch in diameter, and placing a little vaporite at the bottom of each hole, filling up the hole again with soil. The females laid their eggs in the soil, but the little grubs at first did not cause any noticeable injury; the weevils only feed at night-time, and carefully hid themselves during the day. If you find the leaves of your plants are eaten by some insects which you cannot detect, spread a white cloth under the pots, and when it is dark flash a bright light upon the plants, when you will probably trap weevils. The caterpillars attacking your Roses are those of the "bufftip moth" (*Phalera bucephala*). Hand-picking is the best remedy for this pest.

DESSERT APPLES: *Pomona*. Of the varieties in your list we consider the best three to be Cox's Orange Pippin, Ribston Pippin, and Allington Pippin. King of the Pippins is not comparable with these, and Blenheim Pippin is rather too large unless small fruits are specially selected.

EMPLOYMENT AT KEW GARDENS: A. H. You should apply to the curator for a form of entry.

FUNGUS: B. H. B. The specimen received is Geaster Michelianus. The Geasters are known as "Earth stars" and their structure is exceedingly interesting. We illustrate the species at fig. 117.

GRAPES: Miss Pike. The condition of the Grapes received is due to the vines receiving some check before the berries were sufficiently ripe to be sweet. The withering of the stalks appears to indicate the first stage of shanking; but at present there is no indication of shanking in the fruits themselves. Without knowing anything of the nature of the border or structure in which the vines have been cultivated, we can only surmise that the draining of the border, or the nature of its composition, leaves something to be desired. It will probably be found that some of the main roots have got into soil which is not included in the actual border, and may therefore contain stagnant moisture, or in various ways be unsuitable for the vines.—A. L. Dublin. The



FIG. 117.—GEASTER MICHELIANUS, THE EARTH STAR FUNGUS.

berries arrived in too pulpy a condition for a correct opinion as to their failure. There was no fungus disease present. We think your opinion as to relaying the vine an excellent one, or you might cut it back and train in new rods.—H. W. Kindly state again the substance of your first letter, as some time has elapsed since you wrote. Correspondents are expected to give their name and address, not necessarily for publication, but as a guarantee of good faith.—J. H. B. The berries are not diseased, but present the condition known amongst gardeners as "foxy." This is due to some cultural error; vines that are constitutionally weak through lack of proper treatment always fail to perfect their fruits. Endeavour to train in some new rods and see that these are not overcropped when young. Attend to the border if necessary, and be careful in the matter of ventilation, which should be ample.

MARECHAL NIEL ROSE: J. Bott. It is the stem which is usually attacked by canker, but not necessarily the point of union of stock and

scion. If the bark is caused to crack it provides a nidus for the fungus. Your treatment may have good results if adopted as a preventive, but time will show.

MUSHROOM: P. L. H. The specimen received is the Horse Mushroom, Agaricus arvensis, an edible species, but one rather strong in flavour.

NAMES OF FRUITS: J. C., Swansea. 1, Muscat Hamburg; 2, Buckland Sweetwater; 3, Lady Downe's; 4, Madresfield Court.—E. A. M. Dutch Codlin.—W. Brooks. 1, Alfriston; 2, not recognised; 3, Reinette de Canada.—A. H. 1, a splendid specimen of Tower of Glamis; 2, Blenheim Pippin; 3, Gravenstein.—J. Simpson. Please send again, and number the fruits by sticking a little stamp waste on each.—Bradshaw. 1, Lane's Prince Albert; 2, Dumelow's Seedling; 3, Golden Noble; 4, Tower of Glamis; 5, Gascoyne's Scarlet Seedling; 6, Newton Wonder; 7, Dumelow's Seedling; 8, Grenadier; 9, King of the Pippins; 10, Blenheim Pippin; 11, Cornish Aromatic; 12, Ribston Pippin; 13, Cox's Orange Pippin; 14, Duke of Devonshire; 15, Souvenir du Congrès. You have transgressed the rule by sending more than six varieties at one time.—Chapman. 1, Stirling Castle; 2, White Westling; 3, decayed; 4, Lord Lennox; 5, Potts's Seedling; 6, decayed; 7, New Hawthornden; 8, Cox's Orange Pippin; 9, Emily Childs; 10, not recognised; 11, Dutch Mignonne (Reinette de Caux); 12, not recognised. You should have sent only six varieties at one time.—Enquirer. 1, 2, 3, Cox's Pomona; 4, Hornead Pearmain; 5, King of the Pippins; 6, Alfriston.—E. O. 1, Duchesse d'Angoulême; 2, Beurré Hardy.—E. H. L. 1, Cox's Orange Pippin; 2, Newton Wonder; 3, Beurré Clairgeau.—Nish. 1, Lane's Prince Albert; 2 and 3, Annie Elizabeth. Pears: 1, Beurré d'Amans; 2, Gratioli de Jersey; 3, Comte de Lamy.—Aldersay. A very beautiful Apple which we do not recognise. It resembles Gascoyne's Scarlet Seedling. Send six fruits to the Fruit Committee of the Royal Horticultural Society.—J. Guy. The damage is done by the maggot of the Pear midge.—H. C. H. W. 1, Beurré d'Amans; 2, Docteur Pigeon; 3, too small to recognise; 4, Passe Colmar; 5, Nouveau Poiteau; 6, Castle Major.—G. Nettram. 1, Deans' Codlin; 2, Malster; 3, Ecklinville Seedling; 4, Old English Codlin; 5, Dumelow's Seedling; 6, fruit decayed.—W. S. 1, Vicar of Winkfield; 2, Chaumontelle; 3, Cox's Pomona; 4, Waltham Abbey Seedling.—J. Merrick. 1, Harvey's Wiltshire Deliance; 2, Cullen; 3, the Plum had decayed.—J. H. The Plums had decayed. 1, Waltham Abbey Seedling; 2, Ribston Pippin; 3, please send a better fruit of this variety.—T. or John T. 1, Prince Bismarck; 2, Grenadier; 3, Duchess's Favourite; 4, Lady Sudeley; 5, Summer Strawberry; 6, Colmar d'Été.—A. Reader. 1 and 2, overripe; 3, Beurré Clairgeau; 4, Duchess's Favourite; 5, Calville Rouge Précoce; 6, Allington Pippin.—T. J. 1, Lodgemore Nonpareil; 2, Cox's Pomona; 3, Old Hawthornden; 4, Ribston Pippin; 5, London Pippin; 6, Cox's Orange Pippin.—T. W. B. 1, Washington; 2, Herefordshire Pearmain; 3, Pear Beurré d'Amans; 4, Pear Léon le Clerc de Laval. Also a very good Grape which we cannot recognise. Please send a bunch to the Royal Horticultural Society's Fruit and Vegetable Committee.—H. W. Gravenstein.—Ponica. Thanks for your contribution of 1s. for the R. G. O. Fund box. 1, Cellini; 2, Lord Lennox.—C. T. S. 1, Worcester Pearmain; 2, Alfriston; 3, not recognised; 4, Adams's Pearmain; 5, King of the Pippins; 6, Court-pend-plat; 7, Reinette de Caux; 8, Beurré Superfin; 9, Beauty of Kent; 10, Sturmer Pippin; 11, Melon Apple.—T. H. B. 1, Belle de Boskoop; 2 and 3, Allington Pippin; 4, Bow Hill Pippin; 5, Rosemary Russet; 6, Beurré d'Hiver; 7, decayed; 8, Hollandbury.—W. D. S. Ribston Pippin.

NAMES OF PLANTS: Staffs. 1, Begonia fuchsioide rosea; 2, Probably Bambusa Fortunei.—F. Lurani. 1, Opibopogon (syn. Liriope) intermedius; 2, Polygonum equisetiforme.—H. R. IV. We do not undertake to name varieties of Carnations.—T. T. 1, Calanthe veratrifolia; 2, Hammaria discolor; 3, Goodyera repens; 4, Cochlioda rosea; 5, Dendrobium moniliforme.—Hillfield. Griffinia hyacinthina. We

do not know to what you refer as Epidendrum chlorochilum. It may be Epidendrum atropurpureum, commonly called Epidendrum macrochilum. If this is the case the Odontoglossum house is scarcely warm enough to flower it successfully. Put the plants in Orchid baskets and suspend them in an intermediate house. Keep them quite dry for six weeks or so after the pseudo-bulbs are fully made up.—Rex. Rhamnus catharticus—Buckthorn.—E. H. 1, Aster cordifolius; 2, A. nova-belgii; 3, A. viminea; 4, Helianthus species; 5, Rudbeckia nitida; 6, Helium pamilum.

PEARS: Prunus, J. B., and X. Y. Z. In each case the fruit is affected with the fungus known as Fusicladium pirinum, which is illustrated at fig. 118. Spray the trees with dilute Bordeaux Mixture when the buds are beginning to open, repeating the operation when the petals are falling from the flowers, and again when the young fruits have attained to the size of Peas. It is also advisable to spray the trees in winter with a solution of sulphate of iron.—B. Day. Lord Lennox is a small dessert fruit, in season until January. Old English Codlin is the same as English Codlin, and is one of the oldest English cooking Apples. It is in season from August until October. Both varieties are described in the *Fruit Manual* (Hogg). Peter Smith is a small dessert fruit, with yellow skin, and possessing but third-rate quality. It is mentioned in the *R.H.S. Report of the Apple Congress* held in the Old Chiswick Gardens in October, 1883.



FIG. 118.—FUSICLADIUM PIRINUM ON PEAR.

ROOT-APHIS: L. C. R. Mr. Robert Newstead, in his *Monograph of the Coccidae of the British Isles*, p. 64, recommends that growing plants attacked with this insect should be removed from the pots, and the exposed roots and soil be sprayed with carbon bisulphide (CS₂), using a small glass spraying apparatus. Scald the pot and have it in readiness for replacing immediately after spraying. This will not kill the eggs, therefore the process must be repeated. Keep the plants shaded from sunshine for a week after treatment.

ROSE TRADE: Frau Kari. You should write to one of the trade papers. Perhaps the editor of *Horticultural Advertiser*, Lowham, Notts., may be able to oblige you.

SWANS: A. K. We cannot tell you where you may purchase these. Insert an advertisement, or write to the superintendents of the larger public parks.

WEEVILS: D. L. See reply to A. K. under the heading *Cyclamen Injured*.

COMMUNICATIONS RECEIVED.—Amateur—G. S.—C. H. P.—Geo. Figgis—A. MacKellar—F. M. N.—M. Buysman—M. L. L.—W. Collins—E. G. B.—J. E. P. & Sons—J. G.—F. C. H. Erlurt—H. E. McGowan, New Zealand.—Le Jardin.—J. Donoghue—J. M. & Sons—S. F. W.—T. L.—J. C. H. E.—A. C. C.—M. W. H. M.—T. C.—J. L.—J. M. M.—An Old Market Gardener—A. D.—J. R. J.—J. W.—C. R.—F. J.—T. C.—W. E.—F. E.—P. A.—G. W.—F. N.—G. A. G., New Zealand.—G. B.—Rev. W. C. F.—R. C. A.—B. D. N. L.—L. M.—T. N.—A. B. H. W.—J. T. H.—Prunus—Miss H.—J. B.—W. P.—H. T. PHOTOGRAPHS RECEIVED.—E. M.—H. B.—Mrs. E. J. C.—W. A. C.—W. I.



A GROUP OF FINE FOLIAGE PLANTS AS ARRANGED FOR EXHIBITION.



THE Gardeners' Chronicle

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JAPANESE MAPLES.

MANY species of *Acer* are indigenous to Japan, but the term Japanese Maple is ordinarily applied in gardens to *Acer palmatum* and *A. japonicum* together with their respective varieties. The former of these was introduced to this country, according to Loudon, in 1820, and the latter some 40 years or so later, but large plants of either species are comparatively scarce, while really large specimens of the numerous varieties are very rare. These Maples are perfectly hardy, not fastidious as to soil and situation, provided the latter is not too shaded, and are amongst the most ornamental of deciduous shrubs that can be grown outdoors in the country; their comparative neglect, therefore, seems to be somewhat surprising. In point of hardiness the Japanese Maples are equal to the Laurel; they are liable to be cut by late spring frosts, but they quickly recover from its effects. They exhibit a wonderful diversity of form of leafage, some of the leaves displaying a colouring as brilliant as showy flowers. The tints range from tender green or pale-yellow to glowing crimson, through every shade of rose and red. Until the last few years, even small plants of these Maples have commanded high prices, but in many instances they have realised sums far beyond their actual

worth, and this has probably been the cause of their being neglected by ordinary growers. Nowadays many seedlings are raised from seeds saved from large plants of various forms, and though this has tended somewhat to the multiplication of names through slight variations, the plants so raised have been more quickly grown, and, therefore, sold cheaper than the grafted or inarched plants that are imported from Japan. Seedlings of some of the varieties come fairly true to name; they show very little tendency to revert to the type; some are worthless, but many have more highly-coloured or deeper-cut leaves than the parent. Some of these seedlings have received names, though very little different from forms already in existence. A selection of Japanese Maples that can be recommended to the ordinary planter is found in those following:—

ACER PALMATUM.—This is the type species from Japan, and is to a certain extent variable in character, the differences being found mostly in the size and shape of the leaves, though there are also varying shades of green amongst them. The leaves are about 3 inches long, five-lobed, each lobe being cleft nearly to the base, and serrated along its margin. The foliage is of a yellowish-green tint in the spring, but this gradually changes to a bright grass-green hue, which continues until the autumn, when the leaves turn to a bright purple-red colour. The tree is of a spreading habit, and attains to a height of 20 feet to 25 feet by as much, or even more in diameter. The shoots are slender and twiggy, and the foliage is produced in such quantities as to entirely hide the branches.

The varieties of *A. palmatum* are divided into three groups, viz., the *palmatum* group, with five-pointed leaves; the *septemlobum* group, with seven-pointed leaves; and the *dissectum* group, with five to seven-lobed leaves, having many secondary sub-divisions. These distinctions are, to a certain extent, arbitrary, as the different groups, especially the first two, merge into each other; but the groups serve as a convenient guide.

THE PALMATUM GROUP.

A. palmatum var. *atropurpureum* and *A. p. sanguineum* are two forms that may be classed together, for in general appearance they are much alike. The leaves are 3 to 4 inches in length, five-lobed, with deeply-serrated edges, and of a bright ruby-red colour, which is very brilliant from the first unfolding of the leaves until the end of June, when it passes to a duller greenish-red. The secondary growth that usually—though not always—appears during July and August is of a brilliant crimson colour, glowing like fire in the sun. The young shoots of *A. p. var. sanguineum* are of a bright red colour, and the undersides of the leaves are green, and these characteristics constitute the chief difference between the two forms. In these nurseries is a plant of this variety about 15 feet high, with a diameter of 20 feet; there are also several others, but they are rather smaller.

A. p. var. ampelopsifolium.—This much resembles the preceding variety in colour, but the shoots are arching instead of erect, and it is not so vigorous in habit.

A. p. var. linearilobum.—In this form the three to five narrow strap-shaped leaflets are divided to the base, and are each about 1½ inches long, of a dark green colour when mature, but having a rosy-pink tint in spring. The plant is a slow grower, with a not too robust habit.

A. p. var. roseo-marginatum (syn. *roseo-tricolor*).—This is a weak-growing plant, rarely seen to perfection, though very pretty when it succeeds. The leaves are about an inch long, are prettily marked with white, and have rosy-coloured edges. It is rather more tender than the majority of these Maples, and requires planting in a position where it will be sheltered from cold winds. Specimens in pots are very useful for conservatory decoration, for which purpose it is perhaps better adapted than for planting out-of-doors.

THE SEPTEMLOBUM GROUP.

A. p. var. septemlobum.—The typical plant of this form has seven-lobed leaves, 4 inches or thereabouts in length, and of a dark green tint when mature. In the spring the foliage is of a rosy-red colour, but this gradually turns green, until, in the autumn, it assumes a brilliant vermilion-crimson tint, having occasional patches of orange yellow. The bark is red, and the petioles are bright red. There are other forms of this plant which have not received distinctive names: they differ chiefly in the size and the shape of leaf, and the colour of the shoots. One has purple-coloured twigs covered with a glaucous bloom. All are of vigorous habit, and for autumn colour effect are the best of the race.

A. p. var. sep. atropurpureum.—The leaves of this are rather smaller than those of the preceding variety. They are of a purplish-crimson hue in the summer-time, changing to nearly black, with green mid-ribs, in the autumn. It is a fairly robust grower, and forms a handsome plant.

A. p. var. sep. elegans.—This is a distinct and pretty form, of vigorous habit, with large, seven-lobed leaves, 4 inches to 5 inches long, and of a pleasing grass-green colour. The lobes are deeply serrated on both edges; the petioles have a reddish tinge. In the autumn the leaves assume a mingled yellow and red colour.

A. p. var. sep. elegans purpureum.—This resembles the last-mentioned variety in size and shape of leaf, but it differs in the colouring, which is a deep purple throughout the summer months, changing to a greenish-black tint with age.

THE DISSECTUM GROUP.

A. p. var. dissectum.—In this plant the leaves are divided into five to seven leaflets, each of which is sub-divided until it somewhat resembles a Fern frond. The branches are long and slender, usually pendulous, but occasionally horizontal, rendering the plant a suitable subject for cultivating as a low standard, under which form of training it is seen to the best advantage. The foliage and young wood are of a bright red colour in the spring, and they change to a soft pleasing green as they mature.

A. p. var. dissectum ornatum.—The leaves of this form are rather more finely divided than those of the typical *dissectum*: they are of a crimson colour in spring, changing to a bronzy-red shade later.

A. p. var. palmatifidum and *A. p. var. decompositum* both resemble the variety *dissectum* in the form and size of the leaf, also the habit of growth, but they differ in the spring and autumn colouring.

ACER JAPONICUM.

A. japonicum.—This is a species attaining to a height of about 20 feet in its native habitat, but only about half that height in this country. The fan-shaped leaves are palmately divided into

from 10 to 12 short lobes, and are of a deep green colour during the summer months, changing to a brilliant crimson and amber colour in the autumn. For autumnal colour effect this plant is one of the best of these Maples.

A. J. VAR. AUREUM.—The leaves of this form resemble those of the type in shape, but they are much smaller, and of a pleasing sulphur-yellow colour, which obtains until August, when the tints are duller, with a tinge of red. It is hardy, but of slow growth, and has a rather weak constitution.

A. J. VAR. LACINIATUM.—This plant is often met with under the name of *A. j. var. cratagifolium*, but there is a true Japanese species of this latter name, and it would save confusion if it was dropped in connection with this plant. The leaves are divided to the base into seven to nine leaflets, each of which is again pinnately divided, giving the whole a pleasing appearance. The colour is a rich green during the summer, but it changes to a bright purplish-crimson and yellow in autumn. It is a handsome plant and of good constitution.

A. J. VAR. MICROPHYLLUM.—The leaves are like those of the type in shape, but less than half their size; they are glabrous on both surfaces, shining beneath, and of a deep green colour, changing to red and yellow in the autumn.

A. J. VAR. VITIFOLIUM.—This has stout, green wood, and leaves 4 inches to 5 inches long, with seven to nine deeply-cut, sharp-pointed lobes, that are serrated at their margins. The foliage is dark green in summer, changing to various tints in autumn, from yellow through amber, vermilion, and scarlet, to deep claret or purple. Sometimes all these colours can be seen at one and the same time on a plant, presenting one of the most brilliant effects of autumn leaf colouring. The young shoots are sticky to the touch. *J. Clark, Bagshot, Surrey.*

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT MESSRS. SANDER AND SONS.

WHEN the hybridising of Orchids was first practised, the scope of the hybridist was supposed to be very limited, but as time went on one strange bigeneric hybrid after another appeared, and the field was then considered to be limited only to the species of allied genera which flowered at the same season. This limit has also been passed at St. Albans by crossing occasional plants flowering out of their season, and some interesting hybrids of this class are under development. The many handsome and dissimilar species included by the botanist under the genus *Zygopetalum* have been very successfully worked, and although even in the most promising crosses of *Z. Mackayi*, as, for example, the Chondropetalum Fletcheri (Chondrorhyncha Chedertonii × *Zygopetalum Mackayi*) raised by Messrs. Sander and which is again coming into bloom, there is a strong adherence to the characters of *Z. Mackayi*, much better results are expected from the crosses of the fine blue *Boileia celestis*, and others of that section.

The thousands of seedlings recently put into store pots and the germinating seeds in the seed-raising houses plainly indicate the reason why such establishments are continually wanting more glass-house accommodation. The recently-arranged block of 16 commodious houses joined at one end by the long corridor are full to overflowing with young hybrid Cattleyas, Laelias, Brasso-Cattleyas, Cypripediums, &c., from one to three or four years of age; and several of the large houses, formerly occupied by imported Orchids are now filled with hybrids approaching the flowering stage. Two of the most successful batches, viz., *Cattleya Iris*

inversa and the St. Albans type of *Laelio-Cattleya blechleyensis*, have still some in flower, the rich, reddish-rose and purple colour of the flowers of the latter being very attractive. *Cattleya Lord Rothschild* in several specimens of excellent quality are in bloom. *Laelio-Cattleya La France* (*C. bicolor* × *L. tenebrosa*) has several rose and purple flowers; *Cattleya Maronii* and *C. Davisii*, both crosses with *C. velutina*, are in flower; and various unnamed Cattleyas and *Laelio-Cattleyas*, one of which, with clear, Indian yellow sepals and petals and violet-purple lip, being specially good.

Of hybrid Cypripediums, a large number are in bloom, some of the best being *C. Niobe Sander's* variety, *C. Euryades magnificum*, *C. Transvaal superbum*, *C. Harrisonianum albens*, *C. Maudie magnificum*, *C. Miss Louisa Fowler*, *C. Rolfei*, *C. Lamonteanum*, and *C. villoso-Rothschildianum*.

The large-flowered Brasso-Cattleyas of various crosses with the *Cattleya labiata* section resemble each other greatly, but the varied parentage serves to extend the time of flowering of the class, so much so that some of them are in bloom for the greater part of the year. A few with good, rosy-lilac flowers are now in bloom, but none equal to the fine Brasso-Cattleya *Madame Chas. Mason* "Sander's variety," which secured a First-Class Certificate at the Royal Horticultural Society on September 1 last.

The few hybrid *Odontoglossums* in flower are arranged with the collections of *O. crispum* and *O. Pescatorei* in the large *Odontoglossum* house, and with them in bloom are *O. Rossii majus*, *O. madrense*, *O. blandum*, and some other species. A very interesting fresh arrival is represented by a small importation of the little-known *Odontoglossum Galeottianum*, and which appears to be the true plant, and not the form of *O. nebulosum* sometimes seen in gardens under this name.

A house of *Cymbidiums* has good specimens of *C. Sanderi*, *C. erythrostylum*, and most of the other known species, and in bloom another of *Micholitz*, introductions from Annam resembling *C. Dayanum*, with arched racemes of white flowers striped with rose-purple. Notwithstanding the smaller demand for large-growing Orchids in recent years, it is found that *Cymbidiums* still are favourites, as their flowers are handsome and they thrive well even in the greenhouse or conservatory.

A large number of *Cypripedium Fairrieanum* are in bloom, but there is not the variety in them that was expected; the dark varieties are rare, and an albino has not yet appeared. *Cypripedium Godefroyae* is flowering in two distinct batches, the one being of the original white type marked with purple, and the other of the *C. G. leucociliatum* class, in which the ground colour is more or less yellow, and in which there is much greater variety than in the old type.

Cattleya Harrisoniana is one of the showiest and most useful of Orchids giving its fine rose and white flowers at this season, and there is a considerable number at St. Albans. Probably there have been more of this than of any other *Cattleya* imported during the last few years, and it finds a ready sale because it is easy to grow, it flowers freely, and is suitable for florists' purposes.

Others of this class blooming well at St. Albans are *Oncidium varicosum* and *O. tigrinum*, both in cool houses and bearing fine sprays of yellow-lipped flowers. A batch including many species of *Masdevallias* have a good many of the smaller kinds in bloom. *Cattleya Gasckelliana alba*, blooming out of season, has four flowers. *C. Dowiana aurea* and *C. Hardyana* are good; an interesting collection of botanical Orchids have a few in bloom; a healthy lot of *Phalenopsis* are luxuriating in a warm, moist house, several of the *P. amabilis Rimestadiana* being very large specimens. Good collections of *Arides*, *Vandas*, and *Arachnantes* were noted, and *Laelia anceps* is sending up a good

show of spikes. A considerable number of plants of *Dendrobium regium* are now established. *Cynorchis purpurascens* and a batch of the dark-coloured *Miltonia spectabilis Moreliana* and some other *Miltonias* are in bloom.

On one side of the pretty series of cool rockeries planted with Ferns and foliage plants at the entrance to the Orchid houses, a section is planted with *Pereskia Godeffiana*, illustrated in the *Gardeners' Chronicle*, April 25, p. 260, this year. Its beautiful yellow, green and red foliage is rendered doubly attractive by the purple tinting of the under-side. The plant is most adaptable, being equally good for baskets, pillars, or rockeries in cool conservatories. It also makes a good display out-of-doors in summer. *J.*

OLIVERANTHUS ELEGANS.

THIS fine Crassulaceous plant, shown in our illustration (fig. 119), was flowering in very good condition in the plant-houses of the Royal Botanic Gardens, Edinburgh, during the summer. Professor Bayley Balfour informs us that the plant was received along with others from Washington in September, 1904, and flowered in Edinburgh in 1905. It was originally brought from Mexico by Mr. Rose, the assistant curator of the Division of Plants in the National Museum at Washington. It was first (1903) called *Oliverella*, but this name had already been appropriated by Van Tieghem for a group of species of *Loranthus*, and the present generic name was given in 1905. The genus is obviously related to *Cotyledon*, from which, like some others of recent creation, it is not very clearly separated.

The plant is a very attractive one, from the florist's point of view, and when we saw it in July last it was covered with beautiful rosy-red blossoms of a large size and good substance, which were borne singly on rather thin stems.

It is said to be easy of propagation, and it will certainly form a valuable addition to our conservatory plants as soon as it becomes more widely known.

ST. ANNE'S, CLONTARF, DUBLIN.

ONE of the finest and most delightful of Irish gardens is that belonging to the Right Hon. Lord Ardilaun, at St. Anne's Clontarf, Dublin, quite close to the tramway line from Dublin to Howth. I have visited this garden quite recently, when I found many improvements that had rendered them even more delightful than ever.

The estate itself is one of great natural beauty, and from its vantage points some magnificent views of Dublin Bay and other parts are obtained. Near the mansion, which is well hidden by trees, vistas have been formed, some after the style of the old "gazebos," and these enable the perspective of the distant country to be enjoyed. The flower gardens are situated quite near to the mansion. The drawing-room leads into a conservatory, and this plant-house is furnished throughout the season with suitable decorative subjects: at the time of my visit some large plants of *Crinum* were in flower; there are also several *Orange trees* in pots.

The flower gardens, as already stated, lie close to the mansion, and a tall Yew hedge divides the various quarters. This hedge is a good example of topiary work, and harmonises well with the architecture of the house.

The flower-beds are filled with the most beautiful plants of their kinds. Some are varieties of Mr. Campbell's (the gardener) raising. One is a tall *Lobelia* named *Morning Glow*. It has dark-coloured foliage prettily covered with bloom almost like that on *Grapes*, while the flowers are coloured a bright rosy-scarlet. The shoots usually grow about 5½ feet high, but this season they have been dwarfer. Another fine *Lobelia* raised by Mr. Campbell is the variety *Lord Ardilaun*, of which a bed was seen at St.

Anne's. He has also raised a variety of *Anemone japonica*, named after Lord Ardilaun, which is cultivated in beds with much success. Another plant worthy of note is a dark-foliaged Dahlia, the name of which is unknown, but which I have not seen before. The foliage is remarkably dark, and the flowers are of a deep brown tint. Among other subjects in the beds are Roses, Verbenas, *Agathæa cœlestis*, Stocks, Asters, and other summer-flowering plants. A fine clump of the golden-leaved *Cortaderia* is planted on the lawn in this part of the garden.

There is a broad herbaceous border in front

converted into a rockery, thus giving the impression of a piece of natural cliff. It has been skilfully arranged, and is planted with *Rosmarinus prostratus*, *Helianthemum*, *Aubrietia*, and many other good rock-garden flowers.

Another delightful feature in the garden is a circular space surrounded by a tall Yew hedge, screening a basin in which are some of the best varieties of *Nymphaeas*, such as *Colossea*, *Chromatella*, and others, whilst statues in the circle harmonise well with the formal basin and the Yew hedges.

A little way from this garden, and in a

pergolas, which are models of simple timber structures of the kind, being in the best of taste with their flagged pathways, and their pillars and cross-beams covered with climbers. Roses, Clematises, *Muehlenbeckias*, and other good plants join in happy companionship in covering this pergola. Mention must also be made of the lovely Ashford Rose which is largely employed at St. Anne's for furnishing arches, pillars, and walls. It is of the *Pissardii* type, and makes long, sturdy growths, and gives enormous bunches of delightful pink flowers. Mr. Campbell finds the typical *Rosa Wichu-*



FIG. 119.—*OLIVERANTHUS ELEGANS* FROM ROYAL BOTANIC GARDENS, EDINBURGH: FLOWERS ROSY-RED.

(For text see p. 274.)

of the walls in this garden. The plants are placed in groups of one kind, so as to produce good colour effects. They are representative of the best modern hardy flowers, together with the most select of the older species and varieties. The walls are covered with choice plants, such as *Mandevilla suaveolens*, *Romneya Coulteri*, *Phygellus capensis*, Clematis, and other subjects suitable for the purpose. A good effect is produced by an angle of the wall being

sequestered corner surrounded by trees and shrubs, is a small rock-garden, associated with little pools of water. On the edge of the pools and in the water moisture-loving plants are cultivated, while on the drier parts is a collection of rock plants, also many small shrubs.

On the opposite side of the mansion is a walled-in garden, entirely devoted to flowers. It has been the outcome of gradual development, and is now showing its real beauty, the

raiana one of the best for training over arches. Besides the pergolas, there are little pathways as well as broader alleys, fringed by borders of hardy flowers, and arched over here and there by Roses and other trailing plants; whilst on the walls are many fine climbers and shrubs. Among the shrubs may be named a superior form of *Exochorda grandiflora*, a perpetual-flowering variety of *Solanum crispum*, and *Buddleia Colvilei*, which was

expanding its flowers at the time of my visit. I saw also a fine shrubby *Pentstemon*, received as *P. coccineum*, but it does not appear to bear any resemblance to *P. Hartwegii*, of which *P. coccineum* is said to be a synonym. A fine plant of *Carpenteria californica* was also seen in this garden which is so full of rare and beautiful shrubs, herbaceous plants, and annuals. Artistic seats are placed about the garden and appropriate couplets from the poets have been carved on them; *Thyme* is planted by the stone steps, and exhales its delicious fragrance to the passer-by.

Overflowing from this wall garden, and alongside the exterior of its walls, are other choice shrubs and hardy flowers, also beds of *Heaths*, *Primula*, and other peat-loving plants. Close by, as well as in openings in the woods, there is a wealth of flowering shrubs, and many parts of the pleasure grounds are planted with bulbous plants. A little glen which leads towards the lake, is planted with *Nymphaeas*, and the waterside is carpeted with *Anemone apennina*.

The latest development in the gardens of St. Anne's is a "ditch garden." It was desired to convert a ditch which had been used as a receptacle for rubbish and which was near the walled garden into a "thing of beauty." The ditch was practically dry at almost all seasons, but Mr. Campbell has brought water from a higher source along a pipe laid beneath the ditch to its highest point, where it merges like a spring and forms a streamlet. A pathway has been formed along the little ravine, and this once ugly feature has been completely transformed by the planting of *Arabis*, *Aubretia*, and other subjects of a trailing habit. The lower parts are planted with species of *Primula*, including *P. Poissonii*, *P. frondosa*, *P. capitata*, and *P. rosea*.

The glass-houses are extensive, and a somewhat hasty inspection of the houses showed that exotic plants and flowers, including many *Orchids*, are well cultivated. Unfortunately, time did not permit of a visit to the fruit and vegetable garden.

Good work is being done by Lord Ardilaun in the improvement of the grounds. Fine trees are to be seen in plenty, especially evergreen Oaks, in which his lordship takes a great interest. It may be mentioned that there are about 10,000 seedlings of these evergreen Oaks ready for transplanting. *S. Arnott*.

POLYSTACHYA FLEXUOSA.

OUR illustration (fig. 120) represents flowers and leaves of this pretty *Orchid* taken from the plant shown by Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), at the Royal Horticultural Society, August 18 this year, when it was accorded a Botanical Certificate. The plant was imported from Uganda, and in habit and flower it is very distinct from other species of *Polystachya* and quite the gem of the genus. The pseudo-bulbs, which are about 6 inches in height, have bright green leaves almost as long as the pseudo-bulbs on the upper part, the whole plant somewhat resembling a miniature *Ansella*. The slender scape, which is about a foot in length, bears a head of pure white flowers with purple spotting on the lip. The flowers are produced in succession, our illustration representing the final stage, and thus it continues in bloom for several months. *Polystachyas* are usually considered to be chiefly of botanical interest, but a good proportion of the species are pretty enough to render them very interesting objects in gardens, and, moreover, they thrive well in an ordinary warm greenhouse or *Orchid* house of intermediate-house temperature.

The species best known in gardens are *Polystachya pubescens*, which is an evergreen species of tufted habit and bearing pretty sprays of yellow, fragrant flowers with red stripes; *P.*

Ottomania, a dwarf species with white flowers; *P. luteola*, which is one of the most widely-distributed and which bears spikes of small greenish-yellow flowers; *P. Lawrenceana*, a very pretty species, with comparatively large flowers; *P. grandiflora*, the largest-flowered of the genus, bearing fleshy-greenish flowers, striped with purple; *P. bracteosa*, a strong grower, with curious flattened pseudo-bulbs and pretty sprays of yellow and red flowers.

Most of these are African species and have been shown or flowered by Sir Trevor Lawrence, in whose collection *P. bulbophyllioides*, *P. Buchanania*, *P. laxiflora*, *P. odorata*, and *P. Zambesiaca* have also been flowered.

THE HOLT, HARROW WEALD.

THE beautiful and interesting garden of Andrew Kingsmill, Esq., is situated in a charming part of the Harrow Weald known as the Bentley Priory estate. Most of the grand old *Beeches*, Oaks, Spanish Chestnuts, Conifers, and other trees have been allowed to remain,



FIG. 120.—*POLYSTACHYA FLEXUOSA*: FLOWERS WHITE WITH PURPLE LIP.

and the natural undulating ground, with hillocks and dells as Nature formed them, provides an ideal situation in which to form a garden. Beneath the stately forest trees patches of *Rhododendrons* form a bright evergreen undergrowth and display their bright colours in due season. In spring a profusion of flowers is furnished by large patches of *Narcissus*, *Crocuses*, *Snowdrops*, *Tulips*, and other showy bulbous plants, and every month sees the appearance of a new set of flowers. In the glades are patches of graceful *Bamboos* and arrangements of hardy Ferns; conspicuous amongst the latter are great masses of *Onoclea sensibilis*, beautiful specimens of the *Osmunda*, both British and American, large tufts of *Polypodium Dryopteris*, *P. Phlegopteris*, and some of our dwarfier British Ferns, together with rarer specimens gathered in various countries by Mr. Kingsmill himself. In one clearing is a pretty arrangement of bright flowers, in which the yellow *Hypericum*, the white and mauve *Viola cornuta*, huge masses of *Fuchsia Riccartonii*, and clusters of variously

coloured *Phloxes* are seen, with many species of flowering shrubs in the background. In one opening a grand specimen of *Gunnera manicata*, with huge leaves, forms the central object, beyond which is a rustic arrangement of hardy *Heaths* with *Gentians*, where the *G. asclepiadea* has thoroughly established itself. Next is seen a colony of American plants, patches of dwarf *Alpines* delighting in a moss-covered bed, and several bog and water-gardens, in which the white and coloured *Nymphaeas* are growing luxuriantly; also, finely in flower, *Sagittaria montevidensis*, which grows here so strongly that it requires restraining. *Sarracenia flava* and other rare bog plants appear quite naturalised. Among the more effective of the flowering shrubs are the dark violet form of *Buddleia variabilis* and the bushy *Veronicas*, of which there is a collection. Among the species of *Roses R. alpina*, with its brightly coloured fruits, and many others form pretty objects. Many plants in this carefully-tended garden appear to great advantage by reason of the opportunity afforded to give each section suitable places, and these advantages have been cleverly utilised. A pergola of considerable extent is covered with various climbing and trailing plants, amongst which the large leaves of *Vitis Coignetiae* and the claret-purple foliage of *V. purpurea* form striking objects. In the formation of this pergola some points are noteworthy. A troublesome feature in such arrangements is that in the course of time the upright posts decay at the spot where they are inserted in the ground and the whole structure becomes in danger of collapsing. To obviate this Mr. Kingsmill caused each of the rustic, upright posts to be grooved longitudinally on one side to the centre, the groove being sufficiently wide to admit a stout gas tube, which was 3 feet longer than the post, the extra length forming that portion which was fixed in the ground, the upright posts merely resting on the surface, the tubing being kept in position in the groove by wire at each end of the rustic post. Thinner gas tubing is used overhead, and rustic wood-work cross-pieces are fixed wherever required, so that the whole is rendered thoroughly durable without sacrificing the rustic features.

The smooth lawn beside the dwelling-house is bordered by a series of pretty nooks and rock-gardens, the inner walk being of flat, rough stones, with dwarf *Alpines* planted in the spaces between, so that it forms a garden as well as a clean walk in all weathers. In the side beds the garden *Roses* are still beautiful, and in the distance the glowing scarlet and yellow colours of the *Kniphofias* and other showy autumn flowers give bright colour. In one clump *Wichuriana* *Roses*, *Cotoneasters*, and *Pampas Grass* make a pleasing combination; in another a large planting of *Cotoneaster microphylla*, with its red berries, is thickly clustered with the reddish-scarlet sprays of *Tropæolum speciosum*, aptly called the *Flame Nasturtium*, and which here has become almost ineradicable. Patches of *Alpine Pinks*, several feet across, masses of rock *Roses*, various species of *Polygonum*, showy bushes of *Phytolacca capensis*, and numbers of pretty and rare species present themselves in their best aspect.

On a verandah *Ipomœa Purga* is in flower; *Ficus repens* presents its two dissimilar forms of growth; *Vitis heterophylla* is preparing for its annual display of bright blue berries, and several *Acacias* and other shrubs usually considered greenhouse plants are thriving. In the border beneath, a large specimen of the old *Macartney Rose* is well furnished with its large, satiny-white flowers. *Carpenteria californica*, *Raphiolepis ovata*, and other uncommon shrubs are in a perfect condition of health, although the formerly tall specimen of *Eucalyptus Globulus* and a few others were cut down to within 6 feet of the ground last winter. On one side of the lawn is a noble specimen of the weeping *Silver Willow*, beneath which a seat has been fixed.

Too often in gardens is it the rule to plant freshly-acquired plants in any spaces which happen to be most readily available. Mr. Kingsmill's method is to specially prepare sites for all newcomers according to what is known of their natural requirements, and hence the successes are numerous and the failures few.

In the greenhouses are many curious and pretty plants. Overhead are suspended grace-

ful plants of *Ceropegia Woodii*, *C. debilis*, &c., and on the roof *Lapageria rosea* is in fine bloom. *Urceolina pendula* has its pretty drooping yellow and green flowers; the old *Nierembergia gracilis* and many other pretty old garden plants are in bloom. In an unheated frame *Todea superba* is growing well, and in all sections of hardy plants a great number of aliens have been successfully naturalised. *J. O'B., September.*

A JAPANESE NURSERY.

(See fig. 121, also Supplementary Illustration.)

THE nursery business between this country and Japan has considerably increased in recent years, but it is likely to extend to greater proportions as the means of communication are improved. One of the principal horticultural exports is that of flowering bulbs, particularly species of *Lilium*. In our Supplementary Illustration is shown a portion of a field in the nurseries belonging to the Yokohama Nursery Company devoted to the culture of *Lilium speciosum rubrum* var. *magnificum*, a variety that was introduced by this firm, and one to which the Royal Horticultural Society's Award of Merit was awarded on September 29, 1903. It is remarkable for the rich carmine colouring of the flowers, their large size, and the vigorous and erect flower-spikes. Every care is exercised to keep the variety true to type, and workmen may be seen in the illustration engaged in marking inferior forms that will eventually be weeded from the stock. The bulbs are packed with care in a reddish earth, in which material they will travel well for long distances. Only the best bulbs are exported; the smaller ones are planted in the nursery for another year. *Lilium* bulbs form an article of consumption in Japan, but we suspect it is only inferior varieties that are thus employed.

The portion of the nursery illustrated at fig. 121 conveys some idea of the extent that old specimen Conifers, Wistarias, Acers, Cycads, and other species are cultivated. They are grown chiefly for export, and Europeans visiting Japan are continually purchasing specimens to add to their collections at home. Pot-grown trees rarely suffer in transit to this country if imported in the spring of the year. The Wistarias are very tastefully arranged when in flower, each specimen being isolated in order to display its hundreds of long pendant racemes to the best advantage. We are indebted to Mr. A. Dimmock for the photographs.

THE AURICULA.

It is a matter of surprise to me that there should be so much ignorance not only of the properties of the Auricula, but also of the system of culture to be followed in order to obtain the best results. I have come to the conclusion that the culture and nature of the Auricula is understood by very few persons.

In the early years of the nineteenth century, and down to about the year 1850, the Auricula was much valued and rather widely cultivated. The history of the Auricula has been much written about from the time of Clusius, who entered the service of the Emperor Maximilian II. of Austria, in 1573, and 13 years later Clusius published a valuable book, the *Rororum*



FIG. 121.—VIEWS IN THE YOKOHAMA NURSERY COMPANY'S GARDENS, JAPAN.

Plantarum Historia, wherein the *Primula* family was extensively treated, and *Clusius* cultivated the Alpine *Auricula* in its primaval state, as well as the show or edged type; he also admits that the *Auricula* was widely cultivated in Belgian gardens before his time. I have carefully traced the history of the *Auricula*, through the early English Herbals, and there is no mention of really edged *Auriculas* of the show type. In Hanbury's work entitled *A Complete Body of Planting and Gardening* striped flowers are mentioned in 1770, but Mr. Slater, in *The Amateur Florist's Guide*, writes of edged flowers in 1776, and as early as 1785 we come upon such varieties as *Grime's Privateer*, *Popplewell's Conqueror*, *Gorton's Champion*, *Wrigley's Northern Hero*. They were not of any merit in comparison with the varieties now in cultivation, but they were decidedly grey and white-edged, and as for the self-edged, very good varieties were in cultivation a hundred years previously to this. Early in the nineteenth century a true green-edge was in cultivation, *Page's Champion*, and, later, *Booth's Freedom*. I had most of these in cultivation about 1870, but they made but little growth, and except as a matter of sentiment they were not worth the trouble. The fact is that the *Auricula* was badly cultivated by amateurs, who followed one another in their recipes for compost, &c. They had a notion that manure should be the principal ingredient instead of good, substantial loam. A gardener named Matthew Kenney was a "most successful and eminent grower of *Auriculas*" in the early years of the last century, and his compost was one-third loam to two-thirds sheep manure, to which some coarse sand added; no wonder that the eminent gardener had occasionally to "wash the roots in water, examine them closely, shorten the top or main root, and cut away any decayed or unsound parts." Some of the *Auricula* growers now insist on removing all the soil from the roots, to examine what they term the "carrot" or main root. Thomas Hogg, writing so late as 1839, describes the compost in general use as follows:—Equal portions of yellow loam, cow manure, night soil, and leaf-mould, and adds, the following compost is also excellent for strong-blooming plants:—One part sound loam, one part dried night soil, two parts dung of sheep, cows, or poultry, mixed in blood from a slaughterhouse." It is probable that some *Auricula* growers, especially amongst the older florists, still hanker after these over-rich composts, and thus bring disease and death into their collection. The *Auricula* grows naturally on the mountains of southern Europe, and flourishes in the natural loam to be found there, consequently loam should be the staple of the compost; indeed, any potting soil in which such subjects as *Fuchsia* and *Polargoniums* flourish will also suit the *Auricula*, say four parts good, fibrous loam, one part decayed stable manure, and one part leaf-mould, with some coarse, white sand, is a good compost. It is an interesting subject, if one had time to speculate on it, why the *Auricula* has had such a hold on the people of Great Britain and Ireland for so many centuries, and it is still more ardently cultivated than ever it was, for there are *Auricula* societies of a national character, and *Auricula* exhibitions in London, Birmingham, and Manchester, as well as in local districts, and certainly there never were such excellent varieties in cultivation as are now to be seen at these exhibitions. Many persons complain of failures with their *Auriculas*, probably it may in most cases be owing to too much care, and to want of knowledge of the requirements of the plant. It was the custom to use too large flower-pots, as well as over-rich soil. The proper compost is described above, and the flower-pots used should be well drained and 4 to 5 inches in diameter for the flowering plants. Repotting should be done annually. I begin when the flowering period is over, and as there are many thousands to repot, it is continued until well into October; the offsets are potted off all the year round, except during severe frosts in winter. The *Auricula* makes its leaves very rapidly at flowering time, and these decay shortly after Midsummer, and should be removed as soon as signs of decay are apparent. As the plants settle into their winter rest less water is necessary, but another old practice should be avoided, that of drying the plants off in winter. They should not be watered

during severe frost, but never ought to be dusty dry. It is better to shade the plants from hot sunshine during summer, but at all times they ought to be freely ventilated and stand up close to the roof glass; the frames are apt to become the haunt of slugs, which sadly disfigure the leaves. The best way to diminish the numbers of these pests is to put a thickish dusting of soot over the surface before putting on a layer of ashes in the frames. The plants may either stand upon the ashes or upon a stage. They are not so liable to damp off in winter if they are thus raised nearer the glass.

For the guidance of amateurs, a list of the best varieties is appended:—

Green edges: Prince Charming, Abbé Liszt, Mrs. Henwood, Abraham Barker, Revd. F. D. Horner, Shirley Hibberd.

Grey edges: Amy Robsart, George Rudd, George Lightbody, Lancashire Hero, Olympus, and Richard Headley.

White-edged: Acme, Conservative, Heather Bell, Mrs. Dodwell, Rachel, Smiling Beauty.

Self-edged: Favourite, Harrison Weir, Heroine, Mikado, Mrs. Phillips, and Mrs. Potts. J. Douglas.

NOTICES OF BOOKS.

* "THE BOOK OF FERN CULTURE."

THIS practical work on Fern culture, by Mr. Alfred Hemsley, formerly foreman of the Plant Department at the Royal Horticultural Society's Gardens, Chiswick, and for many years actively engaged in Fern culture, will prove highly acceptable to cultivators. The book gives detailed instructions on growing ferns, from the sowing of the spores to the perfecting of a specimen. Such chapters as that headed "Ferns for Window Boxes" and "Ferns for House Decoration" are serviceable to those who have no glass-houses or accommodation for growing ferns on a larger scale. The work is written in simple language, scientific terms are little used, and in the matter of nomenclature the names commonly recognised in gardens are adopted. The 21 chapters of the work extend over 112 pages, are well illustrated, and contain a vast amount of information. All the important types of ferns and their uses as decorative plants are fully dealt with, and a good index renders reference easy. The one thing to be regretted is that so many errors in the plant names should have escaped notice during the reading of the proofs.

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holford, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Vanda carulea.—The climatic conditions of the past summer and the present autumn having been favourable for this species, those plants treated as I advised early in the year should now be in a most healthy and satisfactory condition. At Westonbirt many plants are fast developing their flower-spikes, while many are in flower and some have already ceased to bloom. Plants flowering at the present time produce better blooms than those which flower late in autumn and early in winter, as the dull, foggy weather usually experienced then, especially in the neighbourhood of large towns, prevents their proper expansion. Plants of *Vanda carulea*, unless given very careful treatment, are liable to be affected with "spot," and this disfigurement seriously detracts from their appearance, as the leaves, when healthy, are so rich a green as to be ornamental. This spotting is caused in many instances by an excessively damp atmosphere, compared with the degree of heat and light prevailing, especially during the resting season. While the plants are growing, they should be accommodated in a house where the heat ranges from 60° to 70°, and afterwards, during the resting season, the temperature should be from 50° to 60°. During the latter period water should only be applied after the rooting material has become moderately dry,

and an abundance of air should be admitted whenever the weather is sufficiently favourable.

Vanda Kimballiana.—The blooms of this species are just opening and at this stage the plants should be afforded slightly dryer and warmer conditions. Thus treated, the flowers will be found to expand more kindly, and they are less likely to become spotted than if left in a cool, moist house. When the flowering season is past and an examination shows that the root-tips are becoming sealed over, which is a sure indication of the termination of growth, the amount of water applied to the roots should be gradually decreased. During the resting season water must only be applied when the leaves show signs of shrivelling. The plants should be wintered in a cool intermediate house.

Vanda Watsonii.—This charming Orchid resembles *Vanda Kimballiana* in its habit of growth, and the flowers are similar, excepting that these are pure white. Our plants are now developing the flower-spikes in an intermediate temperature, and in these conditions the plants will remain until the flowers expand early in the new year. Until that period arrives the roots must not be allowed to suffer for want of moisture.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Dowager Lady NUNBURGH, Wakefield, Yorkshire.

Strawberries.—Examine all *Strawberry* plants and *Strawberry* beds once more and remove any late runners that are found upon them. The surface soil should be lightly hoed and all weeds removed in preparation for affording a mulch. It is advisable to get this work done early, especially on light soils, so that the autumn rains may wash the nutriment from the manure down to the roots. The weather at present is favourable to the swelling and ripening of autumn-fruiting *Strawberries*, and the plants appear to be capable of yielding a supply of ripe fruits for some time to come. Frames may be placed over them if they are procurable, in order to protect them from heavy rains and frosts, and thus further extend the season.

Medlars and Quinces.—*Medlars* should never be gathered before they are ready, or the fruits will shrivel and fail to ripen properly. They should be gathered on a dry, sunny day, and in storing them the top of the fruits should be placed downwards, as they always commences at the stalk. *Quinces* are generally fit to gather about the same time as the *Medlars*, and care should be taken to gather them without inflicting any bruises upon the skin. Both fruits meet with appreciation for the making of jellies, and some appreciate the *Medlars* in an uncoked condition.

Gathering fruits.—Any Apples and Pears that are still upon the trees in open quarters should be gathered, but late Pears against walls, and, therefore, in a position where they can be protected, may be allowed to hang upon the trees for another week or two, provided the weather continues favourable. Late Pears improve in quality if they are allowed to hang fully as long as it is safe to permit them. Carefully examine early varieties of Apples and Pears in the fruit room and remove at once any decaying fruits.

Walnuts.—These are now falling fast, and the remainder may be knocked off the trees and separated from the husks before storing them in a cool place until required for use.

Plums.—Late *Plums* should be gathered when perfectly dry and laid out thinly on a dry shelf or placed in seed trays if room is scarce. They will then keep in good condition for a longer time than if they were allowed to hang upon the trees in damp weather. *Coe's Golden Drop*, especially, can be kept for a considerable time after being gathered.

Out-door vines.—Any bunches still hanging on the vines should be cut with the wood attached and placed in bottles to be stored in a fairly cool and dry atmosphere, for in these conditions the process of ripening will continue. Shorten the leading shoots and also the spur growths to three or four leaves in order to allow the sun to shine upon all the shoots.

Loganberry and Blackberry.—If the pruning of these has not already been done the old fruiting canes should be cut away, as was previously recommended for Raspberries. After this has been done, secure rather loosely the new growths to the pole or wires. The plants require a suitable soil and need a liberal mulching and applications of liquid manure.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq.,
Kear, Perthshire, N.B.

Nepenthes.—Old plants that are getting leggy should now be cut back, and the cuttings used for propagating purposes. Select well-ripened wood of one year's growth for the cuttings, making each cutting about five or six joints long. Use a very sharp knife and make a clean cut immediately underneath a node. Place these into a compost of peat, sand and chopped Sphagnum moss. The cuttings should be made very firm in small pots, and plunged in a hot-bed in a moist atmosphere. I have found *Nepenthes* to root better at this season than any other. As a rule, there is plenty of heat in the water pipes during winter, and if abundance of moisture is given almost every cutting will be rooted and ready for potting-on next spring. Some growers adopt a very good plan, and place the cuttings in inverted pots, packing the stem inside the pot firmly with Sphagnum moss and a little peat. The pots are then plunged in Sphagnum moss and kept damp. In order to take the cuttings out of these pots when they need to be potted-on, it is of course necessary to break the pots first, and great care must be taken not to damage the young, tender shoots. *Nepenthes* require a great amount of atmospheric moisture, and a high temperature at all times, 65 degrees being the minimum in winter.

Caladium, Gloriosa and Achimenes.—These plants are now passed for this season, and therefore they should be stored away in dry, warm conditions. They may be placed underneath the stage in a stove, and this is often as safe a place as any available. *Caladiums* especially, must not be subjected to a low temperature. Remove all the decayed leaves and lay the pots neatly on their sides.

Freesia.—The earliest batch of *Freeseas* is now growing freely, and should be kept in a position close to the glass in a south aspect. Apply a little weak liquid manure to the roots twice each week. Place four neat, green-painted stakes round the inside of the pot and thin shreds of raffia around them, so as to keep the growths from falling down. The temperature of a greenhouse is sufficient for them.

Roman Hyacinths.—Examine these to see what quantity of roots the bulbs have made. If there are signs of top growth, they should be removed from the ashes and the pots or boxes placed in an unheated frame. A week afterwards a batch may be placed in the forcing house. Apply plenty of tepid water to the roots, and as soon as the foliage and flower-spikes begin to develop remove the plants and put them as close to the glass as possible. As soon as the flower-spikes begin to show colour place them to a cooler temperature, still keeping them close to the glass.

Tulips for forcing.—If the earliest Tulips have not already been potted or boxed-up, the work should be done at once. Their treatment is much the same as Roman Hyacinths. To make extra good pots, place the bulbs in two layers, as advised in the case of Daffodils in a former Calendar which appeared on page 82.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Late flowers.—Many of the flower-beds are still bright, especially those containing *Begonias*, *Calceolarias*, *Heliotropes* and *Salvia splendens*, variety *Zurich*, but at the same time preparations must now be made for clearing some of the beds and replanting them with spring-flowering subjects. The present weather is very suitable for the work, and if it is done at once, the plants will become re-established before winter sets in. Should planting be deferred until November the results will not be so good. If shrubs are used to supersede the summer-flowering plants in the larger beds, they may be planted in any pattern or mixture that appears desirable. Such shrubs include *Eunonymus*, *Holly*, *Retinospora*, *Juniper*, *Box*, *Yew*, and *Erica carnea*, *alba* and *rubra*. The ground around the shrubs might be carpeted with the common *Heather*, and it will be found very suitable. If certain beds are planted exclusively with *Wallflowers* the soil should be made very firm as the work proceeds, as this will cause the plants to make slow but sturdy growth, thus

enabling them to withstand frosts in winter. Large beds may be planted with dark-coloured *Wallflowers* and edged with *Wart* yellow-flowered varieties, but very small beds should be made to contain but one variety, and this should be of dwarf habit. A bed which has been much admired here was planted with double white *Arabis* and *Tulip Couleur cardinal*. Another contained *Myosotis* "Royal Purple" and the *White Arabis*, with *Tulip Bride of Haarlem* interspersed. *Myosotis*, with *Tulip La Candeur*, or *Tulip Murillo*, is also a pretty combination. Narrow borders may be made very beautiful if planted with *Wallflowers*, well intermixing the numerous shades.

Hardy Ferns.—At this season of the year the mixture of green, bronze and yellow fronds is very effective, therefore remove any disfigured fronds from the plants, and *Ivy* (*Hedera*) or *Periwinkle* (*Vinca*) that may have overgrown them.

Shrubberries.—The ground is now in excellent condition for the levelling or relaying of lawns, or for the making of new lawns. The planting of Conifers and other evergreen trees may be carried on at the present time with advantage.

Bulbs.—Bulbs intended for spring flowering should now be planted. Those required for the more important beds should be purchased fresh every year, and after they have been used for one season in those positions they may be transferred to the mixed border or shrubbery. The best effect is obtained from bulbs when they are massed in their separate colours, but mixed beds are charming if the mixing is done very carefully. In the planting of bulbs the distances generally allowed between each are as follows: *Hyacinths*, 8 inches; *Tulips*, 4 inches; *Narcissus*, 5 inches; *Scillas*, *Snowdrops* and *Crocuses*, 3 inches. The depth should be from 3 to 4 inches.

General work.—This will consist in dividing and rearranging herbaceous plants in established borders, and lifting of *Dahlia*, *Canna* and such-like roots for storing away in a dry place. *Tuberous-rooted Begonias* may be wintered in cold pits, laying the tubers in soil and allowing a good length of the tops to remain attached. The glass of the pits may be covered with Fern fronds or similar material in severe weather to prevent frost; or the tubers may be placed in boxes containing cocoanut fibre or fine peat, putting the boxes in a frame or cool greenhouse.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Ashmead House, Harefield, Hertfordshire.

Late Peas.—Owing to the favourable weather late Peas have been plentiful and the quality so good that they compared well with Peas usually produced at the end of June. There is every appearance that in the absence of frost the supply will continue for another month. Any which have not already had their leading growths shortened to the pods, which are already commencing to swell, should be given this attention at once, as it is not to be expected that any at present in flower will have an opportunity to mature. All side shoots should be removed and the roots be well supplied with farmyard liquid manure. If any are only just coming into use, it will repay the cultivator to place a temporary framework over the rows and cover with tiffany or some other light material whenever frost is likely to occur.

Celery.—During the last few days the crop has again been attacked with the *Celery maggot*. Every measure should be taken to eradicate this as speedily as possible. Hand-picking is unquestionably the most effective method at this season of the year, picking off those leaves which are worse affected and pinching others with the thumb and finger which are only slightly attacked. It has been found necessary here to give all the late plantings a thorough watering, and in all cases before any earthing up is done care should be taken that the roots are thoroughly moistened. Take the earliest opportunity during fine weather to complete the earthing up as soon as possible, being careful to form the ridges in a pleasing and workmanlike manner. There need not be much hurry to finally earth up the later batches, but a small quantity of soil broken up very finely may be placed about the plants at intervals of about ten days or a fortnight.

Turnips.—This crop has done remarkably well of late, and in some cases those sown at the ordinary time for furnishing Turnips for winter use will prove to be much too early. This experience goes to show the necessity for making frequent and small sowings during late summer and early in autumn. Those roots which are of sufficient size for use should now be lifted and carefully stored. Attend to the thinning of the late Turnips and frequently stir the soil between the rows. Even those plants which are now only just in the rough leaf may yet prove to be very serviceable next spring, and even if the roots are too small to be useful, they will at any rate produce a quantity of leaves for service in the kitchen next spring.

Lettuce and Endive.—Complete the lifting of all *Lettuce* and *Endive* growing in the open garden, and place them in unheated frames or some other suitable structures as soon as possible.

Tarragon and Onions.—Where *Tarragon* is in request for salads or flavouring, a small number of roots should be lifted and planted in boxes, covering these with a layer of peat. Onions for salad purposes should also be sown in boxes and placed in a warm house or frame.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATTOCK, The Hendre, Monmouthshire.

Melons.—The weather has been very favourable for late Melons. Maintain the atmospheric temperature at night at 65° or 70° with proportionate rise by day. Admit air freely when the weather is favourable, but close the ventilators early in the afternoon, and at this season it is necessary to prevent the atmosphere remaining very moist, as this condition would be liable to cause canker. For the same reason exercise the greatest care in applying water to the roots, and be sparing in the use of stimulants. Light top-dressings of an easily soluble chemical manure are better than farmyard liquid manures at this season, when the roots are less active. As soon as the fruits commence to ripen, maintain the atmosphere dry by keeping the ventilators partially open by day, and to a lesser degree by night also, at the same time employing an adequate amount of fire heat.

Tomatoes.—Plants grown for fruiting in winter must have the lateral shoots removed regularly, and their leading growths carefully secured to the trellis or stakes. The blossoms should be pollinated by artificial means at midday. Employ careful ventilation, keeping the atmosphere in circulation both by day and night, and if a moderate degree of warmth is maintained in the water pipes it will keep the atmosphere comparatively dry. These conditions are essential both to ensure the free setting of the fruits and to prevent them from splitting during the ripening process. As the crops of fruit become heavier, an occasional top-dressing of bonemeal or a similar manure should be applied to the roots, and when the pots have become filled with roots a top-dressing of loam mixed with wood ashes and fine mortar rubble will be necessary. Older plants which have nearly finished fruiting may be cleared away, and the fruits they bear should be placed in a warm house and kept dry. Seeds may now be sown thinly in pans for raising plants to fruit early in spring. Pot the plants singly into small pots as they become fit, and report them when necessary. Keep them near to the glass in a house having an atmospheric temperature of from 55° to 60°.

Cucumbers.—The winter-fruited plants will now have commenced to bear fruit. Endeavour to keep the growth of the plants firm and healthy. The temperature at night should be 65° to 70°, and may be allowed to rise by day to 75° or 80°. Ventilate the house very carefully during favourable weather, and prevent the atmosphere becoming excessively moist. Stop the young growths regularly and tie them to the trellis, allowing them rather more freedom than is usual in the case of summer-fruited plants. If overcrowding is practised, it will certainly shorten the fruiting period. Top-dress the plants occasionally with fibrous loam mixed with flaky leaf-mould and decomposed horse-droppings, applying these when fresh roots are seen to have come to the surface. Later plants should be potted-on as they become fit, and be given a position near to the glass in a light house.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, OCTOBER 17.—German Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—48.6°.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, October 14* (6 P.M.): Max. 65°; Min. 54°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, October 15* (10 A.M.): Bar. 30.1; Temp. 60°; Weather: Sunshine.

PROVINCES.—*Wednesday, October 14* (6 P.M.): Max. 58° Lancaster; Min 53° Mayo.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY.—
At 67 & 68, Cheapside, E.C., Dutch Bulbs, by Protheroe & Morris, at 10.30.

MONDAY.—
Unreserved clearance sale of Nursery Stock at Myrtle Road Nursery, Crowthorne, by Protheroe & Morris, at 12.

TUESDAY.—
Second annual sale of Nursery Stock at Tivoli Nurseries, Hollington, Hastings, by order of Mr. T. Relfe, by Protheroe & Morris, at 11.30.

TUESDAY, WEDNESDAY, AND THURSDAY.—
Three days' sale of Nursery Stock at Shortlands Nurseries, Guildford Road, Ash, by order of Mr. H. Sleet, by Protheroe & Morris, at 12.

WEDNESDAY.—
A consignment of 1000 cases Japanese Liliums, received direct, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 1.
Palms, Azaleas, Rhododendrons, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.

FRIDAY.—
Unreserved clearance sale of Fruit Trees at Fairley Farm and Elms Farm, Cheshunt, by order of Messrs. T. & G. Oyler, by Protheroe & Morris at 12.
Imported Odontoglossum crispum; also Established Orchids, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

For some time past the cultivation of the Camphor tree for commercial purposes has been carried on, even in Formosa, its native country, under the fear of a diminishing trade. Synthetic camphor has been talked about for many years past, and, like the chemical production of indigo, which has threatened the Indian planters with extinction, there has been, and is still, the fear of the triumph of the chemist over the planter in the future supply of the camphor market. Incidentally it may be stated that under the new Patents Act, which came into operation recently, a factory has been erected chiefly for the chemical manufacture of indigo by a German firm on the Manchester Ship Canal near Chester, and no one can tell how soon a similar factory for the production of camphor may follow.

The competition between the two kinds of camphor is sufficiently apparent, when we find both products side by side in the London market, with a strong tendency by the makers of the synthetic product to bring the prices of their article considerably below those of refined natural camphor. With the present camphor supply in the hands of such shrewd commercial people as the Japanese, and with the introduction of the Camphor tree into various other countries, a process that has been going on for several years past, the future of the European trade has become a

kind of Chinese puzzle. Thus the Japanese Minister of Finance, in an official report issued a short time since, drew attention to the circumstance that if Japan wished to retain the control of the camphor trade in future years, and to meet the ever-increasing demand, she must bestir herself by extending the cultivation of the tree, which requires forty or fifty years' growth before any satisfactory return can be expected. He further said that while thus encouraging the production and manufacture of camphor the Government intended also to promote the exportation of the finished article, and commissioners had been sent to Europe and the United States to investigate the conditions affecting the demand. About the same time that this report was issued a statement also appeared from the United States Consul at Tamsui, of an interview with the chief of the Camphor Bureau of Formosa. In this it is stated that the manufacture of camphor in Formosa affects only those trees of fifty years old or upwards, inasmuch as the cutting down of trees of a less age is forbidden. Recent investigations indicate that the supply of mature trees will, at the present rate of cutting, become exhausted in less than fifty years. The old trees now standing are confined to the mountainous eastern half of the island in regions, for the most part, inhabited by savage tribes. These mountains are covered with dense jungles, and the work of making roads, in order that the camphor forests may be rendered available for profitable exploitation, must involve the expenditure of much time and labour, besides which the sanitary conditions of the country are such as to produce fever amongst the labourers. A thousand coolies were taken by a Japanese company into the Daito prefecture a few years ago for the purpose of exploiting the camphor forests, and 33 per cent. of the workers were completely incapacitated by fever. The greater part of the camphor at present produced in the island comes from the Toon prefecture. Between 1900 and 1906 the Japanese Government planted about three million young trees, and it is intended to follow this up by planting 750,000 in each successive year.

There are said to be two distinct varieties of the Camphor tree grown, one producing the camphor of commerce and the other producing only camphor oil. There would appear, however, to be some mistake in this, as will be seen later on.

Private firms in Formosa wishing to engage in the cultivation of Camphor trees are supplied with young plants from the Government nurseries. Although the Customs returns for China show that 12,000 piculs of crude camphor were exported from that country in 1906, yet the Formosan authorities fear no competition from that source, and the reports of camphor planting in Ceylon, Florida, Texas, and Mexico do not disturb the prospects of the Formosan product in the eyes of the authorities. They contend that the more Camphor trees planted the less likelihood there will be of the successful production of an artificial substitute.

The subject is interesting from two points of view. First, it must be remembered that pharmaceutically genuine or natural camphor is alone acknowledged by the British Pharmacopoeia, while synthetically-prepared

camphor is principally and increasingly in demand for the manufacture of celluloid and smokeless powder. Referring to the statement that two varieties of the Camphor tree are grown in Formosa, one yielding camphor and the other camphor oil, we may quote from a recent report of Sir A. Hosie, Acting Commercial Attaché to H.M. Legation at Peking, where he says: "Not only is camphor distilled from the camphor wood chips up country, but the oil resulting from this distillation is brought to Foochow in airtight old kerosene tins, re-distilled, and made to yield some 50 per cent. of its weight in camphor." The process is described as a very crude one, the oil being poured into the retorts, and the distilled oil after passing through the worm is received into kerosene tins, which are placed in tanks of water, where they stand for twenty-four hours to cool and to deposit the camphor in the bottoms of the tins. "The oil is then poured off and redistilled as many as sixteen or seventeen times, until the camphor has all been extracted."

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We are informed by the secretary that the Rev. W. WILKS, M.A., secretary of the Royal Horticultural Society, has forwarded a cheque for £10 to the funds of this institution, being the proceeds of the harvest thanksgiving offertories at Shirley Church.

SOUTH-EASTERN AGRICULTURAL COLLEGE, WYE, KENT.—The prizes and diplomas for 1907-8 Session will be given away and the inaugural address for the 1908-9 Session delivered by the Right Hon. Sir HORACE PLUNKETT, F.R.S., on Wednesday, October 21, at 3.15.

THE FRANCO-BRITISH EXHIBITION.—In addition to the firms mentioned in the report of the Horticultural Show recently held at the Franco-British Exhibition, Messrs. CLIBRANS, Altrincham, were awarded a Gold Medal for an exhibit of vegetables grown at their trial grounds at Bramhall, Cheshire.

TRAFALGAR DAY CELEBRATIONS.—We are informed that the design of Mr. G. W. BELLGROVE for the decoration of the Nelson Column on Trafalgar Day (October 21) has been accepted by the Navy League for the ninth successive year. The work will be carried out by Messrs. BELLGROVES, LTD., of Holly Lodge Gardens, Grove Park, Chiswick. Four venetian masts are to be fixed at the base of the column proper, and the historical signal will be hoisted in four sections, "England expects—that every man—will do—his duty," flags measuring 6 feet by 4 feet being used. On a cornice in bronze bas-relief will be a cluster of red oak 20 feet in diameter. The base will have an effective grouping of Palms and flowering plants, and will be festooned with Laurel, leaving spaces for the different emblems which will be sent by the various branches of the Navy League.

CLOTH FROM PINE LEAVES.—It appears from notes that have appeared in *The Technical World Magazine*, of America, that a sort of cloth is being manufactured from the needles of the Bull Pine, *Pinus ponderosa*. It is said that the tree sustains no damage from the deprivation of its leaves, an optimistic belief which experience will perhaps fail to justify. At any rate, this industry, if it should become extensive, will add another to the many uses to which Pines are now turned. We have ourselves seen very strong cordage manufactured in Europe from the roots of the Scots Pine.

DISTRIBUTION OF PLANTS.—The Commissioners of His Majesty's Works and Public Buildings intend to distribute during the autumn among the working classes and the poor inhabitants of London, the surplus bedding-out plants in Hyde Park, and Regent's Park, and in the pleasure gardens, Hampton Court. If the clergy, school committees, and others interested will make application to the superintendent of the park nearest to their respective parishes, or to the superintendent of Hampton Court Gardens, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution.

RETIREMENT OF SIR DANIEL MORRIS.—We learn that Sir DANIEL MORRIS, K.C.M.G., has resigned the post of Imperial Commissioner of Agriculture for the West Indies. Sir DANIEL MORRIS is well known to many of our readers, some of whom will remember him as Assistant Director of the Royal Gardens, Kew, an office which he held from 1886 till 1896, when he received the appointment which he is now resigning. As treasurer of the Royal Horticultural Society, Sir DANIEL did much to re-establish the finances after the Society's disastrous period at South Kensington. He has throughout his official career evinced the liveliest interest in the agricultural prosperity of the Colonies, and for 20 years before he was appointed to the West Indies he had been sent to various Colonies on missions connected with economic botany. In the West Indies he has established the inter-Colonial conferences, which have proved of considerable value in the dissemination of information, as well as in the gathering up and discussion of the numerous economic problems which arise in connection with the extension of agricultural operations in the tropics. The revival of the cultivation of Cotton in the West Indies has been greatly influenced by the stimulus given by his department, while good work has also been done in many other directions. Especial mention may be made in this connection of the investigations on the numerous diseases that are apt to become so acute under the conditions of tropical agriculture. Sir DANIEL will carry with him the hearty good wishes of a large circle of friends, who will regret his retirement from a post which he has filled with conspicuous ability.

GARDENING AT OLYMPIA.—In connection with the Ideal Home Exhibition inaugurated by the *Daily Mail*, which will remain open until the 24th inst., a section is devoted to horticultural and allied products. A spacious wing of the building is set apart for the exhibits in this section, and the whole has been laid out by Messrs. JAMES VEITCH & SONS, LTD., Chelsea. The use of turf has been extensively employed, and well-designed beds and borders have been planted with ornamental shrubs and trees by the firm mentioned, whilst some flower-beds have been furnished by Mr. HENRY ECKFORD, Wem. Messrs. JAS. VEITCH & SONS also exhibit an admirable collection of Apples and Apple trees, including a remarkable dish of Chas. Ross variety, whilst adjoining are varieties of ornamental gourds. Nearly opposite this exhibit is another display of Apples, also vines and Apple trees in pots, shown by the KING'S ACRES NURSERY, LTD., Hereford. Messrs. SUTTON & SONS, Reading, are represented by a group of vegetables pleasingly set in banks of Liliums, edged with Lily of the Valley and Astilbe. They have collections of Tomatoes and Potatoes, including interesting species of Solanum; also Melons, Onions, Gourds, Celery, Radishes and other vegetables. Appliances for the French garden are shown by Messrs. DUNCAN, TUCKER & CO., Tottenham, and the FRENCH CLOCHES COMPANY, Evesham, while Messrs. WATKINS & SIMPSON, Tavistock Street, Covent Garden, planted the frames and cloches set on

manure beds with Lettuces, Radishes, and Cauli-flowers. The STUDLEY HORTICULTURAL COLLEGE show the students' handiwork in rearing poultry, the making of butter and cheese, bee-keeping, and the exhibit contains a few plants, also bunches of large-berried but badly-finished Grapes. The college have frames arranged on the "French" system. Pergolas, summer-houses and other garden appendages are distributed about the building by Messrs. BOULTON & PAUL, Norwich, whilst Messrs. MESSENGER & CO., LTD., Loughborough, have erected a small greenhouse and furnished it with plants. This firm, in addition, show their specialities in boilers. The most pretensions exhibit is a rock-garden with waterfall, arranged by Messrs. PULHAM, LTD., 71, Newman Street, London. Massive stones are disposed with good effect, and from the top water pours down in great volume and flows past a stone bridge and between stepping-stones, afterwards forming a small pond. Messrs. RANSOM, SIMS & JEFFERIES, Ipswich, show garden rollers and lawn mowers. Mr. WALTER VOSS displays garden implements, insecticides, chemicals for horticultural use, hose and other sundries. There are also appliances for bee-keeping, poultry and rabbit housing, incubators, fencing, and other things of use on an estate.

GOLDEN WEDDING.—Mr. and Mrs. HENRY WRIGHT, The Gardens, Southfield, Hurley, Leeds, writes a correspondent, celebrated their golden wedding on the 5th inst. Mr. WRIGHT is 76 and his wife 72 years of age. Mr. WRIGHT has served his present employer (Mr. GROSVENOR TALBOT) and his late father for almost 48 years. He has been a very successful exhibitor at the Leeds, York and Newcastle shows. Mr. HENRY WRIGHT was one of the founders of the Leeds Professional Gardeners' Benefit Friendly Society, and for more than 40 years has been an energetic and trustworthy member, having passed through the chair. He is held in high esteem as a successful gardener in the northern counties. Mr. and Mrs. WRIGHT have had 12 children. Two sons and four daughters are now living. They have 14 grandchildren.

SILVER WEDDING.—On the 30th ult., writes Mr. JOHN MCKERCHAR, Mr. and Mrs. F. CAPP, The Gardens, Charters, Ascot, entertained a party of friends to celebrate their silver wedding. The party inspected the well-kept gardens and pleasure grounds. Among the numerous presents was one from E. IVESON, Esq., as an appreciation of the esteem in which he holds Mr. CAPP. Mr. CAPP has held several appointments as head gardener. Under his direction Sir WEETMAN PEARSON'S gardens at Padlockhurst, Sussex, were renovated and a very fine range of new glass erected. Later he formed the new garden at Cavenham Hall.

THE FRUITERERS' COMPANY.—The annual dinner given by the LORD MAYOR and the LADY MAYRESS to the Fruiterers' Company was held on the night of the 8th inst. at the Mansion House. Before the dinner the Master of the Fruiterers' Company, Mr. A. J. BARBER, presented the LORD MAYOR with a fine collection of British-grown fruit. He stated that formerly the Corporation possessed the right of taking toll in kind of all fruit brought into the City. The difficulties of collection led to the toll being commuted to an annual gift of English-grown fruit to the LORD MAYOR. Sir JOHN BELL expressed his thanks. After dinner the LORD MAYOR, in proposing the health of the Fruiterers' Company, said that by their energy they had called the attention of the agriculturists of this country to the fact that there was still an industry which had been neglected. The guild had offered prizes to both small and large growers and had stimulated the movement for fruit-growing on commercial lines. Mr. BARBER, in responding, said the guild re-

ceived its charter in 1515, but there was evidence to show that its inception dated from a period long anterior to that time. He regretted that more fruit was not grown in this country to meet the requirements of the markets, and said that 90 per cent. of the trees in English orchards had never been touched with the pruning knife. If they received proper attention they would amply repay the labour spent upon them. In these days of lack of employment such matters should be considered.

NOTES FROM THE NORTH-WEST.—We have received the following notes by Sir HERBERT MAXWELL, Bart., from Monreith:—"Flowers of the waning season being always prized, it is useful to note any desirable additions to the list of better-known, but invaluable, autumnal plants, such as Japanese Anemone, Torch Lilies, Asters, &c. A recent notable acquisition is *Geranium Wallachianum*. I believe there is some doubt about the correct name. I obtained it two or three years ago from Mr. T. SMITH, of Newry. It begins to flower in June, but reserves its chief display for autumn, being now (October 12) sheeted with flowers of a charming clear blue, with white centres. Of low, spreading habit, it climbs into neighbouring shrubs to the height of 2 or 3 feet. *Artemisia lactiflora*, one of Mr. WILSON'S acquisitions from China, is a fine bold plant, growing 3 feet high, with Spiræa-like white plumes. Cuttings rooted in the previous autumn flower late, and make a nice group with seedlings of *Astilbe Davidiana* which come into bloom several weeks later than older plants. *Hemerocallis aurantiaca* major strikes a different note of colour, producing large blossoms of rich, soft orange hues, rising from very handsome foliage. We have not enough sun in the north to make it worth while growing *Plumbago Larpaten*; it flowers too late, putting out in early October just enough brilliant blue sparks to make us wish for more. The Knot-weeds—a genus of endless variety and extraordinary diversity—afford a beautiful late flowerer in *Polygonum polystachyum*, which is at present a mass of feathery spray of a charming pearly-white, 2 feet high. The Groundsels are as variable in form as the Knot-weeds. Their bloom has all passed away, except the rose-coloured *Senecio pulcher*, which continues to open its gay flowers till it is cut down by frost. It is rather a fickle plant, difficult to establish and apt to disappear without apparent cause; but when suited with a cool soil, with a little peat and a sunny exposure, it spreads into a respectable clump. It will not ripen seeds on our northerly coast. Among the *Iaulas* the latest is *I. Hookeri*, which still displays its lemon-coloured rays. The name of the *dryas* of British botanists is also attached to the most beautiful shrub at present in flower, namely, *Hypericum Hookerianum* (*oblongifolium*); no novelty, indeed, but too seldom seen in good condition; disliking hot soils and dry climate, it luxuriates in the moist climate of the west. It is a taller and far finer plant than *H. patulum*, which is sometimes supplied in its place. Closely resembling it in its flowers, but of humbler stature, is *H. triflorum*, all three species being at their best at the end of September, as is also the hybrid *H. Mozerianum*. They all like a deep, light soil consisting of peat and loam, and strike readily from cuttings. The white *Escallonia exoniensis* flowers more freely in autumn than the prettier *E. grandiflora*. Of all the shrubby *Veronicas* the most continuous bloomer is *V. parviflora*, which I confess I cannot distinguish from *V. salicifolia*. The former has been sent to me by nurserymen when I tried to get the latter. *V. parviflora* naturalises itself very freely by seed, and is altogether a desirable shrub. Can anybody tell me why I can get no satisfaction out of *Kalmia latifolia*? *Rhododendrons* luxuriate here, but coddle *Kalmias* as I may, I cannot get more than a niggardly allowance of flower,

just enough to swear by—and at. Young Laburnums seem to have gone mad this autumn, several of them being covered with blossom. *Arundo conspicua* has failed to send up flower-spikes this year, perhaps owing to the cold, wet summer of 1907; but Pampas Grass is doing as usual."

HISTORIC FOREST FIRES.—In a circular issued by the Forest Service of the United States Department of Agriculture a condensed history is given of some of the great forest fires which have occurred on this continent. The Miramichi (New Brunswick) fire of October 7, 1825, in nine hours destroyed a belt of forest 80 miles long and 25 miles wide. One hundred and sixty persons perished; nearly a thousand head of stock and 500 buildings were burned. The Peshigo (Wis.) fire of October, 1871, was even more severe; it covered an area of more than 2,000 square miles. Between 1,200 and 1,500 persons lost their lives. Other fires which occurred about the same time in Michigan were most destructive, the estimated loss in timber being about four billion feet board measure and in money value over \$10,000,000. The most destructive fire of more recent years was that which started near Hinckley, Minn., September 1, 1894. The town of Hinckley and six other towns were destroyed; about 500 lives were lost and more than 2,000 persons left destitute. The estimated loss in property was \$25,000,000. *Weekly Florists' Exchange.*

AMERICAN FORESTRY.—Harvard College, says *Horticulture*, has recently made another addition to the land it is acquiring in Worcester County for forestry purposes, having purchased the Dexter estate of 43 acres.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

FLOWERS OF SPENSER.—The title of Miss Kent's book is *Flora Domestica*. What I wrote of the Ash was that one of its names was "Ebony," not Heben, and that spear shafts were made of that wood. I did not dispute that the Heben of Spenser is, in some instances, the Yew; but I think it is a case for differentiation. Hazel, Elm, and other woods, as well as Ash, were used for a cheaper class of bows, and much curious information on the subject will be found in the early issues of *Archologia*. As to the cause rather than lack of material was the cause for condensing the former notes, which, however, I thought were sufficiently full. I am very much obliged to Canon Ellacombe for his kind words regarding myself, which I appreciate very highly indeed. *R. P. Brotherton.*

TRAINED FRUIT TREES.—Some four or five years ago I planted some horizontally-trained Plum trees that I had from Messrs. J. R. Pearson and Sons, the originators, I believe, of this system of training. Though the time that has elapsed is probably too short in which to form definite conclusions, I have learnt something from my experience, and, having had fan-trained and horizontally-trained trees growing on a wall side by side, I have been able to compare results. To speak generally, if I had unlimited wall space and wanted to cover it quickly, I should adopt the fan shape. If a comparatively narrow space required covering on a wall 11 feet high, I should prefer the trained shape. The latter shape diminishes the flow of sap towards the extension shoots, and it is difficult to get them to grow more than 6 feet from the main stem, especially the lower tiers, unless the ends are turned up as in the Verrier palmette shape. At the same time, if not palmetted short in May, a good deal of strong breast wood will grow from the middle of the tree, further weakening the extension shoots. I think the chief defect lies in the difficulty of renewing branches. Occasionally it will happen that a weak extension shoot bears only fruit blossoms, and after bearing dies. The only way then is to train in the shoot nearest to the

end, and one suitable is not always easy to find. Pruning is easily done if pinching the laterals in late spring is carried out, and cut back to 4 or 5 inches in winter to make them break back. In my case this plan seems to induce heavy bearing, and the tree does not become crowded with foliage. *L. Fosbrooke, Ravenstone Hall, Ashby-de-la-Zouch.*

—There need be no more difficulty in training Plum trees fan-shaped on a wall, than in training Peaches and Nectarines in the same manner. Plum trees are liable to lose a branch occasionally through gumming or other cause, and on a fan-shaped tree that vacancy can be speedily filled. With an horizontally-trained tree it is very difficult, if not impossible. That Pears generally are grown horizontally is probably as much a matter of nurserymen's recommendation as to any other cause. I have seen in years past superb fan-shaped Pear trees growing and cropping well. Horizontal training owes very much of its popularity to its neat aspect, and gardeners are often proud of the martinet-like appearance of their trees, each branch being arranged in mathematical order. But how often one sees such trees with only a few fruits on them? How commonly, with such trees, are the fruit on the younger wood, the spurs on the old wood, near to the vertical centre, being too weak to bear fruits. *D.*

THE SPARROW PLAQUE.—That an influential society has at last been formed, with the object of exterminating rats, mice, and sparrows, does not give cause for so much surprise as the fact that such a society has not been formed years previously. True, since the plague scare of a few years ago, a desultory campaign has been carried on against the rat in some of our larger seaports, but no very systematic or concerted action has been inaugurated in the country as a whole. Organised action cannot well be taken in any movement having for its object the destruction of noxious animals except under the auspices of a Government Department, or a powerful and well-advised society, working on thoroughly scientific lines. No doubt, in so far as rats are concerned, very few persons will be inclined to question the advisability of exterminating them. When, however, the sparrow is considered—with which the horticulturist and agriculturist are more nearly concerned—a few may be found to raise some kind of protest. We shall no doubt be reminded that the damage it does is readily seen, whereas the good offices it performs are not so easily appreciated, and may only be discerned when it is too late to rectify the mistake committed by its extermination. There are those who are ever ready to point out the folly of upsetting what they are pleased to term "the balance of nature." If this argument should be advanced in that, the present case, it may be pointed out with much truth that the existence of the sparrow plague itself is the result of interference with the balance of nature. Had not such a general destruction of hawks, owls, and other birds of prey taken place during the past 40 or 50 years, sparrows would not have been nearly so plentiful as they are to-day. I well remember the "sparrow-pie" as a dish much relished by country people, and have vivid recollections of the night attacks made by vultures (I am not sure what the name is, but I saw, and lanterns) upon the roosting places of sparrows. This culinary delicacy no doubt accounts for many thousands of birds in a year, but, apparently, its preparation means too much labour for the housewife of to-day, and thus what was once used, though on a small scale, as food, has gradually become a pest. Those best acquainted with the destructive habits of our native sparrow, together with its remarkable fecundity, have good reason to fear that the question of its extermination is faced with energy and determination, very serious times lie before the gardener and farmer. Hardly any garden produce is free from its attacks; flowers, fruit, and seeds are all alike destroyed by it. During a recent visit paid to Scotland I noticed great breadths of the outer edges of fields of Oats quite denuded of its grain—all the work of the ubiquitous little sparrow! While it is so easy to recognise the damage done by this bird, it is quite another matter to devise cheap and efficacious methods of exterminating it, or of even taking successful precautionary measures against its attacks. In the case of cereal crops, farmers are finding that the less cover afforded to birds

the less is their loss of grain; hence they cut down all hedges as low as possible. In the ordinary garden every tree and bush provides more or less suitable cover, from which sparrows are enabled to inflict damage upon growing crops with but little chance of their being interfered with. It is generally admitted that the use of thread, paper, rags, or broken looking-glasses invariably represent so much wasted time, as such devices are little better than useless. Rats and even mice may be destroyed in great numbers by a virus, or by specially-prepared bait, either of which method is, for obvious reasons, entirely out of the question when dealing with the sparrow. Apparently the only safe and feasible method of eradicating this pest is by the formation of branches of the Anti-Vermin Society throughout the country, where payment—from funds possibly augmented by a grant from the Board of Agriculture—may be made for eggs and dead sparrows at so much per gross. This is a repulsive method of dealing with the question, and one that will undoubtedly tend to the undoing of much good teaching inculcated in our schools during recent years, but no other course seems open. Even should this drastic step be followed, the question of bird migration has still to be reckoned with. *P.*

BULBS IN HOLLAND.—We have read with interest the article on p. 243, and note that you remark upon the enormous increase in the export of bulbs from that country. We would draw attention to the fact that British enterprise has not allowed this enormous trade with Holland to be entirely in the hands of the Dutch, as we have frehold bulb farms at Abbs-leep in North Holland, and there are other English firms who have farms in that country. *James Murray & Sons.*

SOWING SEEDS OF PERENNIAL PLANTS.—In sowing seeds of perennials, especially of hardy perennials, which are difficult to germinate, or which normally take several months to germinate, I have found it an excellent practice to cover the soil after sowing, with loose moss. In seed pans so covered, Liverwort never appears on the surface of the soil, even when kept for 18 months or longer. Other advantages are that the moss prevents the watering from beating down the soil, and so, when necessary, enables it to be done freely and without any special care. It also keeps the surface of the soil in a state of equable moisture for a much longer time than when exposed to the air, and so obviates the need of close attention and frequent waterings. I sow a good many Daffodil and Iris seed every year in July and August, which, normally, do not germinate—at least, the majority of the seedlings do not appear above the soil—until January to April. The pans are sunk in frames, and, if covered with moss, I never have any trouble with Liverwort, the soil never needs loosening up, and the seeds germinate in due course with practically no further attention than an occasional watering in August, till about February. The best moss for the purpose is the common green moss that can generally be found in plenty on the north side of the bank and hedge in country lanes in early spring. Sphagnum moss will do, and it is better used in an emergency, but it is so heavy and has less "spring," and so does not protect the soil so well from an occasional heavy watering or rain, and it is also more difficult to remove when the seedlings appear. A layer of from one quarter to one half an inch of moss is sufficient, spread evenly and loosely immediately after the seed is sown and before watering. To prevent the moss from being blown off in a high wind, when the seed pans are in frames or in the open, it is well to lay pieces of 3-inch mesh wire netting across the top of the pans or pots. Though this use of moss as a covering is especially advantageous in the case of hardy perennials, it is equally good for all seeds of perennials sown under glass, as well as for half-hardy annuals, &c., and I have used it successfully with fine seed such as *Gloxinia*, *Begonia*, and *Streptocarpus*. It is far preferable to the usual plan of covering the pan with glass and brown paper; there is much less damping off, for it allows a freer circulation of air, while giving sufficient and yet not too dense shading. If the moss is used fairly fresh it is easily taken off when the seedlings appear, as it clings together, and can be peeled off in one layer. *A. J. Bliss.*

SOCIETIES.

ROYAL HORTICULTURAL.

OCTOBER 13.—The Hall was well filled with exhibits on the occasion of the fortnightly meeting held on this date, and although hardy garden flowers predominated, there were many good displays of Orchids, greenhouse plants, ornamental shrubs and trees, and hardy fruits, especially choice being the collection of Apples staged by Lt.-Col. Buxton, Cheveney.

The members of the FLORAL COMMITTEE had many novelties brought to their notice, and of these they recognised seven as worthy of Awards of Merit.

The ORCHID COMMITTEE granted two First-Class Certificates, three Awards of Merit, and two Botanical Certificates.

At the afternoon meeting of the Fellows a lecture was delivered by Mr. Cecil Hooper, F.S.I., on "The Influence of Geology on Horticulture."

Floral Committee.

Present: H. B. MAY, Esq. (in the chair), and Messrs. Chas. T. Drury, T. W. Turner, G. Reuthe, Chas. Dixon, Arthur Turner, H. J. James, Herbert J. Cutbush, W. P. Thomson, W. J. James, E. H. Jenkins, George Paul, Ed. Mawley, J. T. Bennett-Poe, John Green, J. S. Walker, E. J. Bowles, Chas. E. Pearson, Chas. E. Shea, F. Page Roberts, W. Howe, R. Hooper Pearson, J. F. McLeod, J. Jennings, Walter T. Ware, and George Gordon.

MESSRS. CUTBUSH & SONS, Highgate, London, N., showed beautiful Carnations in vases, staged with great skill, also on another table a large exhibit of *Pernettya mucronata* of the white-berried variety; a batch of *Skimmia japonica* finely in berry, and examples of the Otaheite Orange—*Citrus sinensis*, with several dozen fruits on miniature trees. (Silver Flora Medal.)

MESSRS. H. B. MAY & SONS, The Nurseries, Upper Edmonton, made a fine exhibit with hardy Ferns in about 100 varieties, and all of evergreen species. There were many beautiful variety forms with plumose, crested and other variations, in addition to the types. Some of the finer were *Polystichum angulare divisiolum magnificum*, the name being descriptive of the plant; *Polypodium Schneideri*, *Polystichum aculeatum acutibolum*, *Scolopendrium vulgare crispum*, *S. v. digitata*, and other varieties, *Lomaria chilense*, *Polystichum aculeatum cruciatum*, and *Ceterach officinarum*. (Silver Flora Medal.)

A few Ferns were arranged by Messrs. EGGETT & SONS, Thames Ditton, amongst pieces of tufa, a porous stone that is suitable for constructing feries.

MESSRS. HEATH & SON, Cheltenham, showed a collection of scented and Pelargoniums and a Carnation named Lady Audley Neeld (carmine and white); the variety is said to be a hybrid between *Souvenir de la Malmaison* and a variety of Tree Carnation.

MESSRS. JAMES VEITCH & SONS, LTD., King's Road, Chelsea, filled the table they usually occupy at these meetings with tiny plants of *Citrus japonicus*, all with abundant fruits; and a batch of the winter-blooming *Begonia Elatior*, a very effective variety having large, rose-coloured inflorescences and a compact habit of growth. As a separate exhibit Messrs. Veitch showed coniferous plants, including many new and rare species. They were very ornamental in character, and the shape, colouring, habit, &c., varied greatly in the different subjects. Among the more interesting were *Pinus Armandii*, a new Chinese species having triangular leaves, six in the spur, the foliage bearing a glaucous tint; *Abies Veitchii*, an elegant plant with a silver reverse to the leaves; *Sciadopitys verticillata*, represented by several fine plants; *Pinus ponderosa*, *Cryptomeria japonica elegans*, *Cedrus atlantica glauca*, *Cupressus arizonica*, *C. lusitanica glauca*, the rare *Torreya myristica*, *Pinus Laricio pygmaea*, a finely-coloured specimen of *Retinospora filifera aurea*, *Abies pungens glauca pendula*, *Pinus Sabiniana*, a rare species, *Libocedrus macrolepis* with glaucous habit, and *Abies (Tsuga) canadensis pendula*. (Silver-Gilt Banksian Medal.)

Another large group of coniferous plants was presented by Messrs. JEFFERIES & SON, Cirencester, who showed finely-formed plants of *Abies*

pungens glauca, *Cryptomeria elegans*, *Cupressus Lawsoniana* in great variety, *Cupressus nootkatensis* (syn.), *Thujaopsis borealis*, *Cupressus filiformis elegans*, *Cedrus atlantica glauca*, *Abies Veitchii*, and many others. (Silver Flora Medal.)

MESSRS. PAUL & SONS, Old Nurseries, Chess-hunt, displayed sprays of shrubs and trees having autumn-tinted foliage, brightly coloured berries, also variegated foliage, and a few were in flower. The various species of Oaks and Maples were especially pleasing, *Quercus palustris* being remarkably finely coloured. We may also mention *Sambucus nigra marmorata*, with silver variegation; *Rosa sericea pteracantha*, with large red-coloured spines; *Liquidambar styraciflua*, Paul's Purple Peach, *Aronia floribunda*, showing brilliant autumn tints; *Cotoneaster nummularifolia*, a dark purple-berried species; *Pernettya mucronata*, crowded with its pretty berries, *Hamamelis arborea* and *Calycanthus occidentalis*, both these being in flower.

MESSRS. R. HARKNESS & CO., Hitchin, made a pretty show with Roses having, considering the late season, excellent blooms of Maman Cochet, a variety that has done remarkably well this year; Betty (rose and citron shades), Frau Karl Druschki, Mme. Abel Chatenay, Coralina, White Mamel, C. Cochet, and other well-known kinds. (Silver-Gilt Banksian Medal.)

MESSRS. H. LANE & SON, Great Berkhamstead, showed a small exhibit of Roses and a mauve-coloured Carnation named the Mikado.

An exhibit of Roses was also made by Messrs. FRANK CANT & CO., Colchester. The blooms were mainly of garden varieties, there being brightly-coloured examples of Queen Mab, Sunset (a small yellow Tea Rose), Countess of Derby, Gustave Regis, Hugh Dickson (a fine dark Rose with perfume), Mrs. E. Mawley, and others. (Silver Banksian Medal.)

MESSRS. V. V. WELLS & CO., Merstham, Surrey, arranged a pleasing group of Chrysanthemums, Pentstemons and border Phloxes. The back of the group was composed of tall evergreens arranged in three clumps, the central one having at the base large blooms of Japanese varieties of Chrysanthemums, very fine being blooms of Mrs. A. T. Miller (white), and Henry Perkins (reddish suffusion on a yellow ground). The border varieties of Chrysanthemums were in great assortment, some of the finer being Mrs. A. Thomson (dark yellow), Diana (bronze), Mrs. J. W. Scott, and Blue Boy (a shade of bronze mingled with rose). Mrs. J. W. Scott (a white bloom of medium size), and Ernest Daudet (yellowish bronze) are other pleasing Chrysanthemums. The Pentstemons represented a good strain of these useful bedding plants, and the exhibit was staged with excellent taste. (Silver-Gilt Banksian Medal.)

Dahlias in great variety were well shown by Mr. M. V. SEALE, Sevenoaks, Kent, among a setting of Grasses, sprays of coloured foliage, and berries. The collection was replete with all the choicer kinds, principally of the Cactus-flowered type. A row of *Ceanothus* varieties was in the foreground of the group, some of the kinds having rose-coloured inflorescences. *Dahlia Mauve Perfection* is a very charming flower. (Silver Banksian Medal.)

MESSRS. JOSEPH CHEAL & SONS, Crawley, Sussex, showed many excellent blooms of Cactus and single-flowered Dahlias, also some of the small flowered Cactus type, of which the varieties Goldfinch (yellow, tipped with rose), The Bride (white), Mary (white and red) are desirable kinds. The single Dahlias were very bright, Flora, Peggy, Miss Moreland, Fugi San, Columbine and Formosa being especially good. Messrs. DOBBIE & CO., Rothsay, N.B., and Mark's Tey, Essex, showed brightly-coloured blooms of Dahlias of the Cactus-flowered section, all of the choicer kinds and effectively staged.

A table was filled with berried and ornamental-leaved plants by Mr. L. R. RUSSELL, Richmond. The specimens were of a size suitable for table decoration, and embraced *Skimmia Fortunei*, *Aucuba japonica*, *Fleagaus Simoni*, *Ives* in variety, *Eurya latifolia*, *Vernonia Andersonii* variegata and numerous *Conifers*.

Mr. H. J. JONES, Hither Green, Lewisham, showed blooms of the white Chrysanthemum Money-maker, and a large number of perennial Asters (Michaelmas Daisies). The latter flowers were shown in great variety, some of the best

being those labelled Ryecroft Pink, Calliope (a fine bold spike of large pale blue flowers), May Crum, Thora, Thirza, F. W. Burbridge, Précoité (purplish), Diana, &c. (Silver Banksian Medal.)

Hon. VICARY GIBBS, Aldenham House, Elstree (gr. Mr. Ed. Beckett), made a magnificent display with perennial Asters (Michaelmas Daisies), many of the varieties being seedlings of worth. Two of the best are described below under awards. The exhibit extended across the building at the end opposite the clock, and merited much praise from the artistic and effective manner in which the sprays were displayed. There was no overcrowding, but each stand of blooms was seen to advantage in bold, brightly-flowered sprays. A selection of the varieties includes *cordifolius albus*, bearing innumerable starry blossoms faintly tinted with rose; H. J. Cutbush, of the *Amellus* strain, with rose flowers; Star Shower, tiny white blossoms set in abundance on the tall sprays; Wm. Marshall (blue), and Mrs. Raynor (deep rose). (Silver-Gilt Flora Medal.)

Mr. FRANK BRAZIER, Caterham, Surrey, showed perennial Asters, border Phloxes, and Chrysanthemums set up in a pleasing style with tall Pampas Grass (*Cortaderia*) at the back. The bronze-coloured Nina Blick Chrysanthemum and the paler Polly were noticeable in this pretty group. (Silver Banksian Medal.)

Mr. G. REUTHE, Keston, Kent, had a small but select group of hardy plants. A batch of *Nerines* included many new hybrids of merit, but the finest was *N. Corsica major*, although N. Prince of Orange ranks very high as a good decorative flower. In addition to the *Nerines* were bulbous plants, *Lapageria*, *Berberidopsis corallina* in fruit, *Tropæolum tuberosum*, *Escallonia oreogensis*, &c.

MESSRS. BARR & SONS, King Street, Covent Garden, London, W.C., exhibited seasonable garden flowers, including many border varieties of Chrysanthemums, *Tritonias*, perennial Asters, *Phlox decussata*, the rose-coloured *Lupin*, *Cortaderia argentea*, and the rose-coloured variety *Cimicifuga simplex*, *Cladonia pruinulosa*, and several autumn-flowering bulbous plants.

MESSRS. GEO. BUNYARD & CO., LTD., Maidstone, Kent, showed many fine garden flowers, having good examples of the best species in season. A prominent position was afforded sprays of their new *Physalis* with its brilliantly-coloured calyces.

MESSRS. G. & A. CLARK, LTD., Dover, Kent, had hardy flowers in variety, amongst which compound flowers such as Chrysanthemums, Asters, Gaillardias, Rudbeckias, *Helienums*, &c., predominated. They showed a fine white *Cimicifuga*, labelled C. simplex Clark's variety, that is stated to have been already recognised by award under another name.

MESSRS. T. S. WARE, LTD., Feltham, showed boxes of Alpine plants, and at the back an assortment of hardy flowers.

The Misses HOPKINS, Shepperton-on-Thames, showed a few Alpine plants and hardy garden flowers.

MESSRS. HUGH LOW & CO., Bush Hill Park, Enfield, showed Carnations, small Orange trees in fruit, freely-flowered plants of *Chironia exifera*, and a row of the handsome *Dracena de Grootii*.

A novelty of much interest was seen in small fountains staged by Messrs. Wm. WOOD & SONS, Wood Green. The water is thrown up by a small electric motor concealed in the base of the fountain, and is thus used over and over again. Some were small enough to place upon a dining table.

Nerine Bowdenii was displayed by Messrs. R. VEITCH & SONS, Exeter, the plants having been continually grown in the open for three years. The species has already been granted an Award of Merit under the name of N. excellens major (see fig. in *Gardeners' Chronicle*, November 26, 1904, p. 365). The Award of Merit was on this occasion confirmed. This was also done in the case of *Cimicifuga simplex*, shown by Messrs. G. & A. CLARK, LTD., Dover.

AWARDS OF MERIT.

Aster Climax.—A new variety of Michaelmas Daisy, with exceptionally large blue flowers. The growths are tall, and in the herbaceous border the bright flowers would show to

advantage, being rendered more conspicuous by a bright-yellow centre.

Aster bladenhoides.—A variety of the Ericoides section having large sheaves of starry-white flowers, each shoot having numerous axillary growths crowded with the pretty blossoms. The variety is a tall grower. Both were shown by the Hon. VICARY GIBBS, Elstree (gr. Mr. Ed. Beckett).

Dracena Brantii variegata.—The handsome foliage is heavily variegated with rich, golden colour, and in the younger leaves tinted with rose. The plant is as robust in habit as the type, the specimen exhibited being about 2 feet in height and furnished with foliage to the pot level. (Shown by Messrs. CUTBUSH & SONS.)

Nerine. *Countess of Altamont*.—A hybrid variety resembling a pale-coloured form of *N. Prince of Orange* or of *N. Corsica major*. It blooms very freely. (Shown by F. D. GODMAN, Esq., Horsham.)

Rose Mrs. Edward J. Holland.—A Hybrid Tea variety of pleasing form, the buds being coloured a deep rose-pink, but in the older flower the petals are paler. The foliage and shoots are robust, indicating a strong grower.

Rose Mrs. Alfred Tate.—A variety of the Hybrid Tea section, with rather few petals, so that the older blossoms open almost like a single Rose. The buds are exquisite both in colour and shape: the general tone is coppery-red, formed by a base of yellow suffused with reddish pink.

Rose Mrs. Wakefield Christie Miller.—This is also of the H.T. class, and the largest of the three. The blossoms are globose, the centre petals being rose-pink, but as they fall back they assume a silvery sheen. The colouring is very bright. (These Roses were shown by S. MACGREGGY & SONS, Portadown, Ireland.)

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Harry J. Veitch, de B. Crawshaw, H. Little, W. Boxall, R. G. Thwaites, F. J. Hanbury, Stuart H. Low, A. A. McBean, C. H. Curtis, J. Forster Alcock, J. Cypher, J. Charlesworth, H. C. Alexander, A. Dyer, W. H. White, H. A. Tracy, H. Ballantine, Gurney Wilson, W. Bolton, and Sir Jeremiah Colman, Bart.

H. S. GOODSON, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), staged a good group, for which a Silver Flora Medal was voted, and in which, among a good selection of *Odontoglossums*, were a fine blotched variety of *O. crispum*, flowering for the first time, and a large specimen of a hybrid of *O. Rolfeae* well flowered and splendidly grown. Specially noteworthy were *Laelio-Cattleya* St. Gotthard (see Awards), *Brasso-Cattleya* Digbyano-Warneri, large in size and delicately coloured; varieties of *Cattleya* Iris and other hybrids; three strong plants of *Cypripedium* insigne Harefield Hall, and *Cypripediums*.

HENRY LITTLE, Esq., Baronshalt, Twickenham (gr. Mr. Howard), staged a group, for which a Silver Flora Medal was awarded. The plants were finely grown and well illustrated the beauties of the crosses of *Cattleya Bowringiana*, as it included a noble specimen of *Cattleya Mantinii* inversa, with five spikes of over 30 flowers; C. Mrs. J. W. Whiteley, C. Portia, C. Wendlandiana, *Laelio-Cattleya* Tenos, and other hybrids of C. Bowringiana.

MESSRS. SANDER & SONS, St. Albans, secured a Silver Flora Medal for a fine group, in which were some good novelties (see Awards). The back of the group was composed of splendid examples of the blue *Vanda cœrulea* of the best type. With them were some showy hybrid *Cattleyas* and *Laelio-Cattleyas*, including a very large and finely-coloured form of C. Lord Rothschild magnifica, a pretty new *Laelio-Cattleya* with Indian yellow sepals and petals and ruby-coloured lip; C. Venus, Sander's variety, a fine product of C. Iris and C. aurea; C. conspicua (Gaskelliana × bicolor), a pretty hybrid of C. Iris class; a strong plant of *Cypripedium* Niobe Excelsior with several handsome flowers; C. Actæus auriferum, and an interesting selection of curious species of *Orchids*.

MESSRS. CHARLESWORTH & CO., Haywards Heath, Sussex, were awarded a Silver Flora Medal for a select group, in which were several dark-coloured forms of *Laelio-Cattleya* luminosa, L.C. Golden Oriole, and other *Laelio-Cattleyas*;

Oncidium incurvum album, *Trichopilia nobilis* alba, *Phaius flavus* variety albus, with clear white flowers having brown lines on the lip; good *Vanda Kimballiana*, hybrid *Miltonias*, *Cycnoches Egertonianum* of the dark-purple type; *Odontoglossum Lambeanum* and other *Odontoglossums*, *Zygo-Colax Wigianianus*; a very fine form of *Cymbidium Gammanum*, and the singular and rare *Chondrorhyncha Lendyana* with white flowers.

MESSRS. JAS. CYPHER & SONS, Cheltenham, were awarded a Silver Flora Medal for a well-arranged group, at each end of which were a number of *Cypripedium* Faircraeanum. The group were a fine selection of varieties of *Dendrobium Phalaenopsis Schröderianum*, and some good hybrid *Cypripediums*, of which C. Milo, "Westonbirt variety," was the darkest and best. *Phaio-Calanthe* Chardwarensis had bright-yellow flowers with red-brown markings on the lip. *Cattleya Mantinii nobilior* was well represented.

MESSRS. MOORE, LTD., Rawdon, Leeds, were awarded a Silver Banksian Medal for a good group, including *Cattleya Venetia*, a pretty hybrid of C. maxima with bluish-white flowers, the labellum being veined with purple; varieties of C. Armstrongiana and C. Iris; a very finely-coloured cross between *Laelio-Cattleya* Cappei and C. Iris, with orange-coloured sepals and petals and elongated ruby-red lip with a yellow line down the centre; *Cypripedium* Miss Louisa Fowler, a very dark form of C. Faircraeanum, C. insigne Harefield Hall, and other *Cypripediums*.

MESSRS. STANLEY & CO., Southgate, secured a Silver Banksian Medal for a group of good varieties of *Cattleya labiata* and C. Minucia, together with a few botanical *Orchids*.

MESSRS. J. & A. A. McBEAN, Cooksbridge, were awarded a Silver Banksian Medal for a very fine group, in which the magnificent specimen of *Cattleya fulvescens* with 14 flowers and the fine mass of *Cattleya Bowringiana* with nine very strong spikes each secured a well-merited Cultural Commendation for the grower. The finely-grown selection of *Odontoglossums* included good *O. crispum* and *O. Lambeanum*; and the *Cypripediums* the very fine yellow and white C. Rossetti; a good C. Memoria Moensii with a showy purple and white dorsal sepal; C. Albertianum, a dark form of the C. triumphans class; C. Maudiae, and several fine C. insigne Sanderæ with five to seven flowers.

MONSIEUR MERTENS, Mont St. Amand, Ghent, secured a Silver Banksian Medal for a selection of good hybrid *Odontoglossums*, a finely-coloured seedling *O. crispum*, and a good *Miltonia* Bleuana.

MESSRS. HUGH LOW & CO., Enfield, received a Silver Banksian Medal for a group containing *Vanda Kimballiana*, *Cymbidium erythrostylum*, a good *Cattleya Gaskelliana* alba, *Cypripedium* Milo Westonbirt variety, C. A. de Lairese Low's variety, a dark and massive form; C. Thalia giganteum, with a very large dorsal sepal; *Cycnoches peruvianum*, *Miltonia vexillaria* Leopoldi, *Oncidium incurvum* album, *O. longipes*, and two plants of the rare white *Laelia Perinii nivea*, with a pale-pink front to the lip.

LT.-COL. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent *Sophro-Laelio-Cattleya* Danæ aurea, a pretty variety, with yellowish sepals and petals tinged with rose, and bright-yellow lip with purple apex; *Brasso-Cattleya* Heatonense var. delicata, with a finely-formed white flower tinged and veined with lilac on the fringed lip.

C. J. LUCAS, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent *Laelio-Cattleya* Dorothy Strachan (L. Dayana × C. Eldorado), a pretty dwarf hybrid with silver-white sepals and petals, the former tinged and the latter veined with lilac and bearing purple marks on the margins, the lip being purple.

MESSRS. HEATH & SONS, Cheltenham, staged a group including *Cypripediums*, *Dendrobium formosum* giganteum, and *D. Phalaenopsis Schröderianum*.

The Committee inspected a number of paintings of *Orchids* executed by Miss M. WALTERS ANSON, Dovedale, Lewin Road, Streatham, and recommended a Silver Flora Medal. The drawings were very faithful, but exception was taken to the unsuitable backgrounds of some of the pictures. This was explained by the artist stating that the pictures were painted thus to order.

AWARDS.

FIRST-CLASS CERTIFICATES.

Laelio-Cattleya St. Gotthard (L.C. *Cottoinea* × C. *Hardyana*), from H. S. GOODSON, Esq., Fairlawn, Putney (gr. Mr. G. E. Day). A noble *Cattleya*, and among the largest and best in shape. The broad sepals and petals are bright purplish-rose; the very large labellum deep ruby-crimson.

Cypripedium Charlesworthii Bromeliawanum, from H. J. BROMILOW, Esq., Rann Lane, Rainhill, Lancashire (gr. Mr. W. J. Morgan). A true albino of the good type of C. *Charlesworthii*, and a very remarkable and beautiful plant. The flower is of C. *Charlesworthii* form, the petals and lip pale green, without any trace of the brown and purple tinting of the ordinary form; the dorsal sepal being snow white, with the slightest marking of green at the base, the staminate also white.

AWARD OF MERIT.

Laelio-Cattleya Cornelia Westonbirt variety (L. *pumila* × C. *labiata*), from Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O. (gr. Mr. H. G. Alexander). A showy hybrid, with flowers equal in size to those of C. *labiata*, but of firmer substance. Sepals and petals rose colour; lip ruby-crimson with light-rose margin.

Odontoglossum Pescatorei Sanderæ, from MESSRS. SANDER & SONS. An unique variety, for among the many thousands of plants imported nothing similar has appeared. The flowers are large and very broad in all the segments. The sepals are white with light-brown blotches on the lower halves, some small spots extending to the middle. The petals are white with a ray of light brown spots in the lower half, the spotting in both sepals and petals having a slight purple tinge. The lip is large and flat, pure white, with yellow crest and some fine purple lines at the base.

Cypripedium Lord Ossulston Sanderæ variety (Lecanum *Clinkaberryana* × *Charlesworthii*). The dorsal sepal is white with a slight rose tinge and a small green base, the rest of the flower being light green. From MESSRS. SANDER & SONS.

BOTANICAL CERTIFICATES.

Cymbidium Dayanum, from MESSRS. SANDER & SONS. A graceful species, described by the late Professor Reichenbach in the *Gardener's Chronicle*, 1869, p. 710, from a specimen received by the late Mr. John Day from Assam. The specimen shown by MESSRS. SANDER was sent by their collector Micholitz from Annam. It has slender, arching, green leaves and racemes of white flowers with purple lines on the petals and dark purple sides to the labellum. It has been king in the *Botanical Magazine*, t. 7, 863, and in King and Pantlin's *Orchids of the Sikkim Himalaya* as C. *Simulianum*, and of the C. pulcherrimum of gardens is probably a form of it.

Megacalinum calabrum, from MESSRS. SANDER & SONS. A singular species, with flattened dull-purple rachis bearing on each side a row of small flowers of the same colour.

Fruit and Vegetable Committee.

Present: George Bunyard, Esq. (in the chair), and Messrs. Jos. Cheal, Owen Thomas, P. W. Tuckett, John Harrison, Joseph Davis, G. Keynolds, John Basham, P. C. M. Veitch, Alex. Dean, J. Willard, Geo. Wythes, A. H. Pearson, and Edwin Beckett.

The usual array of seedling Apples was seen, but none met with the approval of the Committee, neither did a variety of Melon. A magnificent sample of Chas. Ross Apple was presented by Mr. JAS. WEBBER, Minehead, Somerset, and for these fruits a Cultural Commendation was awarded.

Apples of exceptionally fine quality were shown by Lt.-Col. BORTON, Chesham Huntton (gr. Mr. James Whittle). Not only were the fruits large and of fine colour, but they were regular in sample and free from blemish of skin. The varieties were numerous, the exhibit extending around one end of the south annex. Varieties that were especially fine were Chas. Ross, Allington Pippin, Wealthy, Baumann's Red Winter Reinette, Bismarck (exceptionally fine), Gasconne's Scarlet Seedling, Mère de Ménage, Belle Dubois, Barnack Beauty, Warner's King, Sandringham,

Peasgood Nonsuch, and Emperor Alexander. (Silver-Gilt Hogg Medal.)

Messrs. HUGH LOW & Co., Enfield, London, N., showed a few varieties of Apples, for which a Silver Baaksian Medal was awarded.

A basket of small Black Cluster Grapes was shown by Mr. JAMES DEAKLEY, 14, Newlands Park, Sydenham, under the name of Brandt Grapes.

Mrs. MILLER, Moyleen, Marlow, showed Moyleen Chutney, a delicacy of very agreeable taste; also jams, Elderberry syrup, and other conserves.

A Cucumber seedling from Worthing Telegraph was shown by Mr. JAS. DUTTON, Ham Arch Nurseries, Worthing.

BRITISH GARDENERS' ASSOCIATION. (LEEDS BRANCH.)

OCTOBER 3.—The Leeds members of the above association held their first meeting for the new session on the above date. Mr. Donoghue presided over a moderate attendance. Mr. Mansell, managing director of Messrs. Moore, Ltd., Orchid nurserymen, was the lecturer, his subject being "Orchids." Mr. Mansell condemned the old practice of severe drying at the resting season in order to produce flowering-spikes, such treatment being detrimental to the constitution of the plants. The resting season is best brought about by a slightly lower temperature and a reduction of water, but at no time should the plants be allowed to shrivel for lack of moisture. Mr. Mansell exhibited a group of Orchids in bloom consisting of *Dendrobium Phalaenopsis*, *Schroderianum*, *Vanda cœrulea*, *Odontoglossum Harryanum*, *Oncidium tigrinum*, seedling *Lælio-Cattleyas*, *Cypripedium* insigne varieties, and species of botanical interest. J. D.

SCOTTISH HORTICULTURAL.

OCTOBER 6.—The monthly meeting of the above association was held at 5, St. Andrew Square, Edinburgh, on this date. Mr. Whytock, the president, occupied the chair, and there was a good attendance of the members. Professor R. Stewart MacDougall, M.A., D.Sc., delivered a lecture on "Insecticides: Sprays and Spraying." Professor MacDougall first gave a general outline of the structure and methods of feeding of insects which prey on plants, and he impressed upon his audience the necessity for distinguishing between biting insects and sucking insects in applying insecticides, also for properly timing their application so as to catch the stage in the life-history of the insect at which the specific would be most effective. The same treatment would not do for combating a gnawing weevil as applied for a sucking aphid, and in the case of a leaf-rolling larva it is of little use in applying a spray after the grub had wrapped the leaf-blade around its body. The various kinds of insecticides and winter washes were dealt with.

There was a fine exhibit of early-flowering Chrysanthemums from the open border shown by Mr. A. THOMSON, Dean Gardens, Edinburgh. The group consisted of 110 varieties, most of which were of recent introduction, and some of them were new. A First-Class Certificate was awarded to a new early-flowering Chrysanthemum of a bronzy-yellow colour, named Miss Balfour Melville, raised by Mr. WM. ROBERTSON, Pilrig House, Edinburgh. There were also exhibited new early-flowering white Chrysanthemums "Heubla" and "Cassandra," raised by Mr. J. C. YOUNG, Edinburgh; a seedling early Potato raised by Mr. D. ARKLEY, Woodlea, Auchterarder; fruits of *Crataegus pyracantha* Lelandii and spikes of perennial Asters from Mr. C. COMFORT, Broomfield, Davidson's Mains; dwarf Polyantha Roses from Messrs. TOWN & Co.; and flowers of *Justicia* carnea from Mr. A. JOHNSTONE, Hay Lodge, Edinburgh.

Four new members were elected.

The paper for the next monthly meeting, to be held on November 3rd, will be by Mr. David Nicoll, Rossie, Forgandenny, the subject being "Chrysanthemums: The Growing and Showing of Large Blooms."

HORTICULTURAL CLUB.

"A HOLIDAY ON THE NILE."

OCTOBER 13.—At the Hotel Windsor, on this date, the house dinners of the Horticultural Club were resumed. Mr. Harry J. Veitch presided, and between forty and fifty members and guests were present to hear Mr. Arthur W. Sutton's promised description of "A Holiday on the Nile," illustrated by a large number of beautifully coloured lantern slides from photographs taken by Mr. Sutton during his travels. His previous lecture on "A Camping Tour from Damascus to Petra in Arabia" had evoked great expectations, which were in every way realised, the brilliancy, sharpness, and artistic effect of many of the photographs exciting admiration, coupled with surprise when Mr. Sutton explained that many of them were snapshots taken whilst riding horse, donkey, or camel. The interest of the lecture, however, was largely enhanced by the lecturer's allusions to the political, historical, and artistic lore of ancient and modern Egypt. A splendid view of Cairo, for instance, gave occasion for an allusion to its conquest by a small body of exhausted British soldiers, barely 150 in number, under the command of Major Watson. A previous set of slides gave a series of charming pictures of the Suez Canal starting from Port

and walls of the ancient Temples, views of which were presented, possess interest to the antiquarian apart from their merely artistic merits. Several views were given of the great dam at Assouan, designed to control the water supply of the Nile and so reduce the risks of periodical famine to which ancient Egypt was as subject as the Egypt of the later date. The slides illustrating this magnificent specimen of engineering design and skill formed a fitting conclusion to the lecture. A very hearty vote of thanks to Mr. Sutton concluded the meeting.

Obituary.

ALEXANDER CROMBIE.—On October 2 this well-known Scottish gardener passed away, at the ripe age of 82 years. Deceased started as gardener at Crumond House, near Edinburgh; from there he went to Dunlop House, Ayrshire, at that time famous for exotic plants and Orchids. From that place he moved to Caldwell and The Kilns, Falkirk. At The Kilns Orchids were a great feature, and Mr. Crombie was very successful in their cultivation. For 30 years he had charge of the gardens and grounds at the Royal Asylum, Edinburgh, where garden operations were carried out on an extensive scale. Nine years ago Mr. Crombie retired from this position on a pension, and he has spent his latter years in comparative ease. Deceased possessed a striking personality and never made an enemy. In his early days he was a keen and successful exhibitor, and could relate many stories of the earlier flower shows held in Edinburgh. His eldest son, David, is gardener to the Marquis of Waterford, at Curraghmore. Robert Laird.

DR. DOUGLAS L. FREELAND.—It is with regret we announce the death of Dr. Douglas L. Freeland, of Delamere, Snodland, Kent. The deceased was one of the best known of the rising generation of rosarians, for he was an excellent judge, a keen and successful exhibitor, and an enthusiastic grower. The larger portion of his charming garden was devoted to the flower he loved so well, and his arches and pillars of Roses were at once the delight and envy of his many friends. Dr. Freeland was still in the prime of life, and he leaves a widow and a wide circle of friends to mourn his loss. He died on Saturday, 10th inst., and was laid to rest at Snodland on Wednesday last.

GARDENING APPOINTMENTS.

[Correspondents are requested to write the names of persons and places as legibly as possible. No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]

Mr. JAMES HUGHES, for 2 years Foreman under Mr. GEO. BURROWS, at Spanish Gardens, Hemel Hempstead, as Gardener to Lord Elcho, Stanway House, Winchester, R.S.O., Glouc.

Mr. W. HARRISON, late Gardener to F. S. BRICE, Esq., J.P., Middlemead, Leicester, as Gardener to R. H. RIMMINGTON WILSON, Esq., Broadland Hall, Bolshetton, near Sheffield.

Mr. W. S. SHARP, for the past 55 years Gardener to H. N. GLADSTONE, Esq., as Gardener to Mrs. PARKETTES, Ince Hall, Ince, Lancs.

Mr. F. CHAPMAN, for 5 years and 9 months Gardener to A. FRANCIS, Esq., Hernewood, Sevenoaks, Kent, as Gardener and Manager to H. BROESSEL, Esq., Hernewood, Bolton, Lake George, N.Y., U.S.A.

Mr. J. H. PUCKERING, for 51 years Gardener at Bookham Lodge, Cokham, Surrey, and for 4 years and 3 months in the service of R. C. ADAMS BECK, Esq., as Gardener to J. COLLARD VICKERY, Esq., Leigh Holme, Stritcham, S.W.

Mr. E. QUANTRELL, previously at Southwood, Bickley, as Gardener to R. T. SCOTT, Esq., Carrick Grange, Sevenoaks.

Mr. G. W. CHAPMAN, late Gardener at Garston House, Watford, as Gardener to C. GREENWAY, Esq., Stratton Chase, Chalfont St. Giles, Bucks.

Mr. B. NICHOLS, for the past 2 years Foreman at Halkon Hall Gardens, as Gardener to Jons Bamford, Esq., Oldfields Hall, Uttoxeter, Staffordshire.

Mr. W. READ, late Foreman at Chatsworth, as Gardener to Mr. F. C. ARKWRIGHT, D.L., J.P., Willersley, Cromford, Mallock.

Mr. W. BAILEY, late of Beeston Hall, Norwich, and previously at Holly Grove, Windsor Park, as Gardener to J. RUTHERFORD HARRIS, Esq., J.P., Langbely Castle, Newport, Monmouthshire. (Thanks for your donation of 2s. for the R.G.O.F. Box.)



THE LATE ALEXANDER CROMBIE.

Said, particular allusion being made to the admirable service established by Messrs. Thomas Cook & Sons for Oriental trips. Views of the Pyramids followed, including the oldest of all, the step-Pyramid at Sakkara supposed to have been built about 6,200 years ago. The largest Pyramid is estimated as having been about 70 feet higher than St. Paul's Cathedral, with a base as large as Lincoln's Inn Fields. The immense blocks of stone composing it had to be conveyed some 600 miles from the quarries at Assouan. The tombs of the kings, although of later date, being estimated at only some 3,000 years, are remarkable for being entirely excavated on hill-sides. Externally nothing is seen but small cave-like apertures in the soil, and yet penetrating these a series of great halls is reached after passing through a long and spacious corridor. Every inch of the surface of the walls and the ceilings is occupied by brilliantly-coloured mural paintings of hieroglyphic and pictorial character, the colours being evidently as bright to-day as when first applied. By means of flash-lights a number of photographs were obtained, but it is not known what system of lighting was used by the artists, since nowhere is there a trace of smoke, such as primitive torches or other illuminants would presumably produce. These pictures, as do most of the carvings covering the gigantic columns

JOSEPH SHOESMITH & Co., LTD.—The above named company has been registered with a capital of £17,000 in £1 shares, to acquire the business carried on at Halifax and Brighouse by J. SHOESMITH, Market Gardener. Private company. Registered offices, Skircoat Green Road, Skircoat, Halifax.

DEBATING SOCIETIES.

BRISTOL AND DISTRICT GARDENERS.—

The first meeting for the season 1908-1909, was held on Thursday, October 8, at St. John's Parish Rooms. Dr. Burdley Eaton presided over a large attendance to hear Mr. Cooling, of Bath, read a paper on "Autumn Flowering Roses." The lecturer said beds of one variety produced the best effect upon lawns, and grouping the varieties in borders was preferable to indiscriminate planting. Mulching the beds in the spring and in the autumn was advised; spent hops being the best material for a spring dressing. Mr. Cooling said the term Hybrid Perpetual was somewhat a misnomer, and the newer varieties of Hybrid Teas were more worthy to be described as perpetual bloomers, for they continue to flower until cut down by frost. Varieties that withstand mildew are Souvenir de Pierre Notting, Dainty, Queen Mai, Rainbow, Papa Goutier, and Gruss an Teplitz. H. W.

CARDIFF GARDENERS.—

The opening meeting for the new season of the above association was held at St. John's Schools, Queen Street, on October 6, by H. R. Farmer presiding. An address was given by Mr. F. G. Treseder on "Seed Culture and the Countries which Produce the Greatest Quantities." The lecturer stated that California and Germany were the two largest seed producing countries in the world and from these countries we obtained our largest supplies.

HAYWARDS HEATH GARDENERS.—

A meeting was held on Wednesday, October 7, at which Mr. Geo. Porter (gardener to Lieut.-Col. Dudley Sampson, D.L.O.) read a paper on "The Standard of Judging." The course of the discussion which followed the Rev. T. G. Wyatt raised the important question of a fixed standard for judging at shows. He pointed out what a help it would be to exhibitors if all judges acted on the same principles. Exhibitors should know beforehand what standard they had to work to and by what standard their work would be judged. What was required was a common standard to bind both exhibitors and judges. This was provided by the Royal Horticultural Society in their Rules for Judging, which, he thought, should be strictly followed and accepted as the rules for all. Gardeners' associations and societies ought to press this matter forward continually, and he suggested that secretaries of shows, when inviting anyone to act as judge, should state that the R.H.S. book was to be followed. To put this in the schedule was insufficient; it should be made a condition of judging, and if it was done generally it would greatly help and encourage exhibitors.

READING AND DISTRICT GARDENERS.—

The opening meeting of the autumn session of the above Society was held in the Abbey Hall, Reading, on October 5. The president of the association (Mr. Alderman F. B. Parfitt) occupied the chair. About 100 members assembled, and a paper on "Perennials" was given by Mr. T. Tunbridge, who illustrated his remarks by a collection of these flowers. At the close of the lecture a discussion was invited, and an instructive debate ensued. A group of seedling *Cryptomeria gracilis* was staged by Mr. A. F. Bailey, and a collection of fruit was exhibited by Mr. G. Tovey. Several new members were elected.

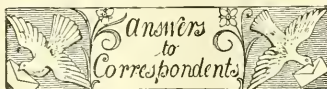
REDHILL, REIGATE, AND DISTRICT GARDENERS.—

On Monday, October 5, the members of this association held their second meeting of the season at the Newby Hall, Mr. Bound presiding, supported by Mr. W. Rose. Three new members were enrolled. Mr. Horace Wright gave a lecture on "Sweet Peas."

Publications Received.—*Beautiful Flowers and How to Grow Them*. Part I., edited by Horace J. and Walter P. Wright. (London: T. C. and E. C. Jack.) Price 1s. net.—*The Royal Botanic Gardens, Kew*, by W. J. Bean. (London: Cassell & Co.) Price 20s. net.—*Tomatos*, by W. Igoulden, F.R.H.S. (London: Agricultural and Horticultural Association.) Price 1d. net.—*Gardens, Past and Present*, by K. L. Davidson. (London: T. Werner Laurie, Clifford's Inn, Fleet Street.) Price 6s. net.—*Annals from the Royal Botanic Garden, Calcutta*, Vol. VI., Part II. Fresh-water Algae from Burma, including a few from Bengal and Madras. By W. West, F.L.S., and G. S. West, M.A., F.L.S. (Calcutta: Printed at the Bengal Secretariat Press.) Price 15s.

ENQUIRY.

TELEPHONE WIRES AND BOWLING-GREEN.—Over our bowling-green there is a line of telephone wires, about 12 in number. These have been there for 10 years. Underneath these wires, and in line with them, the grass shows signs of exhaustion. In dry weather it gets bare before the other parts of the green, and generally shows a yellowish appearance. There is nothing wrong with the drainage of that part, nor is there anything peculiar in the nature of the soil. The only theory we can form about the exhaustion of the grass is the drip from the wires. The wires are made of copper. Has any reader had similar experience? R. M.



CARNATIONS: G. F. The plants you refer to as being full of flower-buds should not be reported now, but left undisturbed till after the blooms have developed and passed. The plants, having been specially prepared for winter blooming have filled the pots with roots, and these roots must on no account be allowed to suffer from dryness during the flowering stage, or the blooms will suffer in consequence. When the flowers are past, the plants should be potted firmly into pots 6 inches in diameter, and kept slowly growing in a well-ventilated house. They must not be subjected to a close, damp atmosphere; fresh, dry air being an absolute necessity for Carnations. A maximum temperature of 50° to 55° suits them admirably, but during severe weather the heat may be allowed to fall to 45° or 40°. A good potting compost should consist of three parts turfy loam to one part partially-decomposed leaf-mould and a little old mortar rubble, the whole to be thoroughly mixed with plenty of sharp sand, and one 5-inch potful of soot to each barrowful of compost. No dung is required. Carnations preferring a sweet, firm soil as a rooting medium. As a stimulant for the plants when the pots are full of roots, use one of the specially-prepared Carnation manures advertised by reliable firms.

CAULIFLOWER: T. G. The head you send is too far advanced to be at its best condition. It should have been cut earlier. The green colour, you will observe, is not present on parts that are overlapped by others. It is for this reason that cultivators bend some of the leaves over the card in order that it may become blanched. Try this practice another season.

CLEMATIS: DUN. Do not prune either of the varieties you send very severely, but merely thin out the useless shoots.

CODLEUMS (CROTONS) WITH BROWN TIPS: A. H. There is no disease present in the leaves. The damage is due to some cultural error, probably in watering.

CYCLAMEN INJURED BY GRUBS: E. S. The insects you send are the larvæ of the weevil, a pest to plants, in both the adult and the larval stage. See reply to A. K., p. 271, in the last issue.

FUNGUS ON ROSE LEAVES: H. M. This is the autumn stage of the Orange rust fungus (*Uredo roseæ*). Gather and burn all diseased foliage, and spray the plants with dilute Bordeaux Mixture or ammoniated carbonate of copper solution. It will also be necessary to spray the plants next spring before the buds expand with a solution of copper sulphate at the strength of 2 ounces of sulphate in 3 gallons of water.

NAMES OF FRUITS: Capon. Uvedale's St. Germain, a stewing Pear, only soft when decaying. *F. C. J.* 1, Allington Pippin; 2, Hoary Morning; 3, Round Winter Nonsuch; 4, Horned Pearmain; 5, Golden Harvey; 6, Beurré Bosc.—*Eurlich.* 1, Herefordshire Beefing; 2, White Nonpareil; 3, Forester; 4, decayed; 5, Stirling Castle.—*Simms.* 1, Louise Bonne of Jersey; 2, Gilgill.—*F. L.* Lady's Finger.—*E. Knott.* 1, New Hawthornden; 2, Beauty of Kent; 3, Old Nonsuch; 4, Fearn's Pippin; 5, Gasconce's Scarlet; 6, Small Admirable.—*Nye.* Warner's King.—*F. H.* Allington Pippin.—*Philomachus.* 1, Scotch Bridget; 2, Sturmer Pippin; 3, Lady Henniker.—*Wilder.* 1, Blenheim Pippin; 2, Winter Majetin.—*Jaycock.* Pear, Marie Louise; Apple, Nonpareil.—*Brown & Wilson.* Williams Bon Chrétien.—*A. Coleman.* 1, Worcester Pearmain; 2, Dean's Codlin; 3, Cellini; 4, Calville St. Sauveur; 5, King of the Pippins; 6, Warner's King; 7, Belle de Boskoop.

NAMES OF PLANTS: J. Clark. 1, *Crataegus prunifolia*; 2, *Pyrus torminalis*.—*H. E.* 1 and 2, *Cydonia japonica*; 3, *Cydonia Maulei*; 4 and 5, *Coto-*

neaster thymifolia; 6, *Cotoneaster buxifolia*; 7, *Hippophae rhamnoides*.—*A. C. C.* 1, *Eunonymus europæus*; 2, *Clematis flammula*.—*M. Wills.* 1, *Prunus cerasifera atropurpurea*; 2, *Cedrus atlantica*; 3, *Abies Nordmanniana*; 4, *Abies pectinata*.—*Gastbury.* Mimulus (*Diplacis*) glutinosus, a greenhouse shrub, nat. ord. Scrophulariaceae.—*F. E.* 1, *Calceola vesicaria*; 2, *Brassica brachata*; 3, *Oncidium longipes*; 4, *Dendrobium nobile*; 5, *Pteris longifolia*.—*Foreman.* 1, *Adiantum hispidulum*; 2, *Selaginella Widenowii*; 3, *Pteris tremula*; 4, *Lastrea lepida*; 5, *Aspidium falcatum*.—*S. K.* *Gloriosa grandiflora* (Leopoldii), Illustrated Supplement, *Gardeners' Chronicle*, Sept. 10, 1904.—*T. L.* *Hawwell.* *Stauntonia latifolia*.—*H. A.* 1, *Laila longipes*; 2, *Oncidium barbatum*; 3, *Dendrobium Fierardii*.—*T. B.* 1, *Folystichum pungens*; 2, *Nephrolepis tuberosa*; 3, *Nephrodium (Aspidium) molle*; 4, *Lastrea terra*; 5, *Nephrodium molle cristatum*; 6, *Cheilanthes birta*.—*W. D.* 1, *Optiopogon intermedius*; 2, *Bambusa Fortunei variegata*; 3, *Euphorbia Lathyris*; 4, *Lysimachia nummularia*.—*H. T.* *Irland.* 1, *Berberis stenophylla*; 2, *Aralia elegantissima*; 3, *Berberis sinensis*; 4, *Hemigraphis colorata*; 5, *Cotoneaster Simonsii*; 6, *Myrtus (Eugenia) apiculata*; 7, *Euphorbia Lathyris*.—*Young Gardner.* 1, next week; 2, *Prunus Nova-Angliae*.—*Mrs. Kaylor.* 3, *A. densum*; 4, *A. Priebe-Belgi*; 5, *A. N. B. J. Parker*; 6, *A. ericoides*; 7, *A. vimineus*.—*H. W.* *Adiantum cuneatum variegatum*; a common variety in gardens.

PARTI-COLOURED CHRYSANTHEMUM: C. Chester. The abnormality is frequently seen. An illustration of a parti-coloured Chrysanthemum appeared in our issue for December 22, 1906, p. 436.

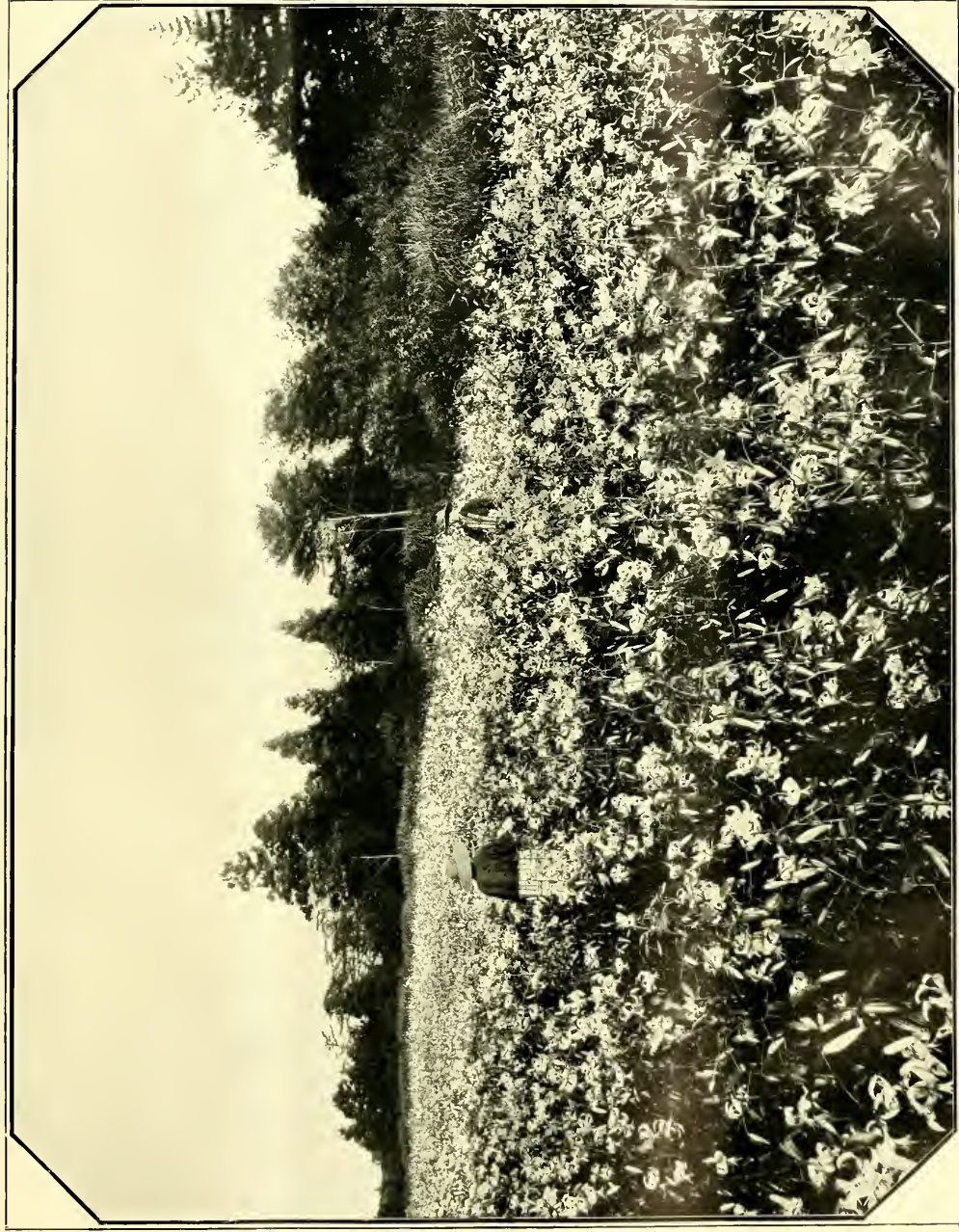
POTATO: Senex, Devon. The correct spelling is Devanah Seedling, as printed on p. 369.

ROOT FROM PALM HOUSE: J. L. This is a form of fungus-mycelium known as Rhizomorpha. It is produced by the weaving together of the fungal filaments into a root-like structure, and it forms a very efficient method of spreading the plant. It occurs very characteristically in the agaric known as Armillaria mellea, which does great damage in Pine woods, the fungus spreading through the soil in the rhizomorpha state and attacking the trees that happen to be near one that has been already infected.

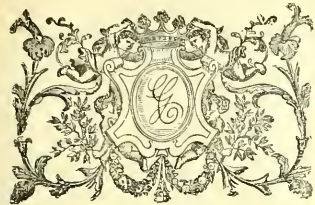
SWANS: A. K. In respect to your enquiry, printed on p. 272, we have forwarded a letter from a gentleman who has birds for disposal.

VINES ATTACKED BY THRIP: A Constant Reader. Now that the fruit has been gathered, fumigate the vinery with tobacco paper, or vapourise it with one of the vapourising compounds. This should be done thoroughly and carefully in the evening of a calm day, when the vines are dry and the ventilators and doors tightly closed. Repeat the operation, if necessary, until all the insects have been killed, keep the smoke cool, and on no account let the fumigating material become ignited. Afterwards syringe the vines each day until the leaves fall. When the vines have been pruned, clean the rods and spurs of all loose bark, and wash them with a hot and moderately strong solution of the Gishurst Compound, working it well into the crevices with a stiff brush; a part of a half-worn spoke brush will answer very well. Repeat the washing before the rods get quite dry. Cleanse the woodwork in the house, and remove the surface of the inside border, replacing it with fresh compost. Next season, should trips reappear, sponge the leaves with a weak solution of soft soap and warm, soft water. A dry atmosphere and much fire-heat during the season the vines make their growth is favourable to the spread of this pest.

COMMUNICATIONS RECEIVED.—*W. R. A. G.*—*T. M. L.*—*M. L.*—*T. H. A.*—*S. E. M.*—*B. D.*—*A. B.*—*T. H.*—*F. S. B.*—*G. G.*—*ANON.*—*C. M. J.*—*J. B.*—*W. A.*—*C. A.*—*H. S.*—*H. G.*—*McA.*—*H.*—*J. W. B.*—*H. W. S.*—*W. T. F. S. N.*—*E. H. C.*—*J. P. R.*—*W. T. K. J. F.*—*H. S. T.*—*W. P. H. W.*—*W. L. C.*—*W. E. G.*—*W. B. H. F.*—*C. H.*—*E. C. Rundle*—*J. Copp*—*G. Rev.*—*C. B. S.*—*Sons*—*A. M. K. B.*—*W. H. A. A.*—*E. P. L.*—*E. H. F.*—*H. J. A.*—*H. J. V. J.*—*R. J. T.*—*L. W. G. F.*—*S. F. W. A.*—*D. F. M. L.*—*P. E. M.*—*T. C. T.*—*L. W. W.*



LILIUM SPECIOSUM MAGNIFICUM, AS CULTIVATED BY THE YOKOHAMA NURSERY COMPANY, LTD., JAPAN.



THE

Gardeners' Chronicle

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CULTURE OF VEGETABLES AT ALDENHAM HOUSE.

THE garden at Aldenham House, belonging to the Hon. Vicary Gibbs, is justly celebrated on account of the vegetables that are grown there. The land is mainly composed of clay, but by a judicious method of deep trenching it has been brought into a thoroughly suitable condition for yielding satisfactory crops. It is proposed to relate a few details of the methods adopted at Aldenham in dealing with the various kinds of vegetables. As a rule, ten dishes of distinct kinds form the leading class at any show, and it is with these that the present article will especially deal.

Cauliflowers form a dish equal in importance to any other. The varieties grown for the various seasons are Walcheren and Magnum for early shows, Early Giant for mid-season, Mammoth for August, with Autumn Giant for September and Michaelmas Broccoli for November. Successive sowings are made to provide plants for the various seasons. For those to be exhibited at the end of August the seed is sown early in February in warmth, but the plants are afterwards

kept in cool conditions in order to induce a sturdy growth. Abundance of space for a free development of the leaves, coupled with plenty of manure and copious supplies of liquid stimulants, are the salient points in producing perfect exhibition specimens.

Celery is necessary for August and the succeeding months. A variety known as Aldenham Pink is, without exception, the finest exhibition Celery; this, with the varieties known as Solid White and Standard Bearer, are difficult to equal. From the middle to the end of February is a good time to sow the seed in boxes of sandy soil in warmth, transplanting the seedlings directly they are large enough to handle and encouraging them to grow sturdily afterwards. The trenches are at least 8 feet apart, and they are taken out during the winter, adding manure freely and leaving the surface in a rough state, so that the soil becomes thoroughly pulverised by frost and rains. Rapid and luxuriant growth is encouraged by affording abundant water supplies, occasionally applying a small quantity of nitrate of soda to cause the plants to elongate. For blanching the plants brown paper is employed instead of soil, as by this method the plants can be assisted by manurial stimulants until the day of the exhibition arrives. From five to eight weeks is required to thoroughly blanch the sticks.

Leeks have of late years sprung into great prominence as a leading exhibition vegetable, for they can now be produced in August with a stem 18 inches long and of even width their whole length without any tapering. Holborn Model and Prizetaker are the leading varieties, the former being perhaps the more uniform in its growth. Much preparation is necessary in order to obtain the best results. The trenches, 3 feet deep, are taken out in the autumn, the soil is exposed to the air, and manure added, including bonemeal and soot. The seed is sown early in January under glass to allow for a long season of growth. The plants are put out early in April, and they are given ample space to allow for a free development of the leaves. Rapid elongation is encouraged by placing glass covers over the plants, which require very careful attention daily. Paper collars are used for blanching the stems, and in the meantime the plants are fed with liquid stimulants, which, when judiciously applied, increase the succulent nature of the Leeks.

Of Peas, Mr. Beckett has raised several new and much-improved varieties, including that known as Edwin Beckett, and the even more popular variety "Quite Content." At one time nine Peas in a pod were thought wonderful; now exhibitors are not satisfied with that number. In addition to the varieties mentioned, Duke of Albany is still a favourite and so is Autocrat, The Gladstone, and Masterpiece. Plenty of space is given between the rows, which run north and south, thus exposing the plants to an equal share of light. The trenches are made 3 feet deep and 2 feet wide. They are taken out in the autumn, exposing the soil to the air to become pulverised. In addition to farmyard manure and vegetable refuse, superphosphate, used sparingly, is a valuable fertiliser. It need hardly be said that constant attention with the water-pot during dry weather is needed to obtain that luxuriance of "bloom"

which the modern exhibition Pea must possess. The stopping of the haulm and thinning of pods receives careful attention; overcropping is rigidly avoided. Three months is a fair time to allow for the growth to perfect from the time of sowing the seed, which is done quite thinly, abundant space being thus allowed for growth.

Carrots in some soils are of easy growth; not so at Aldenham where, as the soil is unsuited to them, much labour is required to achieve such results as are obtained. As to variety, Red Intermediate is that most commonly employed for the shows in August and September. What I term "artificial" treatment is necessary. Holes are bored from 2 feet to 3 feet deep with an iron bar, and the hole filled with a suitable compost. Ample space is allowed for a free development of the leaves, as upon this much of the success depends.

Tomatoes require about six months' growth from the time of sowing the seed. A variety possessing smooth skins is preferred to those of a corrugated nature. A first-rate form of the "Perfection" type is difficult to beat, such as Duke of York and At being standard varieties. All superfluous growths are removed promptly; thus the plants are employed in perfecting the fruit, not in conveying feeding matter to useless spray. The plants are grown in pots and are kept to single stems. A sharp look-out is maintained to detect the first symptoms of any disease.

Cucumbers, although not regarded as of primary importance in keen competitions, are, nevertheless, sometimes employed in good exhibition collections. The varieties Matchless, Delicacy, At, and Peerless are desirable sorts, the aim being to obtain medium-sized, straight and succulent fruits.

Brussels Sprouts are necessary for October and November shows. Few varieties are grown, Dwarf Gem, and Exhibition being the best types. The former is quite dwarf in habit, but produces a large number of well-formed, solid Sprouts of moderate size only, which is a point in its favour. The seed is sown under glass in February, thus giving the plants a long season of growth. A space of 4 feet by 3 feet is given to the plants, which ensures that every leaf shall obtain its due share of light.

Onions have lately been brought to such a state of perfection by improved methods of culture that a bulb weighing less than 2 lb. has but a poor chance in close competition. Fortunately, the Onion is not like many other vegetables needing a change of site. At Aldenham Onions have been grown on the same site or near to it for the last 20 years, and this year with great success. Mr. Beckett advocates deep trenching for Onions, being convinced that the roots of Onions penetrate nearly a yard deep. In October the beds are trenched 4 feet deep, adding manure as the work proceeds, with old lime rubble near to the surface. The worst enemy that Onion growers have to contend against is mildew; prevention is the best cure, and this is done by the careful preparation of the soil. An open situation is indispensable, and there must be a free development of the leaf. The varieties most grown are Ailsa Craig, Leamington Giant and Cranston's variety. A long season of growth is required; the seed is therefore sown

under glass on January 1; the plants are afterwards transferred to boxes and placed in rows in their permanent site about the middle of April. They are watered freely in dry weather, adding soot as a leading stimulant. The aim is to produce large, shapely, well-matured bulbs, without a semblance of undue "neck," and these may be seen at Aldenham, not by the dozen, but by the hundred.

Runner Beans in late years have quite ousted Kidney or French Beans from all but the early shows. It is not unusual to see Beans quite straight, even in width, and of a deep green colour 14 inches in length. Scarlet Emperor is one of the best varieties. The

cultivated than formerly. Duke of York, Windsor Castle, Factor, Satisfaction, and May Queen as an early sort, are favourites at Aldenham. Tubers from 2oz. to 3oz. are preferred for seed purposes. Thorough preparation of the soil is important, and space not less than 4 feet by 2 feet should be allowed the strongest-growing sorts. The development of haulm is limited by the removal of surplus sprouts. *E. Molyneux.*

PLATYTHECA GALIODES.

THIS fine greenhouse flowering plant is not often met with in gardens, although it is deserv-

ROOT-PRUNING.

ROOT-PRUNING usually brings before the mind the checking of a too exuberant growth, followed by, or combined with, a degree of fertility that previously had been unknown. But that is by no means all, nor, indeed, the most important effect that root-pruning, when carried out with judgment, produces. Nor ought the operation to be confined to fruit trees. The gardener long ago discovered in root-pruning an efficacious method of preserving his plants in health and vigour, when without it the soil receptacles would have to be increased to an unwieldy size. Many shrubs when young respond to careful restriction of their roots; but when once they are established, it is not impossible to produce considerable harm by a too close cutting in. The great majority of hardy herbaceous flowering plants submit with a good grace to a not too rigorous course of root shortening, displaying, in the succeeding flowering season their charms enhanced as a result of the operation. It is also obvious that some vegetables are not averse from being root-pruned. The finest Parsley, Lettuces, Leeks, and Onions are produced by transplanting, which implies root-shortening, whilst working the soil deeply between the rows of Cabbages and their near allies is well known to improve them.

But it is in fruit culture that the beneficial effects of root-pruning are most apparent. Nor should its employment be confined to a few species, e.g., Apples and Pears, few, if any, fruit producers being incapable of improvement by its means. Consider what follows its application. All healthy young trees planted in fertile soil (as a primary condition) naturally endeavour to rush into size and to extend roots in proportion, fruit production succeeding only when a kind of exhaustion has set in. The fruit cultivator, on the other hand, is in no hurry for a tree to attain to large proportions. In private gardens it is not wanted at all. Judicious shortening of roots lessens exuberance of growth, but not to an injurious extent, gives it a bias to fruit production, and maintains the condition thus set up. But that is by no means all that accompanies root-pruning. At fruit exhibitions it is easy to distinguish the hardy fruits that were produced by trees the roots of which are under control; and such fruits, though perhaps less in size, are more solid, better flavoured, and keep longer in good condition than those from trees whose roots are not, or have not been regularly attended to when young.

Root-pruning should form part of the treatment of fruit trees from the beginning. A maiden tree, planted in autumn, pruned in spring, and allowed to push the desired number of shoots in the season of growth will, if lifted the succeeding autumn and replanted after slightly shortening the roots, make a growth during the second summer as satisfactory as the tree left to itself. But the growth will be harder and more inclined to fertility. The same treatment may be applied during the next autumn, and in the subsequent years the tips of the outer roots may be shortened and fed as required from the surface. Root-pruning when systematically carried out, is altogether different in its results from those produced by it after a long period of unrestricted growth. In the latter case the tree may be seriously crippled or even killed. Even in successful cases, the fruit that follows such violent cutting is inferior to that produced by trees which have been root-pruned regularly when young. The reason is not obscure. The naturally-rooted trees have elaborated a root system, mainly characterised by its wide-spreading nature, accompanied by a relatively small formation of fibrous roots. Root-pruning carried out with judgment, acts, in the first place,



FIG. 123.—*PLATYTHECA GALIODES*: FLOWERS BLUE.

seed is sown in slight warmth in boxes, and the plants are put out in prepared trenches about June 1 at 15 inches apart. They make remarkable growth, reaching a height of 14 feet.

Turnips are a desirable dish in an adverse season, especially for a large collection. No better variety is grown for the summer than Snowball, with Milan, Criterion, and Early Forcing for the earlier shows. Frequent sowings on well-prepared soil is the important point to observe.

Potatoes I have left until the last. No collection, no matter how small, is perfect without them. Nowadays, fewer varieties are

ing of culture on account of the great freedom with which the pretty blue flowers are developed. The plant has a Heath-like appearance, but it belongs to the Nat. Ord. *Tremandraceæ*, and is the only species of the genus. The second name is derived from the resemblance the shoots bear to those of a *Galium*, the leaves being arranged in a verticillate manner, about eight in a whorl. The plants require care in their culture, and succeed best in a compost of fibrous peat, with which has been mixed plenty of silver sand. Watering needs to be performed with soft rain-water only. Propagation is effected by cuttings of the young wood inserted in sand under a bell-glass. The cuttings should be kept shaded from strong sunshine.

as a check to growth, and secondly, it stimulates production of an increased number of fibrous roots, thus altering the growth and increasing the fertility of a tree otherwise inclined to be sterile. A tree not so treated never suffers a check to its growth, though I daresay there are some who will challenge that statement as being not quite correct. The root-pruning of a neglected tree is an endeavour to repair an omission, and so far is to be commended; but it cannot, nor does it, yield results by any means equal to those obtained by an early exercise of the practice.

Still, there are cases in which a tardy falling back on root-pruning is followed by remarkable results. One such case occurred in my experience in connection with certain vines long past their half-century, which had their outside roots all severed close to the wall of the vinery. These plants, after the first year, exhibited a marked improvement, and when after some years a falling off was apparent, a second cutting of the roots several feet further out had a truly marvellous effect in the succeeding season.

The fear entertained by many cultivators that a disturbance of the roots of Raspberries and Strawberries may prove harmful has really no foundation in fact. It is, of course, unreasonable to dig too close to the canes of Raspberries, as it is to Currants and Gooseberries; but anyone who chuses to experiment, especially with newly-planted stock, will be led to acknowledge that root-pruning provides a method of preserving them in a vigorous and fruitful condition which cannot be surpassed by surface feeding. With regard to Strawberries, it may be pointed out that the practice of non-digging is of modern growth, and arises from the desire to have extra large fruits, which can only be successfully obtained from young plants. But it is erroneous to assume that Strawberries cannot be cultivated successfully over a number of years by means of systematically digging between the rows as early as convenient after the crop has been gathered. Fruits of a large size would follow this old system were the crowns to be thinned, but, perhaps, it would hardly repay the trouble. R. P. Brotherton.

ORCHID NOTES AND GLEANINGS.

BRASSO-LÆLIA ROSSLYN

(BRASSAVOLA DIGBYANA × LÆLIA LATONA).

A FLOWER of a pretty though not showy hybrid of the above-named parentage is sent by H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), in whose collection it was raised. Lælia Latona being the result of crossing L. cinnabarina and L. purpurata, the combination Brassavola Digbyana gives interesting features, in which all the species used can, by careful examination, readily be traced. The pedicel and ovary is 3 in. in length. The lanceolate sepals, 2½ inches long, are sulphur-yellow tinged with green, and the ovate acuminate petals are similarly coloured, the veining being slightly tinged with rose. The lip has a tubular base 1 inch long, the front being trumpet-shaped, the lower part elongated and turned down, and the whole tinted pale yellow with a beautiful rose veining extending to the fringed margin.

FOREIGN CORRESPONDENCE.

CROSSANDRA UNDULÆFOLIA.

REFERRING to a note on p. 106, I may say that *Crossandra undulæfolia* is growing well here. I shall be glad to send seeds of it to anyone in exchange for seeds of other interesting plants. M. Buysman, *Hortus Tenggerensis*, Lawang, Java.

THE ROSARY.

NOTES UPON NEW VARIETIES.

(Continued from p. 261).

MME. JULES GRAVEFAUX (*Tea-scented, Souperet et Nolting*, 1901).—This beautiful Rose, which was the winner of the Nickerson Award for the best Tea in general cultivation, was introduced in 1900 or subsequent years. Although I felt constrained to say in my previous note that I wish Mrs. Myles Kennedy had been given this award, I do not want it to be thought that I do not, with every other rosarian, greatly admire this beautiful variety named after the wife of the president of the Rose Society of France. Although called a Tea, it is the result of a cross with a Noisette and a Hybrid Tea. From the first (*Rève d'Or*) it gets its extra vigorous growth. I was not successful with it the first two years, but this year it has done very much better, particularly where trained against a fence treated as a semi-climber. The colour is flesh shaded yellow and a rose-peach centre. The buds are fairly long and pointed, and this year the plants have flowered freely. There is no doubt it is a sort that does much better when thoroughly established. Many rosarians confuse this Rose with Mme. Jules Grolez (H.T., Guillot, 1887), a beautiful silvery-rose coloured Hybrid Tea, exceptionally free blooming, and quite one of our best garden Roses.

MME. CONSTANT SUEPERT (*Tea, Souperet et Nolting*, 1905).—Another glorious Tea-scented Rose that is one of the very best, and will be near the top of the list amongst exhibition Teas before long. It is also a gem for the garden owing to its vigorous growth and its carrying its beautiful flowers on such stiff stems. It is a very free bloomer. This year it has been grand here, revelling in the dry heat, as the blooms open very slowly. The colour is a dark golden-yellow, strongly tinted with a peach-pink; very large flowers, full and perfectly formed, and they last a long time in perfection.

W. E. LIPPIATT (H.T., *Alex. Dickson & Sons*, 1907).—In regard to red Roses, I start with this first for one reason, and that is its scent is delicious. No H.P. scent can beat it. Not even Alfred Colomb, Ben. Cant, Chas. Lefebvre, Beauty of Waltham, Comte de Raimbault, Dupuy Jamin, Earl of Dufferin, General Jacqueminot, Horace Vernet, Louis Van Houtte, Marquise Litta, Mrs. John Laing, Prince Camille de Rohan, Sénateur Vaisse, Tom Wood, Ulrich Brunner, Victor Hugo, or Xavier Olibo. How many of our lovely recent varieties fail in this respect! In growth it is almost as vigorous as Mme. Isaac Pereire, consequently in pruning the shoots require to be left longer than is usual in the case of most H.T.s. The colour is a brilliant velvety-crimson shaded maroon. The flowers are large, very full and symmetrically formed, with a huge, high-pointed centre.

HUGH DICKSON (H.P., *Hugh Dickson*, 1904).—I have already in previous notes written most highly of this acquisition. It is undoubtedly the finest addition to our H.P.s of recent introduction. At least it is as perfect a red as Frau Karl Druschki is a perfect white, and it surpasses that lovely Rose inasmuch as it has the most delicious perfume. This year with me it has bloomed as freely as any H.T.; it stood the heat and glare of the sun splendidly, and is as strong as any of our best autumn Roses. It is an intense brilliant crimson, shaded scarlet, and has large blooms somewhat cup-shaped and slightly reflexed at the edges. The petals are large and smooth, and they are very numerous. The flower has a nice centre and it keeps its form fairly well.

WARRIOR (H.T., *Wm. Paul & Son*, 1906).—This Rose has during this summer proved itself a splendid decorative or garden sort. In the bud stage it is most striking, having quite the longest and handsomest buds of any Rose I ever saw, and a real blood-red colour. Its buds are

its beauty, as when the flower opens it becomes not only very thin, but loose and of poor shape. When expanded the colour is a deep scarlet-crimson. The plant has good foliage, a free habit, and is very suitable for bedding.

THE DANDY (H.T., *Paul & Son*, 1905).—I mention this for those who like a small Rose for button-holes. The colour is a glowing maroon-crimson; it is quite a small flower but is exquisitely formed, and a very free bloomer and of a delicious scent.

GEORGE LAING PAUL (H.T., *Souperet et Nolting*, 1904).—This Rose only attains a medium size, but is of perfect shape in the centre and possesses a pleasing fragrance. In colour it is deep crimson. The plants have been very free this season.

CHARLES J. GRAHAME (H.T., *Alex. Dickson & Sons*, 1905).—The exceptional drought we had here in July and August tried this Rose severely, it being one of the cool weather varieties. We were greatly disappointed with it, as last year we could not speak too highly of it. It did not maintain its extraordinarily dazzling orange-crimson colour, in fact it came more in colour like Dupuy Jamin does at this season. However, since the rains it has quite made up for lost time. It is very free, and its most strikingly dazzling colour is superb. Fine blooms they are too, so large and of such splendid form, great fine petals and a grand stiff shape. It is a most vigorous grower on the seedling Briar. I saw some plants on the Manetti stock, very sickly things; personally, I do not like the Manetti for anything, though some still will use it, especially many of our American friends. Leonard Petrie, Gayton, Cheltenham.

(To be continued.)

PLANT NOTES.

MEDINILLA MAGNIFICA.

THIS is one of the most ornamental of stove shrubs. It is seen at its best as a large specimen, and as such, when covered with its pendulous racemes, is a magnificent sight. The flowers are produced about May in dense terminal racemes. The individual flowers are of themselves small. The flowers, flower-stalks, and bracts are, in the typical species, of a uniform, rosy-pink colour, and remain in perfection on the plant for two months or longer. It is useless as a cut flower, and as a plant for house decoration it cannot be recommended. It is most conveniently grown in a large pot or tub in a compost of fibrous loam and peat with the addition of charcoal and rough grit; the soil should be made firm as the work of potting proceeds. With large plants an annual top dressing is sufficient to keep them in good condition. It is naturally of slow growth, and branching dichotomously, little artificial training is required to produce an even specimen, which, out of flower, is a handsome plant, with the large leathery leaves and conspicuous venation. Cuttings root readily if plunged in a brisk bottom heat. *Frid. W. Jeffery, Woodend Gardens, N.B.*

POLIANTHES TUBEROSA.

THE double-flowered *Tuberosa* is one of the commonest plants in gardens, but the single-flowered, original species of this fragrant *Amaryllid* is rarely seen. A plant of it in a small pot bearing fine spikes of its pretty, wax-like, white flowers has been in bloom for a long time in an unheated house in the nurseries of Messrs. Jas. Naylor & Sons, Roxeth, Harrow, where it has been much admired, and pronounced by some to be a prettier flower than the double form. It is doubtless in bloom in other places, as Messrs. Moore, Ltd., imported a quantity of it early this year from India, where the species is a cultivated plant, as it is in most warm countries. It is a native of Mexico. *J. O'B.*

THE HAY CROP AT ROTHAMSTED.

THE meteorological returns at the Rothamsted Experimental Station, Herts., for the first three months of the present year show a total rainfall of 6.3 inches, equal to 32½ tons of water per acre in excess of the average of 54 years at this station; while the five months January to May, which practically comprises the whole growing period of the Hay crop, gave 11½ inches of rain, or 106 tons of water per acre in excess of the usual average. The two months March and April each gave an excess of rain of 1½ inch, while January, February, and May showed a deficiency.

showed a deficiency, April being particularly gloomy, with a record of 21½ hours deficient. Thus the first five months taken together gave a total of 594 hours of bright sunshine, or 10½ hours less than the average for this period.

Under these climatic conditions, the experimental Hay crop at Rothamsted was, under all conditions of manuring, less than the average amount, ranging from 5 to 13 cwt. per acre deficient, and considerably below the yield of 1907.

As a set-off against the bulky crop of 1907, which was badly harvested, the crop of the present year was cut and carried with very little trouble, well-cured Hay being the rule for 1908.

again the yield was 7½ cwt. per acre less than the average and 9½ cwt. below last year's record.

Sulphate of ammonia at the rate of 2 cwt. per acre added to the superphosphate yielded 30½ cwt. of Hay per acre, being double that produced by superphosphate alone. This fact shows that superphosphate, when applied alone year after year uses up the nitrogen of the soil and impoverishes the land, so that if this practice is continued for any considerable length of time the yield of Hay will be little better than that grown without any manure at all. Hence the advisability of applying every few years a small dressing of farmyard dung to keep up the fertility of the soil.

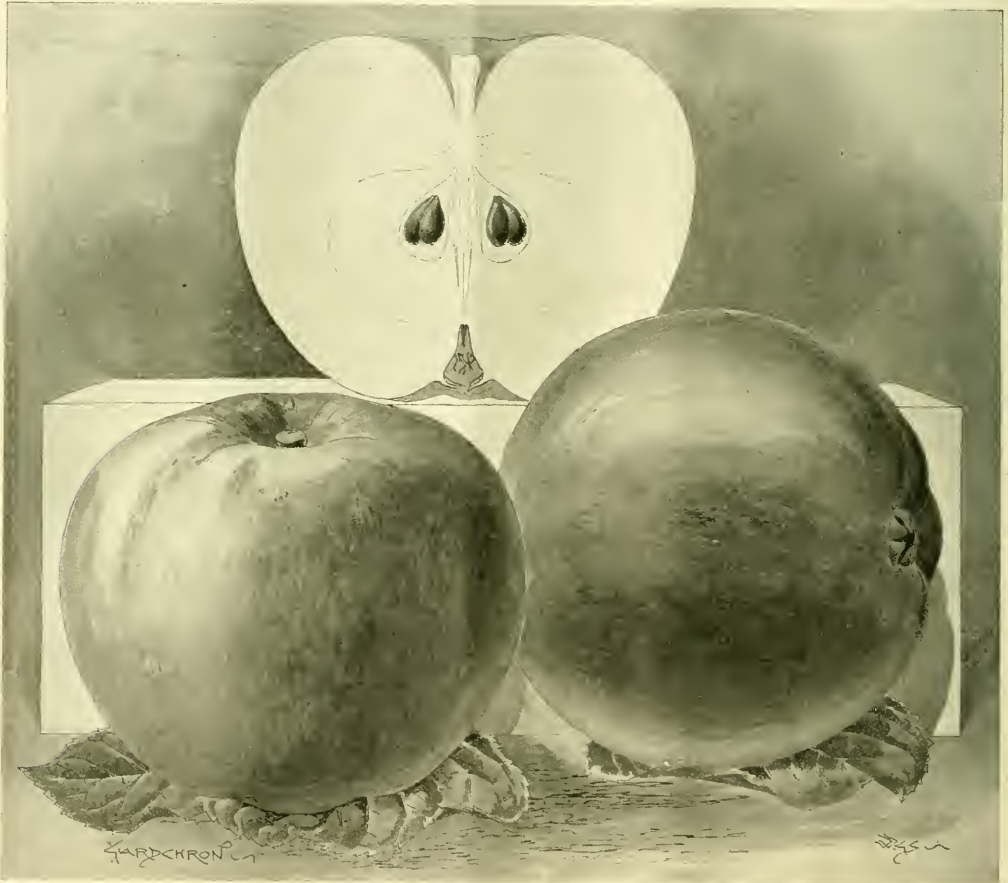


FIG. 124.—NEW CULINARY APPLE "RENOWN," RAISED BY MR. ROSS, AND GRANTED AN AWARD OF MERIT ON SEPTEMBER 29.

(For text see p. 293.)

The beneficial effects of this abundant rainfall in the growth of the grass crop at Rothamsted was hindered by a very low temperature. January, March, and April each gave a much lower than average record, while February and May showed an excess of warmth.

The bright sunshine for the first three months of the year was 6½ hours in excess of the average for this district. January was characterised by quite an abnormal amount of sunshine, 14½ hours in excess of the usual average being recorded. February, March, and April each

The experimental Hay crop at Rothamsted was this year cut on June 12th, while last year the date of cutting was as late as July 13th, a month behind that of the present year.

The plot of land which has received no manure of any kind for a period of 54 years has this year produced 9½ cwt. of Hay per acre only, being 12½ cwt. less than the average quantity for this plot and 12½ cwt. below the yield of last year.

Superphosphate alone increased the crop over the unmanured by 6½ cwt. per acre. Here

Dung tends to encourage luxuriance and to decrease the proportion of the nutritious Clovers, while the application of such manures as superphosphate, basic slag, kainit, and bonemeal may not greatly increase the yield per acre, yet will largely encourage the growth of the leguminous plants, Clovers and Vetchlings, &c., and so give a superior quality of Hay.

It is very remarkable in the Rothamsted experimental grass plot which has for so many years received superphosphate and sulphate of ammonia as manure, that the effect has been to

increase the produce, chiefly of the grasses proper, greatly to diminish the Clovers, and to cause a relative absence of weedy plants. The crop is usually later in ripening than is the case of that to which superphosphate alone is applied, and with more dark green, leafy herbage and less stem, the herbage being of poor quality.

Superphosphate and sulphate of potash, when applied together, but without nitrogen, gave slightly more produce than superphosphate and ammonia salts. This fact is due to the extensive growth of the Clovers and Vetchling plants, which comprise more than one-half of the whole crops, and is the result of the continuous application of potash for so many years.

The Clovers obtain the necessary nitrogen for their growth from atmospheric sources, brought about through the agency of the micro-organisms of the soil, which are encouraged in their beneficial work by the phosphates and potash applied as manure.

Another of the Rothamsted experimental plots shows that neither magnesite nor soda, nor even lime, can take the place in the soil of a sufficient supply of available potash.

The plots receiving superphosphate, potash, and 400 lbs. of sulphate ammonia per acre, yielded 46½ cwt. of Hay, being 7½ cwt. less than the average product, and 18½ cwt. below that of last year. Under these manurial conditions, that is, with an excessive supply of nitrogen as ammonia salts, the produce of Hay is bulky, and consists to a very large extent of grasses, a few of the coarser varieties making up the greater proportion of the weight. Clovers are absent, and weeds form a very small proportion of the crop.

The heaviest produce of Hay per acre was produced by 600 lbs. sulphate of ammonia, combined with superphosphate and potash. This plot yielded 3½ tons per acre, but the Hay obtained is coarse and stemmy, largely consisting of false oat-grass, Yorkshire Fog, Foxtail Grass, and common Bent. This plot affords a very striking illustration to the grass farmer of how "not to manure" his pastures if he wants to keep up the quality of herbage.

The Hay yielded under the influence of phosphates and potash, combined with nitrate of soda, is much superior to that grown where sulphate of ammonia takes the place of nitrate of soda.

The lasting effect of farmyard dung is shown on the plot to which this manure was applied 45 years ago, and has been left entirely without manure since. There is, even now, after this long period of time an increase of about 3 cwt. of Hay per acre over the plot which has received no manure at all for 54 years.

The effect of ground burnt lime, which was applied at the rate of 1,000 lbs. per acre, in January, 1907, is exceedingly marked, a gain of Hay ranging from 4 cwt. to 13 cwt. per acre being obtained, and of superior quality. J. J. Willis, Harpenden.

NOTICES OF BOOKS.

* HOW TO MAKE THE MOST OF LITTLE GARDENS.

In this small volume the floral parts of small gardens is fully dealt with, and the lists of flowering and other plants suitable for a variety of purposes, sites, and aspects are good ones; moreover, many of the so-called "old fashioned plants" are kept well within view. A man who has never tried to construct a rockery on fairly level land, and therefore does not understand the difficulties confronting him, will be grateful for the hints and directions afforded in the chapter, "How to Make a Small Rockery." Only such species of rock plants as

* *Little Gardens and How to Make the Most of Them*, by H. H. Thomas. Published by Cassell & Co., Ltd.; price 1s. 6d. net.

will thrive in the ordinary mixture of loam and peat are advised for planting; but this list will suffice for affording pleasing effects at all seasons. The making of walks should have included advice in reference to the depth of the foundations in order to secure dryness at all seasons, and upon the materials to be used, drainage, width, &c. Very frequently too much money and labour are expended on garden path-making, whereas a foundation of 6 inches in depth is all that is required, if a drain at each side be laid in. Clinkers from the gas-works, brick ends, broken stone, and very coarse siftings from gravel, are suitable materials. Rustic adornments, such as arches, seats, supports for climbing plants, and trellises come in for appropriate remarks and illustration. The illustrations of flower beds are, on the whole, pleasing, and modes of planting are shown. There are remarks on Rose growing, and the processes of planting, pruning, and budding are easily understandable from the illustrations given. The lists of varieties are very apposite, one list being given of fragrant varieties, in which many old acquaintances are met with. Sweet Peas have a long chapter to themselves, as have Violets, Carnations, Begonias, Grape vines, and hardy fruits. M.

* SCHOOL, COTTAGE AND ALLOTMENT GARDENING.

MANY people who happened to notice the modest title of this excellent book might easily fail to form a correct appreciation of its value. It is not too much to say that it is one of the very best of its type, and will be found of great service to anyone who wants to work a garden either for amusement or profit. The field which it covers is a large one, but Mr. Weathers knows what he is writing about, and he is clear, incisive, and practical. The directions for laying out and planting a small garden or plot are just those which are wanted, the details of both cultivation and cropping being admirably discussed. The fruit, flower, and vegetable garden each receive separate treatment, and the author selects just those subjects for cultivation which are most likely to be wanted by the circle of readers to whom he desires to appeal. Naturally, in a little book which contains so much information, complete freedom from errors is hardly possible, but they are seldom, so far as we have discovered them, of a serious character. There is, however, a statement on page 41 relating to the testing for the presence of lime in the soil which seems to need alteration. The addition of *hydrochloric acid* most certainly will not precipitate lime from a solution containing it; perhaps *oxalic acid* was meant. The calendar of gardening operations will be found useful, and possibly the examination questions at the end of the volume may be serviceable to those who desire to sit for the examinations of the Royal Horticultural Society. In conclusion, we may say that the book, as a whole, thoroughly justifies its claim to be regarded as a practical guide to gardening.

APPLE RENOWN.

THIS new variety was raised by Mr. Chas. Ross, Welford Park Gardens, Newbury, from the same cross that resulted in the Charles Ross variety. The tree has desirable qualities in the matters of cropping and habit, and the flesh is solid, crisp, juicy, and of pleasing flavour. In consideration of these good points, the variety was granted an Award of Merit by the Fruit and Vegetable Committee of the R.H.S. when shown by the raiser at the meeting held on September 29.

* *A Practical Guide to School, Cottage, and Allotment Gardening*, by John Weathers. Longmans, Green & Co. Price 2s. 6d.

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NUNDELLHOLME, WARTER PRIORY, YORKSHIRE.

Peach and Nectarine trees.—These trees, as they become cleared of fruits, should be pruned and have their shoots regulated in order that they will be exposed as much as possible to the light and air. Out-door Peaches in cold localities still hanging upon the trees will not be of much value, but they may be improved a little by affording the trees some protection at night from frost and damp. Should the weather still continue dry the borders will need to be watered copiously. It is not yet too late to apply liquid manures to any trees that have borne heavy crops, or to other trees that require a stimulant.

Root-pruning and tree lifting.—Trees that have failed to bear satisfactorily may still be lifted or root-pruned. In many cases the affording of fresh soil or the planting in a more favourable position suffices to convert a more or less barren tree into a fruitful specimen. Recent weather has been very favourable for lifting or root-pruning trees against walls, in the manner recommended in the Calendar printed in the issue for September 19. Trees that were thus treated early will now be making fresh roots in the new compost. Other wall trees than Peaches and Nectarines, such, for instance, as Plums, Cherries and Pears, may be benefited by similar treatment. Almost any fresh soil that does not contain an excessive amount of manure will benefit trees that have been neglected for a number of years, but where it is possible soil of a calcareous nature should be chosen. In many gardens where Peaches and Nectarines are given satisfactory attention in this respect Cherries, Plums and Pears are neglected. For this kind of work plenty of good loam is the chief requirement, but road scrapings, old lime rubble, charred garden refuse, and similar materials, when incorporated together, are all of great value. By looking ahead one may often prepare a large heap of such materials for use when required.

Morillo Cherries.—The trees may now be pruned, cleansed and trained, making every effort to push forward this work as far as possible before severe weather sets in, for in spite of the best arrangements a considerable amount of the nailing and tying on out-of-door walls will have to be performed under conditions that impose discomfort upon those engaged on the task. Cherry trees should be completely detached from the walls. Each shoot being well washed before being again secured with nails and shreds. Prune away all shoots that have borne fruits this season, and any others which will not be required for extending the trees. The shoots of young trees will necessarily be required for extension. Tie or nail in the growths at distances of not less than 4 inches apart, and use nothing but clean shreds and nails. When pruning has been completed gather up all the prunings and place them on the garden fire, in order to destroy any pests there may be upon them.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Planting of Roses.—Although Roses may be successfully planted at any time from late October to the end of February, the last fortnight of October and the whole of November generally give the best results. If the soil is sufficiently deep it should be well trenched, and if poor, a liberal dressing of manure must be added, but in such a manner that the manure will not come into direct contact with the roots of the plants immediately after the planting has been done. The most suitable soil for Rose culture is a rich, deep loam, resting on gravel. Should the soil be unusually heavy and stiff in working, it will be well to mix leaf-mould and gravel freely with the staple at the time of planting. On the contrary, if the soil is of the opposite description, heavy loam may be added, but in either case care must be taken to see that the drainage is good. Before planting Roses of any description, remove all sucker-like growths that proceed from the roots or from the stock below the point of union. Shorten any strong roots that possess but few

fibres. Planting should be done during fine weather, if possible, in order that the soil may be trodden and made moderately firm, which would be injudicious in wet weather. Roses on the briar or Manetti stock should be planted at least 3 inches deep above the point of union. In the case of Tea-scented Roses, this is especially necessary, as they are naturally less hardy than other sorts, and if the plants are cut down by frost they will usually make fresh growths from buds below the ground surface. For planting in beds, Roses upon their own roots and that have therefore been raised from cuttings are satisfactory, provided only the stronger-growing varieties are selected. Such varieties are as follow:—*Hybrid Perpetuals*: Frau Karl Druschki, Mrs. John Laing, Margaret Dickson, Hugh Dickson, Ulrich Brunner, and Paul Neron. *Hybrid Teas*: Caroline Testout, Liberty, Killarney, Captain

trees will now cause much work, but they must not be allowed to accumulate in large quantities upon the lawn, otherwise they will cause considerable injury to the grass. The mildness of the season necessitates the repeated use of the mowing machine to keep the grass in the best possible condition, as it is expected to be at this season.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holford, C.V.O., C.I.E., Westbury, Gloucestershire.

Cleaning the houses.—The present time is most suitable for a thorough overhauling of the houses in every part. Having the repotting operations well forward, this work of cleansing should receive prompt attention, because delay would result in depriving the plants of sunlight, which is so necessary for their well-being during

stages is not to be recommended, as the luxuriant growth usually made under the favourable atmospheric conditions that generally exist in Orchid houses is apt to prevent the proper circulation of air about the plants. Where such plants are present, the growths should be thinned out considerably at this season. If rubbish of any kind has accumulated beneath the stages it should be removed, for it forms a hiding place for many pests that infest these houses. All dirty pots should be thoroughly scrubbed. Arrange the plants in such a manner that each will be exposed equally to the light, but at the same time do not put them too near the roof glass, where they would be likely to suffer injury from cold during severe weather. The use of top ventilators must also be considered, and all hanging plants kept at a greater distance



[Photograph by Tyler.]

FIG. 125.—ALBATROSS PEACH, AN EXCELLENT VARIETY RIPENING AT ABOUT THE END OF SEPTEMBER. THE FLOWERS ARE LARGE AND THE LEAVES HAVE NO GLANDS.

Christy, Mildred Grant, Viscountess Folkestone, and La France. *Polyantha* and *Wichuraiana* varieties: Dorothy Perkins, Crimson Rambler, Leuchstern, Lady Gay, Claire Jaquier, and Ilia-watha.

Perennial Asters.—During the present month the Michaelmas Daisies are a great attraction. The stock of particular varieties may be increased by division as soon as the plants have flowered, or they may be propagated from the young growths which the clumps so freely produce in spring. Make an examination of the plants while they are in flower, selecting the best and most distinct varieties, and marking others that are not worth retaining.

General work.—Fallen leaves from deciduous

the most trying period of winter. In these gardens, whenever possible, each house as it is taken in hand is cleared of its occupants, and afterwards the glass and woodwork are thoroughly washed both inside and out, the house being thrown open for a few hours afterwards to admit all the air possible to thoroughly sweeten the atmosphere before the plants are replaced. Where shingle, spare or coke is used for holding moisture, it should be turned to destroy the slimy growths that are almost sure to be present after exposure during the seasons of growth, with the attendant dampings; especially is this the case in the hottest divisions. The growing of Zebrina (*Tradescantia*) and such plants about Orchid

from these during winter than at any other season.

Cleaning the plants.—There are many troublesome insects that will make their appearance upon the plants, even if the cultivator is most careful and observant, and these multiply rapidly if not kept under by the use of one of the many safe insecticides now on the market. The worst insect enemy to Cattleyas and other pseudo-bulbous Orchids is the soft, white scale. These conceal themselves under the outer sheaths of the growths, and more than ordinary spraying is necessary to dislodge them. In the presence of a bad infestation these sheaths must be stripped off, and, after some insecticide has been applied, a small pointed stick should

be used to remove the insects. Needless to say, such work should be entrusted to careful and reliable men only, as there are some plants whose leaves, if roughly handled, become cracked and broken, and sometimes the centre leaf of a growth is pulled out, whilst newly-potted plants are easily loosened in their material if only ordinary care is exercised in handling them.

Fumigating.—Thrips are often troublesome during the shorter days, and especially in the warmer divisions if much fire heat has to be used. In order to keep these in check, employ a safe vaporising compound at regular intervals of two to four weeks. Preceding the operation damp down the house, closing it early in the day and allow the temperature to rise. This induces the thrips to come out of such hiding places as the vapour cannot readily reach. If the scale is troublesome, these periodical fumigations will keep it in check. It is always well to remember when using these compounds that two mild applications with an interval of a few hours between them are safer than one of greater strength.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GRASS, Aldenham House, Elstree, Hertfordshire.

Asparagus.—The growths should now be cut close to the ground by means of a sharp pair of hedge shears. Remove all the rubbish and weeds from the beds and alleys, and when this has been done apply a good dressing of half-decayed farmyard manure. When the manure has been spread, this may be covered with a layer of soil obtained from the alleys. Though many cultivators prefer to grow their Asparagus entirely in level ground, this appears to me to be advantageous only on light, well-drained land. Wherever the soil is soft and retains the wet, it is much better to have slightly raised beds, which will have the effect of keeping the roots in a less wet condition during winter. The work I have described should be done neatly, and afterwards the beds will not need any more attention until the spring.

Forcing Asparagus.—Few vegetables can be more easily forced, and none are more welcome than Asparagus. If there is a plentiful supply of roots for forcing, Asparagus can be had in good condition from November until the season for out-of-door Asparagus again comes round. The roots may be forced in an ordinary forcing house, or in heated pits, or upon mild hot-beds; but the forcing house is the most suitable place at this early season. A moderate degree of bottom heat in some form is necessary, and as light a position as possible should be selected for planting. Asparagus suffers very much if its roots are exposed to the atmosphere for any considerable length of time. Therefore, every care must be taken to lift and replant them with as little delay as possible during the operation. In addition to the ordinary hot-water pipes, it is advisable to have a mild hot-bed, composed principally of fresh leaves, and on this may be placed about 4 inches deep of soil of a light nature. The roots should be covered to a depth of 3 inches, and a good watering should be applied as soon as the roots have been planted. Watering may be done frequently, and the root waterings must be applied as often as necessary.

Horseradish.—It is a good practice to trench half the bed annually and take out all the serviceable roots, storing them in sand or ashes under a north wall, or in some cool place, where they can be easily obtained when required for use. Plant the smaller roots again at a good depth from the surface, and during this operation apply a liberal quantity of farmyard manure in each trench. I have found this system answer perfectly. Two years are quite long enough for horseradish to produce roots of sufficient size for use. The quality of such roots is much superior to those of longer growth. The remaining half of the bed should be cleaned of weeds and be given a dressing of good farmyard manure, which should be covered with a little soil.

French Beans.—Sowings will have to be made to maintain a regular supply of French Beans during winter. Well-drained pots, 7 inches in diameter, are recommended for use at this season, and they may be filled with a light compost consisting of two parts leaf-mould, one

part loam, and one part road grit. Attend to the staking and top-dressing of Beans raised from earlier sowings. Place any plants that are coming into flower as near to the glass as possible, in a house having an intermediate temperature.

Runner Beans.—The supply of these is practically exhausted. Any young pods that may still be left upon the plants and are fit for use should be picked and preserved by placing the ends in a little water. Any pods that have been saved for seed purposes should be stored carefully in a place where they will dry under the best conditions.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Kent, Pothshire, N.B.

Cinerarias.—Plants that are intended for forming large specimens should now be given their final shift, employing a rich compost of loam, leaf-mould, sand, and a sprinkling of some favourite artificial manure. Manure of this nature can be best used by mixing it amongst the soil for use in the last potting, as the plants have by this time made plenty of roots, and during the winter season not much feeding can be done by means of liquid manure.

Schizanthus.—Plants which are expected to flower early in spring should now be ready for potting into 8-inch pots. Use a strong but porous soil of much the same character as that recommended for Cinerarias, and, as in that case, add a little artificial manure. In the process of potting, ram the soil moderately firm around the inside of the pot, as this will cause the plants to make close-jointed growth. After the potting has been done, place the plants in a dry position in a light, well-ventilated structure, keeping them near to the glass and as cool as possible without incurring risk of frost reaching them. The growths will now need some support. Therefore, thin bamboo tips may be used, placing one at the centre of the plant and four round the sides, attaching each of these side stakes to the centre one. If the work is neatly done these stakes will be completely hidden when the plant is in bloom.

Rhododendron Nobilenum, &c.—Plants of this species that are grown each year for winter forcing should now be selected, choosing those that are well set with flower-buds. Pot them up into pots as small as can be safely used, employing peat and sand only, unless the loam is of a very sandy nature. After potting they should be placed in an unheated frame and be given a thorough soaking with water. Good plants of this Rhododendron in 8 or 9-inch pots are exceedingly useful for house decoration during the winter, and may be easily had in bloom by Christmas. Deutzias, Lilacs, Spiræas, Staphylea colchica, and similar plants should also be potted up ready for forcing.

Hard-wooded plants.—Such plants as Chozema Lowii that have made their flowering growths should now be tied into shape, always keeping the shoots so that the flow of sap will be on a level, or slightly on the incline. Regulate the growths so as to cover the plant evenly with flowering shoots. Acacia cordata and Polygalas should also receive similar treatment in the way of training.

Rhododendron indicum (Azalea indica).—What are termed Indian Azaleas after now have all the old ties removed, and after affording fresh stakes, be newly-trained, tying them in a loose, free-looking manner, so that the flowers will be shown to the best advantage. For pyramidal training, place a strong stake in the centre of the plant, and five or six round the sides, attaching all these with fine twine to the centre stake at half its height. Azalea shoots are very brittle and may easily be broken unless the greatest care is taken. Regulate the shoots evenly, and do not tie them too closely or the effect will be to give the plants a formal appearance that is undesirable.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LANGRACK.

The House, Nonmouth.
Peaches and Nectarines.—The season has arrived for the planting of young trees of Peaches and Nectarines, and if preparations were made as advised in the Calendar for August 8 these need now be no delay. It is very useful to

have young trees growing upon outside walls; and to prune their roots annually, for trees can be safely replanted some weeks earlier than those that have to be conveyed a distance, and if this is done carefully, and they are not forced early, there need be no sacrifice of fruit as a result of the operation. In removing a tree of this description, first liberate the branches from the wall, then take out a trench round the roots, from which the soil should be carefully worked away, except such as can be conveniently conveyed with the roots. Next make an opening beneath them to receive a strong opened mat, upon which the tree should be taken to the new position already prepared for it. Secure the branches to the trellis or wall, cleanly cut away the jagged ends of roots and arrange them through the upper part of the border, making the compost quite firm about them. Complete the work by mulching the border with stable litter and applying a thorough watering. Until the leaves fall the trees should not be subjected to severe draughts, but they need shade from bright sunshine, and should be syringed several times in each day, as when young trees are planted direct from nursery they should be carefully unpacked as soon as they are received and the roots steeped in water, and the rough end of the roots cut off smoothly. They should then be planted in a similar manner to that advised for older trees. The following varieties may be usually depended upon to give satisfaction:—*Peaches*: Hale's Early, Early Groses Mignonne, Royal George, Dymond, Noblesse, Bellegrde, Violette Hative, Barrington, Raymone, Late Devonian, Thames Bank and Exquisite. The two last names are good late-fruited, yellow-fleshed varieties. *Nectarines*: Cardinal, Dryden, Violette Hative, Humboldt, Pineapple, and, if a very late one is required, Victoria. Humboldt and Pineapple are the best of those mentioned.

Late Peach house.—As soon as the leaves have fallen from the trees (and this process may be assisted when they are matured, by lightly drawing a new birch broom over them from base to top), lose no time in thoroughly cleansing the house and trees. If the trees are very little pruned be carried out there will be very little pruning to be done at the present time, but in any case the shoots must be left in a crowded condition. After the pruning has been done, carefully wash the old wood of the trees with a solution of Gishurst compound, dissolving five or six ounces to each gallon of warm water. For removing brown scale from the young wood, use either a diluted solution of the Gishurst compound or a milder wash of soft soap and warm water. For the purpose of applying the wash use a small stiff brush, and in doing this be careful not to injure the buds. Any root-pruning that has to be done may be carried out at once, and the borders may be top-dressed as was previously described for earlier trees. Let the ventilators be kept fully open at the present time in order to keep the trees at rest.

THE APIARY.

By CHLOE.

Flowers for bees.—All flowers are not of great use to the honey bee as a source of nectar for several reasons: (1) Because some blooms produce no nectar at all; (2) because some blooms yield only pollen; (3) because of the peculiar construction of the bloom. Some flowers producing a quantity of nectar, are beyond the reach of the hive bee. To really be of any value to the beekeeper, good breadths of honey-producing plants must be cultivated. The following alphabetical list is by no means exhaustive, but contains some of the best-known nectar-bearing blooms visited by hive bees:—Acacia, Apricot, Apple, Anchusa italica, Alyssum, Arabis, Asparagus, Bean, Borage, Blackberry, Cherry, Crocus, Cytisus, Currant, Cheiranthus, Clover (white), Cornflower, Cucumbar, Clarkia, Cerinthe, Collinsia, Genista, Galanthus, Gooseberry, Ground Ivy, Grape, Godetia, Gillia, Heather, Iberis, Ivy, Cercis Siliquastrum, Leptosiphon, Lupin, Limnantes, Lime, Magnolia, Mignonne, Marjoram, Maple, Malope, Melon, Onion, Phlox, Drummondii, Flax, Peach, Pear, Raspberry, Salvia, Sage, Sunflower, Scabiosa, Strawberry, Sycamore, Thyme, Tropeolum majus and minus, Vetches, Violet, Wistaria, Winter Aconite, and Whitlavia.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the PAPER sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unsolicited communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents. **Illustrations.**—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, OCTOBER 26.—Nat. Chrys. Soc. Com. meet.

TUESDAY, OCTOBER 27.—Roy. Hort. Soc. Coms. meet. Croydon Chrys. Show (2 days).

WEDNESDAY, OCTOBER 28.—Kent County Chrys. Sh. at Blackheath (2 days). Southampton Chrys. Sh. (3 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—47° F.

ACTUAL TEMPERATURES:—LONDON.—Wednesday, October 21 (6 P.M.): Max. 50°; Min. 42°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, October 22 (10 A.M.): Bar. 30.3; Temp. 43°; Weather—Sunshine.

PROVINCES.—Wednesday, October 21 (6 P.M.): Max. 60° Ireland S.W.; Min. 46° Cambridge.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY.—Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

TUESDAY.—Clearance sale of Nursery Stock, at Bury Road Nursery, Gosport, Hants, by Protheroe & Morris, at 12.

WEDNESDAY.—Sale of Nursery Stock, at the Nurseries, Richmond Road, Twickenham, by order of Mr. H. E. Fordham, by Protheroe & Morris, at 1.30. Azaleas, Rhododendrons, and Camellias, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.

THURSDAY AND FRIDAY.—Holland's Great Annual Sale of Nursery Stock at the Nurseries, Groombridge, near Tunbridge Wells, by Protheroe & Morris, at 11.30. The important collection of Orchids formed by J. Bradshaw, Esq., of Southgate, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 1.

The principal functions of the past week have been the holding of the annual show of British-grown fruits in the Royal Horticultural Society's Hall, and the concurrent conference on the subject of spraying fruit trees. The exhibition may, we suppose, be described as successful, inasmuch as sufficient fruit was forthcoming to furnish all the available table space in the hall. It was very similar to previous fruit shows, and the slight differences observed could easily be explained by the variation in the seasons. The Reports we published in these pages in August proved that the Pear crop was decidedly under the average, and therefore it was not surprising that fewer Pears were exhibited than usual.

Possibly some of those who visited the Hall were disappointed in the general display of Apples. The fruits were abundant, but the development of colour was rather under than over the average. There is much to be learned before it can be stated with any degree of exactitude what are the

precise conditions that cause colour development in fruits, or even in flowers, and although the presence of frequent bright sunshine is generally considered to have considerable influence in this direction, practical fruit cultivators are not likely to admit that this alone may be accepted as the only factor concerned in the production of high colour. Especially is this the case when a spell of sunshine occurs at the wrong moment. In the present season the Apple crop entered on a period of ungenial weather at the end of August, and this lasted until past the middle of September, when the skies again brightened and the weather became unseasonably warm. A week or two ago we referred to the effect of this change upon the Apple crop. It appeared to cause a sudden increase in the circulation of the sap in the trees, and the partially-withered stems by which the fruits were still attached to the shoots, were probably insufficiently fitted for conveying the sap fast enough to the fruits and thus to adapt themselves to the new conditions. The result of this was seen in most gardens, and in a lesser degree in orchards, for the fruits were shed by the trees in numbers as are usually seen after a storm of high wind and rain. This circumstance proved that none but the later-ripening sorts could derive much benefit from the almost tropical weather that characterised the early part of the present month. The fruit-grower, however, has the satisfaction of knowing that its influence upon the trees themselves is likely to favour the development of a fruitful condition next year.

We hardly expected to witness a satisfactory display of soft, or stone fruits at this show. These are not often procurable in appreciable numbers in the middle of October, least of all in a season like the present. Peaches, Nectarines, and Plums, therefore, were few and insignificant. It may be that the Council will consider it advisable to arrange the event for an earlier date next year in order to favour the exhibition of such fruits, and thus alter in some slight degree the make-up of the show. Indoor Grapes included some first-rate examples of Muscat of Alexandria, and, apart from these, most of the varieties were represented by satisfactory fruits that can hardly be described as above the average quality. In another column a correspondent has drawn attention to some excellent Grapes that were presented for exhibition with a thick coating of sulphur or sulphur compound upon them. These were so unmistakably out of place, that it may be hoped the criticism they provoked will prevent anyone again showing fruits of any description in a similar condition.

It has been remarked that this annual fruit show fails in a lamentable degree to attract the general public. Such attendance as there was last week consisted almost exclusively of professional gardeners or other persons having some duties connected with the show. Notwithstanding all past experience, no attempt is yet made to stage the fruit in a manner calculated to present a spectacular effect, and, in attempting to explain the indifference of the public, this circumstance is at least entitled to some consideration. At a competitive exhibition such as this, it is undoubtedly necessary that the conditions governing each class must be exactly the same for each exhibitor, even in the matter of stag-

ing his fruits, but, granting this much, it is still possible to vary the conditions as between one class and another! There might also be a special class with liberal prizes offered for the most decorative exhibit of hardy fruits, and the arrangement left entirely to the discretion of the exhibitor, for the purpose of encouraging someone to present a scheme that would impart fresh interest. The recent display was even more monotonous than previous shows, inasmuch as the leading fruit-tree nurserymen were not able to make the accustomed exhibit of fruit trees in pots that on former occasions have relieved to some extent, at any rate, the long rows of tables.

The Council is to be heartily congratulated on having inaugurated a conference which met on the second day of the exhibition. We freely acknowledge the importance of all properly-managed horticultural shows; they have a stimulating influence which tends to the spread of gardening practice, but at the same time their usefulness is increased tenfold if accompanied by an exchange of ideas such as takes place during a conference. Many of the conferences that were held in the old Chiswick gardens were the means of collecting and publishing information of the greatest value to cultivators, and they will remain to posterity one of the principal contributions the Society made to practical gardening during the Chiswick period. The subject of the recent meeting was the spraying of fruit trees to preserve them from insect and fungus pests. No one can read the correspondence from week to week in these pages, or the numerous questions on this subject that are sent to this office, without realising what a serious menace these pests threaten to the fruit industry of this country. As we consider this subject as one of the highest importance, we have taken steps to present our readers with a somewhat detailed report of the proceedings. The fact that experts appear to differ in their views upon some of the details that were discussed merely goes to show that more complete and accurate information is required, and such information can best be obtained by repeated trials carried out by practical men who adopt scientific methods for applying the remedies and measuring their results. In the case of the complaints made of the Bordeaux mixture, for instance, it will probably be found that they arise from the fact that its composition is not always perfect, or it may be that the means of applying the liquid leave something to be desired. The comparative value of summer and winter spraying may vary according to the circumstances in which the spraying is carried out and the particular pests that have chiefly to be combated. There appears, however, to be a general agreement that whilst fungicides may be rightly regarded as preventives, insecticides can only be effectively employed as remedial measures. In these matters horticulture may well claim assistance from the Government, and the proposal that a sub-department of the Board of Agriculture should be established for this purpose has the sympathy of all engaged in the fruit-growing industry.

On Thursday evening, being the first day of the fruit exhibition, the members and friends of the United Horticultural Benefit and Provident Institution assembled for the annual dinner at the Waldorf Hotel. This Institution should not be confused with such

gardening charities as the Gardeners' Royal Benevolent Institution and Royal Gardeners' Orphan Fund. It is not a charity, but a Benefit Society, and one that may be cordially recommended to young gardeners who have a desire to provide for periods of sickness and, incidentally, for old age. The expenses of management are unusually low for an institution of this character, and the returns upon the invested contributions from the members are correspondingly liberal. The recent meeting was very successful, and the proceedings were characterised with enthusiasm.

On the afternoon of Friday the annual

on another page. It depends where an exhibitor is exhibiting at the moment whether he may consider himself an amateur or not. At the great open shows it is customary to consider all as amateurs who cannot be classed as traders, but in the case of local exhibitions the grading has to be carried to a further degree, and the amateur must be separated from professional gardeners and from those who employ professional gardeners. It is these facts that have contributed to make the question "What is an amateur?" an eternal problem. An exhibitor who was freely admitted last week as an amateur at a certain show, if rejected this week at another exhibi-

Mr. ALEXANDER HISLOP, formerly a member of the gardening staff at the Royal Botanic Gardens, Kew, and afterwards successively assistant superintendent of the Municipal Gardens, Queenstown, Cape Colony, and curator of the Pietermaritzburg Botanic Society's Gardens, we learn from the *Kew Bulletin*, has been appointed by the Secretary of State for the Colonies, on the recommendation of Kew, curator in the Agricultural Department of Southern Nigeria.

THE DAHLIA SOCIETIES.—A few weeks since, when commenting on the National Dahlia Society's September show, we referred to two London societies being in existence, "one starving the other." A correspondent now informs



FIG. 126.—APPLE RED VICTORIA. (For text see p. 298.)

meeting of the "R.H.S. Union of Horticultural Mutual Improvement Societies" was held in one of the committee rooms at the Hall. The Rev. W. Wilks, M.A., presided, and during the proceedings presented some specimen rules and regulations for the organisation and direction of horticultural debating societies. In these rules an attempt has been made to define what shall constitute an "amateur" at the local shows, and we hope it may prove successful. Any effort that is made to settle this question, so far as the winning of prize money at a particular show is concerned, deserves consideration, and we therefore publish an excerpt from the Rules

tion held in quite contrary circumstances, will need a great deal of explanation before he can see the justice of the latter ruling.

In other respects, the report for the first year showed that some progress has been made, and there is every prospect that the Union will find greater opportunities for usefulness as it becomes better known.

THE WOMEN'S AGRICULTURAL AND HORTICULTURAL INTERNATIONAL UNION.—The annual meeting will be held at the Royal Botanic Gardens, on the afternoon of Friday, November 13. The council meeting will be held at 2.30; the annual meeting at 3.15.

us that there seems to be every probability that the National Dahlia Society and the London Dahlia will combine. There has been no antagonism between the two bodies; indeed, their committees have largely been composed of the same persons. But keeping up two organisations has of necessity been more costly than would be the maintaining of one only. It is quite easy for one society to hold two September shows at intervals of a fortnight if needful, as in that way the interests of early and late varieties would be well served. If the coalition is brought about, it is to be hoped that the garden Dahlia will be given as much attention as is now devoted to the mere show Dahlia. Such a matter would help to popularise the newly-constructed society or union.

FATALITY AT WELBECK.—An accident occurred on Monday the 12th inst., and terminated fatally in the Workop Hospital on the following Wednesday evening, the unfortunate victim being PETER FAIRGRIEVE, the foreman under Mr. GIBSON in the Welbeck Abbey Gardens. Deceased, who was very fond of animals, offered an Apple to one of the horses attached to a cart. In order to facilitate the animal eating the fruit, FAIRGRIEVE loosened the bit, with the result that the horse bolted. The unfortunate man tried to stop it but was knocked down, the wheel passing over the lower part of his body. He was removed to the hospital, where he died on the 14th inst. His remains were interred in Culkney churchyard the following Saturday. FAIRGRIEVE was much respected by all who knew him.

HOUSING AND TOWN PLANTING BILL.—Lord EVERSEY presided over a conference held on October 15 at the offices of the Commons and Footpaths Preservation Society, to consider the position of the Open Space Societies in view of the proposals of the Local Government Board to clothe local authorities with power to alienate common lands, village greens, recreation grounds, disused burial grounds, and other open spaces, under Clauses 7 and 8 of the Housing and Town Planning Bill. Other societies represented were the Kyrle Society, the Metropolitan Public Gardens Association, and the National Trust for Places of Historic Interest or Natural Beauty. It was pointed out that no open space in the country, when vested in a local authority or other body corporate, would be safe from partial or even complete appropriation for building purposes if the Bill passes into law in its present form. The societies expressed their readiness to endeavour to meet the views of Mr. BURNS, so far as might be expedient, to enable the exchange, under reasonable safeguards, of outlying parts of open spaces. If no satisfactory agreement could be come to on this basis, it was unanimously decided to press at every stage of the Bill for the insertion of the amendment put down by Mr. COWAN, to provide that the clauses to which exception is taken shall not apply to commons and open spaces. It was also determined to press for a similar understanding in regard to the Irish Housing and Town Planning Bill now before the House of Lords, and Lord MEATH promised to put down an amendment, which the Open Space Societies agreed to jointly support. At a subsequent committee meeting of the Commons and Footpaths Preservation Society, 86 new members were elected, and it was reported that, since its last meeting, the Society had dealt with 56 cases of enclosure of common land, 246 cases of the obstruction of footpaths, bridle ways, carriage roads, and ferries, 15 cases of roadside waste, and three of foreshore enclosure, and seven open space schemes. It was also reported that a large number of resolutions had been received in support of the Society's Public Rights of Way Bill, now awaiting its report stage in the House of Commons.

* **"BEAUTIFUL FLOWERS AND HOW TO GROW THEM."**—The first part of this work is devoted to Roses, and contains 24 pages of text. The writer approaches the subject from the point of view of the garden decorator rather than that of the exhibitor, and in a bright and pleasant manner discusses the various sections or types of Roses as they are seen in gardens. He offers some very pertinent advice on matters of cultivation, such as selection of site, operations of planting, budding, pruning, and selections are

given of choice varieties of Roses recommended for particular purposes. There are six full-page illustrations in colour in this issue, and several of them are satisfactory, particularly those representing flowering sprays of Lady Gay Rose, "Roses with Yucca and Delphiniums," and "A Bed of La France Roses." The least satisfactory is one which is said to represent Dorothy Perkins Rose on old trees. One can see something of the stems of the old trees, and round about these stems are numerous splashes of crimson colour, but their attachment to the Rose plant and the Rose foliage itself are not discernible. This fault, however, is present in more or less degree in most of the modern books illustrated with coloured drawings from impressionist artists. There is every reason to anticipate future issues with pleasure, and doubtless they will not be exclusively devoted to one kind of flower, as is the part now before us.

PRODUCE OF HOPS.—The Board of Agriculture and Fisheries has issued a preliminary statement showing the estimated total production of Hops in the years 1908 and 1907, with the acreage and



FIG. 127.—AN ELECTRIC FOUNTAIN.

estimated average yield per statute acre in each county of England in which Hops were grown. In Kent the yield for 1908 is estimated at 311,315 cwt., as against 221,860 cwt. in 1907. The acreage for 1908, as returned on June 4, was 23,975 acres, as against 28,169 acres in 1907. The estimated yield per acre, therefore, this year is very much higher than that of last year, being 12.98 instead of 7.88 in 1907. The next county in importance to Kent in regard to the production of Hops is Herefordshire, and, curiously enough, the results are altogether different from those in Kent, as they show that the yield in 1907 per acre is almost equal to that of this year. The total yield is estimated to be 54,554 cwt., as against 58,268 cwt. in 1907. The acreage under Hops, as declared on June 4, is 5,572 acres, as against 6,143 acres in 1907, the estimated yield per acre being 9.79, as against 9.48 last year. The other counties specified are Gloucester, 221 acres, and an estimated yield of 4.91 per acre; Hants, which has 21,176 acres, and an estimated yield per acre of 12.94; Salop,

with 1,015 acres, and an average yield per acre of 8.98; Surrey, with 8,021 acres, and an average yield of 12.38; Sussex, with 40,203 acres, and an average acreage of 11.23; and Worcester, with an acreage of 34,256, and an estimated yield of 10.22 per acre. The whole country, therefore, shows an estimated total production this year of 470,761 cwt., as against 374,129 cwt. last year. The total acreage is 38,921, as against 44,938 in 1907; whilst the yield per acre is extremely favourable, being 12.10, as against 8.33 last year.

THE FRANCO-BRITISH EXHIBITION.—Messrs. SUTTON & SONS, Reading, in a report of exhibits and floral decorations they have made at this exhibition, state, in reference to the lawns, that it was impossible to sow seeds before the middle of April, and yet, by May 14, when the opening took place, beautiful lawns were to be seen on all sides. Among the flowering plants that were bedded out in the grounds near to the Court of Honour, and which proved most satisfactory, were blue and white Violas, dark blue Lobelia, Tom Thumb Antirrhinum (including Crimson King, White Queen, and Yellow Prince), white, crimson, and pink Stocks, Giant White and Giant Yellow Polyanthus, Cineraria stellata, Perfection Pansy, Nemesis stromosa Suttonii, striped Petunias, Salvia splendens var. Fireball, double and single tuberous-rooted Begonias, Chinese Asters, and Godetias (including dwarf pink, dwarf white, and Scarlet Queen).

Publications Received.—*The Case for the Goat*, with the practical experience of 24 experts. Second edition. By "Home Counties." (London: George Routledge & Sons, Ltd.) Price 3s. 6d.—*The Soil*, an introduction to the scientific study of the growth of crops. By A. D. Hall, M.A. (Oxon.). (London: John Murray, Albemarle Street.) Price 5s. net.—*Gray's New Manual of Botany* (illustrated), by Professors Robinson and Fernald. Seventh edition. (New York: American Book Company, 100, Washington Square.) Price \$2.50.—*The Florist's Bibliography*, by C. Harman Payne. (London: William Wesley & Son, 28, Essex Street, Strand.) Price 3s. 6d. net.

APPLE RED VICTORIA.

This Apple was shown at a meeting of the Royal Horticultural Society on September 1, and on that occasion its resemblance to Gascoyne's Scarlet Seedling caused the Fruit and Vegetable Committee to hesitate in granting it an award. Fresh examples, however, were shown at a meeting held on September 15, together with a branch carrying some fruits, to show its remarkable cropping quality. On this latter occasion an Award of Merit was given to "Red Victoria" on its being found to be distinct and earlier than Gascoyne's Scarlet Seedling. The variety has all the qualities of a first-rate market Apple. The fruits were exhibited by Mr. G. W. Miller, Clarkson Nursery, Wisbech.

ELECTRIC FOUNTAINS.

At the last meeting of the Royal Horticultural Society, Messrs. Wm. Wood & Sons, Wood Green, London, N., exhibited three small fountains, one in antique bronze, designed by the chief art decorator of the Vienna National Museum, and the casing manufactured by the Royal Imperial Bronze Works of the same city; another of Doulton ware (see fig. 127), and the third made of plated silver. These fountains are worked by a small electric engine concealed in their bases, and when the fountains are once charged with water they become independent of any further water supply. They are said to be used for ornamenting dinner tables, drawing-rooms and winter gardens.

* Edited by Horace J. Wright and Walter P. Wright. Illustrated with 100 plates in colours, and others in black and white. Complete in 17 parts; price 1s. each. (Published by T. C. and E. C. Jack.)

GRAPE PRINCE OF WALES.

THIS Grape, having now received a First-Class Certificate, after having been given a fair trial in the Royal Horticultural Society's Gardens at Wisley, may be expected to become a standard favourite on account of its handsome appearance, flavour, and keeping qualities. It will be remembered that I was awarded a Knightian Medal and Cultural Commendation for four bunches of this Grape on September 26, 1903 [see figure in *Gardeners' Chronicle*, October 14, 1903], as shown from the Warren House Gardens, Stanmore, from vines planted 18 months previous to that date.

Having tried this Grape in various ways, I may state to intending planters that the vines do best when planted alternately with Black Alicante and Appley Towers, as these two varieties supply abundant pollen. Although "Prince of Wales" may not require much artificial pollination, it is a good plan to distribute plenty of pollen, if shapely, well-shouldered, exhibition bunches are required, and this cannot always be done when one variety alone is cultivated in the house. That noted Grape grower, Mr. T. Lunt, of Kier House Gardens, Dunblane, whilst congratulating me on the above-mentioned bunches, told me he could not succeed with it as a pot vine, and I may say that I do not think it suitable for pots, as it is such a vigorous grower. Good canes should be selected, as a short-jointed as possible, and the roots should be spread out on a carefully-made, but not too deep a border, thus allowing for frequent surface dressings. This Grape was distributed by Messrs. Jas. Veitch and Sons. C. J. Ellis, Nurseries, Weston-super-Mare.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

PARASITIC PESTS AND DISEASES.—In a recent article in the *Gardeners' Chronicle* the writer said, referring to an insect, "I cannot say that unhealthy trees are more likely to be attacked than vigorous ones." Now taking this for a text, I should much like to raise a question. Is there any reason for the very common opinion that unhealthy plants are more liable to the attack of insects and fungi than are those which are healthy and vigorous? I see no reason why they should be. We are fond of our own foot in a healthy and succulent condition, and surely there is no reason why the lower forms of life, to the extent of the power of perception, should not have the same preference. Healthy tissue is often likely to be the softer and unhealthy tissue frequently the harder and least easily attacked. Very often indeed one finds the fattest insects upon the most vigorous vegetation. Who, for instance, has not seen fine healthy green fly upon the vigorous shoot of a Rose? I have just observed that the healthiest of Gerberas are as liable to the attacks of mite as any of the weaker ones could be. Of course it must be a fact that unhealthy plants suffer more from a given measure of attack than do healthy and strong specimens. But that is another matter. As to fungi I do not refer to cases where they are, for instance, saprophytic, but when they naturally feed on living tissue they are as well able to deal with it in a healthy state (conditions being favourable) as a cat is to eat a healthy mouse. Why should a cat require unhealthy mice? A cat is perfectly fitted to catch mice, and parasites are perfectly fitted for their own special mode of existence. I believe we lose sight of the fact that parasitism, and consequently disease, as we call it, is perfectly natural—hence a mixing of ideas. R. Irwin Lynch, Botanic Gardens, Cambridge.

SMALL HOLDINGS.—The Croydon Allotments and Small Holdings Co-operative Society, Limited, registered under the Provident and Friendly Societies Act, has for its object the securing of land for those who feel that a good living is to be made by proper cultivation of the soil. The membership is already large, considering that the Society has only been in existence about three months, and comprises many

gardeners, greengrocers, poultry farmers, fruit growers, beekeepers and others who have been connected with agriculture for a number of years. Application has been made to the Croydon Council, on behalf of 31 of the Society's members, for 109 acres of land, and the writer was interviewed, with other prospective small holders, by the Small Holdings Sub-Committee on the 7th instant. So far as can be judged, every effort will be made by that body to procure the land, and as near as possible to Croydon. It is essential that it should not be more than five or six miles away, as it is the intention to supply the town with all kinds of fruits, vegetables and dairy produce. The Society will do its own carting, and, naturally, the local greengrocers and poultryers will patronise the local growers as, by so doing, they will get their produce quicker, fresher and better than they do at present, and be saved the expense of carting. There will be a horticultural department in connection with the Society, the special business of which will be the study of what is best suited to the soil of each small holding; this is important, as there are considerable variations even in a very small plot; lectures will be organised, and specialists invited from different parts of the country to give the small holders the benefit of the latest scientific knowledge in all that relates to agriculture. The project is the result of much careful thought, and those who have put their hand to the plough

things. The Japanese Maples hardly, as a rule, do more than maintain a miserable existence. I know of a few fair examples in sheltered spots, but anyone planting them freely in this district should be warned that acute disappointment will probably follow. *Chas. E. Pearson, Loddiam, Nottinghamshire.*

RETIREMENT OF MR. CHARLES ROSS.

MR. CHARLES ROSS, now in his 84th year, has retired from the Welford Park Gardens, Berkshire. For several years past he has ceased to have charge of the pleasure grounds, his services being limited to the kitchen and fruit gardens, including those seedling Apples and Pears with which his name is associated. These gardens have now been taken over by Mr. W. Pope, formerly of Highclere Gardens, for purely commercial purposes, although Mr. Ross will remain in his garden house till the spring. In his successor, an old and valued friend, Mr. Ross has one who will care for his seedlings, and he himself will have the freest access to them. Born on the Dalmeny Estate, Midlothian, where his father was head gardener to a former Earl of Rosebery, Mr. Ross in course of time passed through Messrs. Dickson & Sons' nursery, Edinburgh, and several private gardens, notably that of Dalkeith, then under the care of Charles McIntosh, the predecessor of William Thompson. His first place as head gardener was at Fairlawn, Tonbridge, Kent, where he remained six years. Mr. Ross recalls the fact that, in celebration of the peace proclaimed in 1856, at the close of the Crimean War, he planted a Sequoia gigantea at Fairlawn. In 1860 he came to Welford Park, then occupied by Mr. Eyre, where he remained as gardener till the end of last month. Mr. Ross refers in the warmest terms to the generous conditions under which he continued service with Mr. Eyre's son, now known as Colonel Archer Houbton, who resides at Hallingbury Place, Essex. Mr. Ross has obtained wide fame, chiefly in association with new Apples, for as long since as 1892 he raised Welford Park Nonesuch, the parents of which were Golden Harvey and Lamb Abbey Pearmain. Then came Bella, of which Golden Reinette was the seed parent, followed by Atalanta, from Scarlet Nonpareil, and Mrs. Phillimore from Lord Burghley x Mr. Gladstone. It was about 1890 that his famous cross between Cox's Orange Pippin and Peasgood's Nonesuch was effected, and from that cross has come several very fine varieties, inclusive of Charles Ross, a beautiful Apple, which thus so worthily perpetuates its raiser's name. Its original name was Thomas Andrew Knight, and it secured an Award of Merit, but later, having been, by special request, changed to Charles Ross, it obtained a First-Class Certificate. Just prior to that award the variety took first prize for flavour in the class for any other dessert Apple at the R.H.S. fruit show. From the same cross came the Houbton, Rival, and Renown (see fig. 124)—three other superb Apples, the last-named variety having only recently received an Award of Merit. Others from diverse crosses include Paroquet, so named for its beautiful colour. The first-named Apple did not thrive well, and a seedling from it was raised having a good constitution and finer fruit. That is the Paroquet of to-day. A superb Apple is Hector Macdonald, which is a seedling from Lane's Prince Albert. An excellent Apple is Encore, from Warner's King and Old Northern Greening. Excelsior was obtained from Peasgood's Nonesuch x Duke of Devonshire, a superb, roundish, conical Apple, having a small curl at the stem, not unlike that seen on Lemon Pippin. It is a long keeper and a grand cropper. Altogether Mr. Ross has had awarded to his seedlings three First-Class Certificates and ten Awards of Merit—a remarkable record.

In the kitchen gardens at Welford Park there are many other seedlings of both Apples and Pears, and Mr. Ross showed us young trees raised from seeds sown in his 80th birthday four years ago, and now from 3 to 4 feet in height. Besides these, there is a large collection of popular Apples and Pears. Mr. Ross, though now somewhat feeble, remains the mentally vigorous man of earlier days.



MR. CHARLES ROSS, RAISER OF MOST OF THE NEWER APPLES.

will not look back—they are men who have been hard workers all their lives, their interest is in the land, and while they know that the task before them is not a light one, they will enter upon it with a light heart, knowing that by wise and intelligent co-operation success is certain. Any further information relative to the Society will be gladly furnished to those interested by Henry R. Clifton, Hon. Sec., 38, Grant Road, Croydon, October 15, 1908.

ACONITUM WILSONII.—This Monkshood is, truly a charming plant for brightening up the borders in September, when many of the regular occupants are past, especially those with blue flowers. It grows 7 feet high, and displays its deep blue flowers for a long period. E. M.

JAPANESE MAPLES.—Referring to Mr. Clark's remarks on Japanese Maples on p. 273, I think he rather allows his enthusiasm for his subject to carry him away when he states that they are equal to the Laurel in hardness. The Laurel, though occasionally cut in the Midlands, thrives sufficiently to often become a trouble in shrubberies by smothering better

SOCIETIES.

ROYAL HORTICULTURAL CONFERENCE ON SPRAYING.

OCTOBER 16.—Under the auspices of the R.H.S., a conference on "Spraying" was held on the above date at Vincent Square. There were two sessions. That in the morning was presided over by Colonel Warde, M.P., the chairman at the afternoon session being Colonel Long, M.P. Two papers were read at each session; in the morning by Mr. Geo. Massee, V.M.H., and Mr. H. F. Getting, and in the afternoon by Professor F. V. Theobald, M.A., and Mr. G. Holland. There was an excellent attendance throughout the day.

Col. Warde, M.P., said that, coming from the county of Kent, he was especially interested in fruit culture, as nearly all the land of that county not under hops was under fruit cultivation. Although hop-washing or spraying had long been practised in Kent, as far as he had been able to gather, the subject was in its infancy, and they would no doubt learn much from that conference.

MR. MASSEE'S PAPER.

MR. MASSEE said his remarks would apply entirely to spraying for fungi and not for insects. Some people expected too much from spraying. There was an idea that when a plant was sprayed it was practically free from all over, that was if the work is well done. That was a mistake. He would show them slides from which they would see how only a percentage of the surface was covered. In the case of insects, it was practically immaterial. The caterpillar moved along and brought itself in contact with something which caused its death. That was not the case with the fungus. Often a large proportion of the fungus escaped and went on developing as before. Another point of importance was that many people thought that so long as the spraying solution was on the leaf, it was free from infection. That was a most misleading conception. He had repeatedly seen fungi germinating perfectly freely on Bordeaux mixture. Quite recently an American had been devoting a considerable time to the subject of Apple scab, the one disease they most desired to prevent, and the one about which they were the least successful. He had covered Apples attacked by the scab with Bordeaux mixture, and had found by actual measurement that the spots extended at exactly the same rate as on the Apples that were not sprayed. Therefore, they could not place so much reliance on spraying as they had been led to believe was justified. In the ordinary course, they expected some result. The only result they could possibly expect was prevention, to a certain extent, of the extension of the disease. Theoretically, it was imagined that when a leaf was sprayed any life on it would be destroyed during germination. That was generally true, so long as the Bordeaux mixture or other remedy remained effective; but no one quite knew how long it remained effective. Climatic conditions were an ill-important consideration, as, through chemical changes, the effectiveness of the spray might entirely disappear at a very early stage. Undoubtedly epidemics had been prevented, but the benefits were very much lower than they were generally led to expect. He was sorry to say that the preparation of spray had become largely a shop business. When a man made his own spray it was generally most effective; but when they got the ready-made stuff—well, it did not exterminate at all. He was not condemning any particular specific; but, speaking in general terms, the ready-made stuff was not as good as that a man made himself—that was if he made it properly. But some one might write: "I have sprayed my orchard and have no trace of disease." That might be perfectly true; but there might not have been any if it had not been sprayed. Evidence of that kind was of no value unless they had some sort of control. If they had a control, they might—other things being equal—take it for granted that the sprayed portion of the orchard would, in the first instance, be as badly diseased as the unsprayed. If the whole of the orchard was sprayed there would be no check whatever. But there was another aspect of spraying, and that was that, apart from the fungicidal properties,

the plant itself has been stated to be benefited by spraying, though in what way had not been explained. Some people said that spraying made the foliage last longer, and that the crop was better. That might be true; he had no evidence. He accepted it as a statement; but certainly, so far as Potatoes were concerned, it was doubtful whether any real benefit could be derived. The disease appeared on the foliage, and one portion of the foliage. Spraying was of value in preventing the spread of that disease, but he was firmly convinced that there was no tuber in Great Britain that was free from the ordinary Potato disease as they knew it. A certain Continental scientist had gone so far as to say that there was no tuber in Europe that was free. They might have seasons without the Potato disease, but that did not prove that the mycelium was not in the tuber; it only showed that some condition of the host-plant checked the growth of the fungus. It might only need three muggy days to bring about the Potato disease. He thought the Bordeaux mixture was not the success it might be. It was least successful during a wet season, when epidemic was most in evidence. Speaking generally, he would say that, although there was a certain amount of good to be derived from summer spraying, still, it was reduced to a minimum, and he would advocate winter spraying. The treatment could be more drastic, and there was no fear of killing anything during the winter. During the summer something was certain to be scorched if drastic means were adopted. No amount of spraying would atone for want of cleanliness. He did not know whether disease was greater than formerly, in proportion to the area cultivated. Of course, the area extended every year, so that if the disease remained the same we should get a greater amount of the disease. We neglected certain primary points that were carried out by our forefathers. They seemed to have had very much more time than we had. They got a lot more in; probably they neglected something. They must have done, or they could not have had their conditions so good. If they looked at orchards in this country at the present day it would be found that pruning was neglected. When the scab began to appear on the fruit it appealed to the grower's pocket. He did not realise it before. No amount of spraying on the dead branch would kill the living mycelium. If these things had been removed by cleanliness of the foliage, epidemic would be impossible. The fungus had a perfect right to be there; it was a one-sided view to object to it because it affected their interests. Cleanliness was the thing; winter was the time. If they left the spraying until the tree was in bloom, in nine out of ten cases it would prove a failure. And then the spray must be such that every grower could apply it. It should be as simple as sowing a seed or planting a tree. If an ordinary workman could not do the work, it must be a complete failure. He believed winter work to be more effective than summer work. He recommended a spray 1 lb. of sulphate of copper to 25 gallons of water. Everything should be sprayed, not only the tree, but the surrounding ground, because the spores might lodge anywhere. Trees properly runed, with all the bare parts cut away, and twice sprayed in the winter with this sulphate of copper, had been more free from scab than those sprayed in the orthodox manner. As to spraying machines, those on the market sent the spray in drops, which had, unfortunately, a tendency to run together, and thus the leaf did not get equally sprayed. The longer the spraying was done the worse it became. The lumps were more concentrated, and less of the surface of the leaf was covered. It was important to remember that the water did nothing. It was the solution in the water, and it was important to know when to cease spraying. What was wanted was a spray which resembled a London fog. There would then be some hope that the leaves would be reached all over, both top and bottom.

A number of photographs were then thrown on a screen, and these clearly bore out the lecturer's statement as to only portions of the leaf and fruit being reached by the spray. In regard to Strawberries, the lecturer said these should, in the winter, be topped with straw and burnt to the ground. It did the plants good, and was safer and more effective than any other remedy known in connection with the various diseases that troubled Strawberries.

MR. GETTING'S PAPER.

MR. H. F. GETTING, of Hollington, Glestow Fruit Plantation, near Ross, said that each year we felt more strongly the necessity of spraying regularly, not waiting until a severe fungus or insect attack was apparent, for it was impossible on a fruit plantation of any size to sufficiently carefully examine the fruit trees or bushes to see if an attack was present in the early stages. There might be exceptions to this general rule, and they must be guided to some extent during the pruning by the number of Winter or Winter Moth eggs, or signs of the winter form of scab on the young growths; but, as a rule, when the attack of an insect or fungus was discovered on the trees by the ordinary fruit-grower, it was in an advanced stage, which rendered it far more difficult, if not impossible, to deal with. For instance, spraying to destroy aphides was generally commenced far too late. The Plum aphid should be sprayed at least once—better twice—when the bloom buds were swelling, so as to destroy as many of the mother aphides as possible. Each surviving mother aphid might mean myriads of descendants during the year. The Apple aphid should also be sprayed before the blossom buds burst. It was money wasted to spray when the leaves were curled. Then, again, with Apple scab, unless the trees were sprayed before coming into blossom, the chances were very much against effectively checking an attack. Apple sucker, or Psylla mali, was a pest that was becoming more troublesome from year to year. He had not been able to find a wash that was really effective against this pest. A fairly strong paraffin and soft soap emulsion, nicotine wash, and McDougall's wash all killed some, but they left by far too large a proportion alive. He had not yet come across a wash that killed the eggs. The question arose, was it worth the annual expense of spraying? Yes, it was, under certain conditions. The principal conditions were: 1st, That the spray fluid was capable of destroying a large proportion of the insects, or keeping in check the fungus against which it was used. He had wasted thousands of gallons of wash on account of its ineffectiveness. 2nd, That the spraying machines and those who used them were capable of rapidly and efficiently doing their work. As to the first point, English fruit-growers were labouring under immense disadvantages as compared with growers in most other civilised countries, more particularly as compared with the United States of America and Canada, where practical and scientific advice and ocular demonstrations could be had for the mere asking. If it were not for the Duke of Bedford, and a few men of science actuated by a like spirit, they should have to learn what they could from abroad, or from individual experience. Until there was a properly constituted sub-committee of the Board of Agriculture to deal with all matters of interest to fruit-growers, and one or more Government experimental fruit stations, managed by practical men, assisted by the best scientific advice, it would continue to be a very uphill fight for fruit-growers. To have utterly ignored the recommendations of the Government Departmental Committee of 1904 was, to speak mildly, not business-like. Returning to the subject of spraying, he said they must not for a moment expect that any wash would destroy more than a large proportion, and keep the pest in check. He wished that some of the fairy tales which were sometimes advertised were facts. Such advertisements did an immense amount of harm.

The next point was the efficiency of spraying machines and nozzles. Many of the spraying machines had insufficient capacity and pressure. The same nozzles did not appear suitable for damping all parts of a tree. In spraying trees properly more knowledge was required as to the quantity of wash needed to thoroughly spray a tree of a given size. To stop spraying when the fluid commenced to drip from the leaves might be very misleading. A part of the tree, especially the lower branches or the portion nearest the operator might be drenched and the remainder left practically untouched. Consequently, spraying was liable to be condemned simply because trees had only been half sprayed.

WASHES IN USE.

Now as to a few washes in use. First, Bordeaux mixture. This appeared to be generally acknowledged as the wash above all others to be

used against certain very destructive fungi, notably Apple and Pear scab and brown rot, which were doing untold damage and were rapidly increasing. He knew it was very beneficial. At times he had secured first-rate results, but at other times the results had been lamentable, there being badly scorched foliage and sickly trees for a long period afterwards. Why he could not tell. Was it the fault of the lime, the copper, or the operator? There was no expert to inspect the trees and say where the fault lay.

Liver of sulphur was generally looked upon as a fungicide only, but he had found it in one instance to be an excellent insecticide, namely, against the mealy aphid on Plum trees. A solution of soft soap and 12 ounces of liver of sulphur to the 100 gallons would effectually destroy this troublesome pest. Nicotine and tobacco washes might prove of great service if the cost could be considerably reduced. Pure nicotine, 98 per cent. purity, was admitted free

Pssylla that one wash (McDongall's) appeared to penetrate more than others, i.e., the fluid seemed to have the power of running between the flower-buds, whilst other washes remained more on the upper surface or tops of buds. This was worthy of attention.

ADHESIVENESS OF WASHES.

It was desirable with certain washes (Bordeaux Mixture and others) that they should remain in the trees as long as possible. If some improvements could be made in this direction it would be a gain. It was important to growers that the cost should be kept as low as possible, hence the necessity of ascertaining the lowest effective strength of washes. As some washes were difficult for growers to make, he suggested to vendors that they should be sold in as concentrated a form as possible, obviating the necessity of paying unnecessary railway carriage.

pipe were fitted four 60-foot lengths of india-rubber hose with spraying arms and nozzles. This enabled them to spray 12 rows of trees (say 500 trees) without shifting the iron pipes, so that they could easily spray 2,000 to 2,500 trees a day. The disadvantages were: First, amount of wash held in pipes; second, wear on india-rubber hose through dragging on ground; third, settlement of insoluble material in pipes. Could anyone suggest an improvement on this system? He suggested that at one of the Society's shows there should be a representative exhibition of spraying machines and nozzles; and that a representative body of fruit growers should visit the United States and Canada and study the question of fruit-tree spraying and kindred subjects. His concluding advice was: "Spray regularly, spray thoroughly, spray systematically, or don't spray at all."

DISCUSSION.

Mr. MASSEE was asked whether the scab spore could be got at during the winter? He replied that he believed the spores were not in existence, or, at any rate, they were at a discount. The fungus was present in the dead shoots. During the spring the fungus produced fruit just as the young leaves were developing, so that the only hope was to cut off bad portions.

The CHAIRMAN said that Mr. Massee seemed to have a sneaking affection for the fungus, as he said it had a right to be there. Perhaps he looked upon the fighting fungus as a sport! He imagined if they did away with the fungus there would be no disease. That was how it appeared to his lay mind.

Dr. GATHURGOOD (Wisbech) said he had come a long way, and he felt a little disappointed in the papers in regard to the information they were seeking. During the last ten years he had spent hundreds, perhaps thousands, of pounds on spraying without much result. The damage from fungus diseases was very great, and was increasing rapidly. The recommendation as to winter work ought to be fully carried out in respect of removing the dead branches; but he was of opinion that they suffered more damage in Wisbech from insects, the aphids, the Apple sucker, and the caterpillar. They also had the Apple blossom weevil. This latter pest was working great havoc in his district. He did not think there would be much trouble in getting rid of the Apple sucker by his method. He had sprayed with ordinary caustic wash with a considerable proportion of petroleum and soft soap. With his first dressing he cleared off, perhaps, 50 or 70 per cent. in the first year of the Apple sucker. Last year he finished the Apple sucker, and he could not find any trace of it to-day in his orchards. If they could not stop the ravages of these insects, they must close their orchards and give up growing fruit. He hoped remedies would be found to prevent such a calamity.

Answering to a question, Dr. GATHURGOOD said he used 3 lbs. of caustic soda, 3 lbs. caustic potash, about a gallon of petroleum, and 30 gallons of water. The caustic soda was 98 per cent. strength.

Mr. E. S. SALMON said the cardinal point was the way in which they put the spray on the leaf. Some nozzles put on a spray as fine as impalpable dust. That was what they should aim at. He would like to announce that a conference was to be held at Wye College on Friday, November 27 next, at 11 o'clock, to consider the question of machinery and nozzles, and Mr. Dunstan, the principal, invited all interested in commercial fruit-growing to attend. When spores and Apple scab germinated after Bordeaux mixture was used, that should not be an argument against the mixture. Mr. Massee had said that the Bordeaux mixture must be looked upon only as a preventive. Bordeaux mixture was the best fungicide that had been invented, and evidence against it should be carefully examined. He was glad Mr. Massee emphasised the importance of the grower making his own fungicide. They could only hope for good results by making it themselves. He had found Bordeaux mixture very effective in Potato growing. As to the spraying of Peach leaves, the Agricultural Department of the United States recommended self-boiled sulphur mixture as perfectly safe to use both as an insecticide and a fungicide. He was absolutely certain no commercial grower of Apples could



FIG. 129.—GRAPE PRINCE OF WALES, BEING THE BUNCHES EXHIBITED FROM THE R.H.S. GARDENS AT WISLEY ON SEPTEMBER 29 LAST (FIRST-CLASS CERTIFICATE).

(For text see p. 299.)

of duty, but it was expensive, costing about 10s. per lb. Denaturised tobacco was also admitted duty free, but there was a good deal of foreign matter in it, and the strength of the tobacco might vary immensely. The importation of tobacco juice was prohibited, though if it were practicable to denaturise the same and admit strong tobacco juice not containing less than a fixed percentage of nicotine, it might be useful to fruit-growers.

Paraffin and caustic soda were sometimes recommended to be used very strong. He would caution users to try the spray on a small scale first and carefully watch results, bearing in mind that the damage done by paraffin did not always show quickly.

PENETRATION OF WASHES.

He had observed this year in spraying for

As to chemicals, a guaranteed strength should be stated on invoices, and insisted on by purchasers, or trouble was likely to occur through variation of strength.

SPRAYING INSTALLATIONS.

It would be interesting to know what was the best system for a fair-sized plantation. At Gleston Fruit Plantation, for an area of about 25 acres, the system was as follows:—They had a small house near a stream with a 1½-h.p. Crossley oil engine and a 600-gallon tank sunk below the level of the stream which could thus be rapidly filled. There was an iron underground main pipe from this tank along the principal headland with taps at intervals. To these taps, at right angles, were connected 15-foot lengths of iron piping on the surface of the ground along a row of trees. To this iron

ever hope to combat the scab without spraying in summer. Spraying in winter alone was no use, and pruning would never keep down Apple scab.

Apples would never be grown permanently clean in this country without continual spraying. He agreed with Mr. Getting as to the formation of a sub-department of the Board of Agriculture. Perhaps a body of influential fruit-growers might go to the States for information, or they might shame the Government into doing something for home growers. In this connection he would urge them to support the National Fruit Growers' Federation, one of whose objects was to get a sub-department appointed. It was through the efforts of that federation that they last year got the Destructive Insects and Pests Act.

Mr. BAKER said there was no doubt that the home mixing of Bordeaux mixture, as well as other fungicides, was the best, especially when there was access to a laboratory. In theory it was quite easy to get pure copper sulphate soluble, but in practice it was still high in price. The time should be taken direct from the kiln, as if left in contact with the air it lost its original properties. Even when they had the lime they could not rely on the workman to hydrate it when necessary. That was one of the chief causes of the failure of Bordeaux mixture, which, when properly made and used with the best machinery, was, no doubt, the best spraying fungicide.

Mr. PERCY BUNYARD, who said he held no brief for his firm, large manufacturers of insecticides, warned those present that to make their insecticides would be a great mistake. Paraffin and petroleum being oils, were not sufficiently penetrative in their action. Nicotine was by far the most penetrating insecticide in the world. Being a vegetable alcohol, it was not oily, and would get to those parts where oil emulsions could not penetrate. He would undertake to kill every insect, including red spider and mealy bug, with nicotine preparations. Pure nicotine—92 per cent.—was a very dangerous thing to handle. The greatest bugbear was that it was scheduled by the Pharmaceutical Society. That made it extremely difficult to get, but, fortunately, legislation had stepped in, and they hoped soon to be able to obtain nicotine preparations in the usual course, and not as a monopoly which chemists had tried to make it.

Mr. NEAME said that five or six years ago he used the Bordeaux mixture on a few trees. Before that he could hardly get any sound fruit, but for the last three years he had had a good, sound crop, with hardly any scab. Spraying, as far as his experience went, was certainly better done in the summer. If he had a very bad attack he should try winter spraying. The first spraying should be done just before the trees bloom, and the next as soon as the blossom had fallen.

Rev. G. H. ENGLEHART gave his experience with the Apple-leaf spot. He said he lived a few miles west of Salisbury, and the whole of that county suffered the greatest damage—and a progressive damage—from this Apple-leaf spot. The spot fungus was excellently described by Mr. Chittenden in the last issue but one of the *Society's Journal*. He had had a great deal of correspondence with Mr. Chittenden, whose paper was such an excellent one as regards the diagnosis of the disease, that in itself it justified the existence of the Wisley Laboratory. Seven years ago he planted some young Cox's Orange Pippin trees on new ground. They were beautiful trees, and when they first came into bearing he casually brought up two dishes of fruits to the R.H.S. show. He got the first prize with his first dish, and could have got the second prize with the second dish. Four years later the leaf spot began to appear in the neighbourhood. No piece of leaf could have been more scrupulously clean. Now he wanted to get some practical help with regard to this leaf spot. He had tried winter spraying and summer spraying, and was unable to find a remedy at all. He had sprayed with Bordeaux mixture, with sulphur, and with liver of sulphur, and one or two other things, including a very much advertised summer wash. He made his own Bordeaux mixture, and he did not think he made it too strong. He found, whether he covered the surface of the leaf entirely or not, the spores germinated very freely on the surface. He wrote

to Mr. Chittenden, who replied that he ought to have sprayed the entire under surface of the leaf. He did not know how this was to be done. He thought if the leaf were completely covered it would be choked. Like the gilded children in religious processions in ancient times, they looked very pretty as golden cherubs, but, unfortunately, they died.

Mr. COLVING said after many experiments with different Bordeaux mixtures he agreed with certain chemists to whom they had been submitted that, so far as the fruit grower was concerned, they were practically useless. He did not wish to wholly condemn Bordeaux mixture, but there was something radically wrong with the Bordeaux mixture on the market. A small committee should be formed to go into the matter and recommend to growers something better. The two leaves thrown on the screen were not well sprayed. The material should have been much finer.

Mr. CROOKE considered that success in fruit growing largely depended on using the application early. He had found that, if he used a wash somewhat weakly before there was any trace of insects, it was easy to keep the plant clean by one or two applications during the year.

Mr. MASSEE, in reply, said he was dealing with fungi, and he could not criticise nicotine in regard to insects. As to winter work: if there were no fungus spores there would be no disease. In an orchard at Mortlake he had the trees pruned. It was found that a man could do 20 trees in a day. If they paid the man 5s. a day it worked out at 3d. a tree. That was not much to pay to keep down an epidemic.

The Rev. G. H. ENGLEHART asked where the spores of the Apple spot disease rested in the winter?

Mr. MASSEE could not say where they came from, but he would say that winter spraying was not capable of touching them.

(To be continued.)

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

OCTOBER 15.—On this date the 22nd anniversary dinner of the United Horticultural Benefit and Provident Society was held at the Waldorf Hotel, under the chairmanship of Dr. Robert Boxall, of Ingleside, Abinger. Among the visitors were the Hon. William Fawcett, late superintendent of the famous Hope Gardens, Jamaica, and Dr. Monon, also of Jamaica. Mr. A. E. Bowles, chairman of the R.H.S. Scientific Committee, Mr. Phipps Lucas, and Messrs. J. MacDonald, T. Bevan, J. Anderson, J. Mckerchar, and others represented the honorary and benefit members. This is the first dinner of horticulturists that has been held at the Waldorf, and, judging from the excellent manner in which the dinner and all arrangements were carried out, it should be the forerunner of many others. In proposing the toast "Success to the United Horticultural Benefit and Provident Institution," the Chairman aptly compared the Society to a complete body, and proceeded to dissect its anatomy. The head consisted of the trustees and committee of management, and was an extremely well-balanced one, as evidenced by the satisfactory and economic working. The Benefit Fund was compared with the trunk, and the Benevolent, Convalescent, and Management Funds with the limbs, each carrying on its respective functions in complete accord for the benefit of the gardener. On studying the financial report and rules of the Society, he had come to the conclusion that no benefit society at the present time offered greater assistance during sickness and old age than the "United," and concluded with an urgent appeal to all gardeners, and especially the younger ones, to join the Society. The toast was responded to by Mr. C. H. Curtis, who stated that the Society had evidently anticipated the Old Age Pensions Act.

Mr. A. J. Brown proposed the toast of "The Honorary and Life Members," and this was responded to by Mr. Cox. Mr. J. Harrison Dick proposed "The Visitors," and Mr. A. E. Bowles, in response, expressed his intention of not coming again as a visitor but as a honorary member.

The toast of "The Chairman" was proposed by Mr. E. F. Hawes, and it was received with musical honours.

UNION OF HORTICULTURAL MUTUAL IMPROVEMENT SOCIETIES.

OCTOBER 16.—A meeting of the delegates from the several branches assembled under the auspices of the Royal Horticultural Society on the second day of the Autumn Fruit Show. It will be remembered that the Union was inaugurated at last year's Fruit Show; thus, the present meeting represented the first annual gathering, and it was presided over by the Rev. W. Wilks, M.A., who presented the report as follows:—

"There is but little to report on the progress of the 'Union' of Horticultural Mutual Improvement Societies during the past year, the first of the society's existence. Since the inaugural conference, held on October 18, 1907, the promised help offered by the parent—the Royal Horticultural Society—has been carried into effect, and some 20 lectures on various subjects prepared; five complete sets of lantern slides obtained; a list of these lectures, together with a very fair list of lecturers, and their subjects printed and issued; a draft set of rules and regulations drawn up for the assistance of newly starting societies; and considerable advertising, expense and time devoted, in the attempt to make the scheme a success. Only 23 societies have, however, joined the Union, whilst but six applications for printed lectures have been received. Too much importance should not be attached to these diminutive figures, inasmuch as the scheme is in its infancy; and as regards the lectures, it will be remembered their object is not to supplant lecturers, but rather to fill the gap when a lecturer fails, or in the rare event of a lecturer being unobtainable. We may, therefore, take it that the small demand for lectures is not an indication (as might at first sight be supposed) of the utility of the Union, but rather proves the fidelity of horticultural lecturers to keep their appointments. At the same time, it is well for secretaries to know that there is this relief ready at hand should their programme become unavoidably upset. It will be interesting to those present to know that the Royal Horticultural Society have spent £25 on printing and postages alone during the past year on behalf of the Union, for which it has received in return only £7 2s. 6d.

Considerable time was occupied in discussing what the term "amateur" means at flower shows. Whilst this very thorny problem was being discussed, the Rev. W. Wilks announced that he had already drawn up a set of rules for the guidance of these societies, and in these rules he had defined an amateur as follows:—

"An amateur is a person who grows plants, fruits or vegetables (either personally or by paid labour) solely for the enjoyment or for the domestic use of the produce, and not with the object of pecuniarily benefiting by it. Neither a nurseryman (nor his assistants), a gardener who receives wages (or is paid in kind), or any lady or gentleman who grows garden or orchard produce for the purpose of sale is an amateur.

"This rule does not necessarily exclude a person who sells surplus produce arising from an over-abundant crop or from exuberant natural increase, but who the officials of the show at which the question arises are satisfied does not intentionally grow for sale.

"Whenever any person is recognised by the officials of a show as coming under the definition of 'amateur' in their particular district or under their show rules, the judges must make the awards without any reference as to whether such recognition is right. The duty of deciding who is and who is not an amateur in any particular district lies with the officials of the show, and not with the judges."

It was resolved that Mr. Wilks should send a copy of the rules, including this definition of an amateur; to all the societies in the Union, with the hope that the several committees would adopt the proposals contained therein.

A paper was introduced by Mr. P. C. H. Jay, hon. secretary of the St. Barnabas Society, on the conduct of exhibitions, with several suggestions for obtaining greater good from them. It was generally considered by the meeting that Mr. Jay's suggestions were unworkable and that many of them had already been tried.

MARKETS.

COVENT GARDEN, October 21.

[We cannot accept any responsibility for the subjoined report. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these prices are the current prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Ed.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Asters, p. dz. bchs.	10-20	Lily of the Valley,	s.d. s.d.
dz. bchs.	40-60	p. dz. bunches	80-90
Bouvardia, per dz.		— extra quality ...	120-150
bunches ...	50-60	Marguerites, per	
Calla arthropica, per		dozen bunches	
dozen ...	30-40	— white and	
Camellias, per doz.	16-26	yellow ...	20-30
Carnations, per doz.		Mignonne, per	
dozen bunches		dozen bunches	20-30
— best American		Narcissus, paper	
various ...	30-40	white, per dz.	
— second size ...	10-20	— double	
— smaller, per doz.		Odontoglossum	
bunches	90-120	crispum, per	
Cattleyas, per doz.		dozen bunches	
— blooms ...	80-100	Pelargoniums, per	
Chrysanthemums,		show, per dozen	
specimens		— single	
— blooms p. doz.	20-30	— Zonal, double	
— smaller, per		scarlet ...	60-80
dozen bunches	50-120	Roses, 12 blooms,	
Coreopsis, per doz.		— Niphetos ...	10-20
bunches ...	16-26	— Bridemaid ...	10-20
Cypripediums, per		— C. Testout ...	16-26
dozen bunches	20-26	— Do. "Orange"	
Dahlias, per dozen		Pippin ...	20-60
bunches ...	20-30	— Do, per tray of	
Eucrasia, grandifl.		24 flowers ...	20-20
— blooms ...	20-30	— Do, per box	
— C. Mermet ...	10-26	2 dozen ...	20-26
— Liberty ...	20-30	— Do, "Orange"	
— Mrs. J. Lang ...	16-26	Pippin ...	20-60
— The Bride ...	10-26	— Do, per tray of	
Spiraea, per dozen		24 flowers ...	20-20
bunches ...	60-80	— Do, per box	
Statice, per dozen		2 dozen ...	20-26
bunches ...	20-30	— Do, "Orange"	
Stocks, double		Pippin ...	20-60
white, per doz.		— Do, per tray of	
bunches ...	30-40	24 flowers ...	20-20
Sweet peas, per		— Do, per box	
dozen bunches	16-26	2 dozen ...	20-26
Tuberose, per dz.		— Do, "Orange"	
bunches ...	04-06	Pippin ...	20-60
— on stems, per		— Do, per tray of	
bunch ...	16-26	24 flowers ...	20-20
Violets, per dozen		— Do, per box	
bunches ...	1-20	2 dozen ...	20-26
— Parmas, p.bch.	20-30	— Do, "Orange"	

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Adiantum cucum.		Hardy foliage	
— dz. bchs.	40-60	(various), per	
Asparagus plumosus,		dozen bunches	20-60
— long trails, per		— Hoosier, per	
dozen ...	80-120	bunch ...	10-16
— medium, per		Ivy-leaves, bronze	
dozen ...	10-20	— long trails, per	
— Sprenger ...	09-16	dozen ...	09-16
Berberts, per doz.		— short green,	
bunches ...	26-30	per doz. bunches	16-26
Croton leaves, per		Moss, per gross	10-50
bunch ...	10-13	Myrtle, dz. bchs.	
Cycas leaves, each		(English)	
— bunch ...	16-20	— single-leaved	40-60
Ferns, per dozen		— French ...	10-16
bunches (Engl.)		Physalis, per doz.	
— bunch ...	20-30	— small, per doz.	40-60
Grasses, dz. bchs.	10-26	— Spinal, per doz.	30-50

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Amelopsis Veltch.		Cypripis alternif.	
— per doz.	60-80	— foliolosus, per	
Aralia Sieboldii, p.		— laxus, per doz.	40-50
dozen ...	40-60	Dracaena, per doz.	90-240
— large spec.		Eutecia, per doz.	130-150
— mens ...	90-120	— gracilis nivalis,	
— Moseri ...	40-60	per doz. ...	150-180
Araticus exelsa,		Eumonia, per	
per dozen ...	120-300	dozen ...	40-90
Aspidistra, p. dz.		Ferns, in thumbs,	
— per doz.	50-240	per 100 ...	60-100
— variegated ...	300-420	— in small and	
Asparagus plumosus,		large 60's ...	120-200
— nus, per doz.		— in 48's, per doz.	40-100
— Sprenger ...	60-90	— in 36's, per doz.	10-150
— tenuissimus		Ficus elastica, per	
Aster, per dozen	60-120	dozen ...	80-100
Bouvardia, per dz.		— in 48's, per doz.	80-100
Campanula iso-		Fuchsia, per doz.	40-60
— blue, per		Isoetes, per doz.	40-60
dozen ...	40-60	Kentia Belmore	
— white, per doz.	40-60	— per dozen	180-300
Chrysanthemums,		— Fosteriana, per	
per dozen, best		dozen ...	180-300
disbudded ...	90-120	Lantana borbonica,	
— from out-of-		per dozen ...	120-180
— Clematis, per		Lilium longi-	
dozen ...	80-90	— form, per doz.	100-150
Coccos Weddell.		— lancifolium, per	
— per dozen	180-300	dozen ...	100-180
Crotons, per dozen	180-300	Lily of the Valley,	
		per dozen ...	180-300

Plants in Pots, &c.: Average Wholesale Prices (Contd.).

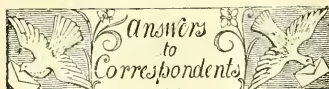
	s.d. s.d.		s.d. s.d.
Marguerites, white,		Solanums, per doz.	50-160
per dozen	40-80	Spirea japonica, p.	
Pelargonium,		dozen ...	60-100
per doz., Zonal		Veronica, Miss	
Selskiana, per		Wendlandia, per	
dozen ...	40-60	dozen ...	30-50

Fruit: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Apples, Foreign		Lemons (Naples),	14-10-10
(Nova Scotian),		Limes ...	30-40
— per doz.	10-12-10	— Lycopodium, per	10-15
— Ribston Pippin		Melons (English),	10-20
— King of the		— (Guernsey) ...	10-20
Pippins ...	130-160	— Rock ...	10-26
— Blenheim Pippin		— (Valencia), per	
— per doz.	10-16-0	case ...	50-66
— English, per		— (American)	
bushel ...	15-20-00	dozen ...	160-180
— Blenheim Pippin		Mangoes, per doz.	60-90
— per doz.	26-36	Medlars, per case	50-56
— King of the		Newtown Pippin,	
Pippins ...	26-36	per case ...	70-96
— Peasegood's		Nuts, Almonds, per	
— Nonesuch ...	30-50	bag ...	450-50
— Ectonville		— Brazil, per	
Seeding ...	20-26	per cwt. ...	450-500
— Bramley's		Walnuts (Engl.)	30-36
Seeding ...	30-46	— per doz. lbs.	30-36
— Lord Derby		— Greenloes, per	
— per doz.	30-36	bag ...	6-7-6
— Lord Suffield,		— (French), per	
per doz.	30-36	dozen ...	10-11-0
— Warner's King		— doubles, per lb.	90-100
— per doz.	30-36	— Raceolina, bag	30-36
— Yellow Ingestre		Coccolut, 100-110	04-10
— per doz.	23-29	— Cob, p. dz. lbs.	80-86
— Worcester		— Chestnuts, per	
— Do, per box of		bag ...	7-9-6
2 dozen ...	20-26	— (Italian), p. bag	17-18-6
— Do, "Orange"		— Filberts ...	07-09
Pippin ...	20-60	Oranges (Naples),	
— Do, per tray of		per case ...	80-100
24 flowers ...	20-20	— (Jamaica), per	
— Do, per box		dozen ...	90-106
2 dozen ...	26-46	— Washington	
— Windfalls, per		Naples (Natal),	
dozen ...	10-16	per case ...	130-150
Bananas, bunch:		— Californian	
— No. 2 Canary ...	6-6	— seedlings, p. case	14-150
— No. 1 ...	6-6-80	— (Cape Natl.)	
— No. 3 ...	6-6-80	— (Natal), per box	16-26
— No. 4 ...	6-6-80	— (Natal), per box	16-26
— No. 5 ...	6-6-80	— (Natal), per box	16-26
— No. 6 ...	6-6-80	— (Natal), per box	16-26
— No. 7 ...	6-6-80	— (Natal), per box	16-26
— No. 8 ...	6-6-80	— (Natal), per box	16-26
— No. 9 ...	6-6-80	— (Natal), per box	16-26
— No. 10 ...	6-6-80	— (Natal), per box	16-26
— No. 11 ...	6-6-80	— (Natal), per box	16-26
— No. 12 ...	6-6-80	— (Natal), per box	16-26
— No. 13 ...	6-6-80	— (Natal), per box	16-26
— No. 14 ...	6-6-80	— (Natal), per box	16-26
— No. 15 ...	6-6-80	— (Natal), per box	16-26
— No. 16 ...	6-6-80	— (Natal), per box	16-26
— No. 17 ...	6-6-80	— (Natal), per box	16-26
— No. 18 ...	6-6-80	— (Natal), per box	16-26
— No. 19 ...	6-6-80	— (Natal), per box	16-26
— No. 20 ...	6-6-80	— (Natal), per box	16-26
— No. 21 ...	6-6-80	— (Natal), per box	16-26
— No. 22 ...	6-6-80	— (Natal), per box	16-26
— No. 23 ...	6-6-80	— (Natal), per box	16-26
— No. 24 ...	6-6-80	— (Natal), per box	16-26
— No. 25 ...	6-6-80	— (Natal), per box	16-26
— No. 26 ...	6-6-80	— (Natal), per box	16-26
— No. 27 ...	6-6-80	— (Natal), per box	16-26
— No. 28 ...	6-6-80	— (Natal), per box	16-26
— No. 29 ...	6-6-80	— (Natal), per box	16-26
— No. 30 ...	6-6-80	— (Natal), per box	16-26
— No. 31 ...	6-6-80	— (Natal), per box	16-26
— No. 32 ...	6-6-80	— (Natal), per box	16-26
— No. 33 ...	6-6-80	— (Natal), per box	16-26
— No. 34 ...	6-6-80	— (Natal), per box	16-26
— No. 35 ...	6-6-80	— (Natal), per box	16-26
— No. 36 ...	6-6-80	— (Natal), per box	16-26
— No. 37 ...	6-6-80	— (Natal), per box	16-26
— No. 38 ...	6-6-80	— (Natal), per box	16-26
— No. 39 ...	6-6-80	— (Natal), per box	16-26
— No. 40 ...	6-6-80	— (Natal), per box	16-26
— No. 41 ...	6-6-80	— (Natal), per box	16-26
— No. 42 ...	6-6-80	— (Natal), per box	16-26
— No. 43 ...	6-6-80	— (Natal), per box	16-26
— No. 44 ...	6-6-80	— (Natal), per box	16-26
— No. 45 ...	6-6-80	— (Natal), per box	16-26
— No. 46 ...	6-6-80	— (Natal), per box	16-26
— No. 47 ...	6-6-80	— (Natal), per box	16-26
— No. 48 ...	6-6-80	— (Natal), per box	16-26
— No. 49 ...	6-6-80	— (Natal), per box	16-26
— No. 50 ...	6-6-80	— (Natal), per box	16-26
— No. 51 ...	6-6-80	— (Natal), per box	16-26
— No. 52 ...	6-6-80	— (Natal), per box	16-26
— No. 53 ...	6-6-80	— (Natal), per box	16-26
— No. 54 ...	6-6-80	— (Natal), per box	16-26
— No. 55 ...	6-6-80	— (Natal), per box	16-26
— No. 56 ...	6-6-80	— (Natal), per box	16-26
— No. 57 ...	6-6-80	— (Natal), per box	16-26
— No. 58 ...	6-6-80	— (Natal), per box	16-26
— No. 59 ...	6-6-80	— (Natal), per box	16-26
— No. 60 ...	6-6-80	— (Natal), per box	16-26
— No. 61 ...	6-6-80	— (Natal), per box	16-26
— No. 62 ...	6-6-80	— (Natal), per box	16-26
— No. 63 ...	6-6-80	— (Natal), per box	16-26
— No. 64 ...	6-6-80	— (Natal), per box	16-26
— No. 65 ...	6-6-80	— (Natal), per box	16-26
— No. 66 ...	6-6-80	— (Natal), per box	16-26
— No. 67 ...	6-6-80	— (Natal), per box	16-26
— No. 68 ...	6-6-80	— (Natal), per box	16-26
— No. 69 ...	6-6-80	— (Natal), per box	16-26
— No. 70 ...	6-6-80	— (Natal), per box	16-26
— No. 71 ...	6-6-80	— (Natal), per box	16-26
— No. 72 ...	6-6-80	— (Natal), per box	16-26
— No. 73 ...	6-6-80	— (Natal), per box	16-26
— No. 74 ...	6-6-80	— (Natal), per box	16-26
— No. 75 ...	6-6-80	— (Natal), per box	16-26
— No. 76 ...	6-6-80	— (Natal), per box	16-26
— No. 77 ...	6-6-80	— (Natal), per box	16-26
— No. 78 ...	6-6-80	— (Natal), per box	16-26
— No. 79 ...	6-6-80	— (Natal), per box	16-26
— No. 80 ...	6-6-80	— (Natal), per box	16-26
— No. 81 ...	6-6-80	— (Natal), per box	16-26
— No. 82 ...	6-6-80	— (Natal), per box	16-26
— No. 83 ...	6-6-80	— (Natal), per box	16-26
— No. 84 ...	6-6-80	— (Natal), per box	16-26
— No. 85 ...	6-6-80	— (Natal), per box	16-26
— No. 86 ...	6-6-80	— (Natal), per box	16-26
— No. 87 ...	6-6-80	— (Natal), per box	16-26
— No. 88 ...	6-6-80	— (Natal), per box	16-26
— No. 89 ...	6-6-80	— (Natal), per box	16-26
— No. 90 ...	6-6-80	— (Natal), per box	16-26
— No. 91 ...	6-6-80	— (Natal), per box	16-26
— No. 92 ...	6-6-80	— (Natal), per box	16-26
— No. 93 ...	6-6-80	— (Natal), per box	16-26
— No. 94 ...	6-6-80	— (Natal), per box	16-26
— No. 95 ...	6-6-80	— (Natal), per box	16-26
— No. 96 ...	6-6-80	— (Natal), per box	16-26
— No. 97 ...	6-6-80	— (Natal), per box	16-26
— No. 98 ...	6-6-80	— (Natal), per box	16-26
— No. 99 ...	6-6-80	— (Natal), per box	16-26
— No. 100 ...	6-6-80	— (Natal), per box	16-26

Vegetables: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Artichokes (French),		Lettuce (French),	
per dozen ...	20-26	per dozen ...	10-13
Beetroot (Scarlet),		Marrow (English),	
per bushel ...	20-26	per doz. ...	30-40
— per bag ...	20-26	— Marrow, per doz.	10-16
— (French), p. lb.		Mushrooms, per lb.	10-13
— per doz. ...	16-19	— Marrow, per doz.	10-16
Brussels Sprouts, p.		— Buttons, per doz.	10-13
bushel ...	26-39	— per doz. ...	10-13
Cabbage, per bushel		— per doz. ...	10-13
— per doz. ...	16-19	— per doz. ...	10-13
— Greens, p. tall		— per doz. ...	10-13
Carrots (English),		— per doz. ...	10-13
per doz. ...	10-12	— per doz. ...	10-13



* * * Owing to great pressure on our space the next instalment of "Pronunciation of Plant Names" is held over.

APPLE SCAB: *S. H.* The most important point is to remove all dead tips of twigs from the trees.

BEGONIA RUST: *Anxious.* The leaves are attacked by a mite, which causes the rusty appearance on the undersurface. Dip the plants in tobacco water.

CHRYSAETHUM SPORTING: *W. R.* Your specimen is somewhat similar to the one sent by *C. Chesters* last week. See p. 288. It is not uncommon, but no satisfactory reason has been given for its occurrence.

FLOWERS SUITABLE FOR BUTTERFLIES: *E. G. R.* Amongst flowers which are known to be specially attractive to butterflies are those following—*Borago officinalis*, *Sedum spectabile*, *S. Sieboldii*, *Cistus ladaniferus*, *Mignonette*, *Sunflowers*, Sweet Violets, *Gilia tricolor* and *G. nivalis*, *Phacelia tanacetifolia*, *Alyssum maritimum*, *Limnanthes Douglasii*, and *Eriogonum*. Generally speaking, it may be said that all nectar or honey-producing flowers which are attractive to the hive bee are also attractive to butterflies. In some cases the construction of a flower does not allow either the bee or the butterfly to obtain the nectar, but the butterfly has a better chance than the hive bee, because its proboscis is so much longer. A list of bee plants is published on page 295 in the *Apiary* article. It may be added that certain birds are prone to eat the butterflies even as perfect insects.

GRAPES: *P. C.* and *F. S. D., Ringwood.* The leaves are scorched. The grapes are attacked by a fungus, causing black rot. All diseased parts should be removed, including young wood, on which the fungus winters. Spray the plants next spring, just when the leaf-buds are expanding, with the Bordeaux mixture. Every portion of the vine should be sprayed.

IVY PLANTS FOR A GRAVE: *Hortulanus.* Hedera "Emerald Green" is the best ivy to plant on a grave, as it is of compact growth and appears always bright. The number of plants required will depend upon the size of the specimens employed and whether it is desired to completely cover the area for immediate effect. Under ordinary circumstances six plants, each having growths about 20 inches in length and pegged down, should be ample. Any tree and shrub nurseryman may be expected to supply plants of the variety named above at a reasonable price. Plants are easily propagated from cuttings inserted in the open ground in autumn.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon the space required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time: they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the characters of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. Correspondents not answered in one issue are requested to be so good as to consult the following numbers.

FRUITS: *J. K. B.* 1, *Pile's Russet*; 2, *Kewick Codlin*; 3, decayed; 4, *Chelmsford Wonder*; 5, *Annie Elizabeth*; 6, *Queen Caroline*.—*K. Y. Z.* 1, *White Nonpareil*; 2, *Small's Admirable*; 3, *Tower of Glamis*; 4, *Castle Major*.—*Murray.* 1, *Manks Codlin*; 2, *Northern Greening*; 3, *Summer Golden Pippin*; 4, *Hawthornden*.—*W. Jackson.* Cox's Foxona—*Miss Mathews.* 1, *Ribston Pippin*; 2, *Cox's Orange*

Pippin; 3, *Clygate Pearmain*; 4, *Beauty of Hants*; 5, *Tyler's Kernel*; 7, *Round Winter Nonesuch*; 8, *Lady Henniker*; 9, *Cellini*; 10, *Emperor Alexander*; 11, *Striped Bæfing*; 12, *Golden Noble*.—*W. A. Powell.* Catillac.—*G. W. B.* *Burré Superfin*; 2, *Fondante d'Automne*; 3, not recognised.—*A. F. Chapman.* Allen's Everlasting.—*R. Smith.* 1, *Fearn's Pippin*; 2, *King of Tompkins' County*; 3, *Beauty of Kent*.—*P. S. Nisbet.* 1, *Healthy Manning*; 2, *Cassagne's Scarlet Seedling*; 3, *Newton Wonder*; 4, *Bramley's Seedling* (highly coloured); 5, *Cox's Pomona*; 6, *Annie Elizabeth*; 7, *Dumelow's Seedling*.—*In Clark's candle box.* 1, *Sturmer Pippin*; 2, *Blenheim Pippin*; 3, *Cockle Pippin*; 4, *Melon Apple*; 5, *Tyler's Kernel*; 6, decayed.—*A. Jam's.* 1, *Fondante de Pansel*; 2, *Winter Nelis*; 3, *Doyenné Grise*; 4, not recognised.—*J. P. R.* 1, not recognised; 2 and 5, *Warner's King*; 3, *Boscher's Pearmain*; 4, *Tower of Glamis*; 6, *White Nonpareil*; 7, *Cox's Orange Pippin*.—*W. H. C.* *Burré Superfin*.—*E. H. C.* 1, *Alfriston*; 2, *Stone's Pippin*; 3, *Gillflower* (not Cornish); 4, *Hormead Pearmain*; 5, *Beurré Diel*; 6, *Vicar of Winkfield*.—*Anxious.* 1, *Emperor Alexander*; *Peach* decayed. The other fruits received were inferior, and we cannot attempt to name them.—*Austin & Mac.* The Plums had decayed, and most of the numbers were detached and disfigured by the Plum juice. You should send only six fruits at one time, and soft fruits should be packed separately.—*J. F.* *Winkfield*; 2, *Hawthornden*; 4, *Grenadier Nonpareil*; 5, *Warner's King*; 7, *Blenheim Pippin*; 8 and 10, *Dumelow's Seedling*; 9, *Pott's Seedling*; 12, *Braddick's Nonpareil*; 13, *Alfriston*.—*W. T. Hay, Herts.* 1, *Peasgood's Nonesuch*; 2 and 3, *Cox's Pomona*; 4 and 7, *Lord Derby*; 5, *Lane's Prince Albert*; 6, *Blenheim Pippin*; 8, *Hawthornden*; 9, *Small's Admirable*; 10, *Lord Grosvenor*; 11, deformed, not recognised; 12, *White Nonpareil*; 13, *Calville St. Sauveur*; 14, *Northern Greening*; 15, *Adams's Pearmain*; 16, *Mabbutt's Pearmain*; 17, *White Virgin*; 18, *Doyenné du Comice*; 19, *Beurré Rance*; 20, decayed; 21, *Brockworth Park*; 22, *Beurré Diel*; 23, *Marie Louise*; 24 and 27, *Fondante de Pansel*; 25, *Autumn Nelis*; 26, *Beurré Bachelier*; 28, *Glou Morceau*; 29, *Josephine de Malines*. You have very largely exceeded the usual number that should be sent at one time, and a contribution to the Gardeners' Orphan Fund would be appropriate in the circumstances.—*H. Wicken.* 1, a deformed fruit, not recognised; 2, *Calville St. Sauveur*; 3, *Franklin's Pippin*.—*Groves.* *Cox's* not recognised; *Bæfing*.—*A. H.* 1, *Golden Noble*; 2, *Sandringham*.—*F. D.* 1, *Gros Fouilleuil*; 2, *Tower of Glamis*; 3, *Waltham Abbey Seedling*; 4, *Lady Henniker*; 5, *Fearn's Pippin*; 6, *Peasgood's Nonesuch*.—*E. J. S.* *Glou Morceau*.

PLANTS: *S. W. T.* *Rhus Toxicodendron* (the "Poison Ivy")—*E. W. S.* *Cypripedium* *Chalcidifolium*. It is a very good variety, but there is no trace of the hybridity you suggest.—*Young Gardeners.* *Louisa combricincta*, *Brot*—*Seabrook.* 1, *Muehlenbergia platyclada*, sometimes known as *Coccoloba platyclada*; 2, a *Rhipsalis* sp., but cannot name with any degree of certainty without flowers.—*F. S. B.* *Senecio canaliculatus*, a climbing species from South Africa.—*T. B. Somers.* 1, *Asplenium rhizophorum*; 2, *Pteris longifolia*; 3, *Gymnogramma chrysophylla*; 4, *Lastrea filix-mas*; 5, *Asplenium lucidum*; 6, *Nephrodium molle*.—*A. S.* 1, *Ilex* species; 2, *Cedrus libani*; 3, *Cedrus atlantica glauca*; 4, *Weigela rosea variegata*; 5, *Eulalia japonica zebra*; 6, *Weigela hortensis alba*; 7, *Arbutus Unedo*; 8, *Benthania fragilifera*; 9, *Skimmia japonica*; 10, *Andromeda japonica*; 11, *Hippobatrachium*; 12, *Cedrus deodara*; 13, *Ruscus hypoglossus*; 14, *Leycesteria formosa*; 15, *Buddleia variabilis*; 16, *Cryptomeria japonica*; 17, *Swainsona galegifolia*; 18, *Lasiandra macrantha*; 19, *Abutilon Savitzi*; 20, *Begonia fuchsoides*; 21, *Begonia Dregei*; 22, *Phyllanthus nivosus*. You send more than the proper number; a small donation to the R.G.O.F. box would be appropriate. The specimens sent are imperfect, as they lack flowers, and the Conifers are wanting cones.—*Ben.* 1, *Adiantum cuneatum mundulum*; 2, *Adiantum concinnum latum*; 3, *Adiantum fragrantissimum*; 4, *Adiantum formosum*; 5, *Adiantum Capillus-veneris*.—*A. C.* *Trachelium coreulium*.—*S. P.* 1, *Stenotaphrum*

americanum; 2, *Cyrtodiandra fulgida*; 3, *Pellionia pulchra*; 4, not recognised, probably *Origanum* species.—*W. C. S.* *Acampe papillosa*.—*E. H.* 1, *Helianthus rigidus*; 2, *Helianthus multiflorus* *flor. pleno*; 3, *Aster Novi-Belgii* *John Parker*; 4, *Polygonum variegatum*.

NOTICE TO TERMINATE EMPLOYMENT. *J. B. (1)* It is a question of custom, but if you are in private employment and not an under-gardener, we consider that a month's notice would be reasonable in your case. (2) There is no such Act as you suggest. Probably you have in your mind the Workmen's Compensation Act of 1906, which gives a right to compensation in the case of injuries sustained through accidents arising out of, or in the course of, employment.—*Alba plera, F. Smith and C. F. Smith.* See above reply to *J. B.*

PEAR LEAVES: *J. G.* The leaves are injured by the Pear-leaf blister mite (*Eriophyes pyri*). The leaves should have been picked off in July. Under present circumstances collect and burn all that have fallen, and spray the trees early in spring with the liver of sulphur solution.

PEARS CRACKING: *T. S.* You do not read your *Chronicle* carefully. On p. 372, in the issue for October 10, was given an illustration and a note on Pears cracking similar to those you send.

PLUM LEAVES: *T. H., Severn Stoke.* The little blisters are galls formed by the Plum-leaf mite (*Eriophyes similis*). Diseased leaves should be gathered and burned. The ground under the trees should be dug over in winter to bury fallen leaves.

PROTECTION FOR ORCHID HOUSES: *M. J., Devon.* Of the three materials you send the cocoon matting is the best for the purpose you mention.

SHRUBS FOR A NORTH WALL: *Cydonia.* *Ampelopsis Vetchii* is the best of all self-clinging plants. *A. quinquefolia* (*A. hederacea*) is of rapid growth, and *A. muralis* is an excellent variety. Of ornamental vines *Vitis Cœlestis* grows freely, but requires sun heat to develop its best leaf colours in autumn. *Aristolochia Sipho* is of vigorous growth and remarkable for its large, heart-shaped leaves and pipe-shaped flowers. The small-leaved *Cotoneaster* (*C. microphylla*), an evergreen species from Nepal, is quite hardy, of good growth, and very ornamental. *Periploca gœrca*, the silk vine, bears glossy green leaves and clusters of purplish-brown flowers. *Jasminum nudiflorum* flowers in January in partial shade. *Berberis Darwinii*, *Cydonia japonica* and its varieties, *Crataegus pyracantha* (Evergreen Fire Thorn), and *Lycium chinense* (Box Thorn), may be tried. The Ivy (*Hedera Helix*) is an excellent shade plant, especially the forms known as *Canariensis*, *Emerald Green*, *Poetica* and *regneriana*.

SPECIES OF HIPPEASTRUM: *Amateur.* We are unable to advise you where to get the species of *Hippeastrum* (*Amaryllis*). Some of the leading bulb merchants catalogue two or three species, and you may find some by consulting their lists. If by the term *Amaryllis* you mean *Amaryllis*, a much larger number can be obtained, including some pretty species of *Cyrtanthus* and *Nerines*.

VARIATED MAIDENHAIR FERN: *Query.* There is a variegated form of *Adiantum cuneatum* in cultivation, but the one referred to by your friend in South Africa, if indigenous there, would be the variegated form of the South African *A. Capillus-veneris*. The variegated Maidenhair Fern known in gardens has an irregular variegation, and is often not attractive.

COMMUNICATIONS RECEIVED.—*Rev. C. B.* *T. H. H.*—*J. M. M.*—*J. G. A.*—*P. S. E.*—*A. R. F.*—*F. M. H.*—*Bentley.* *R. G.* & *Sons*.—*B. D.*—*E. W. P.*—*A. E.*—*C. H. H.*—*T. S.*—*W. E.*—*B. G.*—*W. L.*—*Petrie.*—*W. E. B.*—*F.*—*T. C.*—*C. W. F.*—*G. F.*—*W. A. C.*—*J. R. J.*—*W. M.*—*M. M.*—*M. F.*—*W. W.*—*S. A.*—*C. T. D.*—*H. W. A.*—*J. H. S.*—*F. H. R. R.*—*P. Aquilias*.—*J. C.*—*F. B.*—*H. M.*—*C. W.*—*J. B.*—*C. Culinary*.—*J. A. S.*—*P. M.*—*W. D.*—*G. S.*—*A. M.*—*J. G. H.*—*E. S.*—*C. C.*—*T. H.* (The Is. has been placed in the R.G.O.F. box).—*G. D.*—*R. S.*—*J. N.*—*J. A.*—*H. F.*—*M. L.*—*L. A.*—*S. W.*—*A. E.*—*C. R.*—*F. M.*—*A. M.*—*F. W. C.*—*T. B. B.*—*A. K.*—*J. F.*—*W. J. M.*—*J. B.*

Exhibition of British-Grown Fruits.

OCTOBER 15-16.



THE great autumn exhibition of fruits by the Royal Horticultural Society was held on the foregoing dates, in summer-like weather, at the Royal Horticultural Hall, Vincent Square, Westminster. There is a great similarity in these annual exhibitions, and they cannot lay claim to any spectacular effect, owing to the great sameness of dishes of fruits repeated almost in every class. In this connection it was regrettable that the one class that has formerly provided a distinct feature, namely, that for fruit trees in pots, was not represented by any exhibit, owing to the fruits having fallen from the trees before the date of the show, due to the exceptionally fine weather of the past few weeks.

High quality generally obtained in the Apple classes, which constituted the major portion of the show. Such fruits as Plums, Cherries, and Peaches are practically over in October, and it is not surprising that they are poorly represented at these exhibitions. In the Grape classes some choice bunches of Muscat of Alexandria were seen, but the other Grapes did not rise above good average quality.

The management was, as usual, admirable, and the thanks of all concerned are due to the secretaries, the superintendent, Mr. S. T. Wright, who performs his task with commendable tact, the office staff, including Mr. Frank Reader, Mr. Plozman, and others, upon whom much extra labour is entailed. During the process of the show, several meetings and a conference on spraying were conducted; whilst a demonstration of fruit bottling was given in one of the upper rooms.

DIVISION I.

COLLECTIONS OF HOTHOUSE AND HARDY FRUITS. (OPEN TO GARDENERS AND AMATEURS ONLY.)

There were two classes for collections of fruits grown under glass or in the open—one for a display of nine dishes to embrace at least six kinds and not more than one Pineapple, one Melon, and one bunch each of white and black Grapes; the other for six dishes, with similar restrictions, and no Pineapple was admitted.

Collection of nine dishes.—In the larger class the contest was between two exhibitors only, the Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), and C. R. ADEANE, Esq., Babraham, Cambridge (gr. Mr. R. Alderman). The 1st prize was made in favour of the first-named exhibitor, who staged a choice collection of fruits, the Muscat of Alexandria Grapes being amongst the best in the show.

There were also two small but perfectly-shaped bunches of Madresfield Court, the berries being finished to perfection, shaped, and with bloom spread over a deep black skin. The other dishes were Ribston Pippin and Cox's Orange Pippin Apples, the latter coloured to a high degree, such as is seen in Worcester Pearmain; rather small Victoria Nectarines; a yellow-skinned seedling Melon; very few Princess Peaches, also Golden Eagle Peach; and large, well-matched Pears of the Doyenné du Comice variety, that only needed a flush of colouring to improve them. The 2nd prize was worthily awarded to Mr. ADEANE, his dishes being Muscat of Alexandria and Black Alicante Grapes, the latter being two shapely bunches, rather small in the berry but of good finish; a Melon of the Hero of Lockinge type; Ribston Pippin Apples; superb Pitmaston Duchess Pears; rather poor Barrington Peaches; and Cox's Golden Drop Plum.

Collection of six dishes.—In the smaller class for six dishes there was a greater competition, for eight growers brought of their best, and the contest was a good one. The judges decided in favour of the exhibit from W. PRINCE, Esq., The Node, Codicote, Welwyn (gr. Mr. J. Pateman), and awarded the 2nd prize to Lord HOWARD DE WALDEN, Audley End, Saffron Walden (gr. Mr. J. Vert). It was

more difficult to approximate the 3rd prize winner, for there were two displays that were equal in point of merit, and the judges placed them equal. These exhibitors were Lord BELPER, Kingston, Derby, and J. NIX, Esq., Tilgate, Crawley (gr. Mr. E. Neal). In the premier collection were two good bunches of Muscat of Alexandria Grapes, the one a heavily-shouldered bunch, and the other long and tapering. The berries had good finish, including abundant bloom." Other Grapes were Black Alicante.

Probably his best dish was Cox's Orange Pippin Apples, the fruits being large and magnificently coloured. There were also Lady Palmerston Peaches, a green-skinned Melon, Royalty, of small size and not attractive. In the 2nd prize exhibit, Lord WALDEN showed small but well-finished Muscat of Alexandria Grapes; Black Alicante Grapes; a very fine fruit of Golden Wedding Melon; good fruits of Sea Eagle Peach, Pitmaston Duchess Pears, and choice Ribston Pippin Apples.

Apple Chas. Ross was remarkably good in Mr. NIX's collection.

GRAPE CLASSES.

The most important class was for five distinct varieties, and the prizes were given by the Veitch Memorial Trustees. The schedule required at least two kinds of white Grapes, and of each variety three bunches were to be shown. Three growers contested, the 1st prize being taken by the Earl of HARRINGTON (gr. Mr. Goodacre), with fine examples of Muscat of Alexandria, three shapely bunches of Gros Maroc, having well-finished berries, Golden Queen, of medium size and rather irregular in berry, and Madresfield Court, in three choice bunches, with well-finished berries; 2nd, H. J. KING, Esq., Eastwell Park, Ashford, Kent (gr. Mr. J. G. Weston), who showed fine bunches of Lady Downe's, a Grape requiring much skill to cultivate well; Chasselas Napoleon, not an interesting variety for the show board; Black Alicante, of good shape; Muscat Hamburg and Muscat of Alexandria, of commendable size, but unevenly finished, some berries being rather green. 3rd, Sir W. D. PEARSON, Bart., Toddockhurst, Worthing, Sussex (gr. Mr. A. B. Wadds).

There were no entries in a class for four varieties of Grapes.

Black Hamburg.—Much the best bunches of this popular Grape were shown by Lord SAVILE, K.C.V.O., Rufford Abbey, Orkington, Notts. (gr. Mr. J. Doe). Amongst the three other contestants, J. NIX, Esq., Tilgate, Crawley, Sussex (gr. Mr. Neal), was placed 2nd; and the Marquis of SALISBURY, Hatfield (gr. Mr. H. H. Prime), 3rd. Mr. NEAL's examples were nicely finished, but lacked size. Mr. Prime had Grapes in some of the classes, but they had a blemish in the shape of a deposit, probably sulphur from some vapouriser.

Mrs. Pine.—There were half-a-dozen entries in this class, and the 1st prize was given, not to the largest bunches, but to the largest berried ones, and these were shown by Mr. DOE on the same stand as his winning bunches of Black Hamburg. The largest examples were shown by O. E. D'AVIGNOR GOLDSMID, Esq., Tonbridge, Kent (gr. Mr. C. Earl). They required a little longer time to perfect them, for some of the berries were green at the stalk ends. 3rd, Earl of HARRINGTON (gr. Mr. Goodacre) with small berried bunches. There was a great discrepancy in the quality of the various exhibits in this class.

Black Alicante.—This proved a very strongly contested class, no fewer than 10 exhibits being shown. The 1st prize was won by W. G. RAPHAEL, Esq., Castle Hill, Englefield Green (gr. Mr. H. H. Brown), whose right-hand bunch was the finer, although together they were not much in advance of those shown by the 2nd prize winner, C. T. CAYLEY, Esq., Tunbridge Wells, Kent (gr. Mr. H. Poulton), his bunches being better matched but inferior in size of berry. 3rd, H. J. ANDREWS, Esq., Toddington Manor, Gloucestershire (gr. Mr. J. Tooley).

Madresfield Court.—Amongst four exhibits the prize was awarded to Lord SAVILE (gr. Mr.

Doe), who had much the finest bunches, that only required a little longer time to ripen, when they would have been perfect samples. 2nd, F. R. DODD, Esq., Lancington (gr. Mr. Billings). 3rd, Marquis of SALISBURY (gr. Mr. H. Prime).

Any other black Grape.—This class brought forth 14 exhibits, of which five were of Gros Maroc, three of Lady Downe's, three of Gros Colmar, two of Alnwick Seedling, and one of Prince of Wales (see fig. 129). The 1st prize was given to Gros Maroc, shown by Col. Hon. C. HARBOARD, Guntun Park, Norwich (gr. Mr. W. Allen). 2nd, W. G. RAPHAEL, Esq., Castle Hill, Englefield Green (gr. Mr. H. H. Brown), with what appeared to be Lady Downe's, but they were not labelled. 3rd, Prince of Wales.

Muscat of Alexandria.—This class is always a popular one, and on this occasion there were 12 contestants. The judges decided in favour of those shown by the Earl of HARRINGTON (gr. Mr. J. H. Goodacre), who had undoubtedly the finest Muscats in the exhibition. 2nd, Sir E. DUNNING LAURENCE, King's Ride, Ascot (gr. Mr. W. Lane), whose bunches were admirable in finish, but on the small side. 3rd, W. G. RAPHAEL, Esq., Castle Hill, Englefield Green (gr. Mr. H. H. Brown).

Any other white Grape.—There were only two exhibits, viz., Mrs. Pearson and Lady Hunt, shown by A. BENSON, Esq., Merstham, Surrey (gr. Mr. H. Cornish), and Sir W. D. PEARSON, Bart. (gr. Mr. A. B. Wadds): the prizes were awarded in this order.

There were no entries for Grapes of the Foreign type.

COLLECTIONS OF HARDY FRUITS.

There was a class for a collection of 30 varieties of hardy fruits, including not more than 12 varieties of Apples nor eight of Pears. The class was a good one, for although not more than three exhibits were staged, they were all good collections and together made a big show. By far the largest fruits were shown by Lt.-Col. BORTON, Cheveney, Hutton (gr. Mr. J. Whittle), who received the 1st prize. He showed exceptionally fine culinary Apples, including Mère de Menage, Peasgood's Nonesuch, Sandringham (a noteworthy dish), Bismarck, Warner's King, and Emperor Alexander (with high colouring). Of Desert Apples we may instance Chas. Ross, American Mother and Allington Pippin. The best Pears were Doyenné du Comice, Duroseau, Beurré Diel, Beurré Superfin, Marie Benoist, and President d'Osmonville. There were also Plum Monarch, Peaches Stirling Castle and Golden Eagle; Cherries, Damsons, Walnuts, and Cobnuts. 2nd, Sir M. SAMUEL, Maidstone (gr. Mr. W. H. Bacon), with smaller fruits, but of good quality and of rather more variety. Very fine were Emperor Alexander, Chas. Ross, Harvey's White Defiance, Lord Derby, and Peasgood's Nonesuch Apples, and Monarch Plums. There were dishes of White Currants, Pears, Medlars, Quinces, Damsons, Peaches, &c. 3rd, Major POWELL COTTON, Birchington (gr. Mr. J. Cornford), the best dish being the beautiful Charles Ross Apple.

DIVISION II.

NURSERMEN'S CLASSES.

FRUIT GROWN ENTIRELY OUT-OF-DOORS.

The class for a display of hardy fruits occupying an area of 24 feet by 6 feet was the most important in the nurserymen's section, and it enabled the larger growers to display their skill and resources in hardy fruit growing. There were, however, only three entries, viz., Messrs. GEO. BUNYARD & CO., LTD., Maidstone, Kent, Messrs. R. CANNELL & SONS, Swanley, Kent, and Messrs. JOS. CHEAL & SONS, Crawley, Sussex. The contest for the 1st prize was between the Kent firms, with the result that Messrs. BUNYARD were placed first, although Messrs. CANNELL were not far behind. Both firms staged excellently, and their fruits possessed that degree of colouring which is associated with a sunny climate, and intensified by the exceptionally fine weather of the past weeks.

Messrs. BUNYARD showed 175 distinct varieties and arranged their dishes in four tiers on either side, the central one being broken with three espagnes decorated with fruits of the common Berberis, and coloured foliage. The large culinary Apples occupied the higher rows, and dessert kinds were towards the foreground. Prominent amongst the Apples were Mère de Ménage, Belle Dubois, Gascoyne's Scarlet Seedling (fine in colour), Cox's Pomona, Lord Derby (fine samples of this choice culinary Apple, King of Tompkins County, Lane's Prince Albert, The Queen, Royal Jubilee, Emperor Alexander and Baumann's Red Winter Reineette (both intensely red). Then, amongst dessert kinds, were such excellent varieties as Cox's Orange Pippin, Egremont Russet, Allington Pippin, Maltster, Christmas Pearmain (a useful variety), Nabbott's Pearmain, Evargil, Parquet (a small but pretty fruit), Duchesse's Favourite and St. Edmund's Russet. There were 24 dishes of Pears, including Pitmaston Duchess, Fondante de Thirriot, Beurré Bosc, and Verulam. The remaining dishes were Medlars, Quinces, Damsons, Plums, and Nuts.

In the 2nd prize group, which was arranged somewhat similarly, but not quite so tall, we noticed good dishes of Apples:—Emperor Alexander, Warner's King, Chas. Ross (very choice in quality), Lord Derby, Peasegood's Nonesuch, Bietheimer Red, Wealthy (a pretty Apple of high colour), Gloria Mundi, Adams's Pearmain, Egremont Russet, Mrs. Barron, Baumann's Red Winter Reineette, Bedfordshire Bounding, Yorkshire Beauty, Maltster, Bramley's Seedling, Beauty of Kent, The Queen (excellent samples), James Grieve (a dessert kind of attractive appearance), Allington Pippin, Lady Sudeley (of intense red colour), Chelmsford Wonder, Tom Putt, Rival, and Golden Spire. Of Pears, mention may be made of Pitmaston Duchess, Maréchal de Cour, Conference, Vicar of Winkfield, Doyenné Boussoch and Beurré Alexander Lucas. MESSRS. CANNELL also showed Bullaces, Medlars, Nuts, Plums, Quinces, and Crabs. 3rd, MESSRS. J. & H. HEAL & SONS with a very pleasantly arranged exhibit of somewhat small but well finished fruit.

There was greater competition in the class for a display of fruits occupying an area of 16 feet by 6 feet, no fewer than eight exhibits being staged. A collection of exceptional quality, staged by Mr. WILL TAYLOR, Hampton, won the 1st prize, the fruits being noticeable for their brilliancy of colouring and general high quality. It was good throughout, and no weak dish was noticed. Nearly all the fruits were Apples, and of these mention may be made of Cox's Pomona, Cox's Orange Pippin (remarkably fine fruits), Blenheim Pippin, Beauty of Kent, Byford Wonder, King of the Pippins, Lord Derby, Annie Elizabeth, Bismarck, Emperor Alexander, The Queen, Lady Sudeley, Claygate Pearmain, and Allington Pippin. Some very choice Pears were also included in this exhibit, and a pleasing edging was formed by bunches of Quinces and Quince foliage. 2nd, MESSRS. W. SEABROOK & SONS, The Nurseries, Chelmsford, with very similar varieties, especially fine being the culinary Apples of large size, The Queen, Bismarck, Jubilee, Cox's Pomona, Warner's King, and Peasegood's Nonesuch may be instanced in this connection. 3rd, MESSRS. LAXTON, BROS., Bedford.

DIVISION III.

(OPEN TO MARKET GROWERS ONLY.)

There were three classes provided in this section, viz., one for a display of fruits occupying a table space of 18 feet by 6 feet, another for a display measuring 12 feet by 6 feet, and a third for an exhibit of 42 dishes of Apples in equal numbers of dessert and culinary varieties.

Combinations of individuals or firms was not allowed, nor collections of produce from districts. No duplicate dishes or baskets of fruit were permitted, but the use of berries and foliage was allowed to brighten the exhibit, flowers being debarred. The highest prize awarded in the largest class was a second, and it fell to the HORTICULTURAL COLLEGE, Swanley, the principal of which establishment is Miss Wilkinson.

The fruits, consisting mainly of Apples and a few varieties of Pears, were shown in large and small flat baskets, arranged in pyramidal fashion. The dessert varieties of Apples were small in size, and for Kentish fruit not fine as regards colour; but, on the contrary, the culinary varieties were large, clear in the skin, and generally

well coloured. The finer examples were Peasegood's Nonesuch, Bismarck, Golden Noble, The Queen, Newton Wonder, Allrinton, and Tyler's Kernel. Ross Nonpareil, Scarlet Nonpareil, Worcester Pearmain, Cockle's Pippin, and Cox's Orange Pippin were the choicer examples among dessert Apples. Du-hesse d'Angoulême, Pitmaston Duchess, and Beurré Diel were the finest examples of Pears.

Exhibit measuring 12 feet by 6 feet.—In this competition the 1st prize was worthily taken by G. H. DEAN, Esq. (gr. Mr. W. Stowers), 80, Harold Road, Sittingbourne, the fruit, arranged in flat baskets and plates, being of great excellence. We noticed Allington Pippin, Rambour Papelin, a fine, large, dark crimson and yellowish green and slightly conical fruit, Mère de Ménage, splendid in colouring; Peasegood's Nonesuch, Stone's or Loddington, Bismarck, Tyler's Kernel, Coronation, Blenheim Pippin, Twenty Ounce, Charles Ross, Emperor Alexander, Glory of England, flat, showy fruit; Chelmsford Wonder, Annie Elizabeth, Belle de Pontoise, The Queen, Ribston Pippin, Hohenzollern, a flat, green fruit; Royal Jubilee, Lane's Prince Albert, and a plate of finely coloured fruits of Rival. The finer Pears were Doyenné du Comice, Beurré Alex. Lucas, Conference, Marie Benoist, Chaumontel, Durondeau, Comtesse de Paris, and Pitmaston Duchess. This was one of the most striking exhibits of fruit in the hall. 2nd, Mr. OWEN G. S. CROFT, of the Pomona Fruit Farm, Wokington, Hereford. The fruit from this exhibitor was arranged in boxes stood on end, also in small, flat baskets, and the remainder in plates. The boxes were as packed for transit to distant places. Of Apples there were noted examples fine in colour or size of the following varieties:—Hero of the Nile, Gascoyne's Seedling, Worcester Pearmain, Evargil, Blenheim Pippin, Tower of Glamis, Leek's Kernel, a small, handsome fruit of high colour; Golden Noble, The Queen, Maltster, Loddington, Duchess of Gloucester, Lord Lennox, Newton Wonder, Mère de Ménage, Cox's Orange Pippin, Rosemarin Russet, Cox's Pomona, and Bramley's Seedling. Fine specimens of Pears were Beurré Baltet Père. Plum Wyedale and Quinces were also shown by Mr. CROFT. 3rd, MESSRS. W. J. LONFORT & SONS, Heston, Middlesex, who showed fine, large, pale-coloured fruits in flat baskets.

Twelve dishes of Apples, six cooking and six dessert.—This class brought a capital exhibit from Mr. H. T. MASON, Hampton Hill, Middlesex, who was awarded the 1st prize. The fruit was shown in flat baskets, holding from 15 to 30 specimens each. The best varieties for size, colouring, and general good appearance were The Queen, Dumelow's Seedling, Bismarck, Peasegood's Nonesuch, Newton Wonder, Lady Sudeley, Golden Noble, Cox's Orange Pippin, Ribston Pippin, Allington Pippin, and King of the Pippins. 2nd, Mr. A. E. MASON, Rectory Farm, Hampton Hill. This exhibitor showed well, but generally the fruits were smaller than in the preceding exhibit. Of Apples, The Queen, Bismarck, Peasegood's Nonesuch, and Beauty of Kent were unexcelled for large size, freedom from blemishes and good appearance; whilst Ribston Pippin, Jefferson, King of the Pippins, Allington Pippin, Cox's Orange Pippin, and Yellow Ingestre were of a size suitable for dessert purposes.

DIVISION IV.

FRUITS GROWN ENTIRELY IN THE OPEN AIR
(EXCEPTING CLASS 32).

(OPEN TO GARDENERS AND AMATEURS ONLY.)

APPLES.

Twenty-four dishes distinct.—The schedule required 16 cooking and 8 dessert varieties, the latter to form the front row. The winner of the 1st prize was the same gentleman as won last year, Lt.-Col. BORTON, Hinton, Kent (gr. Mr. J. Whittle). The best of the culinary Apples in regard to size and general appearance were Peasegood's Nonesuch, The Queen, Newton Wonder, Emperor Alexander, Belle de Pontoise, Mère de Ménage, Warner's King, Lady Henniker, Bismarck, Bramley's Seedling, and Lane's Prince Albert. The dessert varieties included handsome specimens of Ribston Pippin, Allington Pippin, Rival, Christmas Pearmain, American Mother, King of the Pippins, Wealthy, and Cox's Orange Pippin. 2nd, Sir MARCUS SAMUEL, Bart., Mote Park, Maidstone (gr. Mr. J. W. H. Bacon), with very large fruits of Emperor Alex-

ander, Warner's King, Gloria Mundi, and Mère de Ménage. Nice specimens of dessert varieties were noted in Cox's Orange and Ribston Pippins, Wealthy, Christmas Pearmain, Chas. Ross, and Egremont Russet. 3rd, J. E. WILLIAMS, Esq., Pendley Manor, Tring (gr. F. G. Gerrish). This exhibitor of fine fruits from off the chalky soil of the Chilterns, had fruits mostly above the average in size and colour, and quite free from blemishes caused by insects or fungi.

Eighteen dishes of Apples, distinct, twelve cooking and six dessert.—The 1st prize in this class was taken by C. R. ADEANE, Esq., Babraham, Cambridge (gr. Mr. R. Alderman), with a collection of even-sized fruits. Very fine examples were Emperor Alexander, The Queen, Gascoyne's Scarlet Seedling, Peasegood's Nonesuch, Lane's Prince Albert, Bramley's Seedling, and Hambling's Seedling. Particularly resplendent in colour were the dessert varieties American Mother, Wealthy, Baumann's Winter Reineette, and King of the Pippins. 2nd, Mr. POWELL COTTON, Quex Park, Isle of Thanet (gr. Mr. J. Cornford). The fruits were not over large nor were they very high in colour. We observed good examples of Peasegood's Nonesuch, Prince Albert, The Queen, Golden Noble, Mère de Ménage, Chas. Ross, The Houbnon, Wealthy, and Ribston Pippin. 3rd, O. E. D'AVIGDOR GOLDSMID, Esq., Tonbridge, Kent (gr. Mr. C. Earl), with a collection of culinary varieties, among which Beauty of Kent showed up conspicuously for bright tints. The Pearmain, Nabbott's Pearmain, and American Mother were also of high colour as compared with the culinary varieties. In this class Mr. J. NIX, Tilgate, Crawley, showed the Apples Jas. Grieve and that fine-flavoured variety Egremont Russet.

Twelve dishes, distinct, to include eight cooking and four dessert varieties.—The 1st prize was awarded to Rev. THOS. MCMURDIE, Woburn Park, Weybridge (gr. Mr. A. Basile), for a superior lot of fruit. The varieties Gloria Mundi, Peasegood's Nonesuch, Emperor Alexander, and Bismarck were the finer cooking fruits; and among dessert varieties Cornish Aromatic, which was not often observed, Rival, and Calville Rouge Précoce were well exhibited.

Six dishes of culinary Apples distinct.—The 1st prize was won by Lt.-Col. BORTON (gr. Mr. J. Whittle). Varieties remarkable for either size or colouring included Mère de Ménage, Peasegood's Nonesuch, Warner's King, and Emperor Alexander. 2nd, Sir MARCUS SAMUEL, Bart., Maidstone (gr. Mr. W. H. Bacon), with very fine examples of Peasegood's Nonesuch, the finest probably in the hall; Emperor Alexander and Bramley's Seedling. C. R. ADEANE, Esq., was awarded the 3rd prize for creditable specimens. The competition was keen in this class.

Six dishes of dessert Apples distinct.—The 1st prize was won by Lt.-Col. BORTON (gr. Mr. J. Whittle) with King of the Pippins, Wealthy, Charles Ross, Cox's Orange Pippin, Allington Pippin, &c. Sir MARCUS SAMUEL, Bart., was awarded the 2nd prize for fruits of Chas. Ross, Wealthy, Cox's Orange Pippin, Allington Pippin, Ribston Pippin, Mother, and Wealthy.

PEARS.

Eighteen dishes of dessert Pears distinct.—The 1st prize was awarded to F. A. WHITE, Esq., East Grinstead (gr. Mr. W. J. Finch), for grand examples of which we may name Thompson's, Beurré Superfin, Doyenné du Comice, Pitmaston Duchess (extremely large), Durondeau, Alexander Lucas, Beurré Bachelier, and Princess. 2nd, Sir MARCUS SAMUEL, Bart., with very fine examples, the largest of which were Princess, Durondeau, Fondante de Thirriot, Beurré Superfin, Pitmaston Duchess, and Jean Van Geert. 3rd, Lt.-Col. BORTON, with Beurré Diel, very fine; Marie Benoist, Durondeau, Le Lecteur, and Beurré Fouquieray.

Twelve dishes of dessert Pears distinct.—The 1st prize in this competition was awarded to Rev. THOS. MCMURDIE, in whose collection fine fruits of Durondeau, Beurré Baltet Père, Pitmaston Duchess, Charles Ernest, Beurré Bachelier, Beurré Fouquieray, and Beurré Hardy were seen. 2nd, M. W. PRICE, Esq., The Node, Codicote, Welwyn (gr. Mr. J. Pateman), who showed very fine fruits of Maréchal de Cour, Marie Louise, Beurré Alexander Lucas, Chas. Ernest, Marie Louise d'Uccle, Josephine de Malines, and Emile d'Heyst.

Six dishes of Pears distinct.—1st, the Hon. WILHELM REID, West Park, Amptill, Beds. (gr. Mr. G. MacKinlay), who showed Pears that were mostly in a ripe state and fit, therefore, for the table. There were Pitmanston Duchess, Beurré Superfin, Marie Louise d'Uccle, Louise Bonne de Jersey, Maréchal de Cour, and Beurré Diel. 2nd, A. BENSON, Esq., Merstham, Surrey (gr. Mr. H. Corais), with good examples.

Stewing Pears.—The best three dishes of distinct varieties were shown by Major FOWELL COTTON, his examples being Uvedale's St. Germain, Catillac, and Gilgill.

DIVISION V.

SPECIAL COUNTY CLASSES.

These classes were for fruits grown entirely in the open, and were arranged so that counties having similar meteorological conditions were grouped together. In the case of Kent, a class was allotted to this county by itself. There was in each instance a class for Apples, of which four were to be culinary and two dessert varieties, and another for Pears of dessert varieties, the dishes being limited to six.

KENT.—*Apples*. There were only two exhibits of Apples from this county, those shown by W. E. S. E. DRAX, Esq., Olantigh Towers, Wye, Kent (gr. Mr. J. Bond), being by far the finer, the varieties being Peasgood's Nonesuch, Hambledon Seedling, Mère de Ménage, The Queen, Allington Pippin, and Worcester Pearmain. 2nd, C. A. MORRIS FIELD, Esq., Beechy Lees, Sevenoaks (gr. Mr. R. Edwards), with Chas. Ross as his best dish.

—*Pears*.—Three growers contested in the class for these fruits, the 1st prize being won by the Dowager Lady HILLINGDON, Wilderness Park, Sevenoaks (gr. Mr. J. Skelton), with a fine collection, embracing Durondeau, Beurré Bosc, Beurré Superfin (very choice samples), Doyenné du Comice, Emile d'Heyst, and Pitmanston Duchess. 2nd, C. A. MORRIS FIELD, Esq. (gr. Mr. R. Edwards), with smaller but rather better coloured fruits, Doyenné du Comice being noteworthy in this respect.

SURREY, SUSSEX, HANTS, DORSET, SOMERSET, DEVON, AND CORNWALL.—*Apples*. There were six entries, not quite one for each county, Hants, Somerset, and Cornwall being unrepresented. The premier fruits came from Devonshire, being shown by H. H. HILL, Esq., Newcombe, Crediton (gr. Mr. G. Lock), and they formed a magnificent collection, Alfriston, Peasgood's Nonesuch, Emperor Alexander, Loddington Pippin, Cox's Orange Pippin, and Ribston Pippin being the varieties. They all showed that delicacy of coloring—red overlying orange—that is associated with high quality, and this quality was combined with large size. 2nd, F. J. B. WINGFIELD DIGBY, Esq., Sherborne Castle, Dorset (gr. Mr. Turton), American Mother and Lord Derby being his finest examples.

—*Pears*.—There were five exhibits of Pears, and they were generally deficient in colouring; large, rather green fruits of Beurré Alexander Lucas, Beurré Balthé Père, Doyenné du Comice, Charles Ernest, Doyenné Boussouch (the best dish), and Durondeau won the 1st prize for F. J. B. WINGFIELD DIGBY, Esq. (gr. Mr. Turton). 2nd, Sir EDMUND LLOYD, Bart., Leonardale, Horsham, Sussex (gr. Mr. W. A. Cook); Durondeau and Beurré Balthé Père may be instanced in this group, for they were choice fruits.

WILTS, GLOUCESTER, OXFORD, BUCKS, BERKS, BEDS, HERTS, AND MIDDLESEX.—*Apples*. Nine growers contested the class for Apples, the majority of the fruits being of mediocre quality, although the winning fruits shown by C. GURNEY, Esq., Henlow Grange, Biggleswade (gr. Mr. A. Carlisle), left little to be desired. His sample of Gascoyne's Scarlet Seedling was remarkably good and the best dish we have so far instanced in these classes. Peasgood's Nonesuch, Bramley's Seedling, Emperor Alexander, King of the Pippins, and Cox's Orange Pippin were the remaining varieties. The 2nd prize exhibit contained some fine fruits of Cox's Orange Pippin Apples.

—*Pears*.—The winning dishes were shown by J. B. FORTESCUE, Esq., Dropmore (gr. Mr. Fage). Doyenné Boussouch was very fine, but the examples of Pitmanston Duchess were quite past their best condition, although these fruits formed the strongest dish in the 2nd prize group, shown by HUGH ANDREWS, Esq., Toddington

Manor, Winchcombe (gr. Mr. J. R. Tooley), and this gentleman had also a good dish of Doyenné du Comice.

ESSEX, SUFFOLK, NORFOLK, CAMBRIDGESHIRE, HUNTS, AND RUTLAND.—*Apples*. It was easy to pick out the winning fruits, for they were as fine as any Apples shown in the county classes. The varieties were Peasgood's Nonesuch, Mère de Ménage (with intense colouring), Gascoyne's Scarlet Seedling, Bismarck, Allington Pippin (a grand dish), and Cox's Orange Pippin. The exhibitor was Major PETRE, Westwick House, Norwich (gr. Mr. G. D. Davison). 2nd, Hon. W. LOWTHER, Wickham Market (gr. Mr. A. Andrews), with fine fruits of Cox's Orange Pippin, Peasgood's Nonesuch, and Bramley's Seedling. Mr. ANDREWS had an exceptionally difficult task to match the excellence of his rival's fruits, but in any other of the county classes he would probably have taken the 1st prize.

—*Pears*.—Major PETRE (gr. Mr. Davison) also surpassed all other competitors in these counties. His Pears, 2nd, Col. the Hon. C. HARBOROUGH, Gunton Park, Norwich (gr. Mr. W. Allan), both exhibitors showing well-known varieties.

LINCOLN, NORTHAMPTON, WARWICK, LEICESTER, NOTTINGHAM, DREY, STAFFORDSHIRE, SHROPSHIRE, AND CHESHIRE.—*Apples*. This did not attract more than three exhibitors from these nine counties, which must be regarded as unsatisfactory. The premier collection was shown by Mr. JOHN LEE, King's Croft, Higher Bebbington, Cheshire. The fruit was not exceptional, Chas. Ross, Cox's Orange Pippin, and Byford Wonder being the best samples. 2nd, Duke of RUTLAND, Belvoir Castle, Grantham (gr. Mr. Divers).

—*Pears*.—The Marquis of NORTHAMPTON (gr. Mr. Scarle) secured 1st place for these fruits with not over-large but choice samples, showing the rich, mellow skin that gives to fruit an attractive appearance. Beurré Superfin, Marie Louise, Souvenir du Congrès, Pitmanston Duchess, Beurré de Mortillet, and Beurré d'Amanlis constituted the selection. 2nd, Duke of RUTLAND, Belvoir Castle (gr. Mr. Divers), whose best dish was of Doyenné Boussouch. Competition in these counties was not keen.

WORCESTER, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke.—*Apples* were represented by three exhibits, some good fruits being displayed, especially fine being Cox's Orange Pippin, Worcester Pearmain, Lord Derby, and Warner's King, shown by DENIS BEST, Esq., Temple Langherne, Worcester, in the 1st prize collection. A magnificent dish of Chas. Ross was shown by PAGET NORBURY, Esq., The Norrest, Malvern, who won the 2nd prize.

—*Pears*.—Only one display of Pears, and that of moderate quality, was shown from these counties. The exhibitor was R. M. WHITING, Esq., Credenhall, Hereford, who staged Durondeau, Beurré Superfin, Beurré Diel, &c.

WELSH COUNTIES OTHER THAN THOSE NAMED.—*Apples*: There was a marked falling off in these Welsh counties, the Apples being poor and with little colouring. The prize was awarded to P. YORKE, Esq., Erdridge Park, Wrexham (gr. Mr. Geo. Aitken).

—*Pears*.—This exhibitor also took the 1st prize for Pears.

SIX NORTHERN COUNTIES OF ENGLAND AND THE ISLE OF MAN.—*Apples*: We observed only one display of Apples, and this was from the gardens that furnished last year's winning fruits in this class, viz., Baldersby Park, Thirsk, Yorkshire, the residence of JOHN BRENNAND, Esq. (gr. Mr. J. E. Hathaway). The varieties were Rival (good), Chas. Ross, Warner's King, Peasgood's Nonesuch, &c.

—*Pears*.—Mr. BRENNAND (gr. Mr. J. E. Hathaway) had no competitor and was awarded the 1st prize.

SCOTTISH COUNTIES.—Scotland only furnished one exhibitor in both Apple and Pear classes. This was the Earl of GALLOWAY, Galloway House, Carlisle, (gr. Mr. James Day), and he was awarded the 1st prize in both cases; the fruits suffered in comparison with those from more southern gardens.

IRISH COUNTIES.—There were a few good exhibits of Apples from Ireland, but none of Pears. Mrs. BLACKMORE, Piltown, Co. Kilkenny, showed commendable examples of Allington

Pippin, Cox's Orange Pippin, Lane's Prince Albert, and Lord Derby Apples, for which she received the 1st prize. In the 2nd prize exhibit we noticed a fine dish of Chas. Ross.

DIVISION VI.
SINGLE DISH CLASSES.
DESSERT APPLES.

Adam's Pearmain: Of this excellent late variety there were 15 dishes. The 1st prize fell to Lord HILLINGDON, Uxbridge (gr. Mr. A. R. Allan), his samples being very superior. 2nd, B. H. HILL, Esq., Crediton, Devon (gr. Mr. G. Lock). The whole of the fruits staged in this class showed good quality.—*Allington Pippin* was represented by 22 dishes, thus showing its popularity as a handsome but by no means high-class table variety. Mr. R. M. WHITING, Credenhall, Hereford, won the 1st prize, having very handsome fruits; Mr. W. BARNES, Bearwood Gardens, Wokingham, was placed 2nd. In this class were several other handsome dishes of fruit, but some others were too large.—*American Mother*: This class brought 12 exhibits, the fruits generally showing good colour, and they were of medium size. J. WINGFIELD DIGBY, Esq., Sherborne Castle (gr. Mr. T. Turton), was a good 1st prize winner. C. A. COOMBE, Esq., Cobham Park, Surrey (gr. Mr. A. Tidy), was 2nd.—*Ben's Red*: This new Apple was represented by only two dishes, a poor show for a specially-scheduled Apple. The fruits are flattish in shape, red, and somewhat resembling those of Red Quarrenden. H. J. KING, Esq., Eastwell Park, Kent (gr. Mr. J. G. Weston), was awarded the 1st prize, and J. A. FORTESCUE, Esq., Dropmore, Bucks. (gr. Mr. C. Page), the 2nd prize.—*Blenheim Pippin*: This popular Apple was seen in 16 dishes, though they were very uneven samples. The Earl NELSON, Trafalgar, Salisbury (gr. Mr. T. Beesley), had somewhat large, highly-coloured samples, but by far the most even and beautiful fruits were those shown by Mr. WALTER, Wantage, Berks. A more perfect dessert sample than his is rarely seen.—*Charles Ross*: That this Apple is now becoming widely grown was evidenced in this class, resulting in 11 dishes all of exceeding beauty, and none of undue size. The 1st prize fell to Mr. F. PAGET, Norbury, Malvern, for one of the handsomest samples of this beautiful Apple we have seen. 2nd, W. E. T. E. DRAX, Esq., Wye, Kent (gr. Mr. J. Bond), with rather larger fruits.—*Christmas Pearmain* is a handsome Apple of distinct appearance. The 1st prize was won by Mr. G. LOCK, Mr. C. ROSS, Welford Park, Leicestershire, being placed second.—*Emile d'Heyst*: This variety brought 10 dishes, Mr. W. BARNES having the best fruits, and he was followed by the Earl of DEVON, Powderham Castle (gr. Mr. T. H. Bottom).—*Cox's Orange Pippin*: The premier dessert variety was represented by no fewer than 34 dishes. Lord HILLINGDON, Uxbridge (gr. Mr. A. R. Allan), was given the 1st prize for clean, handsome fruits but moderately coloured. Mrs. M. KNOX, Alton, Hants. (gr. Mr. W. West), won the 2nd prize.—*Egremont Wonder* brought 10 dishes. Mr. TURTON winning with fine, clean fruits, Mr. JOHN SPEER, Belmont, Swanley, being 2nd.—*Fearn's Pippin*: This variety was represented by 15 dishes. Mr. W. BARNES taking the 1st prize with superbly-coloured examples. Mr. G. LOCK was awarded the 2nd prize for fruits more than usually conical.—*Golden Reinette*: Only two lots were staged, and one proved to be King of the Pippins. The other dish was a small sample from Col. BIRCHALL, Hants, Surrey (gr. Mr. E. Montague).—*The Houben*: This variety was included in these classes for the first time this year, and it brought Mr. W. BARNES again to the fore with medium-sized, richly-coloured fruits, the raiser, Mr. C. ROSS, being placed 2nd.—*James Grieve*: This also is fast becoming a popular Apple. The class brought 12 dishes, and the 1st prize was awarded to Mr. J. S. ATKINSON, Caversham, Reading, with rather large samples, none too bright and clean. 2nd, C. GURNEY, Esq., Biggleswade (gr. Mr. A. Carlisle).—*King of the Pippins* was represented by no fewer than 17 dishes. Mr. A. R. ALLAN taking the 1st prize with very pretty and bright samples. Mr. TURTON won the 2nd prize with scarcely less handsome fruits.—*King of Tompkins' County* was represented by eight exhibits, Mr. TIDY being placed 1st with fruits rather too large for dessert purposes. Mr. J. G. WESTON won the 2nd prize in this class.—*Lord Hindlip*: Five dishes only of this variety were staged; one of moderate

quality won the 1st prize for the Rev. BARING GOULD, Lew. Trenard, Devon (gr. Mr. H. Hickin). Mr. F. KING, being 2nd.—*Alargil*: Among eight competitors Mr. LOCK took the 1st prize, with a sample of medium quality. Mr. CARLISLE was placed 2nd.—*Ribston Pippin*: This brought 17 exhibits, the 1st prize falling to Lord HOWARD DE WALDEN, Saffron Walden (gr. Mr. J. Vert), whose samples were excellent in every respect; 2nd, G. W. GREENWELL, Esq., Marden Park, Caterham (gr. Mr. J. Lintott).—*Rival*: This comparatively new variety was seen in 10 dishes. Mr. R. M. TURTON was awarded the 2nd prize; and Mr. TURTON was awarded the 2nd prize.—*Magnum Bonum*: This large, ungainly-looking Apple, so unfitted for dessert purposes, was represented by four dishes only, all green and of large size. Earl STANHOPE, Sevenoaks (gr. Mr. C. C. Sutton), was awarded the 1st prize, and Mr. C. PAGE the 2nd prize.—*Scarlet Nonpareil*: Nine exhibitors staged medium-sized fruits, that were unattractive in appearance. Mr. LOCK was placed 1st, and Mr. WHITING 2nd.—*St. Edmund's Pippin*: Only four dishes were presented, Mr. BARNES having exceptionally large fruits, for which he was granted the 1st prize. Mr. TURTON followed with a pretty, medium sample.—*Wealthy*, a handsome striped Apple, brought 14 lots, Messrs. J. G. WESTON and G. LOCK taking the prizes in the order of their names.—*Any other variety*: No fewer than 28 dishes, of which eight were Worcester Pearmain, were entered in this class. Extra Apples were included in each dish for the judges to taste. Not one fruit gave the fine, flavour of Charles Ross did last year. The best on this occasion were Mabbott's Pearmain, from Lord HILLINGDON (gr. Mr. A. R. Allan); Gravenstein, from Mr. A. TIND, rather green; Mabbott's Pearmain again from Mr. J. SKELTON, Sevenoaks; and the same variety from W. H. MYERS, Esq., Swanmore Park (gr. Mr. Elwood), in the order named, there being four prizes.

CULINARY VARIETIES.

Alfriston: This variety was represented by six very fine samples. Specially good were those staged by Mr. TURTON, who was awarded the 1st prize, and those from Mr. J. LEE, Higher Bebbington, Cheshire, the 2nd.—*Annie Elizabeth*: This class brought 10 dishes, though none was so fine as we have seen this variety in previous years. Mr. BEESLEY was given the 1st prize for rather dull fruits, Mr. W. BARNES coming 2nd with brighter samples.—*Beauty of Kent*: This name seems somewhat a misnomer, as the nine dishes staged were not, as Apples are now known, by any means beautiful. Mr. LOCK was 1st with large green fruits, Mr. CADWICK being 2nd with partially speckled fruits.—*Bismark*: This variety was also shown by nine exhibitors. The judges placed Captain FARWELL, Burnham, Bucks. (gr. Mr. J. B. BARNES), 1st, and Mr. W. BARNES 2nd; but the referees later disqualified Mr. HUTT on the grounds that his samples were of the Emperor Alexander variety. They therefore gave the 1st prize to Mr. BARNES, and placed Mr. DENNIS BEST, Worcester, 2nd.—*Bramley's Seedling*: This Apple brought 19 dishes of generally very large fruits. Those shown by Mr. W. BARNES were placed 1st, being really huge samples, although some showed splitting at the base. Mr. C. ROSS was awarded the 2nd prize for good, clean examples.—*Dunelm Seedling*: Amongst eight exhibits none showed special merit. Mr. PAGE was placed 1st, and Mr. J. SPEER 2nd.—*Éclairville*: There were seven competitors, all having deep yellow examples, generally past their best condition and much speckled. Mr. BEESLEY won the 1st prize; 2nd, the Rev. H. A. BULL, Westgate-on-Sea (gr. Mr. F. King).—*King Edward VII.*: Only one dish of this green, conical Apple was shown, Mr. WHITING being the exhibitor. It is difficult to understand why varieties little known in name should thus have classes allotted to them.—*Emperor Alexander*: This old favourite variety, which is of some 100 years' introduction, and was originally known as Alexander only, was seen in 11 dishes. The best samples were very handsome; they were shown by Mr. A. A. VOSS, Rayleigh, Essex; 2nd, Mr. J. BOND.—*Gasconne's Scarlet Seedling*: This richly-coloured variety was shown by nine exhibitors, Mr. J. BOND winning the 1st prize with exceedingly handsome fruits; 2nd, H. J. KING, Esq. (gr. Mr. J. C. Weston).—*Golden Noble*: This superb Apple was seen in 12 dishes, none of the

samples large or ugly. Mr. TURTON was 1st with beautiful fruits, Mr. BULLOCK being placed 2nd.—*Golden Spire*, a very conical, ribbed, and therefore wasteful Apple, brought six exhibits only. Mr. J. LEE won the 1st prize, and Mr. J. BOND the 2nd.—*Grenadier*, another over-rated Apple, was seen in four lots only, generally much speckled. Mr. PAGE and Mr. BOND won the prizes in the order of their names.—*Hambly's Seedling*: Of this really fine cooking Apple there were 10 dishes. W. E. DRAX, Esq. (gr. Mr. J. Bond), was awarded the 1st prize for superb fruits; 2nd, Col. ARCHER HOBBLIN, Bishop's Stortford.—*Hector Macdonald*: This new Apple, for which Messrs. J. R. Pearson, of Notts., offered very liberal money prizes in two classes, found one representative only, a nice dish from its raiser, Mr. C. ROSS.—*Hermod Pearmain*: A capital Apple, but shown by not more than three exhibitors, Mr. TURTON and Mr. WHITING taking the 1st and 2nd prizes respectively.—*Lady Henniker*: Only five dishes were staged. Mr. G. LOCK won the 1st and Mr. T. H. BOLTON, Powderham Castle, the 2nd prize.—*Lord's Prince Albert*: This variety is certainly one of the most popular Apples, and the class brought no fewer than 20 dishes, all of superb samples. Mr. TURTON won with very handsome fruits, and Mr. CADWICK was 2nd.—*Lord Derby*: Amongst 15 dishes the 1st prize was won by a new exhibitor, Mr. DENNIS BEST, of Worcester, for wonderful fruits; 2nd Mr. TURTON, also with grand samples.—*Mère de Ménage*, with its high colouring, was also very finely shown. Mr. G. LOCK was given the 1st prize for gigantic fruits but he was closely followed by Mr. TURTON.—*Newton Wonder*: Messrs. J. R. Pearson & Sons offered prizes for this fine Apple, both to northern and southern growers. In the northern section six dishes were seen, Mr. CARLISLE having the best fruits from Bedfordshire; 2nd, Col. ARCHER HOBBLIN; 3rd, Marquis of NORTHAMPTON, Castle Ashby (gr. Mr. A. R. Searle). In the southern section 13 dishes were shown, Mr. W. BARNES being 1st, Mr. TURTON 2nd, and Mr. BOND 3rd, all with beautiful samples.—*Peargood's Nonpareil*: This large, soft, show Apple brought no fewer than 16 dishes, all large, some exceptionally so. Huge samples from Mr. CARLISLE had begun to split beneath, but they were placed 1st. Mr. BOND's samples, which won the 2nd prize, were firmer.—*Potts's Seedling*: No more than five dishes were displayed, the variety being nearly over. F. W. PLATT, Esq., Highgate (gr. Mr. C. Turner), was awarded the 1st prize; and Mr. CADWICK the 2nd.—*Royal Jubilee* was represented by six exhibits. Mr. LOCK had the finest examples, but we noticed in the afternoon that one fruit was quite soft; 2nd, Mr. PAGE.—*Sandringham*: The class for this variety brought seven dishes. The samples did not seem at all attractive. 1st, Mr. BARNES; 2nd, Mr. WHITING.—*Stirling Castle* found only six representatives. Mr. CADWICK's samples, put 1st, were exceptionally large; 2nd, Mr. TURTON, with fruits more in character with the variety.—*The Queen*: No fewer than 16 lots represented this prettily-marked but rather flat Apple. Mr. J. VERT won, having very fine specimens; 2nd, Mr. BARNES.—*Town of Glamis*: Among 13 competitors Mr. TURTON was placed 1st, and Mr. TURTON 2nd.—*Warner's King*: Of this popular Apple there were 13 dishes. Here Mr. DENNIS BEST was again 1st with huge yellow fruits, Mr. LOCK being 2nd.—*Any other variety*: This class was represented by 17 dishes, a very miscellaneous lot, but including many very fine fruits. Here Mr. CHARLES ROSS was placed 1st with his splendid new conical late variety, Encore, a glorified Prince Albert. J. T. CHARLES, Esq., Nutfield, Surrey (gr. Mr. Herbert), was 2nd with Chelmsford Wonder.

PEARS.

CHOICE DESSERT VARIETIES.

Burril Alexander Lucas: There were three even samples of this variety shown, and the judges awarded the 1st prize in favour of J. B. WINGFIELD DIGBY, Esq., Sherborne (gr. Mr. T. Turton); 2nd, Mr. R. M. WHITING.—*Burril d'Amanlis*: The fruits were quite rotten, therefore no prizes were given.—*Burril Bosc*: The 1st prize was given to the largest fruits, shown by Sir C. HAMILTON, Harley Park, Sandy (gr. Mr. W. Birkinshaw); 2nd, Capt. FARWELL, Burnham, Bucks. (gr. Mr. W. Hutt), for exceptionally

pretty fruits.—*Burril Dumont*: Not much difference was seen in the only two exhibits of this variety displayed. The prizes were given in the following order: 1st, Dowager Lady HILLINGDON, Sevenoaks (gr. Mr. J. Shelton); 2nd, Lord HILLINGDON, Uxbridge (gr. Mr. A. R. Allan).—*Burril Hardy*: There were four exhibits of this early Pear, and they were all very mature save one, which was evidently of the Beurri Diel variety. The judges made the 1st prize in favour of Col. ARCHER HOBBLIN (gr. Mr. Chas. Ross), and gave the 2nd prize to Rev. H. BULL, Westgate (gr. Mr. F. King).—*Burril Superfin*: Of the four exhibits, three were very close in point of merit, but those shown by Dowager Lady HILLINGDON (gr. Mr. J. Shelton) were slightly superior, and were given the 1st prize, those shown by Mrs. FOX, Parkside, Ravenscourt Park, W. (gr. Mr. W. F. Blackith), being awarded the 2nd.—*Chas. Ernest*: The 1st prize was won by F. J. B. WINGFIELD DIGBY, Esq., Sherborne (gr. Mr. Turton); 2nd, Mr. R. M. WHITING, Hereford.—*Comte de Lamy*: There were three dishes of this small variety, and the largest fruits, shown by Dowager Lady HILLINGDON (gr. J. Shelton), were given the 1st prize; 2nd, J. C. CHARLESWORTH, Esq., Nutfield (gr. Mr. T. W. Herbert).—*Conference*: Amongst four competitors, Major PETRE (gr. Mr. Davison) won easily; 2nd, A. P. BRANDT, Esq., Blethingley Castle, Surrey (gr. Mr. J. W. Barks).—*Doyenné du Comice*: This excellent Pear was shown by nine exhibitors, and generally the fruits were inferior to those seen in some former years. The 1st prize went to a large sample, but they were deficient in that reddish, mellow colouring so much admired. The exhibitor was F. J. B. WINGFIELD DIGBY, Esq. (gr. Mr. Turton); 2nd, Col. ARCHER HOBBLIN (gr. Mr. C. ROSS).—*Durondeau*: This is a very brightly-coloured Pear, and a fine sample shown by Major PETRE (gr. Mr. Davison) was given the premier prize; 2nd, F. J. B. WINGFIELD DIGBY, Esq. (gr. Mr. Turton).—*Emile D'Heyst*: There were five exhibits, and the riper fruits won the 1st prize for Mrs. FORD, Ravenscourt Park, W. (gr. Mr. F. Blackith); 2nd, Col. the Hon. HARBORD, Norwich (gr. Mr. A. Allan).—*Glo-Moroccan*: This well-known variety was shown by seven growers, but it is scarcely in season, and it was not surprising to see large green fruits in the 1st prize exhibit, shown by Major PETRE (gr. Mr. C. Davison); 2nd, Capt. FARWELL, Burnham, Bucks. (gr. Mr. W. Hutt).—*Joséphine de Malines*: There were no fewer than 13 exhibits. F. J. B. WINGFIELD DIGBY, Esq., won the 1st prize, and he was followed by F. R. ROPPE, Esq., Prebarrath Hall, Launceston (gr. Mr. F. Billings).—*Le Lecteur*: A big green Pear, best shown by two amongst four exhibitors, Lord HOWARD DE WALDEN, Saffron Walden (gr. Mr. Vert); 2nd, Lord FOLEY, Ruxley Lodge, Claygate (gr. Mr. H. Gardener).—*Louise Bonne of Jersey*: We only noticed two dishes of this excellent Pear, and both were pleasingly coloured. The 1st prize was won by W. E. DRAX, Esq. Marie Benoit: There were only two dishes of this variety, and B. H. HILL, Esq., Crediton (gr. Mr. G. Lock), won easily.—*Marie Louise*: This variety was displayed by seven competitors, and all appeared mature. Much the largest fruit won the 1st prize for Col. the Hon. HARBORD; 2nd, F. E. CROFT, Esq., Stanstead Abbots, Ware (gr. Mr. G. Longhurst).—*Nouvelle Fausie*: Among eight contestants, F. J. B. WINGFIELD DIGBY, Esq., won the 1st prize. *Pitman's Duchess*: This is always an interesting class, as the large fruits attract much attention. There were nine exhibits, and the biggest, but not the best-finished, fruits won the 1st prize. These were shown by Major PETRE (gr. Mr. Davison); 2nd, Rev. H. BULL.—*Président Barabé*: Col. the Hon. HARBORD won the 1st prize in a competition with two other growers. *Russet Lake*: Only one exhibit of this brown, russety Pear was seen. It was from the gardens of J. B. FORTESCUE, Esq., and secured the 1st prize.—*Thompson's*: There was not a good dish of this excellent Pear amongst the four staged.—*Triomphe de Vienne*: Only one dish, and that worthy only of the 2nd prize, was shown.—*Winter Nelis*: This very fine, although small, Pear was shown by five exhibitors. The best were from the gardens of B. H. HILL, Esq., Crediton (gr. Mr. Lock); 2nd, J. B. FORTESCUE, Esq.—*Any other variety*: No more than six competed, and the 1st prize went to the small Seckle variety, the 2nd to Gratioli de Jersey.



Photograph by E. T. Lamb.

CATALPA BIGNONIOIDES FRUITING AT WESTONBIRT, THE RESIDENCE OF
LT.-COL. HOLFORD, C.I.E., C.V.O.



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ORCHIDS AT FAIRLAWN, PUTNEY.

THE collection of Orchids in the gardens of H. S. Goodson, Esq., at Fairlawn, West Hill, Putney (gr. Mr. G. E. Day), has rapidly increased in importance, partly in consequence of the large number of remarkable varieties which have bloomed in it, but more especially by reason of the fine condition of the plants. This is all the more noteworthy as the collection is situated in the London district with all its attendant adverse conditions. Hybrid Cattleyas, Lael-Cattleyas, Brasso-Cattleyas, and fine varieties of important species share with the Odontoglossums the position of favourites at Fairlawn, and the collection may be said to be principally composed of them. Two large span-roofed houses are filled with a fine collection of Hybrid Cattleyas and Laelias, and among them are several very handsome hybrids in bloom, notably the beautiful Cattleya Fabia Goodsonii, which received a First-Class Certificate in 1906 and now bears two spikes each having four handsome and fragrant flowers. C. Alicia (labiata x Iris), also a certificated plant, with three flowers of fine colour, Cattleya Venus, Laelio-Cattleya St. Gothard, and Odontodia x Charlesworthii Goodson's variety, all recently distinguished by First-Class Certificates, are thriving well, the last-mentioned plant, which has been in flower for about three months, is still showing its reddish-scarlet flowers on the cut spike which was removed from the plant after it had been exhibited. The roof of each

house is made to accommodate a large number of suspended plants, this being the most favourable position for the best things. Mr. Day attributes the improvement and condition of all the plants to the fact that, whereas formerly he used the sprayer more frequently and kept the plants much drier at the roots, he now sprays but gives a thorough watering to all such plants as Cattleya and Laelia and their hybrids when water is needed at the root, allowing the plants to get tolerably dry before again watering them. This method is far preferable to giving a little water at the root at short intervals, which usually results in the compost in some of the pots becoming sodden, while in others it has not been made sufficiently wet.

In the first house, among innumerable special Orchids noted were the handsome Brasso-Catt. Laelia Veitchii, certificated in April, 1907, which has doubled in size but not bloomed since; two good specimens of the white Brasso-Cattleya Queen Alexandra, together with a large number of other Brasso-Cattleyas and Brasso-Laelias, including B.-L. Digbyano-purpurata, King Edward VII., and Laelio-Cattleya Golden Oriole Goodson's variety, the richest in colour of this fine hybrid. A fine batch of Cattleya Portia with many in flower showed the great variation in a batch of seedlings, some resembling closely C. labiata, while a few have the many-flowered inflorescence of smaller blossoms like C. Bowringiana. Cattleya Warszewiczii has a few in bloom, one flowering for the first time having pearly-white sepals and petals, as in the variety Frau Melanie Beyrodt.

Miltonia vexillaria, M. Bleuana, M. Roetzli, and M. Phalaenopsis, of which there are some fine masses, thrive well on the shady side of this house. M. Bleuana "Our Queen" has a strong spike, and, late though it is, a few plants of M. vexillaria are in bloom, one specimen bearing four large spikes. M. spectabilis Moreliana, M. Regnellii, and some hybrid Miltonias are also in flower. On one side is a batch of showy Cypripediums, those in bloom being C. insigne varieties, including the yellow C. i. Sanderæ; C. i. Harefield Hall and a promising hybrid of C. Beekmannii in bud.

The adjoining house with similar large span-roof also contains a fine collection of hybrids and a number of albinos of imported species, the white forms of Cattleya intermedia being represented by scores of good specimens. Overhead are suspended white forms of Cattleya Mossie and other rare kinds, including the remarkable parti-coloured white and rose C. Mossie Mrs. A. Goodson. C. Iris, C. Adula, and other hybrids of C. bicolor have made a fine show, a few still remaining in good condition.

Propagation by division of the rhizomes, as originally advocated in the *Gardeners' Chronicle*, is carried out with great success, and duplicates of many rare and beautiful plants have been secured in this way, while, where it has not been desired to make separate plants of the divisions, the severance of the rhizomes by increasing the number of leads has greatly added to the flowering capacity of some of the specimens. A remarkable instance of the advantages of cutting off the back pseudobulbs is seen in the case of a plant of a fine form of Cattleya Gaskelliana alba made from

a couple of apparently useless back pseudobulbs from the original plant. They were removed because they were detrimental to the old specimen, but, having not a sign of an "eye" or growth bud, they were not expected to grow. Nevertheless, they were potted and suspended, and in due time a growth proceeded from the upper side of the rhizome in quite a different position to normal growth, and a healthy young plant is the result.

The large Odontoglossum house contains on the centre stage a wealth of hybrid Odontoglossums and blotched varieties of O. crispum. A few are in bloom, and in the study the walls are hung with paintings of all the best things, together with the Royal Horticultural Society's award cards. Here are portraits of O. crispum Lily Bourdas, which has improved every time it has flowered; O. crispum The Rajah, O. crispum H. S. Goodson, and other handsome blotched O. crispums; O. ardentissimum Herbert Goodson (First-Class Certificate last year), O. cœruleum King of England, Mr. Goodson's fine exhibit which was shown at Holland House this year, and numerous others, the beauty of which explains why these Odontoglossums are prized by lovers of beautiful flowers.

Until recently the Odontoglossum house had no means of artificial heat, and even at present it is kept very cool and the plants, one and all, are in grand condition. In this cool house are also suspended a fine lot of Pleione lagenaria, a quantity of Oncidium eucallatum, some bearing their rose and purple flowers; Cochlidia Noezliana and some of its hybrids. Oncidium macranthum, some of the best Cymbidiums, including varieties of C. eburneum, the best being the unique C. eburneum Goodsonianum, are also flourishing. They were formerly in a warmer house, but have improved in vigour since their removal to colder quarters.

The older houses contain a collection of Dendrobiums, a varied lot of Cypripediums, some of which are in flower, besides many other interesting and uncommon plants.

The glasshouses attached to the dwelling-house are also used as Orchid houses, the central one being for plants in flower, the present show being of Cattleya labiata, C. Warszewiczii, C. Portia, C. Mrs. J. W. Whiteley, Odontoglossum crispum, Lycaste Skinneri and its white variety; Laelio-Cattleya blecheyensis, and various Cypripediums arranged with Ferns and foliage plants. J. O'B.

HOYA CARNOSA.

THE Asclepiadaceæ, to which the genus Hoya belongs, is characterised by a remarkably uniform structure of fruit and seed, standing in these respects in marked contrast to the Apocynaceæ, the only order with which it shows a very strong affinity. Our illustration (fig. 130) depicts the long, pod-like follicles, which on dehiscence emit the characteristic seeds, each surmounted with a tuft of hairs which enables the dispersion to be effectively accomplished by wind. Many of the Asclepiads possess hairs of this nature that are of a beautiful, silky appearance, but, unfortunately, they are brittle, and in other ways unsuitable for textile purposes. The common milk-weed of America, Asclepias Cornuti, has seeds with glistening white hairs, and attempts have been made to utilise them for weaving, but, we believe, without success, owing to their lack of toughness.

THE ROSARY.

NOTES UPON NEW VARIETIES.

(Continued from page 291).

J. B. CLARK (*H.T.*, *Hugh Dickson*, 1905).—Much disappointment has been caused by growing this much talked-of Rose in the wrong way, i.e., by over-pruning it. It should be grown as a pillar Rose, or against a fence; and when by a little pinching the top growth, you get it to throw out laterals all the way up the stem, these give the most beautiful fine-petalled flowers. It is a sort that when established will stand heavy manuring; then it yields the best colour, though I have never succeeded in quite getting any of the heavily-shaded blackish-crimson the raiser says it ought to develop. A howl of it arranged with Frau Karl Druschki makes a wonderful contrast.

AVOCA (*H.T.*, *Alex. Dickson & Sons*, 1907).—This, I believe, is a real acquisition, but expect to be able to report very much more favourably of it next year, as I think there is no doubt that it is essentially a Rose that wants to be thoroughly established before it repays one. It makes a very large bush as an established cut-back, but it is no good as a maiden. Nearly all Roses have their season, and I should say that this is a cool season sort. I have only two plants of it, but hope for the best from them next year. It has very handsome, large, dark green foliage, and the flowers are crimson-scarlet and very fragrant. The buds are long and pointed.

REINE MARGUERITE D'ITALIE (*H.T.*, *Souperet et Nolting*, 1905).—This is a capital Rose for bedding. It certainly is one of the most floriferous sorts I know. It makes a nice bushy growth and has pretty foliage. The blooms are only of medium size with me, but they are of beautiful form and full. Colour, bright carmine-red with a vermilion centre.

GENERAL MACARTHUR (*H.T.*, *Hill*, 1906).—Just one more red variety before we leave that colour, and though I mention it last it is a grand novelty. Were a whole bed of this planted down in a valley one could easily identify it from the top of a hill. "Free" or even "floriferous" are words that quite fail to describe the great quantity of blooms. Cut a branch or two of it, and you at once have the most gorgeous decoration for the house. The raiser describes the colour as bright crimson. Well, put a big accent on the "bright" and you've got its colour. It is simply intense. The flowers are of no particular shape or style, but they are highly perfumed. The foliage is the most beautiful of any new introduction, if not of any Rose known. I have seen it surrounded by mildew and yet perfectly clean itself. It is a glorious decorative garden sort. *Leonard Petrie, Gayton, Cheltenham.*

(To be continued.)

CULTURAL HINTS FOR NOVEMBER.

The hot weather experienced during September and the first half of October put a temporary check to planting operations. At the time of writing we are waiting for a downpour of rain, it being necessary that the soil should be moistened some considerable distance below the surface before the work is again taken up. It will be found that the land which has been properly trenched and manured will allow the rains to pass very readily into it. In some districts there has been plenty of rain, and in such cases the work can be continued and all standard and half-standard briars planted without delay. It may be necessary again to emphasise the fact that careful selections should be made of these briars, rejecting any that are of a green and sappy nature as these are usually suckers one year old only, and, therefore, insufficiently mature for the purpose for which they are wanted. Any that are black and

hidebound should also be rejected. A stiff loam answers best for all briar stocks. After planting, put a good mulch of half-rotted manure over the surface of the ground. The planting of standard briars may be followed by the seedling briar Manetti and Multiflora stocks, planting these two latter types firmly up to half their depths, and the seedling briars right up to the collar of the plant. Allow from 2 to 3 feet space between the rows, and put the stocks at distances of 9 inches from each other. These stocks are intended for budding next summer, and their treatment must not be confused with that of cuttings, which should be as follows:—

The briar cuttings can be procured from the hedgerows; the Manetti and Multiflora cuttings are usually procured from stools several years old, which furnish an abundance of growth

small quantity of seed be sown annually, a successive supply of stocks will be forthcoming.

All Rose trees and bushes should be carefully examined before they are planted, and any thick growths or suckers proceeding from the roots should be removed. Some burnt earth, decayed manure and river sand should be added to the soil which is placed about the roots, in order to encourage their growth. Be careful not to plant them more deeply than they were inserted previously, as deep planting must be avoided. In the case of standards, they should be fixed to a stake as soon as they are put into the ground, and all newly-planted Roses should have their roots top-dressed with a mulch of manure.

The early flowering pot Roses which have been recently placed indoors may be kept growing very slowly, but do not raise the temperature of the house during the day beyond 50°, and a little top ventilation may be allowed at this heat. On bright days damp the surfaces in the house and close the ventilators early. At the end of the month a few more plants can be lightly pruned and placed in gentle warmth. Roses planted out in borders under glass will now be starting into growth, especially the tea-scented varieties at the warmer end of the house. The temperature must not be allowed to rise more than 50° at present, unless it be for the purpose of prevent-



FIG. 130.—FOLLICLES OF HOYA CARNOSA EMITTING THE SEEDS. (For text see p. 305.)

every year. It is best to choose good, firm wood without any pithy growth, and cut them into lengths of 9 inches, making the cut immediately under a node or point of leaf axil. In preparing cuttings of any of these stocks all the buds or eyes on the portion that will be inserted below the ground level must be cut out, leaving three or four at the top, which will be above the ground surface. It is a good plan to plant them in 4-feet beds, allowing 1 foot between each row and a few inches between each cutting in the row. Mark the beds out with a line and make a sloping trench 10 inches deep. Put some river sand or grit at the base and place the cuttings against it, afterwards filling in the trench and making the ground firm by treading. The soil taken out of the first trench can be wheeled to the far end of the bed to be used for filling up and levelling the last trench.

Briar seedlings are raised from the "hips" found on the hedgerows during autumn. They are laid in a heap and mixed with sand or fine ashes during winter; this causes the outer husk to decay. After the seeds have been separated and cleaned, they may be sown in drills in March on previously prepared ground. They will not be fit for budding until several years afterwards, but the quantity of stocks thus obtainable from a small piece of ground amply repays for occupying the ground so long. If a

ing excessive dampness, which may be dispelled by a free circulation of air.

The flowers and buds on the pot Roses plunged under glass out-of-doors may show signs of damping. These plants should be removed to a light, dry, and cool house, placing them on a stage covered with ashes, where they may finish their flowering. Any that are doing very well may remain out another month if the lights are opened at the top as well as at the sides during favourable weather.

The middle of November is a good time for the grafting of dormant Roses under glass, provided Manetti and briar stocks have been well established in 3-inch pots and cultivated out-of-doors during the summer for this purpose.

It is always best to use established stocks for what is known as dormant grafting. The best position for the graft is under glass frames in a light house on slate benches covered with fine ashes, the whole being placed immediately over two rows of 4-inch hot-water pipes. The frames can be 18 inches high at the back and 15 inches at the front. The stocks may be brought into the house a week or so before grafting is commenced, as, being well established, they will easily be excited into growth, and it is better to have the stock a little in advance of the scion. The stock and scion should be as nearly as possible of equal girth and strength. Make a sloping cut in each, bring the two faces together, and carefully tie them with soft bast or raffia, afterwards putting a little grafting wax around the graft. I have found "L'homme le fort," a French preparation, to answer best for the purpose. A temperature of 50° will be sufficient at the commencement. Keep the frames closed for one week after the grafting is done, but admit a little air for a few hours each day when that period is passed. As the plant begins to callus at the union and there are signs of growth, which will be after the second week, more heat and air can be given, and later, when an inch or more of top growth has been made, they may be moved from the frame into the house, putting them well up to the light. When these grafted stocks have been taken out of the frames, other stocks can take their place to be treated in the same manner as I have described. Careful watering is an absolute necessity in all stages of growth of these plants. An occasional vapouring for green fly may be necessary, and it should be carried out at the time when the plants are dry. J. D. G., *Southsea*.

NURSERY NOTES.

W. H. ROGERS & SON, LTD., SOUTHAMPTON.

THIS old-established nursery is situated just outside the town of Southampton, at Bassett, near to where the famous avenue that was described in our issue for September 12 terminates. The business was established by Mr. William Rogers in the early part of the 19th century. At his death in 1856, Mr. W. H. Rogers succeeded to the business, and carried it on until 1898, when it was acquired by a limited liability company (W. H. Rogers & Son, Ltd.), in whose hands it is at present. Mr. W. H. Rogers was a person of some prominence in the town of Southampton, serving for many years on the Town Council; he was Sheriff in 1875 and Mayor in 1879. He presented many trees and shrubs for planting in the public parks. The present joint managers for the company are Messrs. C. J. Porter and George Verdon—both of whom have been in the service of the company ever since its commencement in 1858. The visitor from Southampton can ride to within ten minutes' walk of the nursery by tram, but the walk along the avenue and past the beautiful common is most enjoyable, especially on our summer's day, such as that in July when our visit of inspection was made. The nursery itself is in a most picturesque spot, and most of it occupies the side of a hill facing south and west, sheltered from the east by a wood, and enclosed all round by tall hedges and belts of trees. The nursery contains many rare and interesting shrubs and trees, and the firm specialises in Rhododendrons, hardy trees and shrubs, and fruit trees. Many Roses also are cultivated. In one quarter we saw growing about 20,000 Rose bushes, of which about 9,000 were standards. A cursory view of the soil gave us the impression that it was calcareous, and we wondered how Rhododendrons and other American plants appeared so flourishing; but we were informed that no lime, or very little,

was present. The soil, however, contains much iron, and *Hydrangea hortensis* develops beautiful blue coloured flowers. This, however, may be due in a large measure to the specially genial climate of the district. Generally the winters are mild, and the season early; but last winter was one that will long be remembered, for on April 24 several inches of snow fell in three hours. It commenced at 6.30 in the morning, and the worst was over by about 9.30; but during that time enough fell to break large shoots and branches, the effects of which were apparent everywhere at the time of our visit in July. Big Rhododendrons were snapped off, and coniferous trees broken or uprooted by the weight of the snow, which was caught on the branches, where it continued to accumulate. Some of the Rhododendrons have reached a great size, one specimen of *R. arboreum*—a white-flowered variety—is 18 feet high and as far through. Near by this we noticed some big specimens of *Magnolia conspicua*. Other fine trees are of *Cunninghamia sinensis*, *Araucaria imbricata*, *Sequoia gigantea*, and several beautiful Weeping and Copper Beeches. Hardy Ericas grow with especial freedom, which is not to be wondered at, for all around the district, on the common and in numerous waste places and woods, the ground is carpeted with Heather. In the nursery we noticed many varieties of *E. vulgaris*, including *E. v. rigida*. *Azalea mollis* is represented by about 8,000 plants, and amongst other Ericaceous plants which are grown in numbers are *Andromeda floribunda*, *Arbutus* in variety, *Pernettyas*, as well as *Berteris* and other shrubs. As stated Rhododendrons constitute a speciality of this nursery, the firm having a large business with American houses. We saw one breadth containing 10,000 plants, recently worked, and another batch of more than 10,000 three-year-old plants. There are quarters containing these plants in all sizes, most hardy species and varieties being represented in the collection. Conifers are raised in great numbers. *Pinus insignis* is largely cultivated, as it succeeds well in the district. *Thuja Lobbi* is also grown in very large numbers, as it is in great demand for forming hedges, for which it is well suited, and plants 12 feet in height can be shifted with perfect success. *Pinus Latio*—the Corsican Pine—was seen in numbers, also *Thuja gigantea*, *Cupressus Lawsoniana*, *Abies Morinda*, *Cupressus nootkatensis*, and many other cone-bearing trees.

The stock of fruit trees is very extensive, Apples, Pears, Peaches, Plums, Cherries, and other hardy fruits being grown in large numbers. The soil of the district especially suits the Apple, as it is a good loam on clay, the loam being 3 feet in depth before the clay is reached. We noticed some splendid little specimens of Apple trees only two years from the graft, with fruit spurs already formed and bearing. The variety Bassett Beauty was raised in these nurseries: it is somewhat like Stirling Castle, and a very heavy cropper, the fruits keeping well until Christmas. New Hawthorned, Lord Grosvenor, Cox's Orange Pippin, Beauty of Bath, and Bismarck, are other favourite kinds grown here. The John Downie Crab is also cultivated extensively, the plants being in demand for ornamental purposes, and the fruits are excellent for making jelly. We noticed one plantation with 4,000 trees of Apples. Near one of the paths is a silver form of *Quercus Cerris*. The Guernsey Elm is in demand for seaside planting, as it withstands strong winds. We noticed a considerable area planted with *Arbutus Unedo*. There is a fine stock of *Ilex crenata* also *Olearia Hastii* in plenty. A large plant of *Magnolia purpurea* is used for inarching choicer kinds. There are some very fine specimens of *Desfontainia spinosa*, which flowers freely here in the open. The stock plants are about 30 years old; but we were informed that there were formerly much larger plants, probably the finest specimens in the

country. *Pernettya mucronata* forms hedges in parts of this nursery, and there are long rows of *Skimmia fragrantissima*. In one of the dellis is a fine specimen of *Sequoia sempervirens*, about 70 feet high. There is a very peculiar tree of *Abies monstrosa*; but probably the gem of all is a magnificent plant of *Ilex dipryna*, the Himalayan Holly. It forms a tree of spreading habit, and, at the time of our visit, was crowded with its fruits still green. We have enumerated a few only of the many plants which this interesting nursery contains, but there are Roses and hardy perennial plants in abundance, and also the usual stock of a nursery firm that has a considerable local trade. When the Rhododendrons are in flower the nurseries are thrown open to the public, and the date is always looked forward to by the Southampton public. There is a wood which belongs to the nursery containing many interesting trees, including some very large Rhododendrons. In one spot is a clearance, and this is in great demand for garden parties. The house, formerly occupied by Mr. Rogers, who founded the nurseries, is now let, but about it the grounds are most enchanting. There is a remarkable plant of *Sciadopitys verticillata*, which has reached the fruiting stage, there being several cones on it when we saw it. One giant Rhododendron was especially noticeable. It is about the oldest Rhododendron on the place, and it is known as Early Scarlet. There are several handsome specimens of *Trachycarpus Fortunei*, which is a perfectly hardy Palm here.

PLANT NOTES.

IXORAS.

Of the numerous flowering shrubs that require the temperature of a stove for their successful culture a foremost place must be assigned the *Ixoras*, whose period of blooming extends throughout the summer and often into the autumn months.

In the days when specimen stove and greenhouse plants were largely grown and appeared at every horticultural show, *Ixoras* were extremely popular for the purpose, but with the decline in favour of this branch of plant culture they rapidly dropped out of cultivation. Within the last few years, however, there are signs of a revival in their favour, not in the shape of large bushes as of old, but as neat little flowering specimens in pots from 5 to 8 inches in diameter.

That there is a demand for them is evident by the fact that very attractive groups of the best forms are often exhibited by Messrs. H. B. May & Sons, of Edmonton, from which one cannot fail to infer that such results must warrant their extended culture.

From my point of view, *Ixoras* have much to recommend them as decorative plants, for they are neat in growth and form. Even when out of bloom they form effective evergreens, while with reasonable care in their culture they can be depended upon to flower well. *Ixoras* can be readily struck from cuttings of the half-ripened shoots taken during the late spring and early summer months. Shoots of medium vigour rather than the very stout ones form the most desirable cuttings. For their reception clean well-drained pots, 4 to 5 inches in diameter, should be filled with a mixture of equal parts of peat and silver sand, pressed down firmly. Into this the cuttings must be dibbled around the side of the pot, taking care that the compost is closed securely around the base of each cutting.

Then, when a thorough watering has been given in order to settle the cuttings in their place, the pots may be plunged in a close propagating case in the stove, and if there is a

gentle bottom heat so much the better. Under such conditions they quickly root, and when this happens they may be inured to the ordinary atmosphere of the stove. As soon as possible after this stage the cuttings should be potted off, using for this purpose a mixture of one part good yellow loam to two parts of peat and about half a part of silver sand. For later pottings equal parts of loam and peat may be employed.

The treatment ordinarily given to stove plants will suit *Ixoras* well, for though they have the reputation of being rather subject to the attacks of insect pests, such is not my experience. If the atmosphere is too dry thrips are liable to attack the foliage, but they can be kept under by a liberal use of the syringe. The first signs of scale must be quickly cleared off, while mealy bug can be kept under without difficulty. A good plan is to keep a bottle

of methylated spirit with a small brush handy, as a drop of the spirit will wet the obnoxious woolly substance and destroy the bug without injuring the foliage in any way. When the *Ixoras* are in sufficiently large pots annual re-potting is by no means necessary, but the plants are then greatly benefited by an occasional dose of weak liquid manure mixed with soot water.

The *New Hand List* mentions ten species of *Ixora*, not all of which are worthy of general cultivation, but in addition to these there is an almost endless list of garden varieties; many of them, however, resemble each other very closely. A selection of a few of the best would include *Ixora coccinea*, one of the oldest of the original species with orange-red flowers. Many of those bearing varietal names are but mere forms of this, but there is one recognised variety which is totally distinct from all other *Ixoras*. I allude to *Ixora coccinea lutea*, which was sent to Kew from India a few years since, and though occasionally to be seen now, it is still very scarce. The flowers are of a clear soft yellow.

A very distinct species both in flower and habit is the stately *Ixora macrothyrsa*, formerly known as *I. Duffii*. This is of strong growth and forms an upright sparsely-branched specimen, with leaves nearly a foot in length and of a particularly deep green colour. The rich crimson coloured flowers are borne in closely-packed terminal heads, considerably more than a foot in diameter. It cannot be grown into a neat bushy plant, but is very effective when carrying three shoots, each about 4 feet in height and terminated by a cluster of its magnificent blossoms.

Beside these a few of the best garden varieties are *Colei* (white), *Fraseri* (salmon, tinged carmine), *Prince of Orange* (very bright orange), *Pilgrimii* (orange-scarlet, shaded crimson), *sanguinea* (bright crimson, shaded violet), *Westii* (pale rose, deepening in colour after expansion), and *Williamsii* (reddish salmon). W.

LAVATERA TRIMESTRIS.

In the multitude of newer hardy annuals there seems a risk of this beautiful plant being overlooked. Like most of the Mallow family, it does not require a rich soil; in fact, generous treatment leads to the production of gross leafage at the expense of the flowers. The rose-coloured variety is most valuable for supplying cut flowers, and is especially suitable for filling large vases. In a cut state it lasts for a considerable period, as the flowers open readily in water, but those opening later gradually lose some of their bright colour. A large, solitary flower-bed in these gardens, composed of rose-coloured *Lavatera trimestris*, planted at intervals of 3 feet, with a groundwork of *Godetia Double Rose*, and bordered with rose-coloured *Begonia semperflorens*, has gained much notice. Except that the flowers seem to lack something of the substance of the rose-coloured ones, the white variety is also very desirable. For supplying early flowers, seeds should be sown in the open at the present time; while spring-sown plants will yield a good supply of flowers throughout the late summer and autumn months. A. C. Bartlett, *Pencarrow Gardens*.

NEW ASTER NOVI BELGII "CLIMAX."

This variety is a seedling raised at Aldenham House Gardens, and it flowered for the first time last year. It is a rather tall and erect grower, and produces very freely fine spikes of very large, beautiful, pale blue flowers. The plants come into full flower at about the middle of October, and the variety is very effective when planted at the back of a wide border or in the shrubberies. The flowers are much larger than any known to me of this type. The leaves also are very large. *Edwin Beckett*.



FIG. 131.—ASTER NOVI BELGII "CLIMAX."

* PRONUNCIATION OF PLANT NAMES.

PRONUNCIATION.—In the first word in each line the accent (') is short; (ˈ) is long.

In the second word vowels are to be pronounced as—

arise, ät, äge, ärt, äir, äll
end, ägg, äat, ärr, äwe
in, it, iie, sir
on, ötter, öwe, ör, dö, öwl, öll
us, ötter, öse, önn
"ch," as in chin; "th," as in thin
"s," as in soft; "f," as in far
"g," as in go.

All other letters are unmistakable.

E

(Continued from page 283.)

Ervm, er'-vum
Erýngium, é-ri'ng-i-um
Erysinum, é-ri-si'-i-mum
Erythraea, é-ri-th-ré'-a
Erythrina, é-ri-th-rí'-na
Erythronium, é-ri-th-ro-kí'-ton
Erythrolæna, é-ri-th-ro-lé'-na
Erythronium, é-ri-th-ro-ní'-um
Erythropsium, é-ri-th-ro-plé'-um
Erythropogon, é-ri-th-ro-pó'-gon
Escallonia, ésk-al-ló'-ni-a
Eschscholtzia, éskoltz'-i-a
Espalétia, ésp-alé'-ti-a
Eucalyptus, ú-ká-líp'-tus
Euchardium, ú-ká-rid'-i-um
Euchalis, ú-ká-lis
Euchroma, ú-kró'-ma
Euclea, ú-klé'-a
Euclidium, ú-klid'-i-um
Eucomis, ú-ko-mis
Eucrosia, ú-kró'-zi-a
Eucryphia, ú-krif'-i-a
Eudesia, ú-dez'-ni-a
Eugenia, ú-jé'-ni-a
Eulophia, ú-ló'-fi-a
Eunomia, ú-nó'-mi-a
Euonymus, ú-on'-i-mus
Eupatorium, ú-pa-tó'-i-um
Eupetalum, ú-pet'-a-lum
Euphorbia, ú-for'-bi-a
Euphoria, ú-for'-i-a
Euphrasia, ú-frá'-zi-a
Eupomatia, ú-po-má'-shi-a
Eurya, ú-ry'-a
Euryale, ú-ry'-al-é
Eurybia, ú-ry'-bi-a
Euryclia, ú-ry'-klé-z
Eurycoma, ú-ry'-ko-ma
Eurythalia, ú-ri-thá'-li-a
Eustachys, ú-sták'-is
Eustegia, ú-sté'-ji-a
Eustoma, ú-sto-ma
Eustrephus, ú-stref'-us
Eutaxia, ú-tax'-i-a
Euterpe, ú-ter'-pé
Euthales, ú-thá'-léz
Euthamia, ú-thá'-mi-a
Entoca, ú-tó'-ka
Euxenia, ú-én'-i-a
Evelyna, é-vel-é'-na
Evrinia, é-ver'-ni-a
Evocia, é-vo'-di-a
Evolvulus, é-vól'-vú-lus
Exacum, ex'-a-kum
Execaria, ex-sé-kár'-i-a
Exocarpus, ex-o-kár'-pus
Exochorda, ex-o-kór'-da
Exogonium, ex-o-gó'-ni-um
Exostemma, ex-o-stem'-ma

F

Faba, fá'-ba
Fábago, fá-bá'-go
Fabiána, fá-bi-á'-na
Fabricia, fá-bri'-i-a
Fadgema, fá-fé'-ni-a
Fagara, fá-gá'-a
Fagelia, fá-gé'-li-a
Fagonia, fá-gó'-ni-a
Fagopyrum, fá-gop'-i-um
Fagraea, fá-gré'-a
Fagus, fá-gus

Falkia, fálk'-i-a
Faramea, fá-rá'-me-a
Farsétia, fá-rsé'-ti-a
Fátisia, fá-ti'-si-a
Fáya, fá-ya
Fécia, fé'-di-a
Fécilia, fé-lis'-i-a
Fénugreek, fé-nú'-gréek
Fénzia, fé-nzí'-a
Fernandézia, fé-ran-dé'-zi-a
Fernézia, fé-rné'-zi-a
Ferónia, fé-ro'-ni-a
Féraria, fé-rár'-i-a
Férula, fé-rú'-la
Férulago, fé-rú-lá'-go
Festuca, féstú'-ka
Ficaria, fí-kár'-i-a
Ficus, fí'-kus
Fíeldia, fé-l'di-a
Fílagó, fí-lá'-go
Fimbríaria, fím-bri-ár'-i-a
Fischéria, físch-é'-ri-a
Fíttonia, fít-tó'-ni-a
Fítzroya, fít-zroy'-a
Flacourtia, flá-kour'-ti-a
Flagellaria, flá-jel-ár'-i-a
Flavaria, fá-vé'-ri-a
Flemingia, flem-íng'-i-a
Fleur-de-Lis, fleu-dé-léssé
Flindéria, flín-dér'-si-a
Florestina, flór-es-tí'-na
Fluggea, flug-gé'-a
Foeniculum, fé-ník'-ú-lum
Fotidia, fé-tid'-i-a
Fontanesia, fon-tá-né'-zi-a
Forrestia, fór-ré'-ti-a
Forskahlia, fórs-kál'-i-a
Forsythia, fórs-thí'-a
Fortunea, fórt-ú-né-a
Fothergillia, fother-gíl'-li-a
Fragaria, frá-grá'-i-a
Francisceae, fran-sis'-se-a
Francóia, fran-kó'-a
Frankenia, fran-ké'-ni-a
Franzeria, fran-zé'-ri-a
Fräsera, frá-zér'-a
Fraxinus, fráx'-i-nus
Freesia, fré-zí'-a
Fremontia, fré-mon'-ti-a
Frenela, fré-né'-li-a
Freycinetia, frá-sin-é'-ti-a
Freziera, fré-zí-é'-ra
Friésia, fré-zí'-a
Fritillaria, fí-til-lár'-i-a
Fúchia, fá-shi-a
Fugosia, ú-gó'-si-a
Fumaria, fú-már'-i-a
Fumitory, fú-mí-tór'-i-a
Funkia, fúnk'-i-a
Furcellaria, fúr-sel-lár'-i-a
Furcraea, fúr-ké'-a
Fusánius, fú-sá'-nus

G

Gáertnera, gá-rt'-né-ra
Gágea, gá'-je-a
Gagnebina, gag-ne-bí'-na
Gaillardia, gál-lár'-di-a
Galactia, ga-lák'-ti-a
Galactites, ga-lák-ti'-tes
Galactodendron, ga-lák-to-den'-dron
Galanthus, gal-an'-tus
Gálax, gál'-ax
Galaxia, ga-lax'-i-a
Galeándra, gal-e-an'-dra
Galéga, gal-é'-ga
Galeobdolon, gal-e-ob'-dolon
Galeopsis, gal-e-op'-sis
Galeotia, gal-e-ot'-ti-a
Galinsoga, gal-in-só'-ga
Galipea, gal-i-pé'-a
Gálum, gál'-i-um
Galphimia, gal-fím'-i-a
Gáltonia, gál-tó'-ni-a
Garcinia, gar-sin'-i-a
Gardénia, gar-dé'-ni-a
Gardoquia, gar-dó'-qui-a
Gárrya, gár'-ri-a
Gasteria, gas-té'-ri-a
Gastonia, gas-tó'-ni-a

Gastridium, gas-trid'-i-um
Gastrocarpha, gas-tro-kár'-fa
Gastrochilus, gas-tro-kí'-lus
Gastrodia, gas-tro'-di-a
Gastrolobium, gas-tro-ló'-bi-um
Gastronomia, gas-tro-nó'-mi-a
Gaudichaudia, gáu-di-sháu'-di-a
Gaultheria, gaul-té'-ri-a
Gaúra, gáw'-ra
Gaylussacia, gá-lus-sá'-ki-a
Gazania, ga-zá'-ni-a
Geastrum, jé-as'-trum
Geissois, gís'-so-is
Geissomeria, gís'-so-mé'-ri-a
Geissorhiza, gís-so-rhí'-za
Geitonoplesium, gi-ton-o-plé'-zi-um
Géla, jé'-la
Gélasine, jé-las'-i-né
Gésemium, jé-sé'-mi-um
Genetylís, jen-é-tíl'-is
Geniosporum, jen-i-os-pór'-um
Geniostoma, jen-i-os'-to-ma
Genipa, jen-i'-pa
Genista, jen-is'-ta
Gentiana, jen-shi-á'-na
Gentianella, jen-shi-an-el'-la
Geodorum, jé-o-dór'-um
Geonoma, jé-o-nó'-ma
Geranium, jér-á'-ni-um
Gerardia, jér-ár'-di-a
Gerbera, gér-bé'-ra
Geropogon, jér-o-pó'-gon
Gésnera, gés'-ner-a
Gethyllis, gét-thíl'-is
Gétonia, gét'-ó'-ni-a
Géum, jé'-um
Ghiesbréchia, géz-brék'-ti-a
Ghinia, gin'-i-a
Gilbertia, gil-bér'-ti-a
Gilia, gil'-i-a
Gillenia, gil-lé'-ni-a
Gillisia, gil-lé'-si-a
Ginkgo, gínk'-ko
Gisékia, gís-é'-ki-a
Gladíolus, glád'-í-olus
Gláucium, gláu'-si-um
Gláux, gláu'-x
Gleditschia, gle-dítsch'-i-a
Gleichénia, glé-ké'-ni-a
Glechóma, glek'-ó'-ma
Glinus, glí'-nus
Globba, glób'-ba
Globularia, glob-lár'-i-a
Globbæa, glob-bé'-le-a
Gloriosa, glór-i-ó'-sa
Glossanthes, glos-san'-thus
Glossápis, glos-sas'-pis
Glossocodia, glos-so-kó'-mi-a
Glossodia, glos-só'-di-a
Glottidium, glot-tid'-i-um
Gloxinia, glox-in'-i-a
Glycine, glís'-i-né
Glycyrrhiza, glí-sir-rhí'-za
Glyphæa, glí-fé'-a
Glyptostrobus, glíp-to-stró'-bus
Gmelina, me-lí'-na
Gnaphalium, na-fá'-li-um
Gnétum, né'-tum
Gnidia, nid'-i-a
Godetia, go-dé'-shi-a
Góthæa, gét'-e-a
Goldbáchia, gold-bák'-i-a
Goldfussia, gold-fú'-si-a
Gómphia, gom'-fi-a
Gomphocarpus, gom-fó-kar'-pus
Gompholobium, gom-fó-ló'-bi-um
Gomphrena, gom-fré'-na
Gomótus, gom-mú'-tus
Gonatostemon, gon-a-to-sté'-mon
Gongóra, gon-gór'-a
Goniocarpus, gon-i-o-kár'-pus
Goniolobus, gon-i-ó'-lo-bi-um
Goniophlebium, gon-i-ó-lé'-bi-um
Goniopteris, gon-i-ó-ter'-is
Goniostemon, gon-i-ó-sté'-mon
Goodenia, góod-é'-ni-a
Goodia, góod'-i-a
Goodyera, góod-yé'-ra
Gordonia, gór-dó'-ni-a
Gorteria, gór-té'-ri-a
Gossypium, gos-síp'-i-um
Gouania, gó-á'-ni-a

Govánia, gó-vé'-ni-a
Grabowska, gra-bóws'-ki-a or grab-óv'-ski-a
Grællisia, grél'-si-a
Grammitis, gram-man'-thes
Grammatophyllum, gram-ma-to-fíl'-lum
Grammatosorus, gram-ma-to-sór'-us
Grammitis, gram-mí'-tis
Grangeria, grán-jé'-ri-a
Gratiola, gra-tí'-o-la
Greenovia, gré-nó'-vi-a
Grenvillia, gren-víl'-li-a
Grevillea, grén-víl'-le-a
Grias, grí'-as
Gríclum, grí-é'-lum
Griffinia, grif-fín'-i-a
Grindelia, grin-dé'-li-a
Grislea, grís'-le-a
Gröbya, gró'-bi-a
Gronovia, gró-nó'-vi-a
Guaiacum, gwí-yá'-kum
Guarea, gwár'-e-a
Guatteria, gwa-té'-ri-a
Guazuma, gwá-zú'-ma
Guelder-rose, gél-dér-róz
Guettarda, gwét-tár'-da
Guilandina, gwí-lán-dí'-na
Guilfordia, gwí-lé'-ma
Guitchénia, gwí-chen-ó'-ti-a
Gundelia, gun-dé'-li-a
Gunnera, gun'-né-r-a
Gustavia, gús-tá'-vi-a
Guzmania, gúz-man'-ni-a
Gymnadenia, gim-na-dé'-ni-a
Gymnema, gim-né'-ma
Gymnocladia, gim-no-klá'-dos
Gymnocladia, gim-no-gram'-ma
Gymnoloma, gim-no-ló'-mi-a
Gymnopteris, gim-nop'-ter-is
Gymnostachys, gim-no-sták'-is
Gynaedropsis, gi-nan-drops'-is
Gyneryum, gi-né'-ri-um
Gynoxis, gi-nox'-is
Gypsophila, gíp-só'-fi-l-a
Gyrocarpus, gi-ro-kár'-pus
Gyrophora, gi-ró'-fó-ra
Gyrostemon, gi-ro-sté'-mon

H

Habenaria, hab-en-ár'-i-a
Habitzia, hab-blitz'-i-a
Habranthus, ha-bran'-thus
Habrothamnus, hab-ro-tham'-nus
Haemadictyon, hé-ma-dík'-ti-on
Haemathus, hé-man'-tus
Haematocoryn, hé-ma-tox'-il-on
Haemodorum, hé-mo-dór'-um
Hakea, há'-ke-a
Halasia, há-lé'-zi-a
Halimodendron, hal-i-mo-den'-dron
Halimosenius, hal-i-mos'-né-mis
Halleria, hal-lé'-ri-a
Hállia, há'-li-a
Haloragis, hal-o-rá'-jis
Hamamelis, ha-ma-mél'-lis
Hamelia, ha-mé'-li-a
Hamiltonia, ham-il-tó'-ni-a
Haptophyllum, hap-lo-sté'-i-um
Hardenbergia, hard-en-bér'-ji-a
Hardwickia, hard-wík'-i-a
Haronga, ha-rón'-ga
Harpallium, há-r-pá'-li-um
Harpalyce, há-r-pá'-i-sé
Harrisonia, há-rí-só'-ni-a
Hartógia, hárt-og'-i-a
Hartwegia, hárt-vég'-i-a
Havetia, há-vé'-ti-a
Haworthia, há-worth'-i-a
Haydockia, há-dók'-i-a
Hebecladus, heb-ek-lá'-dus
Hebeclinium, heb-ek-lí'-mum
Hebenstretia, heb-en-strí'-ti-a
Hederaea, hed-a-ró'-na
Hedeoma, hed-e-ká'-na
Hedera, hed'-er-a
Hedwigia, hed-víg'-i-a
Hedychium, hed-dík'-i-um
Hedyotis, hed-i-ó'-tis

C. Butler.

(To be continued.)

The Week's Work.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady Wantage, Lockinge Park, Berkshire.

Pampas Grass.—At this season few plants produce so fine an effect in the pleasure grounds as that afforded by the Pampas Grass. It is a plant requiring much moisture during the summer, and it never appears better than when cultivated by the water side. Considerable variation may be noticed in the plumes and habits of the plants, but the varieties are all commendable. Planting should be done in the spring, when growth is about to commence, but the ground may be prepared at the present time with advantage. If poor, it should be removed to the depth of 2 feet, replacing it with light, but rich loam. The plants may be expected to grow rapidly, making fine clumps in the first season. Fresh stock is easily obtainable by division of the roots at the time of planting, and following this process a liberal mulch should be afforded and a thorough watering. Protection from frost is necessary if the temperature falls below 12° Fahr.

Dahlia.—I have never seen Cactus Dahlias more effective than they are at the time of writing, but such a display can only be produced by varieties that carry their flowers on erect stems sufficiently long to be well above the foliage. As soon as the growths have been cut down by frost the tubers should be lifted, leaving about 6 inches of the old stem attached to the tubers, and affixing thereto a label denoting the name and the colour of the variety. They should be stored away in a dry, but cool place, where frost is excluded. Examine them occasionally during winter, and remove any decayed portions.

Spring bedding.—If advantage has been taken of the recent favourable weather for transplanting the plants used in spring bedding, the garden will now present a furnished and cheerful appearance. Encourage as much root action as possible amongst such plants as Polyanthus, Aubrietias, and Violas. We have found it necessary to apply waterings, which, of course, is not usual at this season. Some of the plants are already showing bloom, and if the weather remains open they will appear gay through the early winter months. When planting Polyanthus in distinct colours, Tulips to harmonise or contrast with them are also planted in distinct varieties at 1 foot apart; but if the Polyanthus are mixed, the Tulips are mixed also. Wallflowers are planted upon the same principle. Aubrietias are considered best suited for the rock-garden or for planting near to running water, but intermixed with Tulips they are also much admired, and Aubrietia purpurea with Tulip Murillo, and Aubrietia Leichtlinii with Tulip Cottage Maid look well. Silenes flower so late that they are excluded from the flower garden, and may be planted in conjunction with late-flowering Tulips in exposed situations in the pleasure ground. Alyssum saxatile compactum is a valuable hardy perennial for spring-bedding, producing bright-yellow flowers 6 inches high, and the variety Silver Queen, with flowers of the same height, but of the palest lemon colour, when intermixed with Tulip Prince of Austria is very attractive.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GRASS, Aldenham House, Elstree, Hertfordshire.

Broccoli.—Any Broccoli which are "turning in" should be very closely watched, it being necessary to protect them from frost by covering the curds with leaves and by tying up closely together the outer leaves. Excepting in some of the most favourable counties, this vegetable is liable to suffer much injury during severe winters, and to prevent this, especially on heavy and low-lying lands, the whole of the crop should be layered early in November, laying the heads over with an incline to the north. If this work is carefully done, the plants will benefit from the operation rather than be injured thereby. The most tender part of the stem is that immediately near the head of the plant, being less matured than the rest; therefore plenty of soil should be planted over this part, breaking the soil up finely and treading it very firm. Under this treatment 80 per cent. of the crop may generally be expected to pass

through the winter safely, but on the approach of extra severe weather a little Bracken or Wheat straw may be placed over the crop as an extra protection.

Cauliflowers.—Very late plants of the Autumn Giant type should be lifted with a good ball of earth attached to the roots, and planted fairly close together in unheated pits, frames, or in an orchard house, applying a good watering immediately after the planting has been done. During favourable weather admit all the air possible to the plants. Under this treatment good Cauliflowers may often be obtained until the middle of winter. Plants raised from the latest sowings for producing heads during next spring should be pricked out in unheated frames as near to the glass as possible. Earlier plants which were pricked out some little time ago must not be forced, but they should be encouraged to make sturdy growth by applying abundant ventilation whenever possible.

Spring Cabbage.—Examine the quarters planted with Spring Cabbage, and make good any gaps there may be in the rows by plants obtainable from the seed beds. Select a fine day and mould up the plants, placing the soil firmly about the stems right up to the leaves; this treatment will do much to ensure the plants passing through a severe winter without injury.

best caught at night. In order to maintain a regular supply of Mushrooms, fresh beds should be made up at intervals of four or five weeks.

Alterations.—Any alterations or extensions of the kitchen garden which have been contemplated during the past year may now be carried out, remembering that ground intended for vegetable culture must have ample drainage, whether natural or artificial, and the soil ought to be thoroughly trenched.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Primula x Kewensis.—Plants of this hybrid should now be removed from the unheated frame to a cool, dry greenhouse, or the flowers will be liable to suffer from damp. This Primula makes very strong growth, and requires a rich soil and a pot of liberal size. Applications of liquid manure may be afforded all through the winter. If a number of plants are placed together in a group their bright yellow flowers are most effective.

Agathe celestis.—This plant should also be fed liberally with liquid manure and given similar conditions to those recommended for P. x Kewensis.



FIG. 132.—CYPRIPEDIUM CHARLESWORTHII BROMILOWIANUM, AWARDED A FIRST-CLASS CERTIFICATE AT THE R.H.S. MEETING ON OCTOBER 13, WHEN SHOWN BY H. J. BROMILOW, ESQ.; COLOUR PALE GREEN AND WHITE. (See ante p. 285.)

Any spare plants should be pricked off into skeleton frames or in some sheltered position, placing the plants at distances of 3 or 4 inches from each other. Such plants will be useful for making good any vacancies that may appear in the permanent beds in the spring.

Leeks.—Although this is probably one of the hardest vegetables, it will be wise to complete the blanching of the latest plants as soon as possible. If they are planted in trenches the soil should be banked up to the point at which the foliage commences. Any specimens that were blanched early may be lifted and stored under the shade of a wall in sand or ashes, leaving the foliage exposed to the weather.

Mushrooms.—Maintain the atmospheric temperature in the Mushroom house as evenly as possible, at about 55°, never allowing it to exceed 60°. Do not employ more fire heat than is necessary, nor allow the paths or walls to become dry. The surfaces in the house may be syringed twice each day with tepid water. Take every means to entrap slugs and woodlice, which can be

Bourbardia and Salvia.—These and other plants that were lifted from the open ground some time ago and potted up are now flowering freely. They require liquid manure, and should be kept in the warm greenhouse or conservatory.

Humex elegans.—This species has grown very freely during the recent mild weather, and the plants are ready to be potted into pots 8 or 9 inches in diameter. The roots grow all through the winter, and it is of the greatest importance to prevent them becoming pot-bound. A suitable compost for use at this potting is one consisting of turfy loam, leaf-mould, wood-ashes, and sand, with a few bones broken moderately small, which will supply all the manurial properties needed during winter. If the loam is inclined to be of a heavy nature, rather less of this material must be used, and more leaf-mould and wood-ashes, it being necessary that the compost should be exceedingly porous in order that it may be made moderately firm without rendering it a difficult medium for the roots. Care should be taken to see that the ball of

the plant is not put too low in the pot. The surface soil should not extend higher up the stem of the plant than it did at the previous potting, or decay may set in at the "collar." The greatest care must be exercised in watering plants that have been recently potted, more than ordinary discretion being required in respect to this species all through the winter. The pots will have become filled with roots by the spring, and the plants may then be fed liberally with liquid manure. The plants can be wintered safely in a cool, light, well-ventilated house, such as an early Peach house where the foliage of the Peach trees is undeveloped, there being generally just sufficient moisture in the house to prevent red spider. Should green fly appear upon the plants, fumigate the house at once, exercising extreme care, for if the operation is too severe the foliage will suffer injury, as they are very susceptible to tobacco smoke.

Roses in pots.—A number of plants should now be removed from the unheated frame to a structure in which the atmospheric temperature is about 50° or 55° at night, allowing these temperatures to rise a little during the day, but not to an extent that would be considered hard forcing, which would be very injurious to the plants at this stage. Fumigate the house on the first appearance of green fly, and if any mildew appears upon the leaves let them be dusted at once with flowers of sulphur.

Chrysanthemums.—Plants now in bloom should be neatly arranged according to their height and the colours of the flowers, in a house which is most suitable for making an impressive effect. Endeavour should be made to place each plant so that every large bloom may be perfectly seen from the path. Do not overcrowd the plants, and in bright weather take means to shade the flowers, as a little bright sunshine will soon cause the darker-coloured varieties to depreciate. Remove any florets that have damped, and any leaves showing decay, as early as possible. Employ sufficient ventilation to cause a circulation of air, and maintain the atmosphere as dry as possible. Top and bottom ventilators should be opened to a slight degree during the night, and a little heat may be maintained in the water pipes. Watering operations must be severely confined to the earlier part of the day.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holborn, C.V.O., C.B.E., Westonbirt, Gloucestershire.

Lælia anceps.—No more useful winter-flowering Orchid exists than this beautiful and well-known species. The flowering season embraces a period of several of the duller and most cheerless months in the year. The flowers are produced after the plants have quite completed their season of growth; therefore the maintaining of a dry atmosphere, necessary to preserve the inflorescences, is not greatly harmful to the plants, such as is the case of an Orchid flowering and growing actively at the same time. The past season has been most favourable for the cultivation of *Lælia anceps*, and the plants have their flower-spikes well advanced, especially is this the case with the coloured forms, which are always the first to expand their flowers. As the flowering stems develop, there is often a gummy exudation from their apices. This matter should be frequently removed with a wet sponge; otherwise the upper bracts will stick to the flower buds and prevent the blossoms from properly opening. While the roots and shoots of these plants have been actively growing, a plentiful supply of moisture, both in the pots and in the atmosphere, will have been afforded. This amount of moisture should be gradually reduced, and after the pseudo-bulbs are properly matured very little water at the roots will be needed. The rooting material, however, must be kept sufficiently wet to enable the proper development of the flower-spikes. The plants are best accommodated in a structure having an intermediate temperature; they should be placed where they will receive an abundance of fresh air from open ventilators whenever the outside conditions permit.

Lælia autumnalis, L. Goldiana, L. albidia, and their varieties.—Plants of these similar to the foregoing are developing their flower-spikes. Their requirements are very similar to those of *L. anceps*. After the flowering is over, and the growth of the pseudo-bulbs completed, afford the plants a long rest in a cool,

well-ventilated house. Any of these *Lælia*s which have not strong pseudo-bulbs will be benefited by the removal of their flower-spikes.

Lælia harpophylla and L. Cowanii.—These are handsome spring-flowering species, from which the beautiful hybrids *L.-C. Davis*, *L. Coronet*, *L.-C. Ariel*, *L. Gwennie*, and many others have been derived. They are mostly winter and spring-flowering plants. Culturally their requirements are similar to those of *Cattleyas*. The plants are rapidly developing their growth, and the amount of moisture needed at the root is greater than at any other period. *L. Cowanii* and its hybrids prefer slightly warmer conditions than *L. harpophylla*. During the resting season these, in common with all other *Lælia*s having thin pseudo-bulbs, should not be allowed to become excessively dry at the roots.

Lælia majalis.—Plants of this species, if treated since flowering as advised in a former Calendar, will now have completed their season of growth. The pseudo-bulbs having been fully matured, afford the plants a long rest in a cool, airy house, where they are best suspended from the roof rafters exposed to full sunlight. Very little water will suffice during the resting season; enough only should be given to keep the pseudo-bulbs plump.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to THE DOWAGER LADY NEWBUSHMERE, WATER HURY, YORKSHIRE.

The planting of bush fruits.—In a recent Calendar I recommended that advantage should be taken of the fine weather for preparing the ground for planting these and other kinds of fruit. Seldom has there been a finer autumn for such work, and the heaviest soils have been sufficiently dry to be trodden without being pressed into a severely water-holding condition. Many planters have no doubt taken advantage of the favourable circumstances, but others who may not have had an opportunity to do so should press this work forward, remembering that trees planted now will give little or no trouble next season, and that any which may be planted later will sure to be less satisfactory. Although the trees still retain their foliage, the wood is well matured, and the trees being in the best condition for moving, the work can be better carried out than at a later date when the soil may be expected to be in a wet and cold condition. Any fairly exposed position, with deep, well-drained soil, is suitable for fruit trees; but a sheltered or even partly shaded position may be employed with good results. Good varieties of Red Currants include *Fay's Prolific*, *The Comet*, and *Raby Castle*. White Grape and Transparent are two good white-fruited varieties. The planting of Gooseberry and Black Currant bushes should be given attention next. Black Currants succeed well in a moist, shady position. Gooseberries and Red and White Currants should always be grown on clean, single stems, as there will then be less suckers. All of these bushes should be allowed distances at least equal to 5 feet apart. Varieties of Gooseberries are very numerous, but some of the best for general use include *Crown*, *Bob*, *Whinham's Industry*, *Whitesmith*, and *Keepsake*. *Boskoop Giant* is undoubtedly the best Black Currant, and although it is not proof against the mite, it appears to suffer less from an attack than other varieties.

Pruning.—The pruning of these bushes may be undertaken at once, especially in gardens where the ground is liable to become very wet, and consequently the condition when much treading would be injurious. If early pruning is carried out, care must be taken to provide the bushes with ample protection from birds, or they may destroy the buds which would be required for fruiting next season. If netting is not available for this purpose, the bushes must be protected by the well-known method of threading, there being several valuable threading apparatuses obtainable from the horticultural trade. By the use of which a number of bushes can be conveniently threaded in a short time. There are several methods of pruning Gooseberry bushes, but, in any case, it is necessary that the centre of each bush should be kept well thinned that light and air may freely circulate among the shoots, and that the hand may be conveniently passed through for the gathering of the fruits. Any shoots that are inclined to

hang towards the ground in such a manner that the fruits will become splashed should be removed. Dessert varieties, as a general rule, are best thinned a little more severely than culinary varieties. Red and White Currants should be kept to single stems by pruning the side shoots to three buds, and the leading shoots to 6 or 8 inches. All bush fruits, excepting Black Currants, should be kept perfectly free from suckers. Black Currants, however, produce the best fruits upon suckers, therefore they need only some of the old wood removing to make room for younger and more vigorous growths. If caterpillars have been troublesome, dust the bushes over with quicklime, and gather the leaves and prunings carefully and burn them.

A little of the surface soil may also be taken away, replacing it with fresh soil, and applying a dressing of thoroughly decomposed manure, if it is considered necessary, digging the manure lightly into the soil, but taking care not to damage the roots.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LANGLETTON, The Hendre, Monmouthshire.

Early-fruited vines in borders.—If *Ripe Grapes* are required in May from permanently planted vines, and these vines were prepared for forcing according to directions in a previous Calendar, the house should be closed up in November. It is not good practice to allow the roots of vines subjected to early forcing to extend into an outside border; but in cases where these conditions exist, that part of the border situated outside the house should at once be covered with a liberal coating of tree-leaves or dry litter, and further protected with glass sashes or something of that kind. If the soil of the inside borders is fairly moist, it will be better not to apply any wave until the vines have made some amount of growth, for until that stage is reached there is very little root action; but, whether or not, a soil tester (see fig. 22 in the issue for January 18, 1908) should be used before determining whether water is needed. If water is supplied it should first be heated to a temperature of about 85°. The atmospheric temperature of the house should be about 50° at night, and 55° or 60° by day, allowing for a rise to 65° by sun heat, and employing a small amount of ventilation at the higher temperature. In each case, however, the temperatures must not be insisted upon, but varied a little in accordance with the conditions prevailing out-of-doors. Maintain a considerable amount of moisture in the atmosphere, and, in order to assist the buds to unfold with ease, syringe the vines two or three times each day with tepid water, allowing them to become dry before nightfall.

Orchard house.—In most cases this house is now occupied by *Chrysanthemum* plants, the fruit trees being plunged out-of-doors in a bed of ashes, or in cocoanut fibre refuse. No time should be lost before repotting any trees that have ripened late crops, and that have not already received this attention. The repotting should be done in the manner recommended for earlier trees in the Calendar published on September 19. Trees not requiring to be repotted should be top-dressed, first removing the top soil by working down the sides of the pots to one-fourth of their depth, or even more in particular cases. This will involve the sacrifice of many fibrous roots, but the trees will suffer no injury, and the roots will quickly produce fresh fibres, which, entering the new compost, will be best suited to supplying the trees with the necessary food. The compost should be used in a moderately dry state, and be rammed firmly. It will be necessary to protect the trees from bud devouring birds during winter. The present time is a favourable one for obtaining young trees from a nursery. Such trees may be purchased as maiden or one-year-old specimens. In the potting of these young trees, shorten the roots sufficiently to allow of them being placed in pots of about 10 inches in diameter. Provide each pot with liberal drainage material, and, during the potting, carefully work the compost amongst the roots, making it firm by means of a wooden rammer. When the trees have been potted, place them either in a cool house, or plunge them out-of-doors, and take measures to prevent the soil from becoming injuriously dry.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Appointments for November.

TUESDAY, NOVEMBER 3—Brighton Chrys. Sh. (2 days). Nat. Amat. Gard. Assoc. meet. Oundle Chrys. Sh. (2 days). Farnham & Dist. Chrys. Sh. (2 days). Surbiton, Kingston and Dist. Chrys. Sh. (2 days). Bourne-mouth Chrys. Sh. (2 days).

WEDNESDAY, NOVEMBER 4—Nat. Chrys. Soc. Autumn Exh. at Crystal Palace (3 days). Cardiff Chrys. Sh. Hayward's Heath Hort. Soc. Exh. (2 days). Guildford and Dist. Chrys. Sh. (2 days). Bromley Chrys. Sh. (2 days). Bath Gardeners' Soc. Chrys. Sh. (2 days).

THURSDAY, NOVEMBER 5—Newport (Mon.) Chrys. Sh. Torquay Chrys. Sh. Putney, Wandsworth and Dist. Chrys. Sh. (2 days). Linnæan Soc. meet.

FRIDAY, NOVEMBER 6—Battersea, Clapham and Wandsworth Chrys. Sh. (2 days). Aitriche and Dist. Chrys. Sh. (2 days).

SATURDAY, NOVEMBER 7—Soc. Franc. d'Hort. de Londres meet. German Gard. Soc. meet.

MONDAY, NOVEMBER 9—United Hort. Ben. and Prov. Soc. Com. meet.

TUESDAY, NOVEMBER 10—Roy. Hort. Soc. Coms. meet. Nat. Rose Soc. Com. meet. Plymouth Chrys. Sh. (2 days). British Gard. Assoc. Ex. Council meet. Devizes Chrys. Sh.

WEDNESDAY, NOVEMBER 11—Chester Chrys. Sh. (2 days). Cambridgeshire Hort. Soc. Sh. (2 days). York Chrys. Sh. South Shields and Northern Counties Soc. Chrys. Sh. (2 days). Doncaster and Dist. Chrys. Sh. (2 days). Buxton Chrys. Sh. Corn Exchange Chrys. Sh., Mark Lane, London.

THURSDAY, NOVEMBER 12—Western-super-Mare Chrys. Sh. Barnsley Chrys. Sh. (2 days) (provisional).

FRIDAY, NOVEMBER 13—Liverpool Chrys. and Fruit Sh. (3 days). Bradford Chrys. Sh. (2 days). Sheffield Chrys. Soc. Ex. (2 days). Nottingham Chrys. Sh. (2 days). Leeds Paton Soc. Chrys. Sh. (2 days). Huddersfield Chrys. Sh. (2 days).

SATURDAY, NOVEMBER 14—Burton-on-Trent and Shobnall Chrys. Soc. Ex. at Burton-on-Trent.

MONDAY, NOVEMBER 16—Nat. Chrys. Soc. Com. meet.

TUESDAY, NOVEMBER 17—Winchester Chrys. Sh. (2 days).

WEDNESDAY, NOVEMBER 18—Darlington Chrys. Sh.

THURSDAY, NOVEMBER 19—Edinburgh Chrys. Sh. (3 days). Linnæan Soc. meet.

SATURDAY, NOVEMBER 21—German Gard. Soc. meet.

TUESDAY, NOVEMBER 24—Roy. Hort. Soc. Coms. meet.

THURSDAY, NOVEMBER 26—Roy. Hort. Soc. Ex. of Colonial Products and Preserved Fruits (2 days).

FRIDAY, NOVEMBER 27—Aberdeen Chrys. Sh. (2 days). Dundee Chrys. Sh. (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich.—46°.

ACTUAL TEMPERATURES:—LONDON.—(Wednesday, October 23 (6 P.M.): Max. 63°; Min. 42°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, October 23 (10 A.M.): Bar. 30.2; Temp. 69°; Weather—Sunshine.

PROVINCES.—(Wednesday, October 23 (6 P.M.): Max. 59° Aylesbury; Min. 49° Thirsk.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY AND TUESDAY—Nursery Stock in variety at Carl House Lane, Horsell, Woking, by order of Mr. R. Collyer, by Protheroe & Morris, at 12.

WEDNESDAY—Tenth Annual Sale of Nursery Stock at Shortlands Nursery, Shortlands, Kent, by order of Mr. J. B. Bryant, by Protheroe & Morris, at 11.

THURSDAY—Narcissus, Iris, Lily of the Valley, &c., at 11.30; 758 cases Japanese Liliums at 1; 2,650 Roses at 3.30; Palms, Planis, Azaleas, &c., at 6; at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

THURSDAY—Sale of surplus Nursery Stock at Burnt Ash Hill Nurseries, Lee, S.E., by order of Messrs. B. Maller & Sons, by Protheroe & Morris, at 11.

THURSDAY AND FRIDAY—Unreserved sale of the whole of the collection of Orchids formed by Wm. Appleton, Esq., at Tyt-y-coed, Hill Road, Weston-super-Mare, by Protheroe & Morris, at 12.30.

Some Relation of Leaves to Light.

Every one who has kept plants under observation is well aware of the fact that under the influence of light they dispose their leaves in such a manner as to utilise it to the best advantage. The way in which a Pelargonium grown in a window turns the blades of its leaves towards the source of light and away from the relatively dark interior of the room affords an example of this, and in a lean-to glasshouse the gardener knows how the plants at the back of the structure, if left to themselves, tend to develop their foliage on one side, and to become naked towards the wall.

This obvious response to the influence of light is, however, far from being a simple matter, and it results from the combined effect of several different, and even partially antagonistic, factors. Limitations of space will, of course, only allow us at the moment to discuss the problem in a few of its numerous aspects, but we hope to be able to return to it on a future occasion.

In the first place, light of suitable intensity acts directly as a stimulus which encourages the growth and development of foliage exposed to its influence, whilst in the second place the leaves thus favourably situated are enabled, by utilising certain of the rays that go to make up a beam of white light, to elaborate the largest amount of food, and this circumstance also tends to favour their growth as compared with that of the more shaded ones. A practical illustration of this fact is afforded by the dying of the shaded leaves, which is so familiar a spectacle in overcrowded shrubberies.

A somewhat closer examination of the matter, however, soon drives home the conviction that what has just been said can by no means be regarded as of universal application. Excessive illumination usually produces the effect of diminishing the size of leaves, and we find, moreover, that different plants interpret excess according to different measures. The so-called shade plants—many Ferns for example—by no means produce the largest leaves under the conditions of bright illumination, that is to say, the measure of light intensity which suits them best is below that which proves the best (or optimum) for many other plants. If we pursue our investigation still further, we discover that there are other circumstances not only in addition, but often acting in opposition, to that of light, which exert an independent influence upon growth. One of the most important of these is connected with the supply of water within the leaves.

Many of the shade plants, accustomed as they are to a sheltered and moist habitat, part with water far too readily under the ordinary conditions attending a full exposure to light. This reacts on their development, and tends towards the production of leaves of smaller size. That this is actually true may be readily seen by the manner in which such plants thrive, even in strong light, provided that evaporation is checked by keeping the surrounding atmosphere sufficiently damp. In such examples we may truly say that the relations of the water supply within the tissues are among the chief factors which limit the power of the leaf to enlarge itself in response to the complex stimuli given by light.

But once again we are confronted by instances which serve to illustrate the many-

sidedness of the plant, and to emphasise at the same time the rashness of indulging in over-hasty generalisation. Let us consider the case of the succulents. The plants of this class at first sight may appear merely to confirm the conclusions drawn from the behaviour of the shade-loving species, but they further accentuate another aspect of the whole matter. Under the natural conditions in which the succulent plants ordinarily flourish in nature, abundance of light is the rule. They are thoroughly accustomed to it, and, indeed, require it in order to attain to their maximal excellence. But the urgent need of economising water has been, so to speak, drilled into them for so many generations—and only those which have become sufficiently "adapted" in this respect have lived to be the parents of the present-day forms—that they hardly respond to light at all in the direction of increasing the size of their leaves, but do exhibit this character, in a more or less obvious degree, if the atmosphere happens to be sufficiently humid. Thus *Senecio* (*Kleinia*) articulatus produces and retains its leaves in a damp house both more freely and for a longer time than it does in a dry atmosphere, even if better illuminated. This same reaction may be witnessed in the case of the cactus-like *Euphorbias*, and in many other succulent types. The centre of gravity of response in these plants has been shifted, so to speak, from the light to the water stimulus. But, on the other hand, the leaf-like *Epiphyllums*, which possess flattened stems, enjoy all the advantages conferred by the leaf-like form, without the attendant risk of too rapid a loss of water, and they only produce this characteristic form in response to the stimulus of light. Those which have developed in darkness do not exhibit the flattened appearance, but only the cylindrical form to be expected in a stem.

In still another group the leaves exhibit an even more radical divergence from the behaviour we are accustomed to encounter. There are plants like *Onions* and *Iris*es which possess foliage as peculiar in form as it is remarkable in its physiological attributes. Such leaves, and we may add those of the Maize plant also, instead of becoming smaller or even rudimentary in the dark, grow out into long stem or strap-like structures when light is deficient in intensity; that is to say, under conditions in which a sprouting Potato, for example, would only produce shoots the leaves of which are quite rudimentary in size and structure. Such facts as these emphasise the importance of bearing in mind the individual nature of a plant—in other words its *hereditary* nature. This it is which really determines the form of the response which it will make to any given stimulus or set of external conditions. It does not really help matters much to argue that the elongating stem and small leaves of the Potato may be useful, inasmuch as the shoots are thereby enabled ultimately to emerge to the light after having expended as little as possible of the food previously stored in the Potato, whilst the rhizome of an *Iris*, on the contrary, owing to its peculiar fashion of growth, is better fitted to delegate this light-seeking business to the leaves. What we really want to know is just why the one should behave in the way that it actually does, whilst the other should express an analogous adaptedness

to external conditions in a totally different manner.

Such questions, like all others that touch the fundamentally important matters of nature, are more easily asked than answered. But it is well to put them, and to keep them constantly in mind. For it is only by careful observation of the natural phenomena themselves that our questions become sufficiently precise to suggest definite experiments which may one day put us in possession of the solution of the riddle. In the meantime, no one except a purblind, or merely unintelligent person is likely to imagine himself to be so familiar with plants that he can afford to regard their ways with indifference or contempt.

OUR SUPPLEMENTARY ILLUSTRATION—On July 4 last a photograph of the fine specimen of *Catalpa bignonioides* in Lieut. Col. HOLFORN'S garden at Westonbirt, Gloucestershire, was reproduced as a supplementary illustration. The tree was then in full bloom. Our present illustration depicts the tree in fruit, the long pod-like capsules being very numerous. The species is an excellent-flowering tree in favorable localities, but it is seldom we have seen a specimen fruit so abundantly as the tree at Westonbirt.

TRIALS AT WISLEY IN 1909-10.—We are informed that the Council of the Royal Horticultural Society have arranged for trials at the Wisley gardens of the following fruits, flowers, and vegetables during 1909:—*Fruits*: Autumnal Raspberries, 15 canes of each variety to be sent at once. *Flowers*: Tree Carnations, two plants of each variety. *Annals*: Seed to be sent in January. *Garden Dahlias*: (Show and Cactus excluded), two plants of each to be sent in April. *Early-flowering outdoor Chrysanthemums*: Two plants of each to be sent in April. *Pentstemons*: Two plants of each variety to be sent in April. *Vegetables—Potatoes*: Twenty tubers of each variety to be sent by February. Also experiments with the same variety of Potatoes secured from as many varying sources as possible, under different soil and climatic conditions. *Cauliflower*: 4oz. of each variety. *Lettuce*: 4oz. of each variety. *Kidney Beans*: ½ pint of each variety. Everything sent for trial must be named, and the name and address of the sender attached. Each variety must be labelled as being "early," "mid-season," or "late." *Autumn-fruiting Raspberries*: Fifteen canes of each variety of named autumn-fruiting Raspberries, of which a trial is desired, should be sent at once to Wisley. All parcels must be addressed, if sent by post: The Superintendent, R.H.S. Gardens, Wisley, Ripley, Surrey; if by rail: The Superintendent, R.H.S. Gardens, Wisley, Horsley Station, L. and S.W.R., with advice by post to the superintendent.

NATIONAL CHRYSANTHEMUM SOCIETY.—The annual dinner and presentation of prizes will take place in the Throne Room, Holborn Restaurant, 11 High Holborn, W. C., on Thursday, November 26, at 6.15 p.m. for 6.30 p.m. Sir ALBERT ROLLIT, D.C.L., LL.D., president of the society, will preside. The challenge trophy, the Holmes memorial cups and medals will be presented to the winners during the evening.

FRENCH NATIONAL CHRYSANTHEMUM SOCIETY.—The 13th annual show and conference of this society will be held at Tours on November 3 to 5. The gathering will be held in conjunction with the Société Tourangelle d'Horticulture. On the first day there will be a meeting of the jury and the Floral Committee, the

judges' luncheon, opening ceremony, the first meeting of the conference, and a banquet. On the second day a meeting of the General Committee and the second meeting of the conference, an afternoon excursion in motorcars to see some of the historic sights of the town and its environs, and in the evening a performance at the theatre. The third day comprises visits to interesting places in the town.

PARIS AUTUMN SHOW.—The last of the horticultural shows to be held in the greenhouses at the Cours la Reine, Paris, will take place on November 6 to 15, under the auspices of the National Horticultural Society of France. This show is for Chrysanthemums, fruit, and vegetables and promises to be an exceptionally good one. There is every prospect of an interesting exhibit being provided in the section specially devoted to the art and literature of the Chrysanthemum. This section will include old books, prints, engravings, pictures, photographs, and catalogues. There will also be interesting groups of old Chrysanthemums grown anterior to 1895.

BERLIN INTERNATIONAL SHOW, 1909.—The programme has been received for the International Horticultural Show of the Society for Promoting Horticulture in the Royal Prussian States, which will be held from April 2 to 13, 1909, in the Exhibition Halls, Zoological Gardens. In addition to Government medals and diplomas, prizes of the total value of 70,000 marks are available for nearly 700 single competitions dealing with horticulture and its allied branches. No charge will be made for space to exhibit flowers, plants, fruit and vegetables, nor for exhibitions of scientific and artistic objects. A committee of experts and artists will be appointed to attend to the proper staging of the plants, so as to produce the best spectacular effects. Those who intend to exhibit are requested to send in their applications in good time, thereby ensuring at all events a good and favourable space for the objects to be shown. All enquiries are to be addressed to the general secretary of the society, Herr SIEGFRIED BRAUN, No. 42, Invalidenstrasse, Berlin, N. 4.

*** A BIBLIOGRAPHY OF FLORISTS' FLOWERS.**—We welcome a copy of *The Florist's Bibliography*, by C. HARMAN PAYNE, a valued correspondent to these pages. Mr. PAYNE is well known among amateurs for his admiration of florists' flowers, more particularly of the Chrysanthemum. Being also an enthusiastic bibliophile, he has devoted much time for many years past in collecting English and foreign books and pamphlets, both old and new, relating to floriculture. In the preface to the present work he tells us that it was intended for the use of a few personal friends, and was to have been a list of the books on the subject contained in his own library. It became evident, however, that a much wider sphere of usefulness would be made to include other works on floriculture than those which Mr. PAYNE himself possessed. With that object in view, additions have been made from FRITZEL, JOHNSON, The Library Catalogues of the Massachusetts Horticultural Society, and of the National Horticultural Society of France and a few other sources. We have, therefore, a list which may be regarded as fairly exhaustive. It may be mentioned, however, that, whilst the book is divided up into portions under the headings of the different plants, the Rose is not included. Roses have been omitted, as the author explains, for the reason that Senor VERGARA issued a bibliography upon the flower, and it seemed unnecessary to go over the ground again, although a

* *The Florist's Bibliography*, by C. Harman Payne; price 3s. 6d.

supplement to Senor VERGARA'S *Bibliographia della Rosa* might now be reasonably considered desirable. We think, however, that Mr. PAYNE would do well to include Roses in the next edition. A few blank pages interleaved would be useful for adding fresh publications. The work is published privately by Mr. HARMAN PAYNE, and we can thoroughly recommend it to those who wish to study the literature bearing upon a particular flower or section of flowers, as, for instance, "Alpine flowers," "Bulbs" and "Sweet Pea."

FRESH WATER ALGÆ FROM BURMA.—The second part of Vol. 6 of the *Annals of the Royal Botanic Garden, Calcutta*, contains an account of a number of Burmese and Indian fresh-water Algae, which have been worked out by Messrs. W. WEST and E. S. WEST. Some new genera and species are described and figured.

AN UNSEASONABLE LABURNUM.—On the Queen's Promenade and close to the Portsmouth Road, Kingston-on-Thames, may be seen a common Laburnum tree in full bloom. The racemes are short but apparently fully developed. Naturally, such an unusual object attracts much attention just now, although the shells of the seed vessels left on the tree from the bloom of last spring detracts very much from the beauty of the flowers. The position, being a sloping bank, is a dry one, and probably the tree ripened its buds prematurely in the summer, and the recent October warmth caused them to develop into flowers.

Publications Received.—*Elementary Botany*, by Percy Groom. Eighth edition. (London: George Bell & Sons, York House, Portugal Street, W.C.) Price 3s. 6d.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

R.H.S. SHOWS ON TUESDAYS FOLLOWING BANK HOLIDAYS.—At the annual meeting of the Royal Horticultural Society Mr. William Cuthbertson brought up this question, and pointed out the injustice of the arrangement to garden and nursery employees. As the time for making arrangements for 1909 is at hand, it is to be hoped that the Council will avoid fixing shows on those days in 1909. Surely the influence of Mr. Geo. Bunyard, Mr. James Hudson, Mr. H. B. May, Mr. A. H. Pearson, and Mr. Harry J. Veitch, who are members of the Council, will be sufficient to obtain this little reform in the interests of—*Employees*

THE ROYAL HORTICULTURAL SOCIETY'S FRUIT SHOW.—I join in your expressed suggestion that the Council of the R.H.S. should vary the time of holding the annual fruit show by having it next year fully a month earlier. A repetition from year to year of the same classes and fruits on or about the same date becomes very monotonous and unattractive. The general absence of the Fellows and the public from the show was markedly noticeable. By an earlier show we should have a much finer display of soft fruits, especially Grapes and stone fruits, and we should see what are good in early Apples and Pears. The Apples and Pears, perhaps, would be presented in more desirable table size than was the case with many at the recent show, and this is very desirable. Of what value are overfed, soft and sappy Apples and Pears, that decay so soon after being gathered? They are the fat oxen of the exhibitions, but not the average cattle of the market which furnish the best beef. The rage to obtain giant Apples and Pears is more a fetish than a desirable result. D.

VEGETABLE POINTING AT EXHIBITIONS.—I quite agree with Mr. Dean (see p. 269), it is time the R.H.S. Code of judging was altered, in so far as it relates to the pointing of vegetables at shows. True there is some excuse for the Code as drawn up in 1896, because many of the vegetables as cultivated at the present time can

scarcely be compared with those in existence when the Code was prepared. For example, Leeks, Celery, Onions, Runner Beans, and Carrots are now presented in so much better condition. So great an advance has been made by present-day exhibitors that the quality of these calls for a rearrangement of points. Difficulty of culture should be the dominating feature in arranging the points, just as Muscat of Alexandria and Mrs. Prince Grapes always obtain a higher standard of value than many other varieties. Few vegetable growers or judges agree with the Shrewsbury system of allowing a maximum of seven points for all. A perfect brace of Vegetable Marrows or Cucumbers, or a dish of Runner Beans can score as many points as Leeks, Celery, or Onions. A code based on graduation of maximum values according to difficulty of production, is distinctly what is required, not only at Shrewsbury, but at every other show that looks to Shrewsbury or the R.H.S. for example. Few cultivators, however, will agree with Mr. Dean's proposed classification as enumerated on p. 269. To begin with, they would cut out Asparagus and Seakale from the higher division, Longpod and French Beans from the second class, White Cabbages and Mushrooms from the next, and all but Brussels Sprouts from the last section. All of those named are so unimportant in vegetable collections that the scale of points suggested by Mr. Dean needs much rearrangement. In my opinion, Cauliflowers should be placed with Carrots, Celery, Onions, Leeks, and Peas, each of which should receive seven points; Potatoes, Tomatoes, Runner Beans, six points; Cucumbers, Parsnips, Beets, Turnips, and picked Brussels Sprouts, five points; and Marrows, and turnips. These are the vegetables about which so much controversy arises from time to time. It is only in exceptional circumstances that the other vegetables named and classified by Mr. Dean are seen on the exhibition tables. It seems then hardly necessary to discuss them, but rather to consider the kinds that are displayed most frequently. *E. Molynaux.*

—Permit me to say, in reply to *Inquirer* (page 268), that I was always in favour of making the Shrewsbury Society's class for 12 dishes the Champion class by largely increasing the prizes allotted it. I have held that, however liberal may be the prizes offered by the trade in their respective classes for nine dishes, the Society's class should be larger, and more richly endowed. I would make it a condition, however, that, as who compete in the Society's class must also enter in at least one of the trade classes. What *Inquirer* proposes in reference to excluding certain vegetables from a class of 10 kinds would not do at all. I much prefer to see greater inclusion of kinds on the exhibition table. With respect to the question as to whether the Shrewsbury rule of having a maximum of seven points for all vegetables is satisfactory, I answered that in the scale of pointing I proposed on page 269. If that scale does not please all, in any case it may form the basis for arranging one that will do so. I have no other objection to serving the public with no other objection to Mr. Beckett's and Mr. Gibson's collections in the Society's class competition, I made it clear on page 173 that, irrespective of any pointing done by the six judges, myself and colleague, Mr. H. W. Ward, did point them on the Society's scale, to satisfy ourselves as to which of those two collections was the better, and we made Mr. Beckett's to give 69½ points and Mr. Gibson's 69; hence Mr. Beckett's was placed first, although by so narrow a margin. We had the advantage in having them close together, and took fish by dish. When the six judges pointed Mr. Beckett's collection as the one having the first prize in the class, the total was made 61 points, not as against Mr. Gibson's, but as against several other first-prize collections in other parts of the tent. *A. Dean.*

—Would it not be better if the R.H.S. modified the number of points for certain vegetables according to the month of the year in which they are shown? According to the pointing of the R.H.S. code, the number for a good dish of Carrots is only the same as for Cabbage and Lettuce. Dwarf Beans have the same number of points as Peas, which is one more than Leeks and two more than

Carrots. Many who have grown these vegetables would not compare either Cabbage or Lettuce during July or August with a dish of Carrots, nor yet a dish of Dwarf Beans with one of Peas during August, especially in some seasons when mildew and trips are prevalent. The difficulties experienced in growing one kind of vegetable with another should be given a little more consideration, and points awarded accordingly. It does not seem worth the labour to bore deep holes and prepare soil for Carrots, Parsnips, and Beetroot if one is only to get the same number of points for these as for Cabbages, Lettuce, and Turnips. *F. Lock.*

A PROPOSED BRITISH FERN SOCIETY.—Although the British Peridological Society, established at Kendal, has done good service as a centre of the British Fern Cult for many years, there is no doubt that its purely local character militates against its wider usefulness, and now that beautiful and in many cases unique British Ferns are becoming popular, a society on a more extended basis is desirable. The object of such a society should embrace a periodical publication describing and illustrating new finds and fresh developments in cultural selection, and also providing such general data as may assist the amateur in growing and propagating and acquiring a knowledge of what is being done generally in this particular direction. In the United States, there are several societies devoted to indigenous Ferns, and their varietal forms and periodical publications are issued with contributions from inside and outside sources, which are very interesting. In Great Britain, the only periodical issued is the brief annual report of the above-named society, although the amount of material in the British Isles is, from the varietal point of view, inexhaustible, the comparatively few species having yielded several thousand distinct varieties, which are constantly being added to by fresh discoveries of wild "sports" or new developments under culture. Under these circumstances, the writer who, for fully thirty years, has been practically the champion of British Ferns in the British Horticultural Press, and in his two published volumes, *Choice British Ferns* and *The Book of British Ferns*, would be glad to hear from their admirers by a simple postcard in order to judge whether such a society is practicable on the basis of a moderate subscription sufficient to cover printing and other expenses incidental to the programme indicated. *Chas. T. Drury, V.M.H., F.L.S., 11, Shaa Road, Acton, London, W.*

COLD WEATHER IN NORTH CORNWALL.—The first frost of the season occurred in the early hours of October 22; it increased in severity with the daylight, and the thermometer fell as low as 26° Fahr. On Friday morning one degree of frost was registered, but the next day saw 7°, and this morning (October 25) we had 10°. Hitherto the lowest night temperature of the month was 40°, and many summer-dwelling plants, and all autumn bloomers, were in full beauty. As in most gardens this year, the Dahlias were a wonderful sight, but now all these tender subjects are black and present a dismal contrast to the hardier Snapdragons, the tall Lobelias and Phlox Drummondii. *A. C. Bartlett, Pencarrow Gardens, Cornwall, October 25.*

HARDINESS OF JAPANESE MAPLES.—Mr. Pearson (p. 259) calls in question Mr. Clark's statement on p. 273 that Japanese Maples are "as hardy as the Laurel," a statement which I think, however, is quite correct. Some time ago, in the Royal Nurseries at Handsworth, Sheffield, which is one of the most exposed nurseries in England, I noticed some specimens from 6 to 8 feet high, thriving splendidly in the open, and all these trees were in good health. *A. S.*

TRADE NOTICE.

Messrs. GEE & SONS, Seedsmen and Nurserymen, Biggleswade, Bedfordshire, inform us that they have been granted The Royal Warrant of Appointment as Seed Merchants to the Royal Warrant of Appointment as Seed Merchants for the last 30 years.

SOCIETIES.

ROYAL HORTICULTURAL.

OCTOBER 27.—The usual fortnightly meeting was held on this date, in very wet weather. The Hall was not so well filled with exhibits as on recent occasions, but there was plenty of interest in all sections, and especially fine was a group of Orchids from the noted Westonbirt collection. There were also choice exhibits of Ferns, Chrysanthemums, and hardy garden flowers. In the Fruit and Vegetable section was seen a good exhibit of orchard-house fruits, including Apple and Pear trees in bearing in pots. The FLORAL COMMITTEE granted Awards of Merit to six Chrysanthemums; the ORCHID COMMITTEE conferred one First-Class Certificate, five Awards of Merit, and two Botanical Certificates.

At the three o'clock meeting of the Fellows, 22 new members were elected and a lecture on "The Modification of Leaves and Stipules for Special Purposes" was delivered by the Rev. Prof. Geo. Henslow, M.A.

Floral Committee.

Present: W. Marshall, Esq. (chairman); Chas. T. Drury, H. B. May, John Green, A. Bowles, Geo. Reuthe, W. Bain, Chas. Dixon, A. Turner, J. T. Bennett-Poe, Chas. E. Shea, Chas. E. Pearson, W. Cuthbertson, W. P. Thomson, E. H. Jenkins, M. J. James, Jas. Douglas, Jas. Hudson, R. W. Wallace, Jennings, J. F. McLeod, Chas. Black, W. Howe, R. Hooper Pearson, H. J. Jones, Walter T. Ware, H. J. Cutbush, George Gordon, and R. C. Notcutt.

Messrs. J. HILL & SON, Barrowfield Nurseries, Lower Edmonton, showed a batch of Gleichenias in 12 species and varieties, the majority being large specimen plants. They were all in excellent health, and arranged so as to show the individuals to advantage, a couple of plants of *Dicksonia antarctica* and several plants of crested *Nephrolepis* being arranged at the back for relief. Among the choicer of the Gleichenias were *G. Mendii*, rather fine in the pinnae; *G. rupestris glaucescens*, the blue tint being found on the under-surface of the fronds; *G. speluncæ*; *G. flabellata*, with branched fronds, the growth continuing again from the centre of the whorl; *G. semivestita*, and *G. dichotoma*, which produces the fronds in pairs on the rachis, and this continuing, there are sometimes four pairs of leaves. (Silver-Gilt Banksian Medal.)

Messrs. W. WELLS & CO., Mersham, Surrey, showed a large exhibit of Chrysanthemums, principally of border, pompon, and single varieties. There were also several large blooms of exhibition kinds in the foreground of the display, these being in batches. The group also contained vases of finely-flowered Pentstemons of seedling varieties, and Michaelmas Daisies. Amongst the large Japanese Chrysanthemums we noticed Leslie Morrison, of reddish tint, with paler reverse; Algernon Davis, rich yellow; Rose Pockett; Mrs. N. Davis; Lady Talbot, soft yellow; Bryan's Beauty, a seedling of pale pink colour; Mrs. H. Barnes; Pockett's Crimson (new), a big bloom; the tips of the florets of this variety recurve and are silver beneath; Mrs. L. Thorn, a yellow variety; and Mrs. A. T. Miller (very fine blooms). Among the singles we noticed Jessie Curtis, a new variety of deep-crimson colour with broad, flat florets; Nellie Kiding, from the open ground; Laurie, a large single variety of plum colour, purple colour with a fine yellow centre; Florine Stevens, a single flower of Source d'Or colour (this variety does well as a pot plant); Kathleen Thompson, a border Chrysanthemum of deep-bronze colour, and from this has sported a white, a salmon, and a purple variety. Freda Bedford is a decorative variety of reddish-orange shade, of much merit. (Silver-Gilt Flora Medal.)

Messrs. H. CANNELL & SONS, Swanley, Kent, exhibited a selection of Zonal Pelargoniums in pyramidal bunches, in white, mauve, salmon, scarlet, and other varieties. New York is a fine new scarlet variety large in flower and intense in colouring; and amongst others of merit were Berlin, a clear scarlet with no trace of white in the eye, also new; Paris, white suffused with pink; Cygni, this is not new this year, but was sent out in 1907; it has a very

large flower of magenta purple; the upper petal is shot with scarlet. Some of the "pips" measured 2 inches across. (Silver Banksian Medal.)

Messrs. JAMES VEITCH & SONS, LTD., Chelsea, S.W., showed varieties of single-flowering *Chrysanthemums* in 6-inch pots; also winter-flowering *Begonias*, including beautiful light specimens of the variety *Mrs. Heal*, raised from cuttings rooted in August, these were also *B. semperparens*. Agatha, of rich, rose-pink colour; and *B. eliator*, a floriferous variety with smaller flowers than those of *Mrs. Heal*. At the back was a batch of the blue-flowered *Salvia Fitchii*, the whole being relieved with *Palms* and *Ferns*. (Silver Banksian Medal.)

Messrs. H. B. MAY & SONS, The Nurseries, Edmonton, showed admirable plants of *Begonias* of the *Gloire de Lorraine* type, including the white *Turnford Hall* and the pale-rose coloured *Mrs. L.* de Rothschild varieties, both of which are as floriferous as the type, which was also represented in excellently-flowered, healthy specimens. Messrs. MAY also showed greenhouse *Veronicas*, a selection of *Carnations*, *Statice profusa*, and *Bouvardias* in pink, red, and white varieties. The group gave an opportunity for exhibiting *Ferns*, which afforded relief to the flowering subjects, two beautifully coloured species being *Adiantum macrophyllum* and *Pteris argyrea*. (Silver Banksian Medal.)

Messrs. W. CURTIS & SONS, Highgate, London, N., showed a selection of berried plants suitable for the embellishment of dwelling rooms; also *Ericas* in variety, *Daphne indica rubra* in flower, and an assortment of *Carnations* of the winter-flowering type. The *Carnations* were exceptionally fine, and included the scarlet *Victory*, *Countess of Portland*, a deeper and rather better-shaped *Mrs. T. W. Lawson*, *White Perfection*, *Helen M. Gould* (a sport from *Enchantress*, deep rose in colour and with darker flakings), *Rocket*, *Craig* (scarlet), and a new variety of pure shade named *Lady Nora Brassey*. Among the berried plants were heavily-fruited, although small, specimens of *Skimmia japonica*, *Pernettya mucronata*, *Citrus sinensis*, and *Vaccinium Vitis Idæa*. (Silver-Gilt Banksian Medal.)

Messrs. HUGH LOW & CO., Bush Hill Park, Enfield, London, N., staged vases of *Carnations* over a white groundwork, arranged with sprays of *Smilax* (Medeola). Some of the finer varieties were *Rose Enchantress* (bright pink), *White Perfection*, *Mrs. Burnett* (pale salmon-pink), and *Britannia* (scarlet). Messrs. Low also displayed their pink or salmon-flowered *Cyclamen* named *Low's Salmon King*. (Silver Banksian Medal.)

Messrs. JOHN PEED & SONS, West Norwood, London, S.E., had a batch of plants of the brilliant scarlet *Salvia splendens* var. *grandiflora*, also boxes of Alpine plants, including species of *Saxifraga* (both mossy and crested), *Primula obconica*, *Milla uniflora*, *Senecio pulcher*; also tiny plants of succulents, &c.

Mr. L. R. RUSSELL, Nurseryman, Richmond, Surrey, again exhibited a display of berried and ornamental-leaved shrubs in small pots, as at the last meeting. (Bronze Banksian Medal.)

Mr. FRANK BRAZIER, Hardy Plant Nursery, Caterham, showed a selection of garden flowers including *Phlox decussata* in variety, *Michaelmas Daisies*, and border *Chrysanthemums*, with *Conifers* as a background. (Silver Banksian Medal.)

Mr. G. REUTHE, hardy plant nurseryman, Keston, Kent, showed hybrid *Nerines* in about two dozen varieties, the colours of the flowers varying greatly in the degree of red; also *Paroetus communis*, a trailing leguminous plant with pretty blue flowers, autumn-flowering *Crocuses*, *Galanthus Olgae*, flowers of *Tropæolum tuberosum*, and *Aster grandiflora*.

The Misses HOPKINS, Mere Gardens, Shepperton-on-Thames, staged a small rock-garden exhibit planted with suitable subjects. A similar exhibit was put up by the Misses KIRKING, Hutton, Essex.

Sprays of *Pernettya mucronata* carrying large bunches of berries were shown by ANDREW KINGSMILL, Esq., Harrow Weald (gr. Mr. W. Taplin).

Lady MARCUS BEKESFORD, Englefield Green, Surrey (gr. Mr. E. Markham), showed a handsome *Nicotiana* labelled *N. Colosse* var. The young leaves are beautifully variegated with green and gold, the decurrent petioles being similarly variegated. The stems are reddish.

A number of shoots of a variety of *Cornus*

alba named *Gibbsii* was shown by the Hon. VICARY GIBBS, Aldenham House, Elstree (gr. Mr. E. D. Beckett). The foliage is broad and handsomely-coloured green, golden, and in the older leaves brown; the shoots are reddish.

Miss FAREER, Acton, W., showed paintings of floral subjects, all faithfully executed. (Silver Flora Medal.)

AWARDS OF MERIT.

Chrysanthemum Felton's Favourite.—This was granted an Award of Merit as a market variety. It is a decorative flower of Japanese type with smooth florets. The colour is palest lemon, approaching white. Shown by Mr. PHILIP LADDS, Swanley Junction.

C. Hilda Lawrence.—A single variety of excellent habit, about 3 feet or 3½ feet high. Colour violet-rose, with large yellow centre. The flowers have several rows of florets. The plants were shown in a perfectly natural condition, without thinning, and the flowers were about 3 inches in diameter. Shown by Mrs. R. GREGORY, Shoreham (gr. Mr. L. Lawrence).

C. H. W. Thorp.—A large incurved bloom of palest lemon tint approaching white. It is described as a seedling from *Batiscus*. Shown by H. W. THORP, Esq., Dunnington, Worthing.

C. Mrs. R. H. B. Marsham.—A very large, white Japanese flower with lemon centre. The florets are long, and when the flower is put on the exhibition stand it appears very large. It is described as a seedling from *F. S. Vallis*. Shown by R. H. B. MARSHAM, Esq., Bifrons, Canterbury.

C. Master David.—This flower has good broad florets of maroon crimson, the buff reverse just showing in the centre of partially-developed flowers. The colour is exceedingly attractive. Shown by Mr. HENRY PERKINS, Greenlands, Henley-on-Thames.

C. Sir Frank Crisp.—A large Japanese flower of reddish-crimson colour and bronze reverse, which is displayed in the centre. Shown by Mr. HENRY PERKINS, Greenlands, Henley-on-Thames.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair); and Messrs. Jas. O'Brien (hon. sec.), Dr. B. Crawshaw, Harry J. Veitch, H. Little, W. Boxall, F. J. Thorne, C. H. Curtis, R. G. Thwaites, F. J. Hanbury, G. F. Moore, Stuart H. Low, W. Cobb, J. Charlesworth, A. A. McBean, H. G. Alexander, A. Dye, J. Cypher, W. H. White, H. A. Tracy, H. Ballantine, Gurney Wilson, C. J. Lucas, J. Wilson Potter, N. C. Cookson and R. Brooman-White.

Many groups of Orchids were staged, but the centre of attraction was the grand display made by Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), and for which the Committee recommended the Council to accord the highest possible award, and they awarded a Gold Medal. This group is the fifth and best which has been staged by Mr. Alexander in various parts this year, viz., at the Royal Horticultural Society meeting in March, the Ghent Quintennial in April, the Temple in May, and York in June. These exhibits not only demonstrate the results of the excellent culture at Westonbirt, but the great variety and beauty in the subjects treated, and their adaptability for producing flowers at all seasons. *Cattleya Dowiana aurea*, C. *Boweringiana* and C. *labiata* and the hybrids of them play an important part in autumn and winter displays, and each season produces its different set of hybrids, though the hybrids of C. *Dowiana aurea* and a few others are represented nearly all the year round. The same applies to the fine white *Cattleya Dusseldorferi Undine* raised at Westonbirt, and which was well represented in the group on Tuesday last. Plants of it have also appeared in all the displays from Westonbirt this year. The well-arranged group was composed principally of hybrids raised at Westonbirt, but the fine yellow sprays of *Oncidium varicosum*, of which there were about 40; the two splendid specimens of *Vanda Kimballiana*, with 14 and 12 spikes respectively; the heavily-flowered *Odontoglossum crispum*, the specimen of the new *Cymbidium erythrostylum*, showy plants of *Cattleya labiata*, C. *Warcewiczii*, C. *Dowiana aurea*, and other species indicate that the species

are equally well cared for. For fine colour and good showy flowers the hybrid *Cattleyas* and *Lælio-Cattleyas* were the most noticeable, the plants of the Westonbirt strain of C. Lord Rothschild being very beautiful; their fragrant bright rose-coloured flowers, with claret-crimson lips, having deep golden discs. The equally bright C. *Fabia*, the delicately-tinted C. *fulvescens*, the deep claret-crimson C. *Mantini*, Westonbirt variety, and the fine tints of *Lælio-Cattleya Lustre gigantea*, L.-C. *Elva*, L.-C. *Berthe Fournier*, the bright yellow of L.-C. *Ophir*, and others of the large-flowered kinds led nothing to be desired. A plant of L.-C. *Ortrude* (L. aniceps × C. aurea); good L.-C. *Arethusa*, L.-C. *luminosa*, *Cattleya mollis*, C. *Mrs. Pitt*, C. *Herode*, C. *Mrs. J. W. Whiteley* and others were noted. Among the albinos were the beautiful *Cattleya Hardyana alba*, and C. *labiata Kate Brazier*. *Brasso-Cattleyas* included B.-C. *Thorntonii*, B.-C. *Cordelia*, B.-C. *Madame Hye superba*, B.-C. *Digbyana-Warcewiczii*, B.-C. *Digbyana-Warneri*, and B.-C. *Siren* (B. *Digbyana* × C. *Skinneri*), a charming rose-coloured variety raised at Westonbirt. *Odontoglossum crispum-Harryanum* and O. *Andersonianum* bore five fine spikes each. *Sophrone-Lælio-Cattleya* *Ida*, *Sophrone-Cattleya Nydia* were brightly-coloured dwarf plants, and the set of *Cypripediums* included several C. *insigne* *Harefield Hall*, one plant bearing 14 flowers; several C. *insigne* *Sandera*, the largest having 15 blooms, C. *i. Chantini Lindeni*, C. *i. Dorothy*, two fine forms of C. *Dante*, C. *Hitchinsie*, C. *Maudie*, the new yellow C. *Rossetti*, C. *Titus superbum*, C. *Milo* Westonbirt variety, C. *Niobe* Westonbirt variety, varieties of C. *Leeanum*, C. *Germine* *Opoii* Westonbirt variety, the fine C. *nitens*-*Leeanum* var. *Hannibal*, raised at Westonbirt and which secured a First-Class Certificate last year. The dominant feature in the whole group was given by the magnificent Westonbirt hybrid *Cattleyas* and *Lælio-Cattleyas*.

Messrs. CHARLESWORTH & Co., Hayward's Heath, staged a very fine group, in which the principal varieties were massed, and for which a Silver-Gilt Flora Medal was voted. In the centre were a fine lot of varieties of *Lælio-Cattleya luminosa*, with which were the beautiful *Odontoglossum crispum xanthotes* *Charlesworthii*, a model pure white flower with orange-yellow markings; the new pure white *Vanda cœrulea* *Charlesworthii* (see Awards), and white varieties of *Cattleya labiata*. Another batch was composed of *Cattleya Mantini nobilior*, with white *Cattleyas* and rare *Cypripediums*. At the end were massed a selection of fine blue *Vanda cœrulea*, with which were *Vanda obliqua*, *Coleogyne maximum*, *Cirriophetulum Fascinator*, and C. *ornatissimum*. A selection of *Brasso-Cattleyas* included the pure white B.-C. *Queen Alexandra*, and other special things noted were the fine red *Odontioda Charlesworthii*, the rare *Coleogyne Veitchii*, with a long drooping raceme of 32 pure white flowers; *Cymbidium longifolium* and other rare species.

H. S. GOODSON, Esq., Fairlawn, West Hill, Putney (gr. Mr. G. E. Day), was awarded a Silver Flora Medal for a very fine group of *Cattleyas*, hybrid *Lælio-Cattleyas*, &c., including *Cattleya Fabia Goodsonii*, C. *Alicia*, C. *Mantini*, and others mentioned in the note upon Fairlawn at page 305. The clear yellow *Odontoglossum grande Pittianum*, *Cypripedium Charlesianum*, varieties of *Miltonia Bleuana*, and others were also remarked.

Messrs. HUGH LOW & Co., Enfield, secured a Silver Flora Medal for a group in the centre of which was a selection of white forms of *Cattleya labiata*, C. *alba*. *Purity* being a pure white form with a pale lemon-yellow disc to the lip. Others noted were C. *I. Gilmouria*, C. *I. R. I.* Measures and another of the same class, and C. *I. Reedyensis*. With them was a selection of good, dark C. *labiata*, C. *Dowiana aurea*, *Brasso-Lælia Digbyana-purpurata*, &c.

E. ASHTON, Esq., The Broadlands, Camden Park, Tunbridge Wells (gr. Mr. J. Young), was awarded a Silver Flora Medal for a group of well-grown *Cattleyas*, &c., among which were several very fine plants of C. *Boweringiana* and C. *labiata*, one grand specimen of the latter bearing 20 flowers. With them were good C. *aurea*, *Odontoglossum grande*, O. *crispum*, *Dendrobium Phalaenopsis*, *Lælio-Cattleya blechyensis*, the large and handsome L.-C. *ximbia* *Broadlands* variety, &c. The large specimens of

Cattleyas were said to have been grown from small plants, and, therefore, are specially noteworthy.

J. S. Moss, Esq., Wintershill, Bishop's Waltham, staged a group of well-flowered Cattleya *Dowiana aurea*, for which a Silver Banksian Medal was awarded. Also the new Lælio-Cattleya Mrs. Hood (L. Iona × C. Dowiana aurea), a fine rose flower with deep carlet-crimson labellum.

CLEMENT MOORE, Esq., Hackersack, New Jersey, U.S.A., was awarded a Silver Banksian Medal for a selection of cut spikes of white and coloured varieties of Cattleya labiata of excellent quality, and which, notwithstanding their long journey, were still in good condition. The largest spike of dark-coloured C. labiata bore six fine flowers.

Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), sent Lælia pumila Margaritara, a pretty bluish-white form with rose-pink markings on the lip; Masdevallia tri-dens, and others, for two of which see Awards.

Mr. A. W. JENSEN, Lindfield, Haywards Heath, showed good varieties of Cattleya Dowiana aurea.

Monsieur MERTEENS, Ghent, showed several hybrid Odontoglossums.

W. WATERS BUTLER, Esq., Southfield, Edgbaston, sent Cattleya Hardyana alba, Southfield variety, with white sepals and petals, and the ordinary yellow and ruby-red C. Hardyana lip. Also C. labiata Southfield variety, fine in shape and colour.

Messrs. JAS. CYPRIER & SONS, Cheltenham, staged a group in which Cattleya Portia gigantea was very remarkable, its fine, rose-purple flowers resembling C. labiata, but with a better shape. Also many fine Cypripediums, including C. Milo Westonsbirt variety, C. triumphans, C. Maudie, C. Bingleyense, &c.

R. G. THWAITES, Esq., Chessington, Streatham (gr. Mr. Black), staged a small group of good varieties of Cattleya Fabia, two of the yellow-petalled Lælio-Cattleya Ophir, and two plants of Cattleya labiata from a batch obtained by crossing two white forms, and nevertheless the progeny were rose-coloured, like typical C. labiata. Mr. THWAITES also showed Brasso-Lælia Cecilia (L. pumila × B. Digbyana).

Mrs. JOAD, Worthing (gr. Mr. Flack), sent the fine red Renanthera coccinea with a large, branched spike of red flowers.

NORMAN C. COOKSON, Esq., Oakwood, Wyham (gr. Mr. Chapman), sent Calanthe Angela (burfordensis × Oakwood Ruby), a very handsome ruby-crimson flower near to C. Chapmanii, also raised at Oakwood.

H. SPICER, Esq., Aberdeen Park, Highbury (gr. Mr. Lovetrough), showed a group of Cypripedium Spicerianum.

Messrs. STANLEY & Co., Southgate, staged a group in which were good Cattleya labiata, the variety ignescens being of very rich colour and without the usual yellow tint in the tube of the lip. Various Cypripediums, Lælio-Cattleyas, &c., were also included.

A. WARBURTON, Esq., Vine House, Haslingden, sent Cypripedium insigne excelsis, a large flower resembling C. insigne Harfield Hall, and of fine substance.

G. F. MOORE, Esq., Chardward, Bourton-on-the-Water (gr. Mr. Page), showed Cypripedium Aetæus Milkmaid, a light form with large, white dorsal sepals having pale-rose markings.

AWARDS.

FIRST-CLASS CERTIFICATE.

Vanda carulea Charlesworthii, from Messrs. CHARLESWORTH & Co., Haywards Heath.—The first true, wholly pure white albino of the species to be shown. Flowers as in typical *V. carulea*, but without the slightest trace of colour, even in the labellum. This is remarkable, as the colour of the lip is very pronounced in the species.

AWARD OF MERIT.

Lælio-Cattleya lustre gigantea (C. *Ludemanniana* × L.-C. *callistoglossa*), from Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O. (gr. Mr. H. G. Alexander).—A dwarf plant bearing large and handsome flowers, as in L.-C. *callistoglossa*, but thicker in texture. Sepals white tinged with rose. Petals very broad, crimped and decurved, tinged and freckled with bright rose, the white

ground colour showing through in places. Lip large and of peculiar form, carlet purple, lighter towards the front, and with gold lines from the base.

Lælio-Cattleya Ortrube superba (L. *anceps* × C. *Dowiana aurea*), from Lt.-Col. G. L. HOLFORD. A showy flower. Sepals and petals cream-white, tinged with rose; lip deep ruby red with yellow lines from the base.

Brasso-Cattleya Madame Hye superba (B. *Digbyana* × C. *Harriinsoniana*), from Lt.-Col. G. L. HOLFORD.—A finely-formed white flower tinged with rosy-lilac.

Dendrobium Calceyge maximum, from Messrs. CHARLESWORTH & Co., Haywards Heath.—A very large form, measuring 8 inches from tip to tip of the sepals. Sepals and petals yellow streaked with purple, with white base.

Brasso-Cattleya Queen Alexandra, Glenhorne variety, from GURNEY WILSON, Esq., Glenhorne, Haywards Heath.—A very fine hybrid, with large, pure white flowers and finely expanded, fringed lip.

BOTANICAL CERTIFICATE.

Saccolabium dasypogon, from Sir TREVOR LAWRENCE, Bart., K.C.V.O.—A pretty little plant of the S. bellinum section. Sepals and petals yellow, the bearded white lip having purple markings.

Masdevallia Orgiesiana, from Sir TREVOR LAWRENCE, Bart.—A profuse flowerer, bearing white flowers striped with purple.

Fruit and Vegetable Committee.

Present: George Bunyard, Esq. (chairman); and Messrs. W. Bates, Alex. Dean, H. Markham, Jos. Davis, A. H. Pearson, C. S. A. Nix, H. Somers Rivers, Owen Thomas, Chas. Foster, J. McIndoe, J. Jaques, Geo. Reynolds, Geo. Wyttes, James Vert, and Jos. Cheal.

There was the usual array of seedling and other Apples which had been presented to the Committee for award, but none was found worthy of recognition. The most important group was an exhibit of orchard-house fruits and fruiting trees in pots, shown by Messrs. T. RIVERS & SON, Sawbridgeworth, Herts. The trees were placed along the centre of the table and some at either end of the display. The best trees were of Gascoyne's Scarlet Seedling, Belle de Pontoise (a large, handsome variety), Buckingham, and Melon Apples; there were also some Pear trees in pots, and on either side of the table a row of Fig trees. The dishes of Apples and Pears were of excellent quality, being very clear of skin and having intense colouring, as is usual with orchard-house fruits. The examples of Cox's Orange Pippin had deep red stripes on the mellow skins. Worcester Pearmain was almost entirely coloured deep red. There were also fine specimens of Bismarck, Chas. Ross, Washington, King of the Pippins, Lord Derby, Hambling's Seedling, King of Tompkins' County, and Queen. The Pears included Doyenné du Comice (very choice fruits), President Barabé, Beurré de Anjou, Pitmain Duchesse, and Verulam. A couple of boxes of Wyndale Plums gave additional variety (Silver-Gilt Hagg).

A collection of Apples in about 42 varieties was presented by Messrs. HUGH LOU & Co., Bush Hill Park, Enfield, N. The fruits were staged in fancy baskets, and trees of Citrus sinensis in fruit and Cocos Palms afforded relief to the group. Notable examples were Bismarck, King of Tompkins' County, Allington Pippin, Frogmore Prolific, Allstron, Cox's Orange Pippin, Tyler's Kernel (a choice sample), Stirling Castle, Gascoyne's Scarlet Seedling, Chas. Ross, Rivers' Codlin, and Paroquet. (Silver Knightian Medal.)

Mr. W. H. WHITELEY 18, Endsleigh Place, Torquay, showed about 30 dishes of Apples of well-known sorts. The best samples were Royal Jubilee, Blenheim Pippin, Bramley's Seedling, Chas. Ross, Queen, Duchess's Favourite, and Baumann's Red Winter Reinette. (Silver Banksian Medal.)

Mr. R. W. GREEN, Wisbech, showed a large and representative collection of Potatoes, having most of the newer and the best of the older varieties in well-matched, clean-skinned tubers. The exhibit was staged in as attractive a manner as it is possible to adopt with a display of Potatoes. (Silver Banksian Medal.)

Scientific Committee.

OCTOBER 13.—Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Dr. A. B. Rendle, Dr. M. C. Cooke, Messrs. Veitch, Odell, Hales, Hurst, de B. Crawshaw, Worsdell, Bennett-Poe, Fraser, Hooper, Fawcett, Worsley, Hudson, Saunders, and Chittenden (secretary).

Snails and Water-Lilies.—Mr. G. S. SAUNDERS showed leaves of Nymphæas eaten by water snails. Mr. Hudson said that he had found that an insecticide forced into the water so that it would rise just underneath the leaves had proved an effective remedy against the attacks of these pests.

Curious growth of Potato.—Mr. VEITCH showed on behalf of Mr. RUMSEY, of Leyton, a curious Potato which had been growing in the light but out of the soil for 18 months. It had, as usual under such conditions, produced a number of short, thick, purplish shoots, reaching in all to a length of about 2 inches to 2½ inches, and from these were developed a large number of closely opposed greenish roots.

Nomenclature of Orchid hybrids.—The following resolution was received from the Orchid Committee: "That the Scientific Committee be asked to consider and advise upon the proper nomenclature of tri-generic, quadri-generic, and other hybrids, as it appears to the Orchid Committee that not more than two generic names can conveniently be combined in defining the origin of the hybrids." Several letters upon the subject were considered, and suggestions were made as to the best methods of forming names for these hybrids. It was finally proposed by Mr. Veitch, and seconded by Mr. Hurst, that a sub-committee should be formed to consist of five members of the Scientific Committee and five of the Orchid Committee, who should confer together and further consider the subject. This was carried, and Dr. Rendle, Messrs. Bowles, Fawcett, Hurst, and Rolfe were appointed to represent the Scientific Committee.

CONFERENCE ON SPRAYING.

(Continued from page 302.)

PROF. THEOBALD'S PAPER.

PROF. F. V. THEOBALD said there was a great number of washes used for the purpose of destroying insects, either acting directly or indirectly or not acting at all. At present little was known about the subject. A few years' work at Woburn had, however, enabled them to make some advance, whereas previously they had to gain most of their knowledge from America and the Colonies. At present he had not found that the metal emulsions made with ordinary oils were of use in dealing with caterpillars, but experiments had proved that, made according to the Woburn method, they might be just as useful as the more dangerous arsenical sprays. Even then they would have to consider the injurious effect of paraffin in any form on the health of fruit trees as compared with the comparative harmlessness of arsenate of lead. The importance of such a vegetable insecticide as tobacco was one that should be kept well to the fore, for he had never seen the least harm done by it, and the insecticidal value was very great. The one thing growers had to guard against was the throwing on the market of patent washes boomed by people who did not seem to fully appreciate the harm they were doing. When they saw a wash or so-called "spray fluid" being forced upon them that would cure all diseases, insect and fungoid alike, they might rest assured that its real value was a very low one. Growers might spend far too much on the spraying of their plantations—a costly procedure, for the subject was only just at its birth. It was well, therefore, to go cautiously. As far as could be seen at present, winter washing was of use mainly as a means of clearing the trees, and need not be done more than once every three years in the case of a good plantation. No wash had yet been found of any service in destroying insect eggs, nor was it likely to be found in the future. The grower should aim at destroying the young insects by washing in early spring with an arsenical and contact wash, such as arsenate of lead and paraffin, and with this could be added

the fungicide Bordeaux mixture. This should be done again after the blossom had fallen. Gooseberries and Currants might be sprayed in the late winter with paraffin jelly wash or liver of sulphur and paraffin to cope with red spider, scab, and fungus. No single remedy was likely to prove effectual to all, any more than one human dose would cure all man's ills. One point was often neglected. It was that they must see to the general health and nutrition of our trees, grown under unnatural circumstances; for healthiness would help a lot to combat disease and would prevent washing being such an absolute necessity as it was to-day. The spraying of fruit trees was essential, but it would only do some good and might exceed in cost the net result gained, unless carried out in a careful manner and unfettered by quackery. The fact should not be overlooked that any of the mineral sprays damaged the plant. Plantations had been ruined by Paris green and Bordeaux mixture. Washes used as insecticides should be looked upon as remedial and not preventive. The more important of these were the following:—

CAUSTIC ALKALI WASH.

- (1) Caustic soda (70 per cent.) ... 1 lb.
Carbonate of potash (80 per cent.) ... 1 lb.
Soft soap ... 1 lb.
Water ... 10 gals.
- (2) Caustic soda (98 per cent.) ... 2½ lbs.
Potassium carbonate (80 per cent.) ... 1 lb.
Lime (fresh burnt) ... 2½ lbs.
Soft soap (8 per cent. potash) ¼ lb.
Water ... 10 gals.
- (3) Caustic soda (98 per cent.) 2 to 2½ lbs.
Water ... 10 to 10½ gals.

PREPARATION.—(1) Dissolve the caustic soda and carbonate of potash in water, and then add the dissolved soft soap. (2) Slake the lime in a little water, and then add enough water to make it into a milk of lime (about 1½ gallon of water). In this dissolve the soda and potash; dissolve the soft soap in the rest of the water and pour into the lime water. A considerable excess of lime is advised to ensure the soda and potash being converted into the "caustic" state. In (3) the mixing is still further simplified.

USES.—For cleaning old mossy and rough-barked trees in winter and killing mussel scale ova. These must be used only on dormant wood in February or March. The addition of paraffin to this caustic wash has been found to make it much more effectual, and this wash, known as the Woburn wash, is made as follows:—

WOBURN WINTER WASH (NON-FUNGICIDAL).

- (1) Soft soap ... 1 lb.
Paraffin ... 5 pints.
Caustic soda ... 2 lbs.
Water ... 9½ gals.
- (2) Iron sulphate ... 1 lb.
Lime ... 1 lb.
Caustic soda ... 2 lbs.
Paraffin ... 5 pints.
Water ... 10 gals.

This wash acts as a great cleanser of the trees, removing moss, lichens, algae, &c. It also kills the delicate ova of the mussel scale. Time of application: any time between November and February.

PREPARATION.—Dissolve the soap in warm water, then churn the paraffin into it and afterwards shake in the caustic soda. This soap emulsion does not seem as good in water as the metal emulsion made with iron sulphate.

WOBURN WINTER WASH (B).

- Copper sulphate ... 1½ lb.
Lime (quick) ... 1 lb.
Paraffin ... 5 pints.
Caustic soda ... 2 lbs.
Water ... 10 gals.

USES.—This wash acts as a cleanser of moss and lichen; it also is fungicidal, and is of value where Apple scab occurs on the wood. The time of application may be any time between November and February.

LIME AND SALT WASH.

This wash has come into use mainly on account of its tending more than anything else to prevent the damage done by Apple sucker.

- (1) Lime ... 1 to 1½ cwt.
Salt ... 30 to 40 lbs.
Water ... 100 gals.
- (2) Lime ... 1 to 1½ cwt.
Salt ... 30 to 40 lbs.
Waterglass ... 5 lbs.
Water ... 100 gals.
- (3) Lime ... 1 to 1½ cwt.
Salt ... 30 lbs.
Washing soda ... 3 lbs.
Water ... 100 gals.

USES.—For the prevention of hatching of the eggs of Apple sucker, Plum aphid, and killing of mussel scale, and also for cleaning trees of moss, lichen, &c. Time of application: the end of February until the beginning of April. Spraying should cease as soon as the buds open.

Lime sulphur, soda wash or Oregon wash for destroying the Pear-leaf blister mite and as a scalecide.

- Lime ... 3 lbs.
Sulphur ... 3 lbs.
Salt ... 3 lbs.
Caustic soda ... 1 lb.
Soft soap ... 1 lb.
Water ... 10 gals.

This must be used on dormant wood only. In the case of Pear trees, spraying must cease as soon as the bud scales are fully opened. A heavy spraying is best. Prof. Theobald gave many other formulæ (which are to be published officially) and concluded by saying that they were some of the insecticides and acaricides in use or being experimented with. It would be said that they were very numerous, but one must not expect that the few scientists who worked at this subject could do more for fruit-growers in less than a quarter of a century than medicine had done for man in many hundreds of years. Cleanliness of the trees must be aimed at, but when they came to check any specific parasitical disease they must use the remedy best fitted for the purpose, and not expect that any one of them would cure the lot. Moreover, they must remember it was very easy to cure a man who was not ill, but it was waste of money, and the same might be said of fruit trees. Too frequently, washing went on when there was nothing to destroy. It could only do a certain amount of good, and the more cautiously growers got to work with this necessary adjunct to fruit-growing, the more money they would keep in their pockets. For even when they were necessary and did good, it must still be borne in mind that in destroying the disease they themselves too often weakened the patient.

MR. HAMMOND'S PAPER.

MR. G. HAMMOND treated spraying generally, and offered some remarks from a fruit-grower's point of view. He viewed the practice of spraying as a regrettable necessity, as without it there was at present no remedy for many of the evils from which they suffered. When one's health was up to the mark it threw off all germs of disease. It was the same with fruit trees. It was the sickly and over-cropped trees that were most affected with aphids, the strong vigorous sap of the good grower evidently being distasteful to them. Good condition should therefore be their first aim, and this should be secured by proper manuring, cultivation, and pruning, so as to give the trees the best possible chance of resisting disease. Yet the main factor in the business beyond their control was climate, which would often thwart their best efforts. Among the agents for destroying the various fungi sulphur and its numerous chemical compounds took a high place. Strawberry growers had long been familiar with the use of flowers of sulphur for mildew on their plants, until now it had become a part of the routine in many places to dust-spray all the breadths of Strawberries once or twice, whether the mildew had been its appearance or not, particularly in the case of the Sir Joseph Paxton, this variety being specially subject to its attacks. Within the last year the Board of Agriculture had brought to their notice another form of sulphur, or, rather, a chemical compound, which was a most useful fungicide, viz., potassium sulphide, or liver of sulphur, re-

commended for the American Gooseberry mildew. If it did not kill the pest, it certainly acted as a preventive of infection so long as it could be induced to remain on the bush and was not washed off. Being somewhat of a greasy nature, it was very difficult to make it adhere to the twigs of the Gooseberry bushes. Sulphur turned up again as a constituent of another well-known fungicide as valuable, if not more so, than the last, namely, copper sulphate, the active principle in that universal spray fluid, Bordeaux mixture, whose use extended from the Potato to the vine, and all fruit trees. It had undoubtedly worked wonders in combating the once dreaded Potato disease. For two years past he had used it as a dust spray with great economy of labour and a total absence of damage. It had been applied at the same rate per acre as when in a liquid state. Bordeaux mixture had also been very successful on the vines in France, and it was at present, so far as he knew, the only remedy for black rot on Apples. His own experiments in this direction had not been very successful, but that this or some other remedy must be persevered with was fully apparent to all who saw the immense quantity of scabbed Apples on the market this year. The drawback to this spray fluid was its somewhat slow action and the fact that one could not be sure that it would not scorch the foliage and sometimes cause it to fall. To be thoroughly successful, it should be applied in a mist-like spray at least three times during the period the Apples were growing, and it should be known exactly the strength each variety would stand. In his own case, he gave only one spraying, but fetched down quite 50 per cent. of the leaves, and, though much improved, the Apples were not even now entirely free from spot. He had used a solution of copper sulphate in winter for Botrytis on Gooseberry trees in conjunction with liver of sulphur in summer, and although not able to quite stamp it out, he had substantially held it in check, where formerly he had to grub out the bushes. He could say little of the American Gooseberry-mildew, but would leave it to the experts to fight out, as to whether pruning, spraying, grubbing, burning, tipping, or any other method be the correct one, but he hoped that what was finally ordered by the Board of Agriculture would be some remedy that had proved to be successful. Then they had to fight the mosses and lichens which covered the limbs and branches of old trees, and which afforded such a splendid hiding-place for insects for the winter, as well as suitable positions for them to lay their eggs. Fruit-growers had long since realised the advantage of ridding their trees of some of this encumbering rubbish, and long ago, before winter spraying was thought of, it had been the good practice to cut down and burn the wash the trunks and all large boughs of trees which had become badly overgrown with moss and lichens. For that reason alone of destroying the harbouring places of insects and so on, winter spraying would be worth while, even though the effect of the various washes on eggs of Apple sucker, aphid, and the various caterpillars might remain extremely problematical. As to winter spraying he experimented with most of the winter washes, but failed to find any that corroded any very large percentage of the eggs of the Apple sucker. All of them, however, cleaned well, and to that extent they were successful. They did not try lime and salt wash, but had heard favourable accounts from friends who had tried it, particularly when applied quite late in the spring. What they considered their most favourable result was achieved by the use of hot lime wash made by putting lime straight into the water and applying it quite hot, and in as thick a condition as possible. It was so hot as to make the delivery hose uncomfortable to hold, and, of course, burnt face and hands when one was so unfortunate as to get any on them. Applied during the first fortnight in April it adhered to the trees splendidly. Hardly any Apple sucker was left on them. The varieties were Mr. Gladstone, Ecklinville Seedling, Cox's Orange Pippin, and Lord Derby. Although this was so far successful for the sucker, it was not wholly good for killing the winter spores of Apple scab. As to summer spraying, the insects they had to spray for were those which must be killed by direct contact with the spray and those whose food must be poisoned. Among the first were the red spider, Apple sucker, and all the

leaf-eating caterpillars and various beetles. For many years for the former class quassia and soft soap was the universally-recommended wash, and was even now very useful indeed, but it had been gradually superseded by paraffin emulsified by soft soap. A 2 per cent. solution of tobacco, made according to Mr. Pickering's formula, was successful not only against Apple sucker, but equally so against aphids and caterpillars whenever it touched them. He had no hesitation in recommending this wash most strongly to growers for spring use. The only drawback was the price of the tobacco, and fruit-growers should unite in strongly urging the Board of Agriculture to enable some scheme to be put forward to relieve such tobacco from the duty which was the bulk of its cost.

For red spiders on Gooseberries which were so tender that paraffin is not advisable, liver of sulphur proved a most excellent remedy, but one spraying was not sufficient, as all the eggs might not have been hatched out. For weevils and caterpillars which were difficult to reach the food should be poisoned. For this something was needed which could be spread in a very thin deposit on all the leaves, and which, while strong enough to poison the insects, would not burn the leaves. He found such a substance in the compounds of arsenic diluted with water. London purple used to be largely used, but had been given up as very clumsy and dangerous, and now Paris green or lead arsenate were the most widely-used washes—Paris green 1 lb. to 200 to 250 gallons. No lime was needed when using Paris green, and the risk of burning the foliage was far greater with than without it. He had never sprayed for Codlin moth grub, but others had found lead arsenate an excellent remedy, providing the right time was chosen. Just as soon as the grubs had fallen for a week or two afterwards. With regard to the Black Currant mite, he had tried the lime and sulphur remedy, but although successful, it had been found to burn the fruit sometimes rather badly. For nurserymen to use on their young stock it was no doubt an excellent remedy, but rather dangerous for fruit-growers. Personally, he thought the remedy would be found in spraying a greasy substance all over the trees in the spring, so catching the mites. Successful spraying was not by any means the easiest job. If the proprietor or his sons could manage to personally do the spraying work, part of the battle would be over, but where ordinary farm hands had to be trained in the use of the machines, the various quantities of chemicals to mix, it needed constant vigilance to give it any chance of being successful. The nozzle of the machine was most important, but of its form it was impossible to speak with any certainty. He had found those the best in which a spiral mist was given to the liquid before it came to the final opening, and the pump should be powerful enough for the work. Fancy using a 2-gallon Knapsack sprayer on a tree that required a 40-stave ladder to pick it! As all fluids were diluted, it was absolutely necessary that the spraying machine should contain some device which should effectually agitate and mix the liquid. The jolting on an unsprung trolley over clods was not sufficient. It had the contrary effect of settling some of the mineral components. The use of wire for hoses was right. He had the disassembled, handy brass clips with screws being best. These could be easily fixed, and never flew off under the greatest pressure. He had said little of the various quantities for making the spray fluids because there were specialists in that line, and because he had found it best in the long run to buy a good many of the complicated washes and emulsions ready mixed, it generally being only necessary to dilute with water. They should deal with the chemical manufacturers who could be trusted. This made it more possible to leave a gang of sprayers alone for five minutes, secure in the knowledge that they had only a child's work of putting so many pints of mixture in so many gallons of water when they required a fresh lot of spray fluid.

Mr. F. W. MOORE (Dublin) said he was diametrically opposed to the views put forward. One gentleman said they did not spray enough, another said they should not spray in winter. Which was right? There was one thing which had been discounted—that was the intelligence of the cultivator, who was not the simplest he was supposed to be. He would advise the cul-

tivator not to give up his spraying because he was told to do so, but to satisfy himself whether it was necessary or not. He would strongly urge the cultivator not to give up winter spraying. He believed it was essential, and he would advise cultivators to consider carefully before they accepted the statement that spraying with caustic wash was detrimental to the health of the tree. Trees regularly sprayed in winter were better. Some attempt should be made to standardise all the washes. They should know the ingredients, and he maintained the reasonableness of the advice to prepare their own materials where that could be done. As to the American Gooseberry-mildew, there was only one remedy, and that was to burn the bushes. Untold injury was done by using bad washes.

Professor F. V. THEOBALD was asked whether there was any remedy for the Apple weevil, and was there any use in grease bands? He replied that he did not think grease bands had the least effect, it being a winged creature. As to the remedy, he was afraid he could not tell one to present. A lime and salt wash had certainly checked it materially.

Mr. W. COLLINGS said if they kept their orchards clean they would not have much trouble with the weevil.

Mr. WALTON said caustic washing did good. Mr. BAKER said that, on the whole, fungicides were preventive, whereas insecticides were remedial. What they ought to aim at was not so much to find a remedy, but to get a class of plants which had high constitutional strength, or to be able to cultivate them in such a way that they should be self-resisting. Some plants and trees were horribly infested, others only slightly. There must be some reason for this.

Professor THEOBALD, replying to further questions, said spraying should only be done when necessary. If they were to spray five, six, or ten times a year, where were their profits coming from? He had never come across any preparation that would kill the caterpillar.

Mr. PERCY BUNYARD said nicotine would kill it.

The conference then closed, with votes of thanks to the chairmen, readers of papers, and others.

DEVON & EXETER HORTICULTURAL.

OCTOBER 23 & 24.—The autumn exhibition of this Society was held in the Victoria Hall, Exeter, on these dates, the hall being unobtainable in November. As a whole, the exhibition was fairly successful. The quality was of the highest, and the competition the keenest. In the fruit section Apples were especially good, and in nearly all cases of exceptionally high colour. Pears were only moderate in quality, and Chrysanthemums, because of the earliness of the date, uneven and indifferent in most of the classes. The finest exhibits were in the classes for special prizes, and these raised the tone of the exhibition.

CHRYSANTHEMUMS.—CUT BLOOMS.

A Silver Challenge Cup of the value of £80 was offered by Messrs. Sanders and Biss, horticultural builders, with a special prize of five guineas added by the president as the 1st prize, and three and two guineas respectively for 2nd and 3rd prizes in a class for 12 vases of Japanese blooms of distinct varieties, three blooms in each vase, four vases of incurved varieties, and eight vases of single Chrysanthemums. It resulted in a keen competition between the Rev. T. SHEEPSHANKS, Chudleigh (gr. Mr. Dunkley), and W. BROCK, Esq., Exeter (gr. Mr. Rowland). The 1st prize was made in favour of the Rev. SHEEPSHANKS, Mr. BROCK being awarded the 2nd prize. In Mr. SHEEPSHANKS' group were good specimens of General Hutton, Sir C. Clements, Mrs. A. T. Miller, Mrs. G. Mileham, Mrs. Norman Davis, F. S. Vallis, Florence Penford, Mad. P. Radcliff, Mrs. J. Haggart, Madame G. Rival, and in singles Mary Richardson, Lillie Godfrey and Freedom. To this group was awarded the large Silver Medal of the N.C.S. for the finest professional exhibit in the show and the small Silver Medal for the best incurved bloom.

In the class for 24 Japanese blooms, in 18 varieties, the Rev. T. SHEEPSHANKS was again 1st, his collection including Mrs. F. S. Vallis, Mrs. A. T. Miller, Miss E. E. Foon, Algenon Davis, Mrs. W. Duckham, Mrs. A. H. Lee, and President Vigor. 2nd, W. BROCK, Esq.

For the best 12 blooms of Japanese Chrysanthemums distinct, Rev. T. SHEEPSHANKS was again 1st. In the less important classes competition was not very keen.

In the classes confined to amateurs, Mr. C. M. COLLINGWOOD was awarded the large Silver Medal of the National Chrysanthemum Society for the best exhibit by an amateur in the show, and the small Silver Medal for the best Japanese bloom, the variety being Mrs. A. T. Miller. Mr. COLLINGWOOD's blooms were exceptionally good, among his best examples were Valerie Greenham, Mrs. Willie James, Mrs. A. H. Lee, Mrs. W. Duckham, Mrs. R. Hooper Pearson, and Mrs. G. Mileham.

The competition for table decorations was not strong, only four exhibitors competing. The 1st prize was won by Mrs. Smale for a lightly-arranged table.

In the classes for table and flowering plants, Cyclamens, Bouvardias, Violets, Solanums and Salvias were exhibited, as also were some well-grown Begonias, Palms, Codiaums and other foliage plants.

FRUIT AND VEGETABLES.

In the Grape classes, Sir DUDLEY DUCKWORTH KING (gr. Mr. Sidney Baker) and Rev. F. W. HAMILTON GELL (gr. Mr. G. Barnes) shared the honours, both showing well-berried bunches of Black Alicante and Muscat of Alexandria, which were remarkable for good bloom and general high finish.

For a collection of fruit a challenge cup was offered by T. LINSFOTT, Esq.; it was won by Sir DUDLEY KING, with Royal Jubilee Melon, Pimston Duchess, Duchesse d'Angoulême and Doyenné du Comice Pears, and Cox's Orange Pippin, and King of Tompkins' County Apples.

For a collection of 24 varieties of Apples, 12 dessert and 12 culinary kinds, the 1st prize was won by Sir W. A. FERGUSON-DAVIE, Bart., Creedy Park (gr. Mr. B. Seaward), B. H. HILL, Esq., Newcombes (gr. Mr. G. Lock), being a close second. In both collections fine and highly-coloured fruit was shown.

In the class for five dishes of dessert Apples, Sir DUDLEY KING was 1st with fine specimens of American Mother, Ribston Pippin, Blenheim Pippin, Cox's Orange Pippin, and King of Tompkins' County.

J. F. G. BANATYNE, Esq., Haldon (gr. Mr. Ellicott), was 1st in the similar class for culinary varieties.

For the "any other" dessert class T. KEKEWICH, Esq., of Peamore (gr. Mr. Abram), won the 1st prize with King of Tompkins' County, and Mr. H. H. WIPPELL was placed 1st with Queen Anne in the class for the best five culinary Apples.

Pears.—B. H. HILL, Esq., was first for a collection of nine varieties of Pears, including six dessert and three culinary sorts, Rev. H. CLEEK, Emsworth (gr. Mr. H. Seaward), B. H. HILL, Esq., Clyst St. George (gr. Mr. A. C. Williams), being 1st respectively for the best three varieties of dessert and three culinary varieties of Pears.

Vegetables.—The collections exhibited for prizes offered by the Society, and by Messrs. Robert Veitch & Son, Sutton & Sons, Carter & Co., and Jarman & Co., brought out exceedingly close competition, and some grand produce was staged.

In the class for a collection of eight distinct kinds, B. H. HILL, Esq., Crediton (gr. Mr. Lock), was awarded the 1st prize, and he was closely followed by Mrs. GIDLEY, Hoopers House (gr. Mr. W. R. Baker).

Mrs. GIDLEY won the 1st prize in Messrs. R. Veitch & Sons' class. Dr. GAMWAYS won the premier prize in Messrs. Sutton's and Messrs. Carter's classes, and the same exhibitors were equal in the class in which Messrs. Jarman offered special prizes. In nearly all cases the same types of vegetables were noted, viz., New Intermediate Carrots, Cranston's Excelsior or Ailsa Craig Onion, International Prize Leek, Satisfaction or Factor Potato, Glory or Perfection Tomato, Autumn Giant or Michaelmas White Cauliflower, Improved Parsnips, Exhibition Sprouts, Perfection Beet, Red Garden Globe Turnips.

The trade exhibitors included Messrs. ROBERT VEITCH & SON, Exeter; Messrs. JARMAN & CO., Chard; Messrs. SAUNDERS & BISS, Mr. EDWARDS, and others, while some interesting exhibits, not for competition, were sent by the Bishop of EXETER, Major BRIDGES, and Mr. LYTALL.

Plants in Pots, &c.: Average Wholesale Prices (Contd.).

GARDENING APPOINTMENTS.

Mr. FREQ. C. LEGGE, late Gardener to J. F. CAMPBELL, Esq., Woodseat, Uttoxeter, Staffs., as Gardener to W. MIDDLETON CAMPBELL, Esq., Fen Place, Turner's

Cyperus alpinifolius, dozen ...	4 0- 5 0	City of the Valley, per dozen ...	18 0-30 0
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except for a few dessert kinds and medium-sized
skinned culinary varieties. Apples from Nova Scotia are

selling freely and at satisfactory prices. There still continues to be a good demand for Pears, especially those from California. Best samples of Alford Grapes are dearer, and there is every prospect of there being a good trade in these Grapes for the winter. A few Prunes continue to arrive, principally from Bedfordshire. Supplies of Blackberries are nearly finished and good samples are making high prices. There are some good fruits of Cox's Orange Pippin Apples, packed in trays; and they are readily disposed of. Prices for English Tomatoes are still firm; French Tomatoes are finished. Scarlet Runner Beans are practically over for the season, and the first consignment of Courmescroy Beans have just been received, and of best quality pods realising 10s. to 12s. per lb. Asparagus is seen in the market; both Paris Green and Sprue are selling freely. Trade generally is quiet. *E. H. R., Covent Garden, Wednesday, October 29, 1908.*

POTATOS.

Kents—	s.d. s.d.	Lincolns—	s.d. s.d.
Snowdrop ...	4.0-4.3	Mauncip ...	3.6-3.9
Sharpe's Express ...	3.9-4.0	Sharpe's Express ...	3.5-3.6
Epicure ...	3.3-3.6	Puritan ...	3.3-3.6
Up-to-Date ...	3.6	Evergood ...	2.9-3.0
Lincolns—	s.d. s.d.	Bedfords—	s.d. s.d.
British Queen ...	2.9-3.0	Epicure ...	2.6-3.0
Up-to-Date ...	3.0-3.6	Blacklands ...	2.6-2.9

REMARKS.—Prices are about the same as those of last week. The supply is equal to the demand. Trade generally is fair. *Edward J. Newborn, Covent Garden and St. Pancras, October 29, 1908.*

COVENT GARDEN FLOWER MARKET.

During the past week there has been a slight improvement in trade, although generally prices are lower than is usual at this season of the year. Hardy flowers are still plentiful, and this, in conjunction with the depression in commercial circles, has had a bad effect on the value of flowers cultivated under glass.

POT PLANTS.

Trade has somewhat increased, but prices do not advance. Several persons who sell on commission have stores outside the market, and it seems more than ever necessary that those with stands in the market only should have the advantage of an extra hour to clear their stocks. Chrysanthemums are procurable in all colours. Kathleen Thompson is very good, but the colour varies, and growers should see that only the plants producing the brightest flowers are used for sale purposes. *Erica* is a sort of violet, but of a pretty pink shade, with a bronzy-yellow reverse, that should be suitable for market work. *Leucatoe* is very good, also Mrs. Wingfield. *Erica hymenalis* is beautifully flowered, but the plants are very cheap. *Ericas* in small pots sell well. Plants of *Begonia Gloire de Lorraine* are abundantly flowered, but there is a limited supply at present. *Liliums* of best quality have not been quite so plentiful. *Marguerites* are good; also *Zonal Pelargoniums*. Ferns vary but little. *Nephrolepis Tododoides* has taken the place of *N. Pissouri*, but although it is one of the prettiest of ferns it does not sell so readily as do well-grown plants of *N. exaltata*. *Asplenium Nidus* continues in demand. There is not such a large call for *Adiantums* as formerly, and it is remarkable that there is little trade in *hardy ferns*.

CUT FLOWERS.

Although some salesmen may demur to the statement, trade has somewhat improved. And there are not so many flowers left over at the close of the market as were seen a few weeks ago. Roses are not abundant, and their prices have advanced, yet supplies seem equal to all demands. Carnations also are of slightly better value. Of Violets good *Parma*s are noticed from France. Chrysanthemums are plentiful, and a new feature in cut flowers. French-grown *Lilac* is good. Also the French *Paper-white Narcissus*. Camellias are plentiful. Also *Gardenias*, *Lagerarias* and *Tuberose*s. Supplies of *Eucharis* have fallen off again. There are still large supplies of *Dahlias*, *Asters*, and other garden subjects. *A. H., Covent Garden, Wednesday, October 29, 1908.*

THE WEATHER.

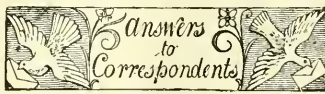
THE WEATHER IN WEST HERTS.

Week ending October 23.

The first keen frost of the present autumn. After eight cold days the weather has to-day become warmer. On two days during the week the temperature in the thermometer did not rise above 47°, and on all but one night the exposed thermometer registered a reading below the freezing-point. On the coldest night the same thermometer showed a frost—which is the greatest cold recorded here since the cold period in April. The ground temperatures have gone down considerably, and are now slightly colder at 2 ft. deep, and 1 ft. colder at 1 foot deep, than is reasonable. Rain has fallen on all but one of the last twelve days, and to the total depth of nearly 2 inches. During the same period seven inches of rain have come down the bare soil on the station gauge, and four gallons through that on which short grass is growing. The sun shone on an average for 2 hours 38 minutes a day, and was not enough to raise the thermometer for the latter part of October. Calms and light airs from the north or north-east have mostly prevailed. The mean amount of moisture in the air at 3 o'clock in the afternoon has exceeded a seasonable quantity for that hour by 6 per cent. My *Dahlias* were killed by the frost on the night of the 24th, which is eleven days earlier than the average date of their destruction in the previous 29 years, and the frost was earlier than last year. *E. M., Berkhamsted, October 29, 1908.*

SCHEDULE RECEIVED.

Bromley Chrysanthemum Society's annual exhibition, to be held at the Drill Hall, Bromley, on Wednesday and Thursday, November 4 and 5, 1908. Hon. sec., Mr. R. S. Fatterton, The Gardens, Bromley Place.



BEGONIA BLOOM: C. H. H. The flower presents an abnormality not uncommon in Begonia flowers. It represents a male bloom that is partially transformed into a female blossom, and the character of the male flower is not altogether eliminated, as is evidenced by the traces of stamens that are present. You are wrong in your supposition that Begonia Gloire de Lorraine does not produce pollen. Instances are frequent in which not only pollen has been produced, but also perfect seeds, which have germinated.

BROOM-RAPE: E. C. S. It is not uncommon for this parasite (Orobancha) to be found on roots of Heliotrope. Can you send us the specimen?

CHRYSANTHEMUM: D. The foliage shows no trace of rust, or any other fungus disease; but, from the dry specimens, it would be fruitless to speculate as to the cause, which may possibly be quite local.

CORRECTION:—Owing to a misprint, the name of Mr. Will Tayler, Hampton, who won the 1st prize in one of the nurserymen's classes at the R.H.S. Fruit Show, appeared in our report last week as Mr. Will Taylor.

CREOSOTED POLES AS SUPPORTS FOR PLANTS: H. Creosote is poisonous to vegetation, and creosote fumes from wood blocks in a public roadway have been known to kill plants. It may be better therefore not to creosote the ends of the poles, but to char them.

EXHIBITORS AT FRUIT SHOWS: P. A. M. If the judges requested exhibitors to leave the hall during the act of judging, and one exhibitor in particular refused to go, or succeeded in evading the request, the judges had it in their power to appeal to the officials of the show, who would doubtless have seen that the request was complied with. From every point of view, it is undesirable that exhibitors should be allowed to be present at any show during the time the judges are engaged in making their awards. You ask us in this case whether we think the judges should have awarded the first prize in favour of the exhibitor who evaded their request to leave, but we do not know sufficient of the circumstances to determine this question. It would seem, however, that the judges themselves were satisfied, and there appears to be no reason to dissent from their decision.

GRAPES: A. M. Andie. No fungus was present on the Grapes. The injury is due to some local cause. You had better examine the roots and the border in which they are growing, taking care to see that the drainage is in good condition.

MARECHAL NIEL ROSE: T. B. B. The leaves are killed by a fungus (*Asteroma rose*). Burn all diseased leaves, and spray the plant next spring with the foliage in unfolding, with a rose-red solution of permanganate of potash.

MEDICAGO MACULATA: A. E. This is a British species, and is known as the Spotted Medick. It has no commercial value. All the pods of *Medicago* species are much curved, some being spirally twisted. The dried pods are brown.

ORCHARD CULTIVATION OF FRUIT TREES: P. M. You had better apply to some of the fruit-tree nurserymen or insert an advertisement in some horticultural journal. We believe there are certain market cultivators of fruit who are being men as students on payment of a premium.

PALM: P. R. S. The fungus present is *Graphiola phoenicis*, a scourge on plants of Phoenix under glass. Sponge the leaves with a solution of soft soap, in which is dissolved sufficient permanganate of potash to form a rose-red solution.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we can consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time; they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. Correspondents not answered in one issue are requested to be so good as to consult the following numbers.

FRUITS: Culinary. 1, Ecklinville Seedling; 2, Bramley's Seedling; 3, Nonesuch; 4, Nonpareil; 5, Tower of Glamis; 6, Lord Derby; 7, Marjorie; 8, Royal Victoria; 9, A. R. Harvey's Defiance; C. S. C. 1, Rymer; 2, Golden Winter Pearmain; W. D. St. Leonards. 1, Warwickshire Pippin; 2, Cornish Aromatic; 3, Claygate Pearmain; A. Moore. There were no numbers attached to fruits. Please send again, and number each specimen with figures written on stamp paste and affixed to each specimen.—G. S. War Pitmans, Duchess; Apples, 1, Northern Greening; 2, D'Arcy's Spice; 3, Hambleton Deux-ans; 5, Baxter's Pearmain; P. M. 1, Queen Caroline; 2, Yorkshire Greening; 3, Mank's Codlin; 4, Bramley's Seedling; 5, Court-pend-pat; 6, Vicar of Winkfield; J. G. Hous. Cox's Orange Pippin; J. A. S. 1, Lady Lemon; 2, Maltster; 3, Small's Admirable; 4, Duke of Devonshire; 5, Ashmead's Kernel; 6, Lord Derby; 7, not recognised; 8, S. 1, Small's Admirable; 2, Renette tres Jarden; 3, S. 1, Prince of Wales; 4, Prince of the King; Moss, Crocydon. Beurré d'Amalins; Apple, A. Worcester Pearmain; B. Peasgood's Nonesuch; C, London Pippin.

PLANTS: F. W. C. *Salix pentandra*—A. R. 1, probably a variety of *Cupressus obtusa*; 2, *Cupressus obtusa tetragona aurea*; 3, *Cupressus obtusa var. lycoepodioides*; 4, *Olearia Haastii*; 5, *Deutzia crenata*; 6, *Cupressus Lawsoniana*—W. J. M. *Pleroma (Tibouchina) macranthum*—A. E. C. 1, *Verbasum Lychitis*; 2, *V. nigrum*—H. A. 1, *Odontoglossum mirandum*; 2, *Oncidium flexuosum*; 3, *Laelia albida*; 4, 1, *Signistalsia radicans*; 5, *P. T. 1*, *Pieris arguta*; 2, *Pieris lonicifolia*; 3, *Blechnum corcovadense*; 4, *Lomaria filiculitidis*; 5, *Asplenium dimorphum*; 6, *Adiantum caudatum*—E. H. *Ruellia macrantha*.

POT-POURRI: M. L. Z. Take the rind of two Lemons (cut thinly), one pound of bay salt, one ounce of powdered Orris root, one ounce of Gum Benzoin, one ounce of Cinnamon, one half-ounce of Cloves, one ounce of Nutmegs, one grain of Musk, 12 Bay leaves, a few Sage leaves Rosemary and Lavender cut small, one ounce of Lavender water, one ounce of Eau de Cologne, and one ounce of Bergamot. Mix all together in a pan, and add sweet flowers in their natural state as they come into blossom; stir up frequently—at least once a day. Put into a covered stoneware pot with a wooden spoon to stir it with. At the end of two months this will be a fragrant Pot-Pourri to fill a number of Japanese rose jars. From time to time throw in fresh Rose petals. There are several other receipts for making Pot-Pourri.

SEED POD FROM UPHOLSTERER: F. M. N. The pod you send from the upholsterer's padding is a seed of the Mango (*Mangifera indica*). This fruit is in no way connected with the substance known as 'Kymer,' which is presumably the floss of silk-cotton from the seed of a species of Bombax.

SIEVE OF PLUMS: B. D. A 'sieve' is not a standard measure. The 'sieve' varies in size; but one of Plums averages 56lb.

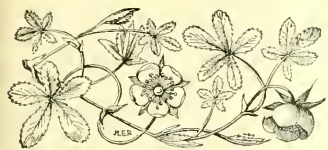
COMMUNICATIONS RECEIVED: F. S. J. W. J. K. C. F. C. B. —E. H.—Weekly Reader—F. S. J.—E. Beckert—F. W. J. —H. A.—R. J. V.—W. S.—Football—Gardner, Clifton—Fulham—Walthamstow—H. J. C. A.—D. S.—F. W. T. L.—Lilium—H. F. Moss—A. Kingsmill—J. B. W. —F. H. H.—J. G. A.—J. H. H.—F. W. F. H.—H. G. A.—J. M. D.—Mack—F. M.—E. M. L. P.—Rev. D. R. W.—F. J. A. D. W.—Capt. Dorrion Smith—F. J.—T. S.—A. McK.



Photograph by H. N. King.

PANSHANGER, HERTFORDSHIRE, THE RESIDENCE OF COUNTESS COWPER.





THE Gardeners' Chronicle

No. 1,141.—SATURDAY, November 7, 1903.

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HOW TO CONSTRUCT COLD CHAMBERS.

LIKE electricity, cold storage is finding its way into many industries, and has already established itself as a most important adjunct to the business connected with the handling of bulbs. According to experiments that have been made on the Continent, by the Professor of Agriculture of the Côte d'Or, France, who is also a director of one of the large cold storage companies in Paris, its use might be very much farther extended. According to Professor Vercier's experiments, it has been found possible to keep certain cut flowers in all their freshness for long periods, up to as much as six weeks, in cold store, and also to retard plants whose buds are on the point of opening. The importance of both of these objects will be apparent to those engaged in the flower trade. The market sometimes suffers from a glut, and on those occasions it would be both convenient and profitable to store the surplus, just as the surplus fruit and other produce is stored in America, until the glut has passed. It would also be both convenient and profitable to florists generally to be enabled to retard the blooming of certain plants for certain occasions. Professor Vercier has pointed out in

a paper read before the French Horticultural Society that it often happens that certain flowers are sure of a very good sale if they are ready on a certain day, such as that of a particular fête. It unfortunately sometimes happens that the plants mature a little before their time, and consequently have finished blooming before the fête day arrives, and the sale is lost in consequence. By placing the plants in cold store a sufficient time before they are required they could be produced as the demand for them arises.

WHAT A COLD STORE IS.

A cold store, or a cold chamber, may range in size from the ice cabinets, or ice closets as they are called, that are often seen in hotel coffee-rooms, up to the enormous buildings to be seen, for example, on Thames Side, where very large quantities of produce of all kinds are kept at various temperatures. The principle upon which all of them are constructed is the same, the differences in actual details being such as are due to the different quantities of produce to be handled.

In all cold storage there are two considerations to be kept in view. Heat must be prevented from passing into the closet or chamber from the outside atmosphere as far as possible, and the undesired heat already there—the heat in the produce and the heat which passes into the chamber—must be removed.

The first part of the problem is solved by constructing the cold chambers with linings of special materials known as thermal insulators. Electrical engineers, it is well known, cover their wires and other conductors with certain substances to prevent the electrical currents from leaking out. Similarly, refrigeration engineers line the chambers in which produce is stored with certain substances to prevent the heat from leaking in.

Just as there are certain substances which prevent the passage of electricity through them, called electrical insulators, so there are certain other substances which prevent the passage of heat through them, and are thus called thermal insulators. But not any of the insulating substances are able to completely prevent the passage of electricity or heat through them, but by a proper application of a sufficient thickness of these substances the leakage can be reduced to negligible proportions. The expense of the installation becomes prohibitive if perfect insulation is demanded. In practice, the refrigeration engineer strikes a balance. He insulates as far as his client will allow him, and the apparatus to be described has to make up the difference; that is to say, it has to extract the heat which the defective insulation allows to pass in.

There are a number of thermal insulators, and steam engineers use several of them for covering steam pipes, boilers, engines, &c., in

order to prevent the heat of the steam from passing outwards. The materials used by steam engineers are not usually employed by refrigeration engineers, though any one of the large number of substances could be employed, either for insulating steam pipes or for insulating cold stores, with proper arrangement. Practical experience, however, has shown that a few substances answer best for cold chambers, taking everything into consideration—silicate cotton, flake charcoal and cork. In addition to these, sawdust, ordinary wool, and straw are sometimes employed. Of all thermal insulators, however, still, dry air is by far the best, and it is often employed for the small cabinets used in hotels, &c. It is not em-

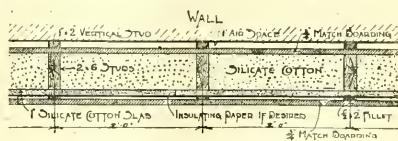


FIG. 133.—METHOD OF BUILDING INSULATED WALL FOR COLD STORE, AS ARRANGED BY MESSRS. WM. DOUGLAS AND SONS.

ployed for larger work, on account of the difficulty of keeping the air still and dry over large areas. It is an important condition of all of the insulators named that they shall be absolutely free from moisture when employed, and for that reason the first three—silicate cotton, charcoal, and cork—are preferred by refrigeration engineers, as it is so much easier to keep them dry than the other substances.

In building a cold chamber also, special precautions must be taken to ensure that wet shall not penetrate to the thermal insulator lining. As is well known, bricks hold a large quantity of moisture even in comparatively dry weather; wood also contains moisture, and if this is allowed to penetrate to the in-

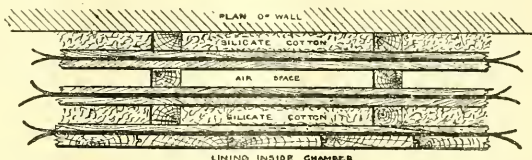


FIG. 134.—METHOD OF BUILDING INSULATED WALL FOR COLD STORE, AS ARRANGED BY MESSRS. H. J. WEST AND CO.

sulator the value of the latter is very largely reduced.

The insulation of any cold chamber or cold cabinet consists, then, in lining it on all sides as well as on the roof and floor with a thermal insulator, protected from moisture. In the case of the small cabinets, they are constructed very much on the lines of the puzzle boxes that are sold to children, one box inside another, with a space between the two, the inside box being supported by the outside, and the supports tending to break up the air space between the two. The wood employed should be thoroughly dry, and the space is sometimes packed with sawdust or one of the other insulators mentioned, but in the majority of cases the effect due to the air space itself proves sufficient.

For larger chambers, for what would be termed cold stores proper, that is to say, for rooms in which men can walk about, and in which shelves or other arrangements to hold the produce can be fixed, the usual lines of construction are as follow:—The chamber is built in the usual way, of brick, stone, wood, or any other substance, except metal. It may be part

off by switches outside the chamber, and the doors are constructed on exactly the same lines as the walls, with insulating material carried in a space in the door provided for it, the space being lined with insulated paper as in the case of the walls. Where it can be arranged, also, it is wise not to allow the doors to open directly to the outer atmosphere. In large

stores the doors often open on to either a corridor or a vestibule. When entering any of the chambers, the door of the corridor or vestibule is first opened, and closed behind those entering. Then the door of the individual chamber is opened, and again closed behind them.

HOW THE HEAT IS CARRIED OFF.

It will be understood that the insulation of the cold chamber, whatever its size, is by far the most important part of the problem. It would be quite possible, under certain conditions, to dispense with the apparatus to be described for carrying off or absorbing heat. If, for instance, certain produce, say, certain bulbs, were placed in a cold chamber or cabinet at a

small chambers such as are built for the use of butchers, &c., the heat is absorbed by a quantity of ice or ice and another substance. This forms what may be termed a store of cold. That is to say, every pound of ice in melting will absorb a certain definite quantity of heat, and if a certain number of pounds of ice are placed in a cold cabinet or cold chamber, the ice will absorb the heat that passes through the walls or that enters by the door as long as any of it remains, and after it is melted, the water will continue to absorb heat until the temperature of the water formed from the ice is equal to that of the surrounding atmosphere.

The cooling effect or the absorption of heat by a given quantity of ice may be increased by crushing the ice and mixing it with certain substances, such as common salt, carbonate of soda, and others. Carbonate of soda, the common washing soda, is a suitable substance. When a mass of crushed ice and carbonate of soda is placed in a cold chamber a certain portion of the ice melts, thereby absorbing a certain quantity of heat. The water so formed dissolves a certain portion of the

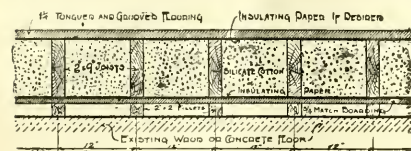


FIG. 135.—METHOD OF BUILDING INSULATED FLOOR FOR COLD STORE, AS ARRANGED BY MESSRS. WM. DOUGLAS AND SONS.

of a building, provided the arrangements can be made to insulate the walls the floor and ceiling, in the manner now to be described. On the inside of the walls it is usual to build a lining of match-boarding, the boarding made with tongues and grooves to fit into each other. On the inside of this is placed one or more thicknesses of a special waterproof paper. At a certain distance inside of the wood lining a second wall is built of match-boarding, supported by uprights and by joists from the outside wall. The outer face of this inner wall is also covered with one or more thicknesses of the waterproof paper mentioned above, so that the two surfaces of waterproof paper face each other. It will be seen that a space is provided between the two walls of match-boarding, and into this space, which varies from about 4 inches upwards, one of the insulating substances mentioned above is filled and rammed well down. Figs. 133 and 134 show sections of insulated walls of cold stores, as arranged by two of the leading firms. The arrangements, it will be noted, are slightly different, but the principle is the same. In building the cold chamber it is necessary to see that the wood is dry and that the space provided for the insulating material is also dry. In some cases the process is repeated. That is to say, a second inner wall of match-boarding is built inside of the first one, enclosing a second space between it and the first wall, the two faces of the two walls opposing each other being covered with special waterproof paper and the space between being filled with insulating material.

The ceiling is treated in very much the same way and also the floor, but asphalt is sometimes partly employed to form the floor, in order that sufficient strength may be obtained. Figs. 135 and 136 show sections of insulated floors by the same firms.

The resistance, as engineers express it, opposed to the passage of heat through it by the insulating substance depends directly upon its thickness, providing that it is dry and thoroughly well packed. If it is loosely packed, or if moisture is present, convection air or vapour currents are set up, which reduce the insulating properties. The quantity of heat that can pass through such a wall also depends directly upon the extent of its surface, so that it is not wise to build cold chambers larger than a certain size, unless a corresponding increase in the thickness of the insulation is also provided.

In addition to the insulation of the walls, floor, &c., built up as described, the outsides of structures exposed to the sun and to severe weather are usually protected by insulating substances made in sheets or plates, and specially designed for the purpose. It is important, in particular, to protect the roof in this way from the sun's rays. Cold chambers are always constructed without windows and are lighted where it is necessary by electric lights, turned on and

period of the year or in a climate when the temperature was below freezing, provided that the insulation of the chamber was sufficiently good, the bulbs or other produce should be kept in good condition for a considerable time without the aid of any other apparatus, because the temperature within the chamber should be maintained at a degree not greatly above that at which the produce was stored in the first instance.

In practice, however, it is always found necessary to provide some means of absorbing the leakage heat, in some cases that of the produce when first stored, and nearly always that in the air of the chamber. Warm air will enter the cold chamber or cabinet, for instance, whenever it is opened, even though the precaution of providing vestibules be taken. There is also in practice always a certain amount of leakage through the walls, ceiling and floors. In too many cases the owners of cold stores do not spend enough upon the insulation of the cold chambers, and it has to be made up in the apparatus for lowering the temperature.

In the case of the small cabinets and of

carbonate of soda, and in so doing calls for a further quantity of heat, which is also absorbed from the inside of the chamber, so that the cooling effect or the time during which the low temperature can be maintained

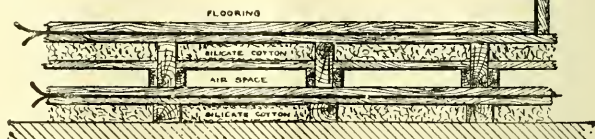


FIG. 136.—METHOD OF BUILDING INSULATED FLOOR FOR COLD STORE, AS ARRANGED BY MESSRS. H. J. WEST AND CO.

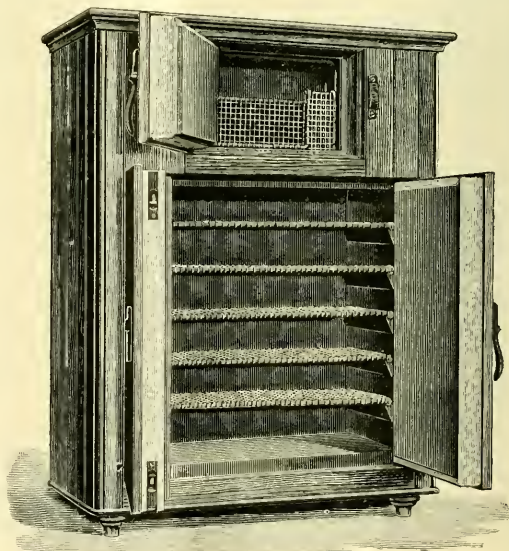


FIG. 137.—COLD STORAGE CABINET MADE BY MESSRS. WM. DOUGLAS AND SONS. THE BULBS, ETC., TO BE KEPT AT A LOW TEMPERATURE CAN BE PLACED ON THE SHELVES IN THE LOWER PART OF THE APPARATUS; THE ICE IS PLACED IN THE CAGE SHOWN IN THE UPPER PORTION.

is considerably increased by adding carbonate of soda or some other substance to the ice. The ice, or the carbonate of soda, are placed inside the chamber—in a receptacle, so arranged that the liquid formed can flow into another receptacle, but so that no moisture passes into the space where the produce is held. It should also be arranged that the air of the chamber has free access to the receptacle containing the ice or the freezing mixture, as the mixture of ice and another substance is called. What are called convection currents are always set up within a cold chamber. The air which impinges upon the receptacle containing the ice becomes heavier than the surrounding air and falls to the bottom of the chamber, its place being taken by other air, which falls in its turn, and so on, a certain circulation of the air being set up, which tends to distribute the cooling effect all over the chamber. In addition, where it can be arranged, the circulation of the air may be assisted by one of the electrically-driven fans that are now so common. Fig. 137 shows a form of ice cabinet, or small refrigerator, as they are often called. *Sydney F. Walker.*

(To be continued.)

VEGETABLES.

PEA LATE QUEEN.

THIS variety is a good one for producing a large crops of pods through September and October; indeed, in deeply-dug and well-manured soil, I have had Peas from this variety in the northern parts of the country even later than those dates. The plants produce a robust growth, and are quite free from the attacks of mildew, a troublesome pest with late Peas. It has broad, fleshy, dark-green pods, covered with a dense bloom, and tightly packed with Peas of delicious marrow flavour. Owing to its hardy constitution, it is one of the best varieties for garden culture. In poor soils on gravel late Peas are not always a success, and, no matter what variety is grown, special culture is needed; in such cases I would advise shallow trenches for the latest supplies. If an ample supply of manure is placed in the trenches, taking care to deeply dig and incorporate the manure with the soil, and an open position is selected, Sutton's Late Queen is one of the latest-bearing Peas.

SUTTON'S "EVERY DAY" CUCUMBER.

THIS variety is certainly an ideal one for fruiting in winter. It is notable for its perfect shape (even at the season named), its short-jointed growth, great freedom in setting, and perfect colour. The seeds are so few that in the winter months the fruits are almost seedless. To get a full winter supply, we had two sets of plants in the same house, some planted out, and a later lot in pots at the back of the house. Even in the worst seasons the last-named gave us late fruits and kept the table supplied till the spring plants came into bearing. The seeds should be sown in September or early in October, and the plants may then be depended upon to fruit in mid-winter. *G. Wythes.*

CYTISUS × KEWENSIS.

THIS pretty hybrid Broom was raised in the Royal Gardens, Kew, and is the result of crossing *C. Arduinii* and *C. albus*. The plant makes an excellent garden subject, and is adapted for planting in positions of a rock-garden where dwarf shrubs can be utilised. The shoots in early summer are crowded for more than 1 foot of their upper parts with creamy-white scented flowers that have very large standards. Like most of the species of *Cytisus*, the leaves are trifoliate, the petioles and the young shoots being slightly hairy. The plant will thrive in any good garden soil, but prefers a deep loam.

FLORISTS' FLOWERS.

WHAT IS A FLORIST'S FLOWER?

THE publication by Mr. C. Harman Payne of his interesting *Florists' Bibliography* not unnaturally raises the question, "What is a florist, and what a florist's flower?" I had that question submitted to me quite recently in London, and I had to admit that had my late brother, Richard Dean, been alive, no one could have answered it better than he, with perhaps the exception of my friend James Douglas. There seems to be, however, a wide distinction between a florist as the term is used to-day, and a "florist's flower." My questioner has inferred, as probably many others have done, that florist's flowers were terms applied generally to all flowers grown or used by florists. That is, however, far from representing the original meaning of the terms. A florist to-day is anyone who grows, exhibits, or uses flowers, and in public estimation a person selling flowers for trade purposes is as much a florist as anyone else. But the term "florist's flowers" has, I take it, no such general appli-

have varied wonderfully. The Cactus Dahlia has excelled the Show and Fancy Dahlia, and the Chrysanthemum has been and still is a great competitive flower. The list might, of course, be still further extended. *A. D.*

ORCHID NOTES AND GLEANINGS.

DENDROBIUM BICAUDATUM.

THIS is not a handsome species, but it is remarkable in that it seems to connect the Australian species with those of Java, the native habitat of *D. bicaudatum*. In the habit of the plant the appearance of its pseudo-bulbs and hard, fleshy leaves, and in the general aspect of its flowers, it much resembles some of the Australian species. The flowers are produced on erect inflorescences, several on a spike, and each flower is about one inch and a half across. The lanceolate sepals and narrower petals are whitish, changing to greenish yellow, with some faint purple lines. The curiously elongated labellum is white, the side lobes are folded over the column and streaked with purple, the middle



[Photograph by Miss Wallace.]

FIG. 138.—CYTISUS × KEWENSIS: FLOWERS CREAMY-WHITE.

cation. Probably these terms originated with the old florists who took certain flowers in hand for the purpose of developing them, and, perhaps, for purposes of competitive exhibitions. The older florist's flowers were the show section of Auriculas, Tulips, gold-laced Polyanthus, Pansy, Laced Pink, Flaked, Bizarre, and Self Carnation, the Picotee, and Show Dahlia. Very likely there is a more complete list to be found in Glenny's *Properties of Florists' Flowers*, but Glenny was the Coryphaeus of the old florists, and laid down the rules or points required in a good flower of any of the species named. Modernists may no doubt smile at these points or rules and treat them with derision, but if so they ignore all the results which have come to the floricultural world through the agency of these old and perhaps fastidious workers, who, in seeking to obtain the realisation of their ideas, at the same time did help to create races of flowers that are to-day filling our gardens with beauty. After the Show Auricula came the Alpine Auricula, a truly beautiful section, also the Fancy or Belgian Pansy, and the Viola. The Rose is now one of the grandest of florist's flowers, and the Pink and Carnation

lobe having several wavy ridges tipped with purple. It flowered with Sir Jeremiah Colman, Bart., Garton Park (gr. Mr. J. Collier).

BULBOPHYLLUM LEMNISCATOIDES.

THIS remarkable Javan species is flowering for the first time in England in the collection of Sir Jeremiah Colman, Bart. The scape is erect, about 6 inches in height, and bears at the top an abruptly drooping raceme about 2 inches in length with about 20 flowers. These flowers are of remarkable structure, and repay the trouble of examining them with a strong lens in order to bring out the finer details. Each flower is furnished with a short bract, the ovary being green, with short, white hairs. The sepals are similar, deeply concave, dark purple, the exterior having short white hairs and each being furnished with a slender motile filiform appendage, white mottled with rose, which gives the whole inflorescence a tassel-like appearance. The labellum is dark purple, the small petals and columns whitish. It is a very remarkable species, allied to *B. lemniscatum* (Burma). It was collected by Mr. Connell above Soerabaya, Java.

THE ROSARY.

NOTES UPON NEW VARIETIES.

(Continued from page 306.)

EARL OF WARWICK (H.T., Wm. Paul & Son, 1904).—One can never pass this Rose in the garden without noticing it. As an exhibition Rose some say it is only found wanting in shape in the slightest degree; rather unfortunate this, for it is very near having taken a high place, and it is certainly a wonderful garden Rose. I am as great an admirer as anyone of Dean Hole, the best of our modern H.T.s (vide the Nickerson award), but I would rather (despite Dean Hole being a better exhibitor's Rose) couple these two glorious H.T.s as equal, than be forced to place them. How so, if I admit Earl of Warwick to be not as perfect in shape? Well, firstly, it will stand a shower of rain better, thereby being a better garden Rose; and, secondly, it is not subject to mildew, whereas Dean Hole generally suffers late in the autumn. This year it has stood the burden and heat of the day wonderfully. Come drought or come storms of rain it is the best H.T. of its colour,

nothing ill of it. Everyone who grows Roses should include this in their collection; it is the best perpetually blooming garden Rose yet introduced. The colour is coppery-rose, overspread with golden-yellow and the scent is delicious. *Leonard Petrie, Gayton, Cheltenham.*

(To be continued.)

LATE AUTUMN FLOWERS.

On coming home recently after a fortnight's holiday, I was much gratified to find so many flowers in my garden at this late season of the year. The Dahlias had come into bloom much later than usual; and the beautiful Cactus and decorative varieties were making a wonderfully effective display. The Chrysanthemums also, invaluable in October and even in November for garden ornamentation, were flowering profusely, though for many nights previously there had been several degrees of frost. But what chiefly surprised me on my return was to find so many of my finest Rose trees still making successful efforts to bloom. One of the most charming of miniature Noisettes, *Aimée Vibert*, had sent its graceful pendulous racemes through a lofty Hawthorn hedge at an elevation of not less than 15 feet. I have frequently seen it in

beautiful when in bud. It should be assigned a prominent position in every Rose garden. *David R. Williamson. October 27.*

THE TREE LUPIN.

The illustration at fig. 139 shows a variety of the tree Lupin (*Lupinus arboreus*) known as "Snow Queen." It has pure white flowers, and is the best variety in gardens. The specimen flowered in Mr. R. C. Notcutt's nursery at Woodbridge, Suffolk, and shows the free-flowering character so common in most of the species of *Lupinus*.

NOTES FROM A "FRENCH" GARDEN.

We are now "pricking off" Lettuces. Although the weather was very unfavourable for germinating the seeds, it is now suitable for transplanting. In many places germination was retarded owing to the dryness of the soil. We make it a rule not to water the seed beds, but have had to break it this year. Many plants are ready for transplanting at the same time, and if they cannot be put out quickly enough, Cos and Passion Lettuces in frames or cloches may be given a little air in the day-time to harden the young seedlings and prevent them lengthening, but this must be done with great care. Should the plants become too spindly it is better to throw them away; the pricking off can be continued, with good results, till November 8. Where possible, beds should now be prepared for the second transplanting of Cos Lettuces, which will take place at the end of November. Cloches which were used for the Lettuces last August will be available for this purpose, as these plants will be sent to the market in the middle of November.

Cauliflowers pricked off in the frames are now well established. As they require much fresh air we set the lights on bricks.

We are now breaking up the young shoots from the Globe Artichokes (*Cynara Scolymus*). They are potted into big 60-sized pots, in sandy loam, and set in frames for the winter. In March they are planted out at distances of 2 feet 6 inches apart in well-dug, heavily-manured ground. They do well here in the heavy clay and often bear before the old plants, which sometimes suffer during winter.

We are now sending to market the Celery which was grown in the old manure beds. They are well blanched, tender, and very clean. We shall grow a bigger quantity next year, as there will be more decayed manure available. It is not advantageous to grow too much Celery in a new garden, as the plants take most of the goodness out of the old bed, and this soil should be very useful for spring work. *F. Aquinas, Mayland, Essex, October 19, 1908.*

AMERICAN NOTES.

NEPHROLEPIS.

There appears to be a disposition to depreciate *Nephrolepis superbissima* in Europe and favour *N. Amerpohlii*. The two are so distinct that there should be room for both. *N. Amerpohlii* is a lovely plant for cutting, also for decoration in small pots, but in the case of large specimens, the pinnae, being so very double, make the fronds too heavy for the stems and they heel over. *N. superbissima*, on the contrary, is much stiffer and stands up well under all circumstances, making a fine market plant, though the individual fronds are not so delicate and beautiful as those of *N. Amerpohlii*. It is also a wonderful breeder, the stock benches being soon covered with "runners" after the plants are put out. I hear that Messrs.

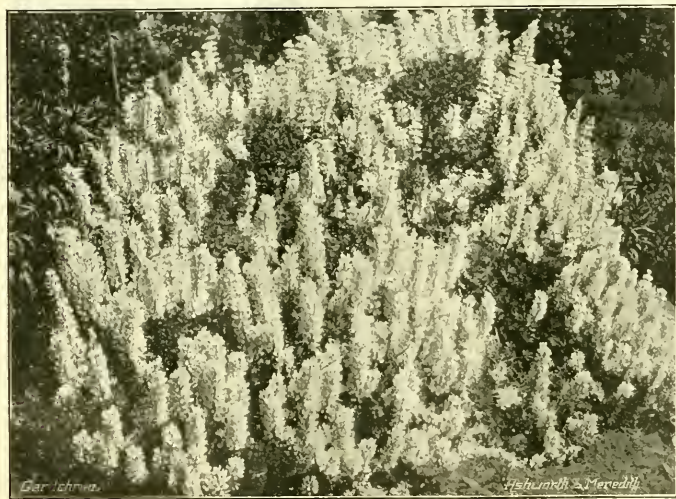


FIG. 139.—LUPINUS ARBOREUS "SNOW QUEEN": FLOWERS WHITE.

which is a rich yet delicate salmon-pink, slightly shaded darker in the centre, sometimes being almost vermillion. It is a wonderfully free bloomer, a grand Rose, distinct, and of the greatest merit.

DEAN HOLE (H.T., Alex. Dickson & Sons, 1904).—The year 1904 certainly saw an exceptionally grand lot of new Roses introduced into commerce. This wonderful H.T., the winner of the Nickerson Award for the best of its class introduced in 1900 and subsequent years, has this year excelled itself; but enough has already been written of its merits. I would mention though, for the benefit of any who may not yet have it in their gardens, that besides being already No. 3 on the exhibition list of H.T.s, it has proved itself an absolute success as a "cut-back," and there is no doubt as to its being one of the very best garden Roses. The colour is silvery-carmine, shaded salmon.

BETTY (H.T., Alex. Dickson & Sons, 1905).—This is another Rose that has been so much discussed in the papers there is no need for me to say any more about it. Only believe good and

flower in November, but never growing to such an abnormal height. This is one of the sweetest of all the climbing Roses, and only requires the element of fragrance to bring it nearer to perfection. But there are few varieties, even of the Rose, that have not very obvious limitations, and among these, by reason solely of its lack of odour, is the otherwise incomparable *Frau Karl Druschki*, which even at this period is still flowering in my garden. A. K. Williams has also been showing its luminous colours very late this season, thereby making amends for its failures in July, when it came, characteristically, with hardened buds, incapable of development. Another brilliant crimson variety, and much more reliable, viz., *Captain Hayward*, has been remarkable for the extreme lateness and effectiveness of its intensely fragrant blooms. But the most perpetual of all my roses is *Irish Harmony*, which, when fully expanded, strikingly resembles a single *Dahlia* in appearance; it has never once rested from its floral efforts, since the leafy month of June. This Rose, while highly interesting at all stages, is especially

Pierson have another, even finer, variety, but *Nephrolepis* sports in the States are becoming as numerous as varieties of *Chrysanthemums*.

ROSE MRS. JARDINE.

Referring to this variety, a British paper speaks of it as having already made a great reputation in America. This is not altogether true, and the writer probably drew his conclusions from the fact that it has been largely advertised. We have nothing to say against the Rose in question, but it has its reputation all to make as yet, and this I hope it will do.

THE CHICAGO SHOW.

If the Floral Flower Show in the present month at Chicago is not a success it will not be the fault of those who have the local management in hand. All are working with characteristic energy, and it is probable that Chicago, the home of big flower shows, will see something bigger and better than ever. While in most respects these do not come up to the best European shows for decorative features, some classes are extremely attractive. The immense vases of different flowers are bold and striking when arranged as they are by our best florists. But in the matter of grouping flowering and foliage plants there is often a lack of variety, while the skill in arrangement is far below the British standard.

MR. NICHOLSON.

The news of the death of Mr. George Nicholson was received in America with great regret by all who knew him personally and by the far greater number who only knew of him through his services to horticulture, especially in his excellent *Dictionary of Gardening*, which is looked upon here, as in England, as a standard book of reference. H. R. R.

NOTICES OF BOOKS.

* THE FLOWERS AND GARDENS OF JAPAN.

This is one of a numerous series of handsomely got up books recently published by Messrs. Black. It is a square demy octavo very tastefully bound in cloth, and contains a series of charmingly executed full-page reproductions in colour. The letterpress consists of a large, clear-cut type and runs into upwards of 260 pages. In the preface we are told that the book does not pretend to furnish a complete list of all the flowers to be found in the country, but rather to give a description of those which are most remarkable for their beauty and profusion. At any rate, the author has produced a most attractive volume, and the subjects dealt with are as varied as could be wished. The work covers landscape gardening, nursery gardens, Temple gardens, summer flowers, the Plum, Peach, and Cherry blossoms, Wistaria and Pæony, Azaleas, Iris, Lotus, *Chrysanthemum*, Maple, Bamboo and Pine tree, all of which have their special claim on the lover of flowers in the Land of the Rising Sun, and some of which enter so largely into the hearts of the people as to have their fête days duly allotted to them.

The text is full of most readable matter, and it is a long time since we perused a book on Japan with the same feelings of interest. All the chief features of horticultural beauty and peculiarity are touched upon, and here and there are some of the stories and legends attached to the favourite flowers of the Japanese.

One of the great charms of this volume is unquestionably the coloured plates, which are done in exquisite style and number 50 in all.

The book is in no sense a cultural work, but is an artistic, literary, historic and general treatment of Japanese gardening in its leading phases. To those who have already visited the country it will recall pleasant memories. C. H. F.

PANSHANGER, HERTFORDSHIRE.

(See fig. 140 and Supplementary Illustration.)

This beautiful Hertfordshire estate, the residence of Lady Cowper, is about three miles from the county town, but the visitor from London should alight at Cole Green, a small station distant not more than about one mile from the mansion. The park gates, however, are not far from the railway, the park itself covering a large area. The fruit and vegetable quarters and ranges of glass-houses are half-a-mile away from the residence. It is said there was an older dwelling-house about which the kitchen gardens were formed, but of this older building we saw no traces, and the new Panshanger stands on higher ground, in a setting of beautiful trees and surrounded by pleasure-gardens and lawns (see Supplementary Illustration). The noble conservatory, however (see fig. 140), is in juxtaposition to the residence, and there is also a smaller glass structure, a corner of which is seen in the right-hand side of the picture. This is used for displaying flowering plants, the conservatory being permanently planted with climbing species and arranged with Palms and other foliage plants,

and Sweet Chestnut, also nearer the house are Cedars, Irish Yews, *Sequoia gigantea*, Hollies, Rhododendrons and other trees and shrubs. An ornamental water basin, with a handsome vase rising from its centre, and planted with Nymphaeas, adds further charm to this portion of the pleasure-grounds, and there are several other ornaments in stonework. The south front is shown in the bottom picture of the Supplementary Illustration, and this spot commands a beautiful view of the park, whilst at the foot of the eminence on which the house is built flows the Mimram, a tributary of the River Lea. This stream flows through the park, and is the home of water-fowl, whilst its banks are beautiful with native flowering plants.

Box and Yew are largely employed as edging in the formation of flower-beds, as can be seen on reference to our pictures, and both these shrubs grow well, so that there is no patchy portion to damage the general effect. Opposite the main front is a sunken garden with five beds forming a design, and other beds are bordered with Box and planted with *Lobelia cardinalis* intermixed with *Iresine Lindenii*, *Cineraria maritima*, *Begonia Little Gem*, and blue *Ageratum*. On the western side is another lawn, and in the

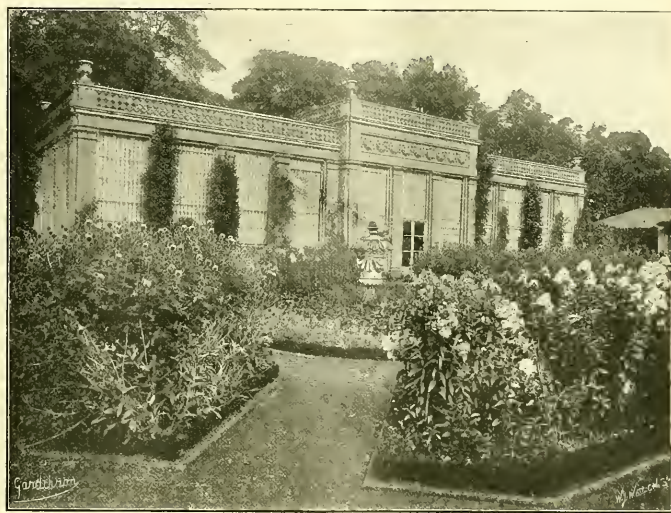


FIG. 140.—VIEW OF THE CONSERVATORY AT PANSHANGER.

some in beds and others in tubs or large pots. On the occasion of our visit in the last week in October, the beautiful autumn tinting of the trees and shrubs was attractive, and there were still plenty of flowering plants in bloom, owing to the exceptionally fine weather of the past few weeks. Many of the flower-beds are planted with permanent subjects, hardy garden plants, Roses and ornamental shrubs being largely employed for their embellishment, while there are some very fine beds formed of Box worked out in scrolls and filled between with coloured stones. These latter beds can be seen in the upper picture of the Supplementary Illustration. Each bed has a different design. They are situated at the east end of the building, and this quarter is known as the scroll or Box garden. A path leads through a broad lawn, and at the eastern extremity of this lawn is a border that was gay with *Chrysanthemums*, perennial Asters, *Rudbeckia Newmanii*, and *Phlox Coquelicot*. The path is bordered with Portuguese Laurels clipped into standard shape, and about the lawn are many noble trees of Oak

centre, in a depression, is an old Oak, the lower branches of which trail upon the ground. The tree has lost some of its larger branches, but it is still a grand specimen, and has a girth of 20 feet at the ground level. Next to this grass-sward the flower-garden proper is entered through a pair of handsome wrought-iron gates worked in vine leaves and bunches of Grapes. There are similar gates at the eastern side, and in the kitchen garden is another pair, of a different, but equally beautiful, design. When the visitor passes through the gateway of this flower-garden to the left is seen a Rosary with a pathway that is covered with arches at intervals, and up these are trained climbing varieties of Roses and Vitis, with ornamental foliage. Two of the largest Rose beds are enclosed with a Yew hedge about 3 feet in height and admittance is gained by four openings: each enclosure forms a square: at each corner is an entrance, and on either side the Yew has been clipped in a globular manner, forming a kind of portal. There are other Rose beds close by which are outlined in Box, whilst along the path specimens of *Cryptomeria japonica*

* Painted by Ella du Cane and described by Florence du Cane. (Adam and Charles Black, Sobo Square, London.)

have been planted in pairs. Just about this spot is a tree of *Liriodendron tulipifera* of very large size, the foliage of which is already beginning to show the autumn tints.

Around the outskirts of this Rose garden is a border of hardy-flowering plants, with a background of shrubs. This border is now in course of replanting in order to confine the subjects to their allotted limits, for the soil is a very rich loam, and the plants grow with luxuriance. There is a summer-house at the end of the path, the roof of which is covered with ornamental tiles in blue and green, and it has a floor of blue tiles in an artistic design. The garden facing the conservatory (see fig. 140) is known as the Dairy garden, because it contains a model dairy. Here, again, the flower-beds are outlined in Box. They are planted with the red-flowered *Phlox* *Coccolicet*, *Echinops* *Ritro*, *Cannas*, *Iresine*, *Pansies*, *Violas*, *Zinnias*, and the double-flowered *Arabis*. In the spring months they are gay with bulbous subjects which are not disturbed in the summer-time.

The conservatory is of noble proportions and is built of stone. Just inside the entrance is a water basin surrounded by a dwarf balustrade in stonework. The building is filled with plants of suitable species, and climbers are trained up the walls and across the roof. All the plants appeared to be doing well. *Pteroma macranthum* was finely in flower, also *Cobaea scandens*, *Cestrum*, and *Cassia corymbosa*. There are fine plants of *Clematis indivisa*, *Mackaya bella*, *Rhynchospermum jasmynioides*, *Camellia*, *Tacsonia*, *Passiflora*, *Procleia acuminata*, *Cantua dependens*, *Acacia armata*, *Habrothamnus*; also, in pots, or planted out, *Valloata*, *Datura*, *Chamaerops Fortunei*, *Casalpinia alpina*, *Zingiber officinalis*, *Aradia Seiboldii*, *Francia ramosa*, and *Dicksonia antarctica*. On the walls outside are trained *Escalonia*, the *Pomegranate*, a fine plant of *Araujia buxifolia*, and *Roses*.

There is a border between the two conservatories, and this is hacked by a tall wall, up which are trained many flowering shrubs, including *Choisya ternata*, *Desmodium penduliflorum*, *Escallonia*, *Ceanothus Gloire de Versailles*, *Wistarias*, *Roses* and many other species.

The entrance to the south front of the mansion has on either side a fine tree of *Arbutus Unedo*, each of which is flowering and fruiting freely. Growing upon the walls are several large plants of *Magnolia grandiflora*, whilst in one corner the wall is resplendent with the deep red autumn tints of *Vitis Cœnegetia*. *Garrya elliptica*, *Bambos*, *Banksian* *Roses*, and many ornamental shrubs thrive against this warm south wall. The walls of the north or carriage front are furnished with Ivy.

There are about 11 acres devoted to the vegetable and fruit gardens. An enclosed garden embraces about three acres, the fine old walls being planted with fruit trees, which, we were informed, have given heavy crops of good fruits, especially *Peaches*, which succeed well in the open in this Hertfordshire garden. The soil is a good rich brown loam, and produces excellent crops of all kinds of vegetables. The gardens are in the care of Mr. Staward, formerly of Loosely Park, who received the appointment about nine months ago. Mr. Staward is a well-known exhibitor, especially of *Auriculas*: he comes of a gardening family, and pointed out a fine white *Antirrhinum* which was raised 30 years ago by his father. Like his father, he also is a raiser of new plants, and has gained certificates for new culinary *Peas*; he has also raised new varieties of *Potatoes*, *Violets* (a seedling single blue *Violet* named *Lady Jekyll* had a stalk 13 inches long), and other flowers. Mr. Staward secured no fewer than 18 first and second prizes at Vincent Square in 1906 for *Auriculas*. It was therefore not surprising to find the stock embracing, in addition to most of the standard kinds, some 900 seedlings of this flower. The glass-houses include a range of

fruit houses and several plant pits, an old Pine-apple pit—now used as a stove—with green-houses and frames. The houses are all old and belong to a type that has been generally superseded. In one is a remarkable plant of *White Ischia* Fig, which was ripening a heavy crop of fruit. We measured the bole, and it was 2 feet 1 inch in circumference. It is believed that this old tree was planted when the gardens were formed in 1745. There are also fruit trees in pots of Apples, Pears, and Plums. These were ripening their wood in the open.

One of the larger glass-houses was filled with *Chrysanthemums* and other flowering plants. The whole of one of the side stagings was planted with the border variety *Ruby King*, a charming and floriferous variety. As a pot plant for decorative purposes, nothing is finer than the yellow *Craig Millar*. Several small pots were just planted with *Sweet Peas*; these will be placed in open borders in November, and it is anticipated that they will flower in May. The houses also contain *Carnations*, *Primulas*, *Coleus*, *Cinerarias*, *Roses* (including a fine plant of *Fortune's Yellow*, which flowers in abundance in a span-roofed greenhouse), and a collection of stove plants and *Orchids*.

The Week's Work.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.E.

Chrysanthemums.—Plants that have passed out of flower should be cut over, leaving the stems about 1 foot long upon varieties that do not as a rule produce suckers freely, as in these cases it may be necessary to obtain cuttings from stem-growths. Varieties, however, that produce an abundance of growths from the base should have these thinned out severely in order that light and air may circulate amongst them. Place the pots in a structure where the plants will be exposed to sunlight and where the atmospheric temperature will be about 50° or 55°. A *Chrysanthemum* plant that has been cut down in this manner requires but very little water at the roots, but a slight spraying over the tops of the pots in bright weather helps to promote growth, and keeps the cuttings in a moderately soft condition. Preparations must now be made for propagating plants for blooming next season. See that plenty of small pots are available and that they are made clean inside and outside. The collection which is grown for supplying large blooms should be carefully examined, and any varieties that may be advantageously discarded next season marked, so that they may not be propagated. When once a variety has begun to deteriorate in constitution no effort of the cultivator will suffice to make it produce exhibition flowers. Therefore it is needful to be on the look out for new varieties, and these new varieties have to be grown for one season or perhaps two before the cultivator can be quite sure which is the best bud to select in particular instances. Notes should be taken at the present time of varieties that have been cultivated this season for the first time, as these notes will be necessary next season in determining when to stop the shoots and which buds to select. Early buds always produce the largest blooms, but this is often at the expense of good colour and quality of flower. Many good sorts have been thrown away because the cultivator has not known the proper date to secure the bud. So far as Scotland is concerned, the last week in November is the best time to insert cuttings of varieties that require very early pinching or stopping, as growth here in spring is very slow compared with that of southern plants. For such varieties as H. Stowe, Madame R. Cadbury, J. C. Neville and others cuttings should be put in by the 25th of the present month, and they should be ready for potting into pots 3½ inches in diameter by January 25. Some of the varieties I have mentioned have to be stopped by the first week in February, in order to get crown buds by the first week in August.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holford, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Celogynes.—The species *C. cristata* and its varieties *alba* and *Leoniana* have now completed their season's growth. These plants should be placed for the winter in a cool, intermediate house, well up to the light, where a minimum atmospheric temperature of about 50° is maintained. This treatment will retard the flower-spikes, and will be found to be an advantage when cut flowers are required during winter, as, if a few plants are brought into extra warmth at intervals, a succession of flowers can be kept up for a considerable period. The plentiful supply of water hitherto afforded should now be considerably reduced, but care should be taken to keep the rooting material in a sufficiently moist stage to preserve the pseudo-bulbs in a plump and healthy condition. These plants should never be allowed to become dry at the roots, and after the flowering stage is over. Do not permit any plants to flower that were renade this season, as they usually require two seasons to become re-established and fit for this purpose.

Calanthes.—Those of the *C. vestita* and *C. Veitchii* groups are now ripening their foliage, and concurrent with this natural wet the plants are pushing forth their flower-spikes. Later on, they should be given every encouragement to develop and expand their flowers. Less frequent waterings will now suffice for these plants, but, like the above, they must not be allowed to become dry until after they have finished flowering. Afford sufficient water to the roots to aid the proper development of the flowers, and as soon as they commence to open the atmosphere of the house should be kept rather drier. *Calanthes* at all seasons require a light and airy position, and in their present stage they should be so arranged that their needs in these important respect may be fully satisfied.

Phalanopsis.—The unusually bright, warm weather we have experienced this autumn will have proved very beneficial to the plants of this genus. The cultivator should now be able to dispense entirely with shading, and the division occupied by these plants should, on all suitable occasions, be well ventilated, in order to thoroughly consolidate the newly-made leaves. Henceforward, water to the roots of these plants must be afforded with discretion, as these, as well as the leaves, are exceptionally sensitive. A safe plan, at this period, is to allow the rooting material to dry out, although care must be taken not to let it remain in a dry state for any length of time, otherwise the health of the plants will be impaired, and proper development of the flower-spikes now pushing forth will be hindered.

THE HARDY FRUIT GARDEN.

By F. JOHNSON, Gardener to The Dowager Lady NUNBERGHELM, Warton Priory, Yorkshire.

Planting of trees.—Seldom have hardy fruit trees made cleaner or better growth than this season. Though at one time they were late in their development, the shoots have ripened most satisfactorily during October. Do not neglect any opportunity of removing the shoots that will not be required for fruiting next year, so that the maximum amount of light and air may have access to every part of the trees. Until quite recently the ground has been too dry for the successful lifting of fruit trees on light soils, and this has delayed planting operations. Autumn is undoubtedly the best season for planting fruit trees, provided the soil has been properly prepared beforehand, but if this has not been done, then, in the case of heavy, moisture-retaining soils, it will be better to defer planting until the spring. In all cases it is important to have a quantity of fresh soil mixed in readiness for use, so that it is possible to apply to each tree at planting time at least one barrow-load of fresh compost. Having prepared the ground, and assuming that the drainage is in proper condition, suitable holes should be dug out for receiving the trees. These holes should be made large enough that the roots may be spread out to their fullest extent. Do not dig the holes long before they are required, and be careful not to plant the roots too deeply. A good guide in this matter is afforded by the mark on the stem of the tree,

showing at what depth it was planted in the nursery, which should never be exceeded afterwards. Cut off any bruised roots, and shorten others that are too long or have extra strength. Place the tree in position, and work a barrow-load of prepared soil in amongst the roots, lightly shaking the trees in an upward direction in order that the soil may percolate into the interstices. Make the soil firm by treading as the work proceeds, being careful not to press the fibrous roots into the soil more than 3 inches deep. The treading may have to be reduced to a minimum on heavy soils that are inclined to hold the wet. Affix a stout stake to each standard tree before planting, and in some cases such a stake will be necessary also for pyramids and bushes. If the subsoil is of a heavy and wet nature, it will be advisable to dig the hole 2 to 2½ feet deep and place a layer of broken bricks or stones at the bottom, covering these with a layer of lime rubble and putting over this some old turves with their grass side downwards. Apply a mulch of light litter to all the trees immediately after planting and give water to the roots if this is necessary. Afterwards light mulches may be applied annually in order to encourage the roots near to the surface. In the case of large fruit trees it is usually necessary to apply a thorough root-watering before attempting to root-prune them or lift them for replanting.

Selection of trees.—In the selection of young trees from the nursery choose healthy specimens two or three years old that have not been subjected to severe pruning. Take every care of trees that arrive from the nurseries, and, if planting operations are delayed, let the trees be unpacked carefully and their roots laid in the earth in a moist situation, as the fibres suffer serious injury if allowed to become dry.

Propagation.—Bush fruits may be propagated so simply, and young bushes produce so much finer fruits than older specimens, that a few cuttings should be inserted each year. These cuttings should be formed of shoots of medium strength, and from 9 to 12 inches long. All the buds except the four nearest to the top should be removed before planting, in order to prevent the formation of suckers. Insert the cuttings in trenches, covering them about two-thirds their length, and placing a little sand amongst the soil, afterwards treading the soil around them firmly with the foot.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. Vicar General, Aldenham, Herefordshire.

Peas.—Where accommodation is provided for growing early Peas under glass, either in cool houses or pits, seeds should be taken to prepare and sow the first batch of seeds. These may be sown in various ways, for example in rows in well-prepared soil, or in pots, tubs or boxes, where the roots are more confined. I prefer to use 8 or 10-inch pots. These should be moderately drained and half-filled with a compost consisting of one part light, fibrous loam, and one part other manure from an old mushroom bed or some well-decayed leaf mould, adding a 6-inch pot of bonemeal to every six bushels of compost. Make this moderately firm, and sow the seeds as thickly again as it is intended the plants shall be cultivated. Four or five plants of tall or moderately tall-growing varieties are sufficient for either sized pots. Cover the seeds about 1 inch deep, and apply a thorough watering, afterwards removing the pots in an unheated frame, so that the plants should be allowed to proceed slowly, and during the life of the plants the cooler they can be grown the better. There are now a large number of varieties adapted to this treatment, some being dwarf and others of tall growth. Where circumstances will allow, I should distinctly favour the taller varieties, as they are capable of yielding heavy crops. Such varieties include Gradus, Early Morn, Edwin Beckett, Reading Giant, and Duke of Albany.

Broad Beans.—Although some people experience difficulty in getting these to set well when grown under artificial conditions, especially in pots, there is no occasion for this if proper attention is given to them when in flower. The seeds should be sown now and treated much in the same manner as Peas, excepting that in the case of Beans a warmer place may be assigned to them till after germination has taken place.

Take care to protect the seeds against rats and mice. The old method of sowing in Gas and Beans in the open ground during autumn is not to be recommended, except perhaps on very light soils and in the most favourable parts of the country. The new and improved long-podded varieties of Broad Beans are much the best for pot culture.

Seakale.—The crop which has been grown for taking up and forcing under cover may now be lifted. Cut off all the things and place them on one side. They will then be ready for cutting into lengths and tying in bundles during wet days to provide material for next year. The crowns intended for forcing may be placed thickly together and covered with ashes until required for this purpose. Little difficulty will be experienced in getting them to grow freely in a temperature of 50° to 55°. The light should be entirely excluded to ensure perfect blanching.

Potatoes.—If these are forced early, the sets intended for such treatment should now be selected and laid out thinly on suitable trays, on which has been placed a little finely-sifted manure from a spent Mushroom bed. Moderate-sized tubers should be chosen, and only of suitable varieties, such as Sharpe's Victor, May Queen, and Sharpe's Express. These make little haulm and are quick to mature. The tubers should be placed in a light position in a temperature of about 50°.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to Lord LLANGATOCK, The Hendre, Monmouthshire.

Strawberries.—Strawberry plants in pots should now be placed in their winter quarters. I do not recommend the old practice of stacking the pots on their sides. If cool frames are available, the plants may be safely stored in them, placing them closely together on a firm base of ashes and affording protection during severe weather by glass lights. It is especially advisable to give this accommodation to the plants intended for early forcing. But the greater number of our own plants are plunged closely together in beds of fine ashes, the sides of the beds being supported by planks placed on their edge, and the plants are protected from severe frosts by straw or bracken. Advantage should be taken during the forcing season to tendress the plants, doing this work when the soil is moderately dry. Remove the surface soil about half-an-inch deep with a pointed stick, and apply in its place a compost consisting of good loam, mixed with one-fifth its quantity of finely-broken, dry horse-droppings with a dash of soot and a small quantity of artificial manure. Make this compost firm by the use of a rammer.

Early-fruiting Figs.—If Figs are required very early in the season, it will be necessary to have pot-trees specially prepared for the purpose. These should be selected from the trees that were forced early last season, as they may be expected to have well-matured, short-jointed wood, and the varieties should be such as Violette Sepor, St. John's or Osborn's Prolific, either of which force easily. If the shoots were carefully thinned and stopped during the growing season, no pruning will be now required. The trees had better be washed with a mild and warm solution of soft soap and water, or, if they are affected with scale, then a solution of the Gishurst Compound may be used, applying this with a suitable stiff brush, to assist in dislodging the scale. The process of forcing must be commenced very gradually; for the first month the trees may be placed on a bed in a house having an atmospheric temperature of about 50°, and afterwards the pots may be plunged in a fermenting bed composed of leaves and stable manure, and having a temperature of 60° or 65°. This will cause the plants to make satisfactory leaf and root growth, and care must be taken to prevent the beds becoming overladen. Root-watering, when not necessary very frequently, and the amount of atmospheric moisture during winter must not be excessive.

Late Grapes.—Owing to prevalent fogs and heavy rains, extra care has been necessary in the management of the late vines. Such varieties as Lady Downe's, Appley Towers, Black Alicante, and Lady Hutt, are the best late keeping Grapes we have. Take care to keep the atmosphere of the late vineries at an equal tempera-

ture of about 50°. Ventilate the houses pretty early and freely on fine days, but keep them closed in foggy or wet weather. Do not allow the water pipes to get very hot at any time, as this would cause the fruit to shrivel, and therefore during frosty weather the temperature may be allowed to fall a few degrees below 50°. Examine the bunches every few days, and remove any decayed berries. Make use of the Grapes that will not keep long first. Such varieties include Madresfield Court, Black Hamburgh, Mrs. Pearson, Gros Maroc, and Alnwick Seedling. Muscat of Alexandria fruits that were lightly shaded during the time of ripening, the glass having been shaded with lime water, have coloured excellently, and are keeping well. To prevent the berries of this Grape from becoming discoloured or shrivelled by the sun, the bunches should be shaded after the leaves have fallen from the vines, by placing pieces of white paper above the fruit.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lookinge Park, Berkshire.

Climbers upon walls.—It will be necessary to examine wall climbers which have been allowed to overgrow their bounds during late summer and autumn, and prune them to remove the over-weight of growth which, if left, would be likely to cause the plants to get unfurnished or broken by the action of wind or snow. In the case of some species it is necessary to retain a considerable portion of young wood, which may be conveniently done if a similar amount of weak and useless sprays is removed to make the necessary room. The straggling growing *Rubus* has this kind of treatment, and the rampant *Ivy* always have a better appearance if kept well-thinned. In the case of *Ivy*, the growths should be kept at a little distance from the top of the wall at all seasons. Closely cut and properly thinned, *Ivy* will be found to cling most satisfactorily to the wall, which is an advantage. *Ceanothus Gloire de Versailles* should be pruned severely, leaving only two or three eyes on the present year's growth to produce the flowering trusses next season.

Summer bedding plants.—The tender plants which have been hitherto protected in an unheated frame will be safer after this date if removed to some structure where frost can be excluded, such as heated pits or vineries in which the vines are at present resting and where a little fire heat is used occasionally to expel damp. Old plants will need very little water after they have become established in their pots, but younger plants which may be growing in a heated structure must not be allowed to become dry. *Verbenas* are rather troublesome at this season if kept in unheated frames, because they are subject to mildew and damping. Nevertheless, if they are kept in drier conditions they are apt to suffer from thrips, therefore a moderately dry and cool atmosphere is necessary, and an occasional fumigation alternated with dustings of flowers of sulphur, taking care also to remove all decaying matter from the plants as soon as it is observed. The *Calceolaria* cuttings, whether in pots or planted in unheated frames, merely require protection from frost, and no special ventilation during favourable weather. If allowed to get too dry at their roots, they are apt to shrivel. These remarks apply also to *Pentstemons*, *Violas*, *Veronica Andersonii*, and similar plants.

Heuchera sanguinea.—After a time the older plants of this species naturally appear considerably above the ground level, and it is advisable to either divide the plants at this season for increasing the stock, or apply slight protection from frosts by placing some light, sandy soil around each plant, which will cover the tender portion of the stem. If the plants are in unheated frames and the seedlings are transplanted to the open ground in spring, they will flower freely the second season.

Salvia patens.—This species and all similar tubers, including *Mirabilis Jalapa* (Marvel of Peru) should be lifted and stored in a dry shed or cellar where frost will not be likely to enter. I may mention that on the morning of October 26 there were 10 degrees of frost registered here, and this cold has put an end to our summer bedding.

Mr. Bean, who has so well traced the history of the great institution to which he himself belongs, refers also to its influence on the science of botany. Those who are botanists, no less than those whose interests lie more especially in the direction of horticulture and tropical agriculture, will gratefully recognise the inspiration and help that Kew has ever given to freeley.

A passing reference must be made to the immense amount of valuable literature which has emanated from Kew. The *Genera Plantarum* by Bentham and Hooker, the *Flora of British India* by Sir Joseph Hooker, and the *Index Kewensis*—only to mention a few of the works published under the auspices of Kew, will stand as permanent monuments to testify to its strenuous activity; whilst the famous *Botanical Magazine*, which was entrusted to the editorship of Sir W. J. Hooker in 1827, has, ever since 1841, been directly associated with Kew.

Many will read with delight the narrative of Kew as told and illustrated in the volume before us. And whether we happen to be specially attracted by the æsthetic, the scientific, or the more practical and economic side of this great national institution, all will readily echo the words with which Sir William Thibault-Dyer closes his Introduction to the book: FLOREAT Kew.

BELGIAN HONOUR FOR MR. HARRY J. VEITCH, V.M.H.—In the *London Gazette* for October 21 it is stated that the KING has been pleased to give and grant to HARRY J. VEITCH, Esq., his Majesty's Royal license and authority to accept and wear the insignia of Chevalier of the Order of Leopold, conferred upon him by his Majesty the KING of the BELGIANS, in recognition of valuable services rendered by him. We are sure all our readers will join in the hearty congratulations we offer to Mr. VEITCH on this auspicious occasion. KING LEOPOLD could not have selected a more representative or highly-respected exponent of British horticulture.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will be held on Tuesday, November 19, at the R.H.S. Hall, Vincent Square, Westminster. At three o'clock p.m. a lecture on "British Wild Flowers in the Garden" will be delivered by Mr. JOHN W. ODELL.

BOTANICAL MAGAZINE.—The issue for November contains descriptions and illustrations of the following plants:—

MUSSENDIA ERYTHROPHYLLA, tab. 8222.—This is a showy shrub, described as long ago as 1827, from specimens collected by THONNING on the Gold Coast, but the oldest herbarium specimens at Kew were collected by Mr. GUSTAV MANN in February, 1862, in the Cameroons at an elevation between 3,000 and 4,500 feet. It has since been collected by travellers in various localities from Sierra Leone to Angola and eastward to Uganda. It is a stove shrub belonging to the Nat. Ord. Rubiaceæ; its branches and leaves and flowers are more or less clothed with soft hair. The flowers are about 1½ inch across, borne in dense terminal cymes, and clothed with long spreading crimson hairs on the outside, yellow within, changing to red, crimson in the centre. The ornamental character of the plant arises from the development of calyx leaves of a brilliant red colour. Only one of the calyx lobes on a particular flower develops into a leaf, and in other flowers from the same cyme there is no such development. Mr. W. BOTTING HEMSLEY, who describes the species in the *Botanical Magazine*, mentions that the species has been introduced to Kew by Mr. H. N. RIDLEY, Director of the Singapore Botanic Gardens, who forwarded a plant in a Wardian case in 1907. In a note upon the cultivation of the plant

Mr. W. WATSON refers to Mr. W. BULL as having distributed the species in 1883, but it was not successfully cultivated at that time. At Kew, the plants received from Singapore have been grown in a moist tropical stove, where they have formed shapely well-furnished shrubs, about 2 feet high, and were in flower for about two months, the red calyx leaves being quite as effective as the bracts of *Euphorbia* (Poinsettia) pulcherrima, and they appeared to be as persistent.

MECONOPSIS SINUATA, VAR. **LATIFOLIA**, tab. 8223.—The species *M. sinuata* is not known in gardens, and Lieut.-Col. PRAIN states that it is rare in Alpine Sikkim and Bhutan at 10,000 to 12,000 feet. It is closely allied to *M. aculeata*, figured in the *Botanical Magazine*, tab. 5456, but has narrower, slightly-lobed leaves and longer capsules, widest above the middle. *M. sinuata latifolia* has leaves as wide as those of *M. aculeata*, but as slightly lobed as in the case of *M. sinuata*. Its flowers differ from those of *M. aculeata* in having a narrower, more prickly ovary and a deep pink or bright orange instead of a pale green stigma. Its capsules are, though shorter, obconic as in *M. sinuata*, not widest below the middle as in *M. aculeata*. Lieut.-Col. PRAIN says that this flower may prove distinct, but until it can be compared with living plants of *M. sinuata* the plant is best treated as a variety, *latifolia*, of that species, from which it differs in its wider leaves and shorter fruits. One of the plants at Kew which developed partially double flowers, such as are sometimes seen in *M. integrifolia*, was figured in the *Gardeners' Chronicle*, September 12 last, p. 202.

BERBERIS YUNNANENSIS, tab. 8224.—This Chinese species is described by Mr. J. HUTCHINSON. It was first discovered by DELAVAY in 1885, near Lankong, Yunnan, at an altitude of 10,000 feet. Since then it has been collected in Western China by WILSON. Though very closely allied to *B. macrosepal*, also gathered by WILSON, *B. yunnanensis* is nevertheless distinct, having glabrous young branches instead of shortly pubescent ones. In *B. yunnanensis* the petals are acute and scarcely emarginate and bear small rounded glands, whereas in *B. macrosepal* they are obtuse with a broad, widely emarginate apex, and the glands are larger and more elongated. Mr. W. J. BEAN states that Kew is indebted for this species to Mr. MAURICE L. DE VILMORIN. The fruit is a bright red colour.

COLUMNEA MAGNIFICA, tab. 8225.—This species is figured from specimens presented by COL. BEDDOME and by Mr. W. E. GUMBLETON. It was figured and described by Mr. T. A. SPRAGUE—who also describes the plant in the *Botanical Magazine*—in the *Gardeners' Chronicle* for February 1, 1908, p. 66.

PYRUS SINENSIS, tab. 8226.—This species was introduced into this country by Captain J. P. WILSON in 1820, and the fruit was illustrated in the *Gardeners' Chronicle*, October 9, 1875, fig. 95. Dr. OTTO STAFF mentions that a fruit produced from a graft in 1823 was described by LINDLEY in *Trans. Hort. Soc. Lond.*, vol. vi. (1826), p. 396, as measuring nearly 3 inches in length and 2½ inches in diameter, forming an almost perfect oval, covered with a pale, dull, yellow skin marked with numerous rough brown spots, and possessing a white, crisp flesh with the flavour of an Apple rather than that of a Pear, though of no particular excellence. *P. sinensis* is known in China as sha-li (Saud Pear), and was mentioned as such by ROXBURGH in his *Hortus Bengalensis* in 1814. Mr. W. J. BEAN states that this Pear has been cultivated at Kew since 1875. It flowers freely almost every year early in April, but rarely produces a large crop of fruit. The flowers are white.

HORTICULTURAL CLUB.—The next House dinner of the club will take place on Tuesday, November 10, at 6 p.m., at the Hotel Windsor. Mr. C. D. McKAY will talk about "French Gardening."

BRITISH GARDENERS' ASSOCIATION.—The next meeting of the London Branch will take place at "Carr's," Strand, on November 12, at 7.30 p.m., when Mr. J. HARRISON DICK will give a lantern lecture on "Famous Gardeners." All professional gardeners are welcomed.

THE NATIONAL SWEET PEA SOCIETY will hold its London show in 1909 at the Royal Horticultural Hall, Westminster, on July 23, and the provincial show will be held at Saltair, in conjunction with the Saltair Horticultural and Rose Society, on July 13. The annual meeting of the Society for 1905 will be held at the Hotel Windsor on December 11, at three o'clock. Arrangements have been made for holding trials of Sweet Peas in the gardens of the University College, Reading, in 1909, and it is proposed to make a charge of 2s. 6d. for each variety sent for trial, and to receive varieties only from the raisers or original distributors. The secretary is Mr. CHAS. H. CURTIS, Adelaide Road, Brentford.

SOUTH-EASTERN AGRICULTURAL COLLEGE.—A meeting of the Governors of the South-Eastern Agricultural College, Wye, was recently held at Caxton House, Westminster, under the chairmanship of the Right Hon. Lord ASHCORBE. A resolution was passed agreeing with the conclusions of the report of the Committee on Agricultural Education and Research. A special horticultural course has been instituted under the superintendence of a practical fruit grower, and will commence next January. A Fruit Growers' Conference will be held at the college on November 27, when insecticides, spraying, the packing and grading of fruit, &c., will be discussed.

DISTRESS EMPLOYMENT IN THE ROYAL PARKS.—Mr. HARGOURT, First Commissioner of Works, has stated, in reply to a question asked by Mr. PIKE PEASE in the House of Commons, that work will be found in some of the Royal parks for men for whom employment is desired by the Central (Unemployed) Committee. The work consists of digging and sifting gravel, levelling ground, draining, cleaning out ponds and lakes, diverting and widening roads, and preparing ground for nursery purposes. These are works for which no money has been voted by Parliament in the votes, and the wages of the men will be paid entirely by the Central (Unemployed) Committee. The supervision, tools, and materials required will be provided out of the sum taken for this purpose in the vote for the Royal parks which passed the House of Commons last spring.

SALE OF ORCHIDS.—The two days unreserved sale of Mr. J. BRADSHAW'S Orchids at Messrs. PROTHEROE & MORRIS' Rooms on October 29 and 30 resulted on the first day in £2,941 and on the second £2,137. The feature in the sale was the maintenance of the value of all good Orchids, and especially of white Cattleyas; and the revival of high prices for fine coloured forms of Cattleya Trianae. C. Trianae The Premier realised 61 guineas, 74 guineas, and 52 guineas respectively. C. T. Clinkaberryman was purchased for 38 guineas, and others realised equally good prices. Cattleya labiata Cooksoniae was sold for 60 guineas; and C. Dowiana Rosita 60 guineas and 48 guineas. The collection was not rich in good blotched forms of *Odontoglossum crispum*, but those offered for sale well sustained their values.

FLOWERS IN SEASON.—A selection of varieties of Pentstemon has been received from Hawick Nurseries, N.B., where Mr. FORBES has devoted much attention to this useful border and bedding plant. The varieties sent not only represent a great assortment of colours—principally red, white, crimson, and purple, but they have extra large inflorescences of well-shaped blooms. Mr. FORBES' strain ranks among the finest in the country, and the advance seen in some of the more notable varieties is very remarkable. These gardeners who cultivate the Newbury Gem variety, if they do not already possess the white kind, will, no doubt, desire to include it in their collection. It closely resembles the type in all save colour.

PROPOSED MEMORIAL TO THE LATE MR. NICHOLSON.—We have received the following letter from the secretary of the Royal Horticultural Society:—"October 29, 1908. The Council of the Royal Horticultural Society have been requested to raise a fund for the establishment of a permanent memorial of the late Mr. GEO. NICHOLSON, V.M.H., F.L.S. With this they most cordially agree. There are few, if any, men to whom the present generation of gardeners owes a deeper obligation than to the author of *The Dictionary of Gardening*, a work which 'has done more towards the standardisation of plant names and developing an interest in horticulture than anything published since London,' 1829. Mr. NICHOLSON was for many years a most valued member of the Scientific Committee of our Society. He also took a very active part and keen interest in the re-establishment of examinations by the Society, and himself acted as one of the examiners. It is in view of this last point and after carefully estimating the amount likely to be subscribed that the Council propose to establish a 'Nicholson Prize,' to be awarded annually after examination to the students at Wisley. Subscriptions should be sent addressed 'The Nicholson Prize Fund, R.H.S. Office, Vincent Square, London,' and cheques and postal orders made payable to 'The Royal Horticultural Society,' crossed London and County Bank.—W. WILKS, Secretary.
"By order of the Council."

CHRYSANTHEMUM FELTON'S FAVOURITE.—Mr. P. LADDS draws our attention to the description of this variety published on p. 315 last week. The flowers submitted to the Floral Committee were certainly not pure white, and the words "palest lemon, approaching white" fairly described them. A bloom now sent in by Mr. LADDS is nearly white with a lemon centre, and possibly the lemon colour becomes less noticeable with age, but the flowers are hardly likely to be seen at any time as pure white, as, for instance, the old Elaine.

PARIS.—Quite recently the Place du Carrousel in Paris was in the hands of workmen, preparatory to its being turned into a large public garden. It will extend the stretch of greenery which lies between the Champs Elysees and the gardens of the Tuilleries. The cost of the enterprise is estimated at 60,000 francs.

* **"BEAUTIFUL FLOWERS."**—We have received a copy of the second part of *Beautiful Flowers and How to Grow Them*, a notice of which appeared in our last issue. This part contains the concluding portion upon Roses, and the rest of the pages are devoted to the subject of bulbs, which is not concluded. Among the coloured illustrations, two of which represent Anemones and Crown Imperials (*Fritillaria imperialis*), are commendable, and another is a pretty representation of a Tea Rose with yellowish blossoms.

PLANTS FLOWERING OUT OF SEASON.—Our remarks last week in regard to a Laburnum flowering at Kingston have brought several letters from correspondents who have noticed similar instances of plants flowering out of season. Mr. R. YEATS, of Gloddath Hall Gardens, Llandudno, describes a Lilac bush in full bloom. It is growing in a north-westerly aspect. A correspondent from Warrington mentions that there are three Laburnum trees in full bloom in that district, and although the flowers appear fully developed, the racemes are short, as we pointed out last week. Another tree noticed in full bloom by this correspondent is the White Hawthorn, which is growing in a situation sheltered from the north by a high building.

MARRIAGE.—Mr. B. FRANCIS CAVANAGH, who was appointed from Kew to the post of Superintendent, Agri-Horticultural Gardens, Madras, in November, 1899, was recently married to Miss ANNIE KATHLEEN WALKER. Mr. CAVANAGH's present address is the Park, Baroda.

THE DANGER IN SPRAYING FRUITS APPROACHING RIPENESS.—Cultivators who spray their plants with poisonous fungicides or insecticides should beware of the harm that may arise from the poison adhering to ripening fruits. Quite recently a serious case of poisoning was reported from a Continental city, and it was definitely traced to the improper use of sulphate of copper as a spray whilst the fruit was maturing. Apart from the regrettable results that may ensue from such a practice, and the risks thereby incurred, the cultivator, for the sake of his own reputation, should exercise the greatest caution and discretion in the use of poisonous sprays on fruits or vegetables that are used for human consumption.

FORESTRY IN THE NORTH OF SCOTLAND.—A new Lectureship in Forestry has been instituted by the Governors of the Aberdeen and North of Scotland College of Agriculture, and attached to the University of Aberdeen. Dr. MARSHALL LANG, C.V.O., Principal of Aberdeen University, presided at the inauguration, and introduced the lecturer, Mr. WILLIAM DAWSON, M.A., B.Sc. Principal LANG said his presence there that day might be accepted as an expression of the interest which the University of Aberdeen was taking in the cause furthered by the College of Agriculture. That interest was not merely a growth of yesterday. It was first apparent in the year 1780, when the late Sir WILLIAM FORDYCE gave a sum of money for the foundation of a lectureship in chemistry, natural philosophy, and agriculture. In the various lectureships that had already been instituted in connection with the College of Agriculture, he rejoiced to think that there was a direct touch established between the University and the staple industry of the North of Scotland. It was for the advantage of the University that it should have this association with the great national industry. It widened the University's horizon, and it furthered its useful work. It was equally an advantage to agriculture to be connected with that famous and ancient seat of learning, to have access to its accommodation, its resources, and its instruments. They were that day more immediately concerned with a very interesting new departure in the University—the departure signified in the term "forestry." He took it that there was a universal agreement that the timber of this land—the forestry of this land—had been far too much neglected in the past. The causes for that they had not to go far to seek. Perhaps St. Grouse had had something to do with it; perhaps the desire for an immediate return from land also may have been concerned with it, but they could all recognise that the want of knowledge

as to the best way of promoting tree growth, the kinds of trees that best suited the soil, and the cultivation of trees had most of all to do with it. That was true of all Scotland, but more particularly in the north of Scotland. The Aberdeen College of Agriculture was sharing in the revival of interest in that important department, and he had great pleasure in introducing to them Mr. DAWSON, the first lecturer of the University in forestry. Mr. DAWSON was a graduate of Aberdeen, and he did not come among them as a stranger. He came to them with a great reputation, with extensive information, and with capabilities of using and adapting scientific methods. If enthusiasm, the faculty of lucid exposition, and sympathy with students were requisites of a successful teacher, they would find those requisites amply illustrated in the gentleman whom he now asked to deliver his introductory lecture. Mr. DAWSON, who was warmly received by a large audience, gave a long and most instructive lecture.

Publications Received.—*Crops and their Cultivation*, by Primrose McConnell. (London: Cassell & Co., Ltd.) Price 1s. net.—*French Gardening*, by E. Kennedy Anton. (London: Stanley Paul & Co., 1, Clifford's Inn.) Price 3d. net.—*The Country Home*, for November, an excellent monthly illustrated magazine published by Messrs. Arch. Constable & Co. Price 6d.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

CARNATION WINTER CHEER.—I send for your inspiration a few blooms of Winter Cheer Carnation from plants growing in beds in the flower garden here. We cultivate this variety extensively for planting out in beds and borders, as it flowers freely during August, September and well into October, after all other border Carnations are over. The cuttings are inserted, each with a heel, in shallow boxes during September and rooted in frames having bottom heat. The variety is also grown in these gardens for flowering in winter. IV. Wenman, Hickleton Hall Gardens, Doncaster, October 28.

SHRUBS FOR A NORTH WALL (see p. 804).—*Choysia ternata* does well against a north wall; at the present time it is giving its second crop of flowers, which are not the least damaged by the sudden frosts we are now experiencing. *Garrya elliptica* is also valuable for the position named. As the flowers of the male plant are the most ornamental, care should be taken to procure that sex; but where space permits, the female form may with advantage be added for the sake of its black berries. The Camellias are hardy in many districts, and when planted against a north wall the flowering period is delayed, and the blooms often escape damage from spring frosts. Even though they yield no flowers, the Camellia makes a handsome and uncommon wall plant. The single and semi-double forms are the most suitable for outdoor culture. In the southern and western seaside districts the Escallonia thrive surprisingly in a north aspect. *E. macrantha* is the species most commonly grown, but the others are of equal value; for a low wall Escallonia rosea is preferable. A. C. Bartlett, Pencarrow Gardens, Cornwall.

PYRUS SORBUS.—Reading the interesting article about this tree, published on p. 236 in the issue for April 13, 1907, it struck me that you might be interested in seeing fruiting branches from a tree raised from seed saved from fruit handed to me by Mr. Wm. Robinson 24 years ago. The tree is now 30 feet in height and has a girth of 30 inches at 4 feet from the ground. This is the first year that it has flowered. Not knowing that "the seedlings have been found to be very delicate and should be kept in a cool-house for four or five years during winter," mine were planted out when an inch or two above ground, and not one failed to grow into a healthy tree. A. K., Harrow Weald.

PARASITIC PESTS AND DISEASES.—On p. 299 Mr. Lynch raises a very important question: "Is there any reason for the very common opinion that unhealthy plants are more liable to the attack of insects or fungi than are those which are healthy and vigorous?" Mr. Lynch himself distinguishes healthy and unhealthy plants, and, to avoid misconception, I take it he means by these terms that a plant is performing its functions either normally and is healthy, or abnormally and is unhealthy, without being diseased, by which term I understand that its health is impaired without a parasitic organism being the cause. Everyone has had experience of plants being unhealthy without any apparent cause. The late Professor H. M. Ward says on this point in his little book on *Disease in Plants*, pp. 93, 94, and 95: "A plant in perfect health and in the fullest exercise of all its functions has its roots in a soil which is suitably warmed and aerated, contains the right quantities of water, which dissolve just the proper proportion of all essential mineral salts, but nothing poisonous, while the soil itself has a texture such that the roots and root hairs can extend and do their utmost in absorbing." A little later he says: "Now suppose the same plant has its roots in an unsuitable soil, too dry or too poor in mineral supplies, and a starvation period sets in. This is one of the causes by which unhealthy plants are produced. Now I take it our next point is to prove whether a healthy plant or an unhealthy plant is more liable to disease. If we bear in mind that disease germs are present everywhere, that spores of parasitic fungi or eggs of destructive insects are deposited upon healthy and unhealthy plants alike, we must own that both kinds are exposed to exactly the same degree of danger from these sources; in other words, they are equally exposed to disease. In human pathology this is exactly the same; we all are exposed to the same risks of disease by infection as plants are. Why should there be any exception in plant pathology? In this argument I would answer Mr. Lynch's question emphatically in the negative, exactly as he himself sees no reason why the one or other should be more or less liable. Certainly the point as to whether an unhealthy plant suffers more from disease than a healthy one has no bearing on the subject. But there is another side to this argument. Have not all of us learned from experience that, though we human beings, just as plants, are exposed to the same risks of disease, i.e., are equally liable to disease, yet that in cases of epidemics among any kind of living organisms some escape unhurt, while others fall victim? In human pathology we refer again and again to the age and the predisposition of individuals, but in plant pathology we have hitherto felt disinclined to think them possessed of the same faculties. I think everybody is agreed in medicine that constitution and predisposition are the vital points responsible for increased power of resistance or special liability to disease. This predisposition or liability to take disease, which may be present hereditarily, or develop through unfavourable conditions or surroundings, accounts for the appearance of disease more rarely in unhealthy plants than in healthy ones." *H. T. Gossom.*

Mr. Lynch asks whether unhealthy plants are more liable to the attacks of insects or fungi than are those which are healthy and vigorous. It appears to the cultivator that all plants are equally exposed to contagion, but may not be equally liable to attack, because the healthy plant possesses a degree of resistance to disease that is lacking in plants which have become debilitated, either through lack of nutrition or through being kept in conditions in which they are unable to make use of the nutrition within their reach. Incleanliness may be a predisposing cause to disease. In human pathology it is well known that certain diseases are more readily contracted when the blood is in a more or less morbid condition. There appears

to be no reason for supposing that parasitic diseases generally thrive better in cases where the host is in a normal condition, but on the contrary whilst it is most unsafe to expose a patient to contagion when the blood is known to be in a condition other than normal, should infection result, the unhealthy subject generally suffers the greater injury. *H.*

I do not feel able to speak definitely as to fungoid attacks, but as regards insect attacks, I think there is no doubt whatever that the common theory is the result of common observation. We almost invariably find in growing large plots of young trees in the nursery that attacks of aphids, &c., start upon stunted unhealthy trees and spread to those around. For this reason we have for some years made a practice of going over the flats in spring and removing and burning all inferior trees. Most gardeners who suffer from the presence of rabbits find that a newly-planted and slightly-wilted plant will be eaten by them when healthy established specimens of the same thing are passed by. Again, it is a fairly well-established fact that parasitic pests of animals are much more numerous on unhealthy individuals. It may be said that this is simply owing to the sickly animal's inability to cleanse itself, but this will not apply in all cases. A healthy dog does worry his tenants unmercifully, but an ox has little facility for harrying his, whether sick or well. The analogies between plants and animals are so close that no excuse is needed for arguing from one to the other. *Chas. E. Pearson, Lowtham Nurseries, Nottingham.*

SPORTING IN A RETINOSPORA.—Seeing the report on p. 299 of the sporting of Retinospora, which was brought before the notice of the Scientific Committee of the R.H.S., I am enclosing pieces of a similar sport with a piece of the parent plant. The tree is growing in these gardens, and I also enclose a small sketch [Not reproduced.—ED.] showing the position of the sport on the tree. *J. Barnard, Mostyn Hall Gardens, Mostyn, N. Wales.*

SOCIETIES.

HEREFORD FRUIT AND CHRYSAN- THEMUM.

OCTOBER 28 & 29.—This Society held its annual show on these dates in favourable weather, in the Shire Hall, Hereford. Apples formed the principal feature, and they were of excellent quality. There was, however, a considerable falling off, compared with former years, in the display of Pears. Grapes were creditably staged in the few classes devoted to them, especially good being Muscat of Alexandria, from Stoke Edith Gardens. Chrysanthemums have at no time been a great feature at this Hereford show.

OPEN CLASSES.

In the class for a collection of Apples, both culinary and dessert kinds, arranged, with decorative foliage, in a space of 70 square feet, three exhibits were staged. Mr. R. M. WHITING, of Credenhill, Hereford, deservedly won the 1st prize with clean, highly-coloured fruit. About one-third of the collection were dessert varieties, including King's Acre Pippin, Allington Pippin, Rosemary Russet, James Grieve, Tillington Seedling, Cox's Orange Pippin, Charles Ross, and Herefordshire Pearmain. Of culinary sorts were noted grand dishes of Newton Wonder, Tyler's Kernel, Bismarck, Tibbett's Pearmain, and Bramley's Seedling. 2nd, Mr. E. W. CADDICK, of Caradoc, Ross, with large fruits of leading varieties. 3rd, Messrs. PEWTESS BROS., Tillington Nurseries, Hereford.

A DECORATIVE GROUP OF FRUIT.

The inclusion of both fresh and preserved fruits was permitted the space being confined to 50 square feet. This made an interesting class, in which three exhibitors staged attractive displays. Messrs. PEWTESS BROS. took the lead with an assortment of fruit, principally Apples

and Pears, arranged in boxes, baskets, and dishes, interspersed with decorative plants. 2nd, THE HEREFORD CO-OPERATIVE FRUIT CO.; 3rd, Mr. CADDICK.

There were four exhibits staged in a class for a collection of Apples, 12 culinary and 12 dessert kinds. The 1st prize was won by Messrs. GERTING & CO., Newton, Gleston Court, Ross. The fruits were large, well-coloured, and clean of skin. 2nd, Mrs. WOOLHOUSE, Burghill Court (gr. Mr. J. Nunn). The class for a collection of 12 dishes of kitchen Apples was competed by five growers. J. LEE, Esq., Higher Biddington, Cheshire, being placed 1st with fine dishes of Byford Wonder, Peasgood's Nonesuch, Golden Spire, Allinston, Annie Elizabeth, &c. Mr. KELLY followed closely.

The class for a collection of eight dishes of dessert Apples made a splendid show. Mr. KELLY being placed 1st amongst eight exhibitors. The Rev. G. H. DEVONPORT, Foxley (gr. Mr. R. Currie), was a good 2nd.

PEARS.—There was no entry in a class for Pears, to be arranged with foliage decorations in a space of 35 square feet. In a class for eight dishes, A. W. FOSTER, Esq., Brockhampton Court, Ross (gr. Mr. Parrott), was placed 1st amongst six exhibitors. 2nd, the Rev. Prebendary BRIERLEY (gr. Mr. W. Foster).

There was 25 single-dish classes for distinct varieties of Apples, amongst which were to be found many of the best fruits in the hall, and in the most of the classes there was strong competition. The best Muscat of Alexandria Grapes were shown by P. H. FOLEY, Esq., Stoke Edith Park, Hereford (gr. Mr. F. Roberts); the best of the variety Gros Colmar by Mr. PARROTT; and the best of Gros Maroc by Mr. SKYES.

Prizes were offered by the Herefordshire County Council for Apples, Mr. KELLY, Mr. F. ROBERTS, Capt. Cox, and Mr. WHITING being prominent prize-winners.

The champion dishes were as follow:—Dessert Apples: 1st, Mr. WHITING, with a grand dish of Allington Pippin. Culinary Apples: 1st, Mr. J. LEE, with large and highly-coloured fruits of Mère de Ménage. Pears: 1st, the Rev. DEVONPORT with a fine dish of Doyenné du Comice.

TRADE EXHIBITS.

THE KING'S ACRE NURSERY CO., Hereford, showed upwards of 80 dishes of Apples; also fruit trees in pots and floral devices.

Mr. WILSON, Florist, Hereford, showed floral devices, Chrysanthemum blooms, &c. Messrs. YOUNG & CO., Hatherly, Cheltenham, had Tree Carnations displayed in vases.

THE LEAMINGTON ONION SHOW.

OCTOBER 24.—It was anticipated when the particulars of this Onion Show were first made known that a very keen competition would result, but all expectations were exceeded. No fewer than seventeen hundred bulbs were staged. Although several consignments of these stood out conspicuously from the rest, nevertheless, most of those exhibited were well-grown specimens of the Leamington Giant variety.

The premier award of £100 was made to Mr. A. R. SEARLE, Castlebury Gardens, Northampton, who had an Onion well over 3 lbs. in weight, which was of great depth and splendidly ripened. Many congratulations were offered Mr. SEARLE, and the valuable prize was handed to him on the afternoon of the show.

The second prize was gained by Mr. S. J. BAKER, Wear House Gardens, Exeter, who also staged a remarkably fine Onion, and the third prize by Mr. W. TURNHAM, Culham Court Gardens, Henley-on-Thames. Mr. A. G. GENTLE, Little Gaddesden, Berkhamstead, was fourth. There were in all sixty-one prizes for the single bulb.

In addition to these, valuable prizes were offered for collections of vegetables grown from Messrs. Rogers, Leamington, seeds, and the first prize of £5 and a gold medal was awarded to Mr. WILLIAM FOLKES, Dunstable Street, Ampthill, Bedfordshire, who had some wonderfully fine produce. The promoters of the Show were so well satisfied with the excellence and keenness of the competition that it has been decided to offer valuable prizes again next year.

National Chrysanthemum Society.

NOVEMBER 4-5-6.



CHRYSATHANTEMUMS are just now the most prominent flowers in the garden and greenhouse. The important November exhibition of the National Society affords opportunity for comparing the advance made in this beautiful autumn flower, and shows in what direction further progress is likely to be made. In some sections it would seem that perfection had almost been obtained from the exhibition point of view, and certainly in the Japanese type all that is needed has been reached in the matters of size and substance of petal, but there is still room for varieties with improved shades of colouring, especially in the tones of red. The market varieties now hold an important position, for Chrysanthemums are a feature in the flower markets during quite nine months of the year. Those of the border or decorative type also increase in popularity in each succeeding year, and the gardener has now at his disposal a wealth of beautiful varieties that are alike useful for the embellishment of the flower border or for furnishing blooms. The single varieties appear to have always suffered from neglect, and these exquisite flowers are seen less frequently than ever at exhibitions. The trained plants have quite gone out of favour, and this year the class for these plants was omitted from the schedule. The exhibition was opened at the Crystal Palace in favourable weather, the Wednesday at Sydenham being fine, with sunshine at intervals. This year the majority of the exhibits were displayed in the central avenue, and they were in point of numbers about equal to those staged last year, there being more in the larger classes and rather fewer in those of lesser importance. Several novelties were submitted to the Floral Committee, which met at 12 o'clock on the first day, and this body granted Certificates of Merit to 11 new varieties.

GROUPS OF CHRYSANTHEMUMS.

There were two classes provided for groups of Chrysanthemums, one open to all-comers and the other restricted to amateur growers.

In each case the schedule required a display of Chrysanthemums with suitable foliage plants and sprays of other subjects, and not fewer than four sections of the flower were to be represented. The open class was for an exhibit occupying 300 superficial feet. There was only one display in each section, the exhibitor in the open class being Mr. F. BRAZIER, Nurseryman, Addison Road, Caterham. He arranged a circular exhibit, using bamboo epergnes, short and tall, with a large central stand, and in the foreground large exhibition blooms and popular varieties in vases. Coloured foliage and sprays of berried plants, with a number of pot plants of Golden Privet, gave suitable relief to the Chrysanthemums. The exhibit was awarded the 1st prize.

The exhibitor in the amateur class was Lady TATE, Park Hill, Streatham Common (gr. Mr. W. Howe) who put up a very creditable exhibit, also in a circular manner. The group was worthily awarded the 1st prize. It contained a wealth of Japanese blooms, arranged principally as a large cone in the centre, and in the outer part were groups of decorative varieties, in which was set a Cocos Palm or a Codænum (Croton). The whole was relieved with Ferns, Palms, and Codænums.

CUT BLOOMS: OPEN CLASSES. BLOOMS SHOWN ON BOARDS.

INCURRED VARIETIES.—The class for 36 blooms of distinct varieties was contested by four exhibitors, all the displays being of good quality, although the paucity of bright colours in this type of the Chrysanthemum was apparent in the exhibits. The yellow and white varieties are good, but what is needed are brighter colours, especially shades of red. There are too many of a dull bronze tone. The 1st prize was awarded to J. B. HANKEY, Esq.,

Fetcham Park, Leatherhead (gr. Mr. W. Higgs), who won easily, having by far the largest and best flowers. His varieties were as follow:—Buttercup (a fine large bloom, but with rather loose florets), Mrs. Barnard Hankey (silvery-red, the inner surface of the florets are red), Souvenir de Wm. Clibran (white), Lady Isabel (bluish), Embleme Poitevine (yellow), Chrys. Bruant (dull bronzy-red), Mrs. H. J. Jones (white), May Philips (yellow, fading to bluish pink), G. F. Evans (a good bloom of yellow colour), H. Hearn, Mrs. J. Hygate (white), Mrs. Denyer (white and pink), Miss E. Holding (very pale lilac), W. Higgs, Boccace, Godfrey's Eclipse, W. Pascoe, Duchess of Fife (of fine globular form, white), Pantia Ralli, Daisy Southam (a choice flower of deepest yellow colour), W. J. Higgs, Mrs. J. Wynn, Frank Trestian, Mrs. F. Judson, Triomphe de Montbrun, Romance, Topaze Orientale (fine form, lemon coloured), Edwin Thorp, Margaret Brown, Le Peyrou, Hanwell Glory, Clara Wells, J. Agate, Mrs. A. H. Hall, and Chas. Curtis (the best of the yellow varieties). 2nd, PANTIA RALLI, Esq., Ashted Park, Epsom (gr. Mr. G. J. Hunt). The best blooms in this exhibit were Buttercup, W. Pascoe, Amber Beauty, C. H. Curtis, Mrs. F. Judson, Clara Wells, Mrs. Barnard Hankey, and Mrs. J. Wynn. 3rd, A. TATE, Esq., Downsides, Leatherhead (gr. Mr. W. Mease).

TWELVE blooms of *incurred varieties, distinct*.—There was a good competition in this class, eight exhibits being seen, the choicest dozen being shown by Miss WILMOTT, Warley Place Gardens, Great Warley, Essex (gr. Mr. J. Preece), whose blooms were bright and fresh in appearance and of desirable form. The varieties were Mrs. G. Denyer (pink), Buttercup, Mrs. F. Judson (of purest white), W. Biddle, Embleme Poitevine, Triomphe de Montbrun, Godfrey's Eclipse, M. H. J. Jones, Duchess of Fife, Daisy Southam, Lady Isabel, and Clara Wells. 2nd, J. B. HANKEY, Esq., Leatherhead (gr. Mr. W. Higgs), with G. F. Evans (a large yellow flower), Miss E. Holding, Edwin Thorp, Lady Isabel (a shade of red, a desirable colour), Duchess of Fife, &c. 3rd, A. TATE, Esq., Leatherhead (gr. Mr. W. Mease).

SIX *incurred blooms of one variety*.—There were five exhibits in this class, and all were yellow varieties. The 1st prize was awarded to A. T. MILLER, Esq., Emllyn House, Leatherhead (gr. Mr. G. Mileham), who had fine blooms of Buttercup. 2nd, A. KEMPE, Esq., 15, Ross Road, Norwood (gr. Mr. A. Osmond), with small but well-formed flowers of C. H. Curtis. 3rd, F. A. BEVAN, Esq., New Barnet (gr. Mr. H. Parr), with Buttercup.

JAPANESE CHRYSANTHEMUMS.

The largest class in this section, that for 48 blooms of distinct varieties, was one of the most important in the Show. There were six exhibits, and, collectively, they made a big display. Competition was very keen, and the judges resorted to pointing, with the following result:—EXECUTORS of Lady Louisa Ashburton, Melchet Court, Romsey, Hants. (gr. Mr. G. Hall), was awarded the 1st prize with 177 points; 2nd, A. TATE, Esq., Downsides, Leatherhead (gr. Mr. W. Mease), with 160 points; and 3rd, J. B. HANKEY, Esq., Leatherhead (gr. Mr. W. Higgs). The varieties comprising the 1st prize exhibit were those following: F. S. Vallis (a bold bloom), R. Vallis, Mrs. N. Davis, Splendour, W. A. Etherington, Bessie Godfrey (an excellent example of this fine yellow variety), Annie Hamilton (white), Magnificent (of richest red colour), White Marquise Venosta, Edith Jameson, Leigh Park Wonder, Valerie Greenham, Mrs. A. T. Miller (a choice flower), Duchess of Sutherland, Mrs. Vallis, Lady Talbot (an excellent bloom, very large in size, with long, narrow, pale yellow florets), Mrs. A. H. Lee, Miss Hickling, William Watson, President Viger, Sensation, Lady Conyers, Mrs. R. Hooper Pearson, Mrs. J. Dunne, A. Davis (fine in colour, deep yellow), A. H. Broomhead, Mme. C. Nagelmackers, Mrs. F. Coster, M. V. Venosta (a fine bloom of this recurring variety), Mrs. W.

Knox, Mrs. J. Dunne, Thrumpton Pride, Mme. P. Radelli, J. H. Silsbury, W. Gee, Melchet Beauty, Mrs. G. Mileham, Norman Davis (fine orange-red colour, but rather small), Marquis of Northampton, President Loubet, Eric Crossby, Mrs. D. Fairweather, Mme. R. Oberthur, W. Beadle (of fine colour), Lady Henderson, Maud Jefferies (the best white variety in the exhibit), J. H. Doyle, and Mme. Rivoli (a magnificent specimen of this yellow variety). Mrs. TATE showed fine blooms of Lady Talbot, Mrs. E. Crossley, Mrs. J. C. Neil, Reginald Vallis, Mme. P. Radelli, F. S. Vallis, Mrs. L. Thorn, and Mary Inglis.

TWENTY-four blooms of *Japanese varieties, distinct*.—A special prize of five guineas was offered in this class by the President of the Society, Sir Albert Rolit, LL.D., D.C.L. Here, again, were seen some fine blooms, the class being contested by seven exhibitors. The 1st prize went in favour of J. D. FABER, Esq., Rush Court, Wallingford (gr. Mr. J. Dymock), for a magnificent collection, the flowers being large, bright, and fresh in appearance. They were all so good that we give the varieties, which were as follows:—Mrs. Norman Davis, F. S. Vallis, Mme. Nagelmackers, Lady Talbot, Valerie Greenham, Mrs. A. T. Miller, Reginald Vallis, Edith Smith, Mary Inglis, Mrs. A. H. Lee, General Hutton, Mrs. Vallis, Duchess of Sutherland, W. A. Etherington, Walter Jinks, J. H. Silsbury, Bessie Godfrey, Henry Stowe, Mrs. G. F. Coster, Mrs. J. E. Dunne, Viola, Mme. R. Oberthur, Florence Penford, and Leigh Park Wonder. 2nd, R. B. JACOB, Esq., Ewell House, Ewell (gr. Mr. W. Holden), with F. S. Vallis, Magnificent, Norman Davis, Henry Perkins, Edith Smith, Valerie Greenham, Bessie Godfrey, &c. 3rd, A. JAMES, Esq., Cotton House, Rugby (gr. Mr. A. Chandler).

TWENTY-four blooms of *distinct varieties*.—The prizes in this class were offered by four important trade growers, and the conditions were that the blooms were to be of varieties sent out by the donors of the prizes and six at least introductions sent out during the last two seasons. The 1st prize was £12 and the 2nd £8. The class brought five entries, all of exceptionally good quality. So close were the first two exhibits that pointing was resorted to, and only two points separated the 1st and 2nd prize groups shown by the EXECUTORS of Lady Louisa Ashburton, Melchet Court, Romsey, Hants. (gr. Mr. G. Hall), and JOHN BARRETT, Esq., Harlow, Essex (gr. Mr. J. Jefferies), respectively.

The winning stand contained the following varieties:—Mrs. N. Davis, Norman Davis, Annie Lunt, W. Beadle, R. C. Pulling, Leigh Park Wonder, Thos. Stevenson, Paul Randet, Edith Jameson, W. Watson, Miss H. Rowley, W. M. Moir, Mary Donnellan, E. Archer, Mrs. J. Neill (a fine bloom) F. G. Oliver, Joseph Stoney, Harold Wells, British Empire, W. Gee, W. Ring, Miss F. Moore, Mrs. R. Hooper Pearson, and K. Stoop. Mr. BARRETT had as his best blooms, Sidney Penford, Leigh Park Wonder, Annie Hamilton, W. Howe, Pocket's Surprise, and Mrs. Chas. Penford.

TWELVE blooms of *Japanese blooms, distinct*.—This was an exceptionally well-contested class, there being 11 competitors. Generally, the flowers were of a high standard of merit, especially the dozen blooms staged by the EXECUTORS of Lady Louisa Ashburton (gr. Mr. G. Hall), who again secured the 1st prize for these large varieties. He showed F. S. Vallis, Magnificent, Marquis of Northampton, Lady Talbot (a fine flower of pale yellow colour), Edith Smith (a choice white bloom), W. A. Etherington, Annie Hamilton, J. H. Silsbury, Bessie Godfrey, R. Vallis, Mme. P. Radelli, and Algernon Davis. 2nd, A. JAMES, Esq., Cotton House, Rugby (gr. Mr. A. Chandler) who had a magnificent bloom of the yellow F. S. Vallis; also fine flowers of Mrs. Norman Davis, Lady Talbot, Reginald Vallis, &c. 3rd, R. B. JACOB, Esq., Ewell House, Ewell (gr. Mr. W. Holden).

BLOOMS SHOWN IN VASES.

INCURRED blooms.—In a class for 12 vases, each of distinct varieties, three blooms in each vase,

a special prize of five guineas was offered by C. E. Shea, Esq., a former president of the Society. There were three exhibitors, and they furnished the whole space of a very large table. The large, globular blooms showed to advantage set on stiff stems with broad foliage. The 1st prize was won by J. B. HANKEY, Esq. (gr. Mr. W. Higgs), with an even set of large blooms, the varieties being as follow:—Duchess of Erie (white), Lady Isabel (buff), Fantasia Ralli (bronzey, with reddish inner surface), W. Pascoe (pink), Frank Trestant (buff yellow), Boccace (yellow), Mrs. Barnard Hankey, an unnamed variety paler than Lady Isabel, and a magnificent vase of the yellow Buttercup. 2nd, PANTIA RALLI, Esq. (gr. Mr. G. J. Hunt), with smaller flowers of C. H. Curtis (fine in shape), Emblème Poitevine, Miss E. Holding, and Clara Wells.

Twelve vases of Japanese Chrysanthemums, distinct.—This was the most important of the vase classes, and four persons staged, but the closer competition was between the exhibitors of Lady Louisa Ashburton, Melchet Court, Romsey; Hants (gr. Mr. G. Hall), and G. D. FABER, Esq., C.B., M.P., Rush Court, Wallingford (gr. Mr. J. Dymock). The judges awarded the 1st prize, in favour of the first-named exhibitor, and gave Mr. FABER the 2nd prize. Mr. Hall had Lady Talbot, Mand Jefferies, Magnificent, Mrs. Knox, J. H. Silsbury, Mme. Rivoli, Edith Smith, W. E. Etherington, Marquis of Northampton, Reginald Vallis, Mme. P. Raddeilli and F. S. Vallis, all very large in size, and with fine broad foliage. The 2nd prize group contained such choice varieties as Mrs. Norman Davis, Mrs. A. T. Miller, Bessie Godfrey and Reginald Vallis. 3rd, Mr. W. IGGULDEN, Lock's Hill Nursery, Frome, Somerset. In this exhibit was the new yellow variety Mrs. W. Iggulden (see Awards).

SINGLE VASE CLASSES.—White. There were six exhibits, and these represented three of each of the varieties Mrs. Norman Davis and Mrs. A. T. Miller. The 1st, 2nd and 4th prizes were awarded to the latter variety, and the 3rd to Mrs. Norman Davis. The Rt. Hon. Lord Howard de WALDEN, Audley End, Saffron Walden (gr. Mr. J. Vert), won the 1st prize; A. T. MILLER, Esq., Leatherhead (gr. Mr. G. Mileham), the 2nd; and Mr. F. BRAZIER, Nurseryman, Caterham, the 3rd prize. *Yellow.* There were seven exhibits in this class, the varieties being Bessie Godfrey, Mrs. W. Knox and F. S. Vallis. The 1st prize was given to a vase containing splendid flowers of F. S. Vallis, shown by Mr. W. IGGULDEN, Nurseryman, Frome, Somerset. 2nd, to the same variety, shown by JOHN BALFOUR, Esq., Moor Hall, Harlow (gr. Mr. A. Jefferies). *A variety other than white or yellow.*—The best of four exhibits was the large, broad Walter Jinks' variety, of rose-pink colour. The exhibitor was JOHN BALFOUR, Esq. (gr. Mr. Jefferies). 2nd, the same variety, shown by Mrs. JEREMIAH LYON, Riddings Court, Caterham Valley (gr. Mr. G. Halsey).

Anemone-flowered varieties.—There were three exhibits in a class for 24 blooms in eight varieties. The 1st prize was won by J. BOYD, Esq., North Frith, Tonbridge (gr. Mr. A. C. Horton), who included such varieties as Sabine, de Chalouais, Mme. Lawson, Mrs. Skimming, Souvenir de Norgeets, Mrs. H. Eland (a fine pink variety); Owen's Perfection and John Bunyan. 2nd, C. DOUGLAS CLARK, Esq., Eccleshill, Bromley, Kent (gr. Mr. A. Henderson).

Twelve large-flowered Anemone blooms.—These pretty flowers were best shown by J. L. BOYD, Esq., North Frith, Tonbridge (gr. Mr. A. C. Horton). The disc florets are extremely pretty and are surrounded by a zone of ray florets. Delaware, Mrs. J. B. Benedict, Mme. C. Lebocqz, Gluck, Mlle. N. Brum, and Mme. Godereau were notable varieties. 2nd, C. DOUGLAS CLARK, Esq., Bromley (gr. Mr. A. Henderson).

Twelve large-flowered Japanese Anemone blooms.—The best of three exhibits was from the gardens of J. L. BURGESS, Esq., Hill House, Maisey-hampton (gr. Mr. J. A. Humphries). The varieties were Souvenir de Norgeets, Sir Walter Raleigh, Le Chalouais, W. W. Astor, Sabine, Mrs. H. Eland, &c. 2nd, C. DOUGLAS CLARK, Esq. (gr. Mr. A. Henderson).

Pompon varieties.—The best six vases of these Chrysanthemums were shown by F. BRABY, Esq., Bushey Lodge, Teddington. The flowers were much larger than those in the

other exhibits. The varieties were Elsie Dordan (an exquisite flower of pink shade), Prince of Orange, William Westlake (yellow), Comte de Morney (purple), Mr. Holmes (dull red), and William Sabey (yellow). 2nd, J. L. BURGESS, Esq. (gr. Mr. J. A. Humphries), with similar varieties.

Mr. BRABY won the 1st prize for the best exhibit of six vases of Anemone Pompons.

Single Chrysanthemums.—These were not numerous shown. Only one class was provided, and this was for twelve vases in not fewer than six varieties. Four growers competed, the premier exhibit being shown by Mrs. JEREMIAH LYON, Riddings Court, Caterham Valley (gr. Mr. G. Halsey), who had bright bunches of Gracie Towers (pink), Miss Cissy (reddish-bronze), Ladysmith, Mrs. H. Perkins (red), F. W. Smith (pink), &c. 2nd, Mr. C. J. SIMSON, Nurseryman, Chelmsford, with large blooms, the Bronze Pagam being very fine.

MARKET CHRYSANTHEMUMS.—A class was provided for six varieties of Chrysanthemums, dis-budded, and suitable for market purposes. Twelve blooms of each variety were to be shown in a vase. There was a poor response, only two groups being forthcoming, the better being shown by F. J. NARROW, Esq., 18, Abbey Road, St. John's Wood (gr. Mr. A. Robertson). The varieties were Chas. Davis, Money-maker, Lady Hanham, Dazzler (red), Vivandé, and Souvenir de Petite Amie. 2nd, J. L. BURGESS, Esq. (gr. Mr. J. A. Humphries), with shorter stalks. The old source d'Or quite held its own amongst the newer kinds.

There was only one poor exhibit in the class for reflexed blooms.

AFFILIATED SOCIETIES.—Only two exhibits were staged in the class for societies affiliated with the National Chrysanthemum Society, the DORSET CHRYSAETHUM AND HORTICULTURAL SOCIETY and the REIGATE AND DISTRICT CHRYSANTHEMUM SOCIETY, and the prizes were awarded in the order of the names.

AMATEURS' CLASSES.

The exhibits in this section were not so numerous as in some former years, although there were as many as ever in the decorative classes. The principal of these exhibits were accommodated on one table. There was no entry in the class for 18 Japanese blooms, distinct; but in the smaller class for 12 blooms four exhibitors staged. The premier blooms were shown by Rev. A. C. COOPER-MARSDEN, 60, Wickham Road, Beckenham (gr. Mr. W. Rigby). He showed a good dozen flowers, which included Reginald Vallis, F. S. Vallis, Henry Perkins, Mrs. A. T. Miller, Leigh Park Wonder, Miss Elsie Fulton, W. J. Crossley, and Walter Jinks. 2nd, W. H. STONE, Esq., Sydenham (gr. Mr. T. W. Stevens), with smaller blooms.

Twelve Incurred varieties.—The better of two exhibits shown was from the gardens of Mr. JAMES KING, East View, Hendon, his flowers being somewhat flat, the best example being the beautiful yellow variety named after C. H. Curtis.

The only nine vases of single varieties staged were put up by Mr. C. M. COLLINGWOOD, St. David's Hill, Exeter, the quality being mediocre. There were some creditable exhibits staged in the classes for single vases of large blooms decorated with ornamental foliage of other plants. There were eight handsome exhibits, the majority having blooms of high quality. The 1st prize was made in favour of Mr. C. FOX, Richmond Lodge, Eridge Road, Tunbridge Wells, with the large white Beatrice May variety, decorated with Pampas grass, Asparagus Sprengeri, Berberis, &c. 2nd, A. GROVE, Esq., M.P., Chalfont St. Giles (gr. Mr. E. Dennis), with large, flat blooms of Mrs. Norman Davis prettily arranged with Oak foliage and grasses.

The best large vase of decorative Chrysanthemums was shown by Mr. C. B. GABRIEL, Easdale, Horsell, Surrey. Other prominent prize-winners in the Amateurs' Classes were Mrs. T. BREWSTER, Canterbury; Mr. JAMES KING, Hendon; Mr. T. W. STEVENS, Sydenham; C. FOX, Tunbridge Wells; C. B. GABRIEL, Horsell; E. HOLTEN, Dulwich; W. LINTOTT, Caterham; T. W. HILL, Merstham; and A. C. HORTON, Tonbridge.

DECORATED TABLES, arranged with Chrysanthemums, were especially numerous. Mr.

FELTON, Hanover Square, W., won the 1st prize in the open class, his arrangement being unlike the others. It consisted of a ball of moss at either corner, and one in the centre, the central one carrying a tall stake, on which was another ball of moss. In the moss were arranged Rayonnante and the green Mme. E. Rogers, with Pompon and Single varieties and suitable foliage.

Mr. FELTON also won the Dean Memorial Gold Medal and the Felton Cup, but he presented his own cup to the winner of the 1st prize in Class 25.

FIRST-CLASS CERTIFICATES.

J. W. Molyneux.—A Japanese variety of rich crimson colour. The foliage and growth denotes a variety of robust constitution. Shown by Mr. N. MOLYNEUX, Rooksbury Park Gardens, Wickham, Hants.

Mrs. W. Iggulden (Japanese).—The colour is a deep canary yellow. The blooms are supported on strong stems. The variety gives promise of a good exhibition Chrysanthemum. From Mr. W. IGGULDEN, Lock's Hill Nurseries, Frome.

Sylvia Slade (single).—The colour is lake, with a white zone. The habit is free-flowering, and is suitable for growing either naturally or dis-budded.

White Pagam (single).—A pure white flower, an exact counterpart of the well-known Edith Pagam.

R. F. Felton.—A market variety of a rich golden-yellow colour. The plant has a strong constitution and is of free growth, several good blooms being developed on a single plant. These three were shown by Messrs. W. WELLS & Co., Merstham.

Miss Cora Sloop (Incurred).—Of silvery-pink colour, and with stout petals. Shown by Mr. G. CARPENTER, West Hall, Byfleet.

The Hon. Mrs. Lopes (Japanese).—A flower of canary-yellow colour and of good form. Shown by Mr. M. SILSBURY, Shanklin, I.W.

Reginald (single).—A pleasing lemon-yellow variety, suitable for decorative purposes. Shown by Mr. W. J. GODFREY, Exmouth.

Mr. W. Buckingham (single).—The colour is a clear shade of pink, the plant producing handsome sprays of bloom when grown without dis-budding. Shown by Mr. T. BULLMORE, Grove House, Roehampton.

Mrs. W. Parker.—A single variety with flowers of a bluish shade. Shown by Mr. H. REDDEN, Manor House Gardens, West Wickham.

Robert Thorp.—A pure white single variety, free in blooming, and with handsome foliage. Shown by Mr. H. W. THORP, Worthing.

FRUIT AND VEGETABLE CLASSES.

Some good produce was seen in the fruit and vegetable classes, and exhibits were numerous. Especially good were the collections of vegetables in both Messrs. R. Sydenham & Co.'s and Messrs. Webb & Sons' classes. The Rt. Hon. Earl SPENCER, K.G., Althorp Park, Northampton (gr. Mr. Silas Cole), won in Messrs. Sydenham's class for a collection of vegetables having very fine produce, including Clayworth Prize Pink Celery, Ailsa Craig Onions, Hollow Crown Parsnips, Autumn Giant Cauliflower, Potatoes, and Brussels Sprouts.

Hon. VICARY GIBBS, Elstree (gr. Mr. Edwin Beckett) won the premier prize in Messrs. Webb's class with excellent vegetables.

Grapes were well shown, also Apples and Pears in their respective classes.

NON-COMPETITIVE EXHIBITS.

GOLD MEDALS.—Mr. NORMAN DAVIS, Framfield, for Chrysanthemums; Mr. H. J. JONES, Lewisham, for Chrysanthemums; Messrs. W. WELLS & Co., Merstham, for Chrysanthemums, Messrs. G. BUNYARD & Co., LTD., Maidstone, for hardy fruits; Messrs. J. FRED & SONS, Norwood, for Chrysanthemums, fruit and miscellaneous exhibits; Mr. PHILLIP LADDS, Swanley Junction, for market varieties of Chrysanthemums; Messrs. H. CANNELL & SONS, Swanley, for fruit, Chrysanthemums, Zonal Pelargoniums, &c.

GOLD MEDAL for the best miscellaneous exhibit in the show.—Mr. H. J. JONES, Lewisham.

DEAN MEMORIAL MEDAL.—R. F. FELTON & SONS, florists, Hanover Square, W., for floral devices.

SILVER-GILT MEDALS.—Messrs. W. J. GODFREY & SON, Exmouth, for Chrysanthemums; Messrs. FELTON & SONS, Hanover Square, W., for floral devices.

LARGE SILVER MEDALS.—Messrs. HOBBS, LTD., Dereham, for Roses, &c.; GOVERNOR OF BRITISH COLUMBIA, for Apples; Mr. C. J. STURSON, Chelmsford, for Single Chrysanthemums; Messrs. H. SCOTT & SONS, South Norwood, for horticultural sundries, and Mr. G. W. RILEY, Herne Hill, for garden furniture.

SMALL SILVER MEDALS.—Mr. H. W. THORP, Worthing; Mr. F. BRAZIER, Caterham; Messrs. J. CHEAL & SONS, Crawley; Miss R. DAVIES, Upper Norwood; Mr. J. WILLIAMS, Ealing; Messrs. W. DUNCAN TUCKER & SONS, Cannon Street; and Messrs. J. LAING & SONS, Forest Hill.

DUTCH BULB GROWERS'.

The following Awards have been made at recent meetings of the Floral Committee:—

FIRST-CLASS CERTIFICATES.

Dahlia (Paeony flowered) "Andrew Carnegie," in colour light rose.

Dahlias (Cactus) Cecilia, Dorothy, Elsa Ellrich, Eureka, Hamlet, Harold Permyan, Ivernia, Kathleen Bryant, Rev. Arthur Bridge, and Rosa Starr.

Montbretia Prometheus, Watsonia Ardervei, Anemone japonica "Autumn Queen," a large-flowering, semi-double variety, of clear rose colour.

Anemone japonica "Geant des Blanchés," a very large-flowering, semi-double variety; flowers pure white.

AWARDS OF MERIT.

Acidanthera bicolor, a new species from Abyssinia, allied to Gladiolus. The flowers are creamy white, with brownish-red blotches.

Dahlias (Cactus) Apricot, Crespy, Charles H. Curtis, Elysian, Flame, Gazelle, Spanish Prince, and C. E. Wilkins.

Gladiolus gandensis "America."

Gloriosa Leopoldi, a householder climbing plant, with elegant, pure yellow flowers.

Lupinus polyphyllus roseus.

Phlox decussata Gruppenkönigin; large trusses of deep rose-coloured flowers, centre dark violet.

Aster Novæ Angliæ "Ryecroft pink." A very richly-coloured variety, with large flowers, rosy magenta, with copper-coloured centre.

Aster puniceus pulcherrimus, with large white flowers, shaded with light blue.

Aster ibericus Ultramarin, with large ultramarine blue flowers.

Aster cordifolius Sprühlicht, with small, soft blue-coloured flowers, a very free-flowering variety.

Heliborus niger praxox; flowers white, smaller than the common Christmas Rose, flowering in the open air from September until February.

PORTSMOUTH HORTICULTURAL.

OCTOBER 25, 29, 30.—The annual autumn show of this Society was held in the Town Hall, Portsmouth, on the above dates, the exhibition proving a success. Entries were perhaps not quite so numerous as in some former years, but the quality of the exhibits was up to an average standard.

Cut blooms were the leading feature of the show. In the class for 36 Japanese Chrysanthemums in not fewer than 18 varieties the 1st prize included a Silver Challenge Cup value £20, a Gold Medal, and £5. Four growers competed, Lady ASHBURTON, Melchior Court, Romsey (gr. M. G. Hall), won the 1st prize easily with large, full fresh blooms of such varieties as F. S. Vallis, J. H. Silsbury, Mme. P. Radaeli, Edith Smith, Lady Talbot, Bessie Godfrey, Magnificence, Mrs. A. T. Miller, Marquis of Northampton, and Mme. G. Rivol. PANTIA LARLI, Esq., Ashted Park, Epsom (gr. Mr. G. H. Hunt), was a good 2nd with smaller blooms.

The next important class was that for 24 Japanese blooms in not fewer than 16 varieties. Four contestants staged; Lady ASHBURTON was

again successful with similar blooms and varieties as those staged in the important class. Mrs. OGILVIE, Rosecroft, Hambledon, Cosham (gr. Mr. L. Dawes), won the 2nd prize with slightly inferior specimens.

Incurred varieties were, as is to be expected at this early date, not numerous, although good in quality. Mr. P. RALLI won in the class for 24 blooms with medium-sized, neatly-finished examples of popular varieties. The new Clara Wells variety was well shown in this exhibit.

Pompon-flowered Chrysanthemums were best shown by Mr. H. SNOOK, 5, Fitzroy Street, Fratton.

Mr. C. J. PARK, South Hayling, had the best single-flowered varieties in 12 sprays.

A local class was provided for 12 incurved and 12 Japanese Chrysanthemums. Mr. J. LOVE, Park Road, Cowes, was the most successful, excelling distinctly with Japanese, yet having meritorious incurved blooms also.

Mr. J. NANCE, 98, Hampshire Street, Southsea, staged the best Anemone-flowered varieties. Groups of Chrysanthemums in pots adorned two sides of the Hall. THE PARKS AND OPEN SPACES COMMITTEE (gr. Mr. Papworth) was 1st with medium-sized blooms.

Specimen plants were fairly well represented. Mr. C. LAMBERT, Bognor Road Nurseries, Chichester, had the finest plants.

Exhibits of fruit were numerous and good. Black Grapes in two bunches were best shown by Mr. W. H. MYERS, Swanmore Park, Bishop's Waltham (gr. Mr. G. Ellwood). Mr. MYERS also had the best white Grapes in Muscat of Alexandria. He also showed the best set of six dishes of Apples.

Pears were best shown by Mr. G. HOAR, Havant, in six dishes.

THE WEATHER.

THE WEATHER IN WEST HERTS.

A return to unseasonably warm weather.—After a cold period lasting eight days there took place on Oct. 25 a return to unseasonably warm weather. The change in temperature was very marked, the highest reading in the thermometer screen being 48° on Oct. 27, and 62° on the following day. Both the days and nights during the past week have been warm for the time of year. The ground is also now warm again, the temperature at 4 in. being 3° warmer, and at 1 foot deep 4° warmer, than is seasonable. No rain worth mentioning has fallen during the week. There is still, however, each day some rainwater coming through the two percolation gauges, but the amounts are gradually becoming smaller. The sun shone on an average for 2 hours 25 minutes a day, which is about the average daily duration for the beginning of November. Throughout the week the atmosphere has continued very calm. There was about a seasonable quantity of moisture in the air at 5 p.m.

OCTOBER.

A singularly warm and calm October.—This was the warmest October during the 28 years over which my records at Bechamstead extend. The days and nights were more unseasonably warm than the nights. There occurred one cold period in the latter half of the month lasting eight days, but with these exceptions all the days were more or less unseasonably warm. On the warmest day the temperature in the thermometer screen rose to 77°, which is the highest reading I have yet recorded here in October. On the coldest night the exposed thermometer indicated 9° of frost—about an average extreme minimum for the month. Rain fell on 15 days to the total depth of 1.14 in., which is in excess of the short of the average. In the first half of the month only a quarter of an inch was deposited, whereas in the latter half there were only three days without rain. The sun shone on an average for 34 hours a day, or for 22 minutes a day, whereas in the latter half of the month it was only 14 hours, or six days. The mean amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by 2 per cent. E. M. Birkhamstead, November 4, 1908.

GARDENING APPOINTMENTS.

Mr. HENRY J. COOPER, for the past 4 years Gardener and Orchid grower at Slaney Park, Balinglass, Co. Wicklow, as Gardener and Florist at the Giltown Nurseries and Manor, Marlborough, Wiltshire, and Kilgarr, Ireland.

Mr. A. MATTHEWS, for the past 5 years Foreman in the gardens of Sir W. G. GILBERT, Grims Dyke, Harrow Weald, as Gardener to F. ALEXANDER, Esq., Everleigh Manor, Marlborough, Wiltshire, and Kilgarr, Ireland.

Mr. G. SMITH, late Gardener to H. B. MONEY-COATS, Esq., Stodham Park, East Liss, Hants, as Gardener to C. D. ROSE, Esq., M.P., Hardwick House, Whitechurch, Oxon.

Mr. CHARLES STEWART, for the past 3 years Gardener at Horton Hall, Gloucestershire, as Gardener to Lord and Lady WYNN MARIOTT, Avonbank, Pershore, Worcestershire.

MARKETS.

COVENT GARDEN, November 4.

[We cannot accept any responsibility for the unjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Ed.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d.s.		s.d.s.
Azalea, per dozen bunches	4 0-5 0	Marguerites, per dozen bunches	2 0-3 0
Bouvardia, per dz. bunches	6 0-8 0	white and yellow	3 0-4 0
Calla aethiopica, per dozen	3 0-4 0	Mignonette, per dozen bunches	2 0-3 0
Camellias, per doz.	1 6-2 6	Narcissus, Paper-white, per doz. bunches	2 0-3 6
Carnations, per dozen blooms	2 0-2 6	Odonotoglossum crispum, per doz. bunches	2 0-2 6
— second size	1 0-2 0	Pelargoniums, show, per doz. bunches	6 0-6 0
— smaller, per doz. bunches	9 0-12 0	— Zonal, double scarlet	6 0-8 0
Cattleyas, per doz. blooms	8 0-10 0	Roses, 12 blooms	1 0-2 6
Chrysanthemums, p.p.c.m.s. n. blooms p. doz.	2 0-3 0	— Niphetos	2 0-3 0
— smaller, per doz. bunches	5 0-12 0	— Bridesmaid	2 0-3 0
Cypripediums, per dozen blooms	2 0-2 6	— Crested	2 0-3 0
Dahlias, per dozen bunches	2 0-3 0	— General Jacquemontina	1 0-1 6
Eucaris grandiflora, per doz. bunches	2 0-3 0	— Kaiserin A. Victoria	2 0-3 0
Gardenias, per doz. blooms	2 6-3 0	— C. Mermut	1 6-3 0
Lilac (French) per bunch	2 6-3 6	— Liberty	3 0-5 0
Lapagerias, p. doz.	1 6-2 0	— Mrs. J. Laing	1 0-2 6
Lilium auratum, per bunch	2 0-3 0	— The Bride	1 6-2 6
— longiorum	3 0-4 0	Spiraea japonica, per dozen bunches	6 0-8 0
— laevis folium rubrum	1 0-1 6	Statice, per dozen bunches	2 0-3 0
— album	2 0-2 6	Stocks, double white, per doz. bunches	3 0-4 0
— maximum	1 6-2 0	— Tuberoses, per doz. blooms	0 8-0 4
Lily of the Valley, p. dz. bunches	8 0-9 0	— on stems, per bunch	0 9-1 3
— extra quality	12 0-16 0	Violets, per dozen bunches	1 6-3 0
		— Parmas, p.bch.	2 6-3 6

Cut Foliage, &c.: Average Wholesale Prices.

	s.d.s.		s.d.s.
Adiantum cucum., dz. bchs.	4 0-6 0	Hardy foliage (various), per doz. bunches	2 0-6 0
Asparagus plumosus, long trails, per doz.	8 0-12 0	Honesty (Lunaria) per bunch	1 0-1 6
— medium, per bunch	1 0-2 0	Ivy-leaves, bronze, per bunch	2 0-2 6
— Sprenger, per doz.	0 9-1 6	— per bundle	0 9-1 6
Berberis, per doz. per bunches	2 6-3 0	— short green, per bunches	1 6-2 6
Croton leaves, per bunch	1 0-1 3	Moss, per gross	4 0-5 0
Cycas leaves, each	1 6-2 0	Myrtle, dz. bchs., small-leaved	4 0-6 0
Ferns, per dozen bunches (English)	2 0-3 0	— French	1 0-1 6
— French	0 6-9 0	Physalis, per doz. bunches	4 0-6 0
Grasses, dz. bchs.	1 0-2 6	Smilax, p. dz. trails	3 0-5 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d.s.		s.d.s.
Ampelopsis Veitchii, per dozen	6 0-8 0	Erica gracilis nivalis, per doz.	10 0-18 0
Aralia Sieboldii, p. dozen	4 0-6 0	— hymalis, p.dz.	9 0-12 0
— largest specimens	9 0-12 0	Eucalyptus, in pots	4 0-6 0
— Moseri	4 0-6 0	— from the ground	3 0-6 0
Arctostaphylos, per dozen	12 0-30 0	Ferns, in tubs, in small and large	6 0-10 0
Aspidistras, p. dz., green	15 0-24 0	— in 32's, per dz.	10 0-18 0
— variegated	30 0-42 0	Ficus elastica, per dozen	8 0-10 0
Asparagus plumosus natus, per dozen	9 0-12 0	— repens, per dz.	6 0-8 0
— Sprenger, per dozen	6 0-9 0	Isoplepis, per dozen	4 0-6 0
Tennisia sinensis, per dozen	6 0-9 0	Kentia Belmoreana, per dozen	18 0-30 0
Begonia Gloire de Lorraine, p. dz.	9 0-18 0	— Fosteriana, per dozen	18 0-30 0
Boerhaavia, per p. dz.	6 0-9 0	Lantana, per dozen	12 0-18 0
Chrysanthemums, per dozen, best disbud.	9 0-12 0	Lilium longifolium, per dozen	10 0-18 0
— from cut-off doors	5 0-8 0	— lancifolium, per dozen	10 0-18 0
Clematis, per doz.	8 0-10 0	Lily of the valley, per dozen	18 0-30 0
Coccoloba Weddelliana, per dozen	18 0-30 0	Marguerites, white, per dozen	5 0-9 0
Croton, per dozen	18 0-30 0	— Polka dot, per doz.	3 0-6 0
Cypripedium, per doz.	4 0-6 0	Solanums, per doz.	8 0-10 0
Dracaena, per doz.	3 0-24 0	Spiraea japonica, per dozen	6 0-10 0
Erica gracilis, per dozen	12 0 15 0		

APPLE AND PEAR NOMENCLATURE: *Senex, Devon*
 Boscher's Pearmain was a misprint for Baxter's Pearmain. Fondante du Panisel is the name of a Pear that was exhibited at the Pear Conference held in the old Chiswick Gardens in October, 1885. It is not mentioned in Hogg's *Fruit Manual*. Our special list has grown the Pear for the last 30 years.

It is described as a large, roundish-ovate fruit, with a greenish-yellow skin that is somewhat russety and with a flush of colour. The flesh is firm and sweet, but the variety only ranks as a third-rate Pear. It is in season in November.

ASPARAGUS PLUMOSA: *W. J.* There is nothing remarkable in the flowering of this plant. The Fern is *Osmunda regalis*, the Royal Fern.

BEGONIA GLOIRE DE LORRAINE: *W. W., Wakefield.* You had better observe the literal wording of the schedule, or you will incur the risk of disqualification.

CARNATIONS DISEASED: *S. E.* The trouble has arisen from a microscopic fungus (*Pusarium*), with which is always associated another fungus, *Macrosporium nobile*. Remove the diseased plants at once from the house. Cut away the affected parts carefully and burn them. Ventilate the houses, and generally afford the plants conditions that will harden them so as to be able to withstand the disease.

CHRYSANTHEMUM LEAVES: *W. J.* We have not found any fungus disease upon the leaves. The injury is probably caused by excessive feeding.

COMMON RIGHTS: *F. H.* The chain fence which you contemplate would undoubtedly be an obstruction. Indeed, the object of the fence is presumably to prevent people from walking too closely past your house. We think the Conservators would be certain to object to this obstruction, and if you wish to keep on the safe side, you had better approach them beforehand. Possibly they might give you leave on your paying them a nominal rent of 1s. a year, so as to keep their rights alive.

COMPENSATION: *P. S. E.* We gather from your letter that you are over 21 years of age, that your earning capacity is not diminished, and that no further compensations from the accident are to be anticipated. Under these circumstances, you cannot claim more than the amount which has been offered.

CUSTARD APPLE: *F. H. H.* It is possible to fruit this plant in this country, but scarcely worth the trouble. You will require a house with a stove temperature, and have to wait for several years until the tree reaches a fruiting stage.

CYANIDING VINERIES IN WINTER: *R. J. V.* At or about pruning time, when the vines are quite dormant, for the destruction of vine scale, mealy bug, red spider, &c., two cyanidings should be given, at intervals of 24 hours, of 2½ ounces of sodium cyanide, 5 fluid ounces of sulphuric acid, and 15 ounces of water: exposure, 60 minutes; temperature of house, 50° to 55°. These directions, with others, were given by Mr. E. F. Hawes in our issue for April 23, 1904, p. 271.

DISEASED CARNATIONS: *A. B.* The plants are attacked by the Black Mould (*Heterosporium echinulatum*). Destroy all the affected plants and syringe the rest with diluted Bordeaux mixture.

DISSOLVED BONES: *J. H. J.* The bones may be dissolved in sulphuric acid. Care must be taken to use a trough that the acid will not act upon, the best for the purpose being one of earthenware; metal and limestone receptacles must not be used. Dilute the crude commercial acid with two or three times its bulk of water. When the bones are dissolved, mix the substance with soil.

EARLY-FLOWERING CHRYSANTHEMUMS: *Blouet.* Six good varieties are the following:—Crimson Marie Massee, crimson-bronze; Maggie, pure yellow; Madame Marie Massee, lilac mauve; Flora, golden yellow; Percy's Seedling, orange yellow; and White St. Croix. To obtain bushy plants, you should insert the cuttings in March or April, and remove the growing points when the young plants are 4 inches to 5 inches high.

EVERGREEN CLIMBERS FOR A CONSERVATORY WALL: *J. H. A.* If the position is somewhat shaded, the following subjects should succeed if planted in a well-drained border consisting of peat and sand. *Berberidopsis corallina*, *Cavendishia acuminata*, *Clianthus puniceus*, *Lapageria rosea* and the variety *alba*, and *Trachelospermum* (*Rhynchospermum*) *jasmifolius*. Should the position be one exposed to

sunshine you might plant two or three of the following plants: *Buddieia asiatica*, *Lantana salviaefolia* (syn. *delicatissima*), *Mandevilla suaveolens*, *Lonicera sempervirens*, and *Kennedia prostrata* var. *Marryattiae*.

FLORISTS' BIBLIOGRAPHY: *H.* This book, that was noticed last week, may be obtained from Messrs. Wesley & Son, or from our own publishing department.

GARDENING EMPLOYMENT IN THE UNITED STATES: *America.* You will find an answer to your query in our issue of February 2, 1907. The subject is there dealt with by a gardener who recently returned from a private garden in the United States. He states: "The wages for under and single-handed gardeners are from \$35 to \$50 a month; head gardeners are paid \$50 to \$100 per month, with house and coal. Situations in private places are hard to obtain, and an establishment employing five or six men is considered a large one. If you have no friends, you must have £6 in your pocket on landing. Should you have accepted your engagement before landing, you must remember there is a law in the United States which forbids this, the penalty being deportation to the place of embarkation if you are found out. The right time to arrive is the third week in March."

KEEPING FUCHSIAS, &c., THROUGH THE WINTER: *J. G. A.* As you appear to have no glass-house at your disposal, but only a room in a London flat, you will probably lose some of the plants during the winter. The Fuchsias can be kept dry and be stored in some place that is frost-proof and where the atmosphere is not excessively dry. They will develop growth again next spring, when they must be given water and extra warmth. The Pelargoniums should be kept in the window and be kept rather dry through the winter. We do not advise you to retain the Castor Oil plant, as *Ricinus* is easily raised from seeds sown in the spring-time. It is better to use fresh soil for your bulbous plants, but this is not absolutely necessary.

MOSS IN LAWN: *Moss.* If the moss is present in great quantity, it is usually indicative of the soil being waterlogged and in need of draining. The moss should be raked off with an iron rake and a dressing of decayed manure applied; it will also be beneficial to apply some old potting soil. Next spring give the lawn another good raking and sow seeds of a suitable mixture of lawn grasses.

MOVING PLANTS: *Walthamstow.* Should the weather in December be open and free from severe frost, your plants may be easily and safely moved in that month. The only advantage likely to result from putting them into boxes at once is the freedom from risk in regard to severe and sustained frost.

NAMES OF PLANTS: *F. W. M.* *Phaseolus Caracalla*: the twisted-flowered Kidney Bean, or Snail-flower.—*L. J. G.* *Eunonymus latifolius*.—*D. M. J.* *Hypericum Hookerianum*; 2. *H. elatum*.—*C. K. K.* *Rhus typhina* (Stag's Horn Sumach).—*G. P. I.* *Jasminum humile*, known in gardens as *J. revolutum*; 2. *J. primulinum*; 3. *Cotoneaster frigida*; 4. *C. frigida* var. *fructu luteo* we have never before seen a yellow-flowered example of this tree. Kindly send us name and address; 5. *Photinia serrulata*; 6. *Drimys Winteri*.—*J. T. Cornwall.* 1. *Juniperus chinensis alba-variegata*; 2 and 3. *Thuja occidentalis*; 4. *Cupressus Lawsoniana*; 5. *Thuja nankatsensis*; 6. *Cupressus pisifera* var. *plumosa*; 7. *C. Lawsoniana* var.; 8. *C. L. lutea*; 9. *Taxus baccata*; 10 and 12. *Cupressus pisifera squarrosa*; 11. *C. pisifera*.—*Correspondent.* 1. *Deutzia crenata*; 2. *Spiraea Van Houttei*; 3. *S. discolor*; 4. *Dirivilla hybrida*; 5. *Cercis Siliquastrum*; 6. *Neillia ovatifolia*.—*G. L.* *Begonia sanguinea*; 2. *B. nitida*; 3. *Gesneria elongata*; 4. *Acalypha macrophylla*; 5. *Fuchsia procumbens*; 6. *Choisya ternata*, a fine evergreen shrub. Hardy in sheltered situations.—*T. H.* 1. *Pteris hastata*; 2. *Adiantum hispidulum*; 3. *Woodwardia radicans*; 4. *Onoclea germanica*; 5. *Nephrodium rigidum*; 6. *Asplenium Trichomanes*.—*Scott.* *Aristolochia elegans*.

PLUM TREE: *H. F.* If the tree is worthless, you should head it down next spring, and graft upon it some variety of merit. The suckers need to be grubbed up, as they have probably an independent root system. You

will save much trouble if you grub out the tree should you decide to exterminate it; the use of acids is unsatisfactory and tedious.

PRIMULA OBSCURA LEAVES: *B. W. C.* There is no fungus disease present in the leaves; the damage is due to some error in culture.

SEMPERVIVUMS: *Rev. B. W.* A monograph of the genus was given by Mr. J. G. Baker in our issue for July 25, 1874, p. 103. The number is out of print.

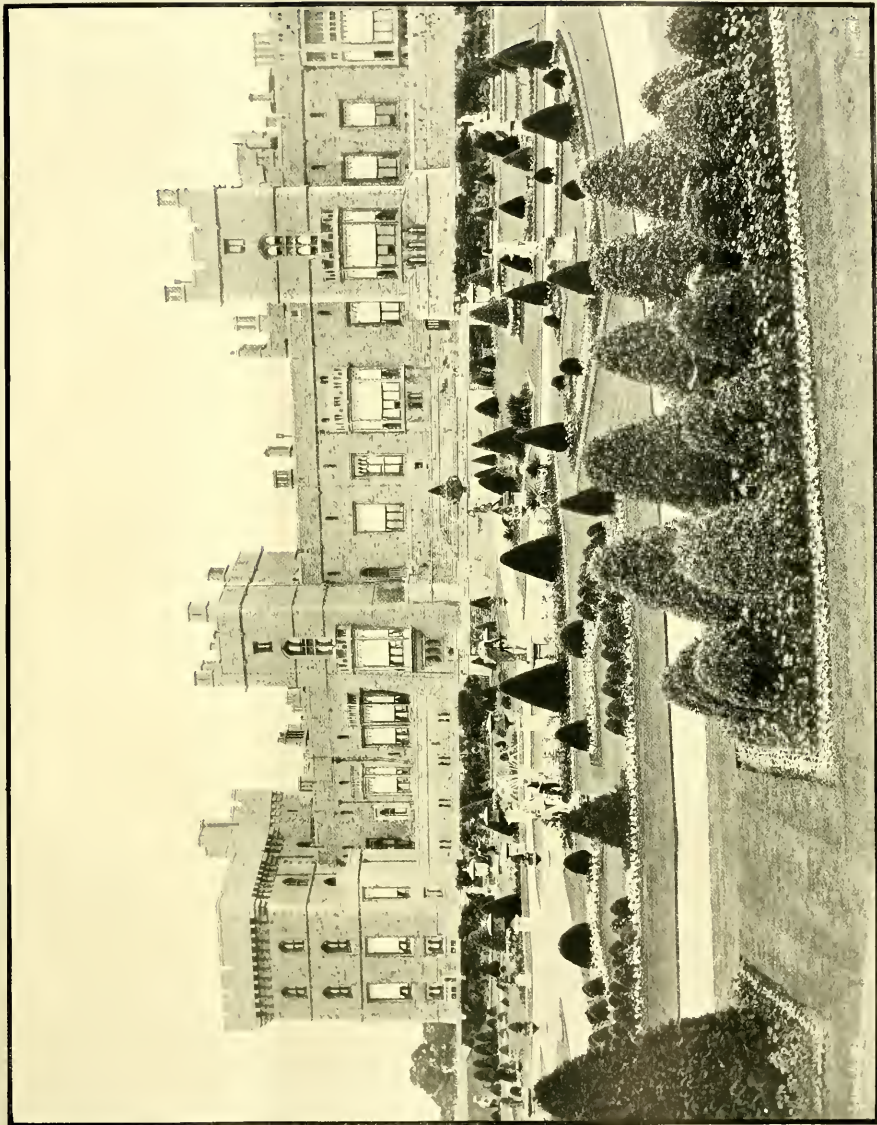
SPINACH FAILING: *H. C. H. W.* There is no disease present in your Spinach; the damage has been caused by a grub. We found in every instance its traces, but in no case the grub itself. Apply a heavy top-dressing of soot about the roots of the plants.

TREATMENT OF A FOOTBALL GROUND: *Football.* (1) The grass should be swept and rolled with a horse roller after every match, if the ground is not frozen. (2) The best method is to lift the turf out of the holes and fill in underneath with soil made very firm. If the turf is damaged badly, it would be better to obtain fresh pieces, cutting them as thick as you conveniently can, so that when laid they will be pretty firm. This, of course, must be done previous to sweeping and rolling. The rolling should remove the holes made by the players' studs.

TREES AND SHRUBS FOR A GARDEN IN YORKSHIRE: *H. J.* The shrubs mentioned in the following list are perfectly hardy. You may get the specimens from a district having an average temperature similar to the one in which you reside. *Evergreen:* The two best Barberries are *Berberis Darwinii* and *B. stenophylla*. *B. aquifolium* is beautiful in autumn and winter, when its leaves are heavily suffused with brownish crimson. *Olearia Haastii* is the hardiest of a very ornamental group of Composite shrubs. *Cotoneaster microphylla* is useful for clothing walls. It is also a good border shrub, and flourishes in poor soil. *Skimmia japonica* is an accommodating species, with glossy green leaves and panicles of small, sweet-scented flowers. No garden is complete without a selection of hybrid *Rhododendrons*. The double-flowered *Gorse* (*Ulex europaeus flore pleno*) flowers wonderfully well on dry banks exposed to the sun. *Crataegus Pyracantha* is remarkable for its scarlet berries in autumn. It succeeds in the ordinary shrubbery or against a wall. The gold and silver-leaved varieties of the common Box are of free growth and very ornamental. *Elaeagnus pungens aurea* is very effective. Rich soil, ample drainage, and a sunny position are necessary to promote the best growth and leaf colour. *Aucuba japonica* is well known. The Holly in its green, gold, and silver-leaved varieties can be recommended. *Deciduous:* The Ghent and sinensis varieties of *Azalea* (*Rhododendron sinense*) are indispensable. *Cotoneaster frigida* is effective, whether in fruit or flower. The common Birch (*Betula alba*) is the most graceful of all hardy trees. *Prunella spinosa flore pleno* is the best ornamental flowering Cherry. The common *Laburnum* flourishes in all soils and situations. Of Thorns, *Crataegus oxyacanthoides flore pleno coccinea* (double scarlet) should be included. *Cytisus albus* (white), *C. scoparius* (yellow), *C. s. andreaus* (yellow and crimson), and *C. precox* (sulphur) produce an abundance of Peasheaped flowers in spring. *Ribes sanguineum* (flowering Currant), *Spiraea discolor*, *S. Douglasii*, *Caragana arborescens*, *Genista hispanica*, and *Cydonia japonica* may also be planted.

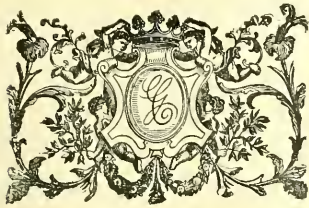
WELL AND MAIN WATER: *J. J. A.* The temperature of both will vary greatly, and this will depend, of course, on the external conditions. We do not advise the use of either well or main water for watering plants if soft or rain water can possibly be obtained. If it is absolutely necessary to use hard water, it should be given at the same temperature as the atmosphere in the glass-house where it is applied.

COMMUNICATIONS RECEIVED.—*A. MacK.*—*E. P. C.*—*G.*—*E. C. S.*—*Macdon.*—*W. G. S.*—*R. H. S.*—*Dr. K.*—*Flower* (next week)—*H. F. Mc.M.*—*C. T. D.*—*A. D.*—*R. P. B.*—*W. F. R.*—*F. W. J.*—*Sir Arch. B. H.*—*J. S.*—*H. W. W.*—*W. E. B.*—*F. W. C.*—*F. W. C.*—*J. H.*—*E. M.*—*W. P. W.*—*H. W.*—*J. B.*—*F. M.*—*R. C.* and *Leamington*—*X. Y. X.*—*F. A.*—*E. W. S.*—*R. O. H.*—*W. C.* and *San-J.*—*B. A.*—*E. C.*—*J. F.*



(Photographed by special permission for the "Gardeners' Chronicle.")

WINDSOR CASTLE, SHOWING THE EAST TERRACE.



THE

Gardeners' Chronicle

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THE ROYAL GARDENS, FROGMORE.

IN attempting to give some idea of the gardens which His Majesty the King has remodelled at Frogmore, it would be an easy matter to preface this article with several columns of notes upon the unparalleled historical associations of Windsor Castle and Windsor Great Park, and to refer to the many magnificent trees that the park contains. This, however, is not our purpose, and readers who desire information of the Castle itself are referred to the conveniently abbreviated and condensed guide-books, especially that known as *Windsor Illustrated*. But we may state that the great castle, which stands high above the ancient town of Windsor, must necessarily possess peculiar interest for all English-speaking people, for it has been the home of English kings and queens for a period of something like 800 years. As early as the reign of Henry II. it is known to

have been used as a royal palace. Our supplementary illustration affords a view of the castle from the east, with the terrace garden in front. This garden is appropriately laid out in a formal manner, after the Italian style, and it contains a considerable number of figures in bronze and marble, also a handsome fountain. On Sunday afternoons during the summer months the public are admitted to this terrace, where the bands attached to the Household regiments play a selection of music. The beds are furnished during the summer with the ordinary flowering plants in common use for this form of bedding. Everything is on a vast scale, and an exceedingly large number of plants are needed to complete the bedding scheme. The State garden parties given during the week of the Ascot races are held immediately beyond this garden; numerous tents being erected for this purpose. Perhaps the most remarkable feature of Windsor Park is the familiar Long Walk, a magnificent avenue of Elms

seen. Close to Adelaide Cottage is a celebrated Beech tree raised from Luther's Beech (see fig. 143). The following particulars are given on a label fixed near to the tree:—

"This tree was raised from the Beech tree near Altenstein in the Duchy of Saxe-Meiningen called 'Luther's Beech,' under which Dr. Martin Luther was arrested and conducted from thence to the Wartburgh in 1521. The little off-shoot was brought to England from Meiningen by King William IV. (when Duke of Clarence) in 1825 and planted by Queen Adelaide near the house at Bushey Park. Her Majesty bequeathed it in her last will to H.R.H. Prince Albert, with the request that it might be transplanted into the enclosure at Adelaide Cottage, Windsor Home Park, which was successfully done in 1850. The original tree has been destroyed by lightning, July 18th, 1841."

Windsor Great Park consists of 3,000 acres, and the Home Park of 500 acres, whilst the Forest covers 10,000 acres. Another avenue in addition to the Long Walk is known as Queen Anne's Ride, and extends in a south-



FIG. 141.—ADELAIDE COTTAGE IN WINDSOR HOME PARK.

extending upwards of three miles from the southern gateway of the castle. The formation of this is stated to have been commenced by Charles II., but it was not completed in his reign. Another feature is that of "the Slopes," which are situated between Windsor Castle and Frogmore. These possess much natural beauty, but they also present opportunities for further improvements, and their interest might be still further increased by the planting of exotic trees and shrubs, accompanied by a corresponding regulation and thinning of the existing growth. Further on towards Frogmore may be seen Adelaide Cottage, the beautiful and prettily-situated building shown at fig. 141. The structure is now used for tea-rooms, and in summer time, when the trees are all in leaf and the garden gay with flowering plants, the cottage and its surroundings make one of the most charming pictures of the kind we have

westerly direction. Cumberland Lodge, which is the chief residential building in the great park is familiar to gardeners by reason of the great vine in cultivation there which fills a house measuring 140 feet by 20 feet. The variety is Black Hamburgh, and it has borne a magnificent crop of Grapes of the highest quality during the present season. Like the aged vine at Hampton Court, this one is under the care of Mr. McKellar, head gardener at Frogmore. Cumberland Lodge is now the residence of Prince and Princess Christian of Schleswig-Holstein. An extensive Rhododendron Walk in the Great Park was formed in 1838, and in May and June the great number of plants produce a floral effect of extraordinary degree. Virginia Water is a sheet of water which covers 130 acres and measures two miles in length. It is recorded that its construction was commenced in 1750 by excavating and damming up the Virginian

River, but owing to floods in 1768 the works were injured, and the lake was not finished until 20 years later.

A feature of what is known as the Home Park is Frogmore House (see fig. 142), a handsome residence built for Queen Charlotte, and now occupied by the Prince and Princess of Wales when the Court is at Windsor.

But it is not in any part of either of the parks that King Edward has made the principal alterations since his accession. These have

purpose could be served by its removal. All the houses have been built with one object in view, and one only, that of production. Every new structure is a good house for the growth of plants or the forcing of fruit trees. Windsor, indeed, is now so utilitarian an establishment that it is from this point of view, if any, that there is the slightest opening for criticism. The organisation, the good order, and excellent cultivation are beyond praise, and the wealth of plants and flowers that are

press command of His Majesty the King, to ensure suitable provision being made for housing the young gardeners who are employed in the gardens. Further details will appear below, and it would be satisfactory if in this matter the King's example were followed by many of his subjects.

The erection of potting sheds, packing sheds, fruit rooms, and other structures for storing various garden produce has resulted in making these gardens most liberally provided with garden buildings of every necessary description. As showing the extraordinary extent of the gardens, it may be mentioned that the staff includes 140 men, a fact which in itself is sufficient to indicate the heavy responsibilities resting upon the head gardener and his experienced foremen.

It will be remembered that the Royal Horticultural Society's Council and Committees visited the Frogmore gardens in June last (see note in *Gardeners' Chronicle*, June 13, 1908), and the superior condition of everything in the glasshouses and out-of-doors greatly impressed the visitors, who had specially journeyed to inspect the results of the reorganisation. It may be mentioned here that the whole of the work of rebuilding, including the bothy, new stables, and cottages, also the large vinery at Cumberland Lodge, and the provision of the heating apparatus was carried out by the well-known firm of Mackenzie and Moncur, of Edinburgh.

INDOOR FRUIT DEPARTMENT.

Fruit forcing at Frogmore has of necessity to be done on a very large scale, to meet the demands that are constantly being made for ripe fruits. In addition to the two large ranges of vineries and Peach-houses, which have been in existence for upwards of 50 years, two ranges have been built, of more spacious character and modern design; these cover a distance extending 1,000 feet. The houses have hip-span roofs and all the woodwork is composed of teak; in every respect these structures are excellently equipped for the purposes they are intended to serve. Sufficient space has been provided to allow of the trees being trained at a proper distance from the glass, and as a current of air can circulate between the foliage and the roof there is less danger of injury from burning or scalding. The exact distance in the case of vines is 2 feet 6 inches, in that of Peaches and Figs it is 2 feet. The heating arrangements, to which reference will be made later, are on a very liberal scale, so that it is possible to maintain the proper degrees of heat without unduly heating the pipes. Although these ranges were built only four years ago, the vines already bear large crops of splendid fruit, and Peaches, Nectarines, and Figs have cropped most satisfactorily during the past season. Great care was bestowed on the selection of varieties, and in all cases the attribute of good quality was regarded of the first importance. The varieties of Peaches and Nectarines are strictly limited to the very best. For the earliest supply, such Nectarines as Cardinal, Précoce de Concelles, and Lord Napier are cultivated, and in succession to these there are Pineapple, Rivers' Early Orange, Humboldt, Stanwick Elruge, and others. Of Peaches, Stirling Castle, Royal George, Bellegarde, Dymond, Violette Hative, Late Devonian, and Gladstone are those chiefly



[Photographed by special permission.]

FIG. 142.—FROGMORE HOUSE, THE WINDSOR RESIDENCE OF H.R.H. THE PRINCE OF WALES. IN THE FOREGROUND IS A FINE SPECIMEN OF *LIBOCEDRUS DECURRENS*.

been carried out in the gardens themselves, and so thoroughly have they been executed, that Frogmore gardens to-day form an example of English gardening worthy of the position which Windsor Castle occupies as a State residence. It is scarcely too much to say that every plant and fruit house has been removed and fresh ones erected, for the exceptions are very few, and in the case of the fruit range, constructed as it is of copper, no useful

grown and the annual yield of fruits and vegetables enormous. There are, however, no new lofty structures for the cultivation of plants of great height, and therefore there is no winter garden. Mr. MacKellar has therefore no such architectural freaks to deal with as may be seen in some gardens, built ostensibly for the cultivation of plants, but not in the least fitted for such a purpose.

Special attention was directed, at the ex-

grown. With one exception, the trees have been planted during the last five years, but nevertheless they have nearly covered their allotted spaces and are perfect examples of good training.

In most cases each vinery is devoted to one variety of Grape. Muscat of Alexandria alone fills four large houses. Appley Towers and Lady Downe's Seedling and Black Alicante furnish the main supply for late use. The variety Lady Hutt has been planted to supply white Grapes after the fruit of Muscat of Alexandria is consumed. Madresfield Court occupies two houses. Several houses are filled with Black Hamburgh for the earliest supplies. Foster's Seedling is represented by a grand old vine about 40 years of age which occupies a house 63 feet long and 16 feet wide.

planted with Figs, the long corridor which connects the east block of Melon, Cucumber, Tomato, and plant houses is devoted entirely to the culture of this fruit, and the trees have already yielded splendid crops.

Melons are grown in great quantities, and during a visit in June we saw some grand crops of the new and superb variety "Eminence," which originated at Frogmore (see fig. 145 from photograph supplied by Messrs. Jas. Veitch & Sons).

Cucumbers and Tomatoes are produced on an equally colossal scale. The new variety Dwarf Red was bearing most abundantly.

The forcing of Strawberries is a matter of great importance at Frogmore, for large supplies of the fruit are needed during as long a season as possible. About 9,000 plants are

that their lasting qualities are very extraordinary. From the large number of vineries we have described it must be obvious that very considerable crops of Grapes are obtained, and two Grape rooms have been built, one of these being capable of storing 1,500 and the other 1,400 bunches.

PLANTS UNDER GLASS.

The plant department, no less than that of fruit, has been entirely remodelled. All that remains of the old structure is the large, span-roofed Palm-house, measuring 150 feet long by 30 feet wide, which is filled with hundreds of well-grown plants. These are used chiefly for purposes of decoration. At the north end of this house is another Palm-house 100 feet by 40 feet and about 30 feet high.

Here are some 30 grand specimens of Kentia, Areca and similar Palms in ornamental tubs standing singly on a mosaic floor of handsome design. Around the walls are planted the choicer varieties of Bamboos for cutting, which are used for purposes of decoration at the Castle and other places. From the Palm-house a small conservatory may be entered, and in this structure there were some splendid groups of flowering plants at the time of our visit, the roof being also ornamented with climbers. A long plant corridor connects the western block of houses, and it commences at this point. The corridor is 400 feet long and 12 feet wide, and a view of the interior is shown at fig. 147. Unlike many structures of this nature, it is divided into sections, with doorways, and one advantage thus gained is that it is possible to keep various temperatures in the compartments, and therefore to cultivate a larger number of species than can be done when the corridor is always maintained open throughout its length. The sides and roof are covered with creepers which include *Rodochiton volubile*, *Chorizema*, *Passiflora atrocoerulea*, *Fuchsias* in variety, *Lasiandra macrantha*, *Cassia corymbosa*, *Abutilons*, *Plumbago capensis*, *Solanum jasminoides*, *Heliotropium*, *Bougainvillea*, and *Lagerströmia indica*. There are 12 houses, each 66 feet long, which open into the corridor. Large batches of flowering plants are grown for supplying Windsor Castle, Buckingham Palace, Balmoral, and the royal yachts when these latter are in use. Of Carnations, upwards of 4,000 plants are raised annually. About 1,000 are grown for flowering in winter. The varieties grown in greater numbers include Mrs. T. W. Lawson and its sports, *Enchantment*, *White Perfection*, Mrs. H. Burnett, *Britannia*, *America*, *Nelson Fisher*, *Florianna*, *Harlowarden*, and *Fair Maid*. Of *Souvenir de la Malmaison* Carnations, the varieties include such as *Princess of Wales*, *Sir Charles Fremantle*, *Calypso*, *Lady Middleton*, *Churchwarden*, *Marmion*, and the beautiful *Duchess of Westminster*. All these plants appeared to be in splendid health, and our photographer obtained the view of a group of *Souvenir de la Malmaison* varieties which we shall reproduce in our next issue.

Begonia Gloire de Lorraine, in both pink and white varieties, occupy several houses, some 2,500 plants being cultivated each year. These plants were already 2 feet in diameter in August, and they are now making



(Photographed by special permission.)

FIG. 143.—REMARKABLE BEECH NEAR ADELAIDE COTTAGE, WINDSOR PARK.

It is planted at the back of the house, and the rods extend down the rafters. If evidence were needed in support of the extension system of vine culture, it is afforded by this particular specimen which is illustrated at fig. 144. We do not think it would be possible to discover finer samples of this variety than the fruit produced by this vine, which usually ripens a crop of 150 bunches, averaging 3lb. each. Mr. MacKellar is making some experiments in regard to inarching different varieties of vines, of which we hope something may be heard later. Altogether, there are 18 houses at Frogmore devoted to Grape culture.

Figs form a feature of considerable importance in the supply of forced fruits. Besides several houses which have been recently

grown every year for this purpose, and the variety grown in the largest quantity is *Royal Sovereign*.

We have not yet referred to the fruit trees cultivated in pots, but we saw a considerable number in full bearing at the time of our visit. A particular note was taken of a batch of *Cardinal* and *Précoce de Cronsels* Nectarines in pots 12 inches in diameter. Each tree bore 18 or 20 excellent fruits, and all the specimens appeared in a most satisfactory condition. The old ranges of vineries and Peach-houses which still exist are remarkable for the fact that they are constructed wholly of copper, iron and glass. We do not think there are many plant or fruit houses of this description in British gardens, but it may be supposed

a gorgeous display of bloom. There was a house filled with magnificent *Codiaeums* (*Crotons*), in which the characteristic colours were finely developed. Another house contained *Anthuriums*, *Cordylines* (*Dracaenas*), *Pandanus Veitchii*, *Alocasias*, *Marantas*, and other choice ornamental foliage plants suitable for the decoration of the dinner table. *Eucharis grandiflora* is cultivated extensively for supplying flowers for use in a cut state, and a large batch of *Gardenias* is grown for the same purpose. *Cyclamen* and *Primulas* are cultivated in hundreds for winter-flowering. *Pelargoniums*, *Salvia splendens grandiflora*, and *Salvia Pitcheri* are grown with excellent results, and the plants are among those most appreciated. *Campanula*

NEW OR NOTEWORTHY PLANTS.

BURBIDGEA SCHIZOCHEILA.

THERE are now two known species of the genus *Burbridgea* (*Scitamineae*). One, the type of the genus *B. nitida*, Hook. fil., has long been known as a native of North-West Borneo, in the Murut country, between the Lawas and Trusan rivers, where it was obtained by Burbridge, while collecting for Messrs. Veitch. The second, *B. schizocheila*, was first mentioned and partially described by W. Hackett in the *Gardeners' Chronicle*, 1904, page 301, and was fully described and figured the following year in the *Botanical Magazine*, tab. 5009. The plant had been obtained in 1903 from the

ments pinkish orange and the mucro on the upper petal bright red. The whole flower on withering assumes a cherry-pink colour. The plant as figured in the *Botanical Magazine* is of a bright orange yellow. It was suggested by Hooker that this remarkable genus is related to *Hedychium*, but the absence of staminodes excludes it from this affinity. In the peculiar lip and in the form of the stamen, *Burbridgea* appears to me to be most nearly related to *Geocharis*, a genus sufficiently distinct but which Schumann amalgamated with *Alpinia*, natives of the Malay Peninsula, Borneo and Sumatra, allied to which are *Rhynchanthus*, remarkable for its suppressed lip, and *Riedelia*, of Papua. In all of these the staminodes are absent except for two short processes rising from the sides of the broad channelled filament in *Geocharis*.



[Photographed by special permission.]

FIG. 144.—ROYAL GARDENS, FROGMORE: FOSTER'S SEEOILING GRAPE GROWING FROM THE BACK OF THE VINERY.

pyramidalis, *Humea elegans*, *Francoa ramosa*, *Hydrangeas*, *Fuchsias*, and *Cannas* are extensively grown for summer decoration. Thousands of *Lilium Harrisii*, *L. longiflorum*, and *L. speciosum* are cultivated in pots, most of these species being represented by plants in bloom during all the year. *Astilbes* (*Spiraeas*), *Lilacs*, the *Rhododendrons* known as *Ghent Azaleas*, and *Wistarias* are grown in extraordinary numbers. The collection of *Chrysanthemums* include about 3,000 plants: of this number 2,000 are cultivated as bush specimens and 1,000 for supplying large blooms.

(To be continued.)

Buitenzorg Gardens, but its original home was unknown.

This year, however, Mr. J. Hewitt sent a living plant and some dried specimens from the museum at Kuching, in Sarawak, to the Botanical Gardens, Singapore. These specimens had been obtained by Mr. C. J. Brookes at the Bongo Mountain in N. Borneo. The species, is therefore, North Bornean, as might have been expected. The living plant flowered on its arrival in Singapore, but differs slightly from the plant as figured in the *Botanical Magazine*. The flowers borne on the Singapore Botanic Gardens' plant are smaller, and the petals narrower and more pinkish in colour; the corolla tube is of a light cherry red, the seg-

Geocharis is a genus of about four species separated generically by me in the *Journal of the Straits Branch of the Royal Asiatic Society*, No. 50, p. 143, to include a small number of plants closely allied to *Riedelia*, but with radical inflorescence.

The structure of the flower of *Burbridgea schizocheila* is remarkably like that of *Geocharis aurantiaca*. This group of genera might be classed as *Riedeliae*; it is the largest in the group, and would thus include *Riedelia*, *Burbridgea*, *Geocharis* and *Rhynchanthus*; genera ranging from Sumatra, through the south of the Malay Peninsula and Borneo to Papua, with an outlying species or two in Burmah. Henry N. Ridley, Botanical Gardens, Singapore.

* PRONUNCIATION OF PLANT NAMES.

PRONUNCIATION.—In the first word in each line the accent (ˈ) is short; (ː) is long.

In the second word vowels are to be pronounced as—

arise, ăt, age, ărt, ăll
end, ɛgg, ɛst, ɛrr, ɛve
in, ɪ, ɪre, sɪr
on, ʊtter, ʊwe, ʊr, dō, ʊwl, ʊil
us, ʊtter, ʊse, ʊrn
"ch," as in chin; "th," as in thun
"s," as in soft; "f," as in far
"g" as in go.

All other letters are unmistakable.

H

(Continued from p. 309.)

Hedýpnos, hē-dīp'-nō-is
Hedýsaron, hē-dis'-ar-un
Hedýsepe, hē-dis'-es-pē
Heims, hī-m'-si-a
Heinsia, hīn'-si-a
Heintzia, hīntz'-i-a
Heistéria, hē-ist'-e-ri-a
Hélicia, hēl'-si-a
Helenium, hē-lē'-ni-um
Heliámpora, hē-li-am'-fōr-a
Helianthemum, hē-li-an'-the-mum
Helichrysium, hē-li-kris'-um
Helicônia, hē-lī'-kō'-ni-a
Helicteres, hē-līk'-tēr-ɛz
Heliocarpus, hē-li-o-kar'-pus
Heliophia, hē-li-ōf'-i-a
Heliopsis, hē-li-op'-sis
Heliotrope, hē-lī-o-trōp'
Heliotropium, hē-lī-o-trōp'-i-um
Helipterus, hē-līp'-tēr-um
Helleborine, hēl'-e-bor-in
Hellebore, hēl'-eb'-or-us
Hellenia, hēl'-ē-ni-a
Heliconia, hē-lī'-kō'-ni-a
Helónias, hē-lō'-ni-as
Heloscidia, hē-lōs'-i-ad'-i-um
Hemerocallis, hē-mēr-o-kal'-is
Hemiandra, hē-mi-an'-dra
Hemiclidia, hē-mi-kli'-di-a
Hemidesmus, hē-mi-dez'-mus
Hemidictyon, hē-mi-dik'-ti-on
Hemiglossum, hē-mi-gō'-ni-um
Hemimeris, hē-mim'-er-is
Hemionitis, hē-mi-o-nī'-tis
Hemiteilia, hē-mi-tē'-li-a
Hénfeya, hēn'-fē-ya
Hepatica, hē-pat'-i-ka
Hieraacantha, hē-ra-kan'-tha
Hieraclium, hē-rak'-le-um
Herbortia, hēr-bēr'-ti-a
Heritiera, hēr-i-tē'-ri-a
Hermánia, hēr-man'-ni-a
Hermínium, hēr-min'-i-um
Hernandia, hēr-nañ'-di-a
Hernúria, hēr-nū'-ri-a
Herpétis, hēr-pēt'-is
Herréria, hēr-rē'-ri-a
Hesperántha, hēs-per-an'-tha
Hesperis, hēs'-per-is
Hesperosórdum, hēs-per-os-kor'-
dum
Héssea, hēs'-se-a
Heteranthera, hēt-ér-an-thē-ra
Heterocontron, hēt-ér-o-sen'-tron
Heterolepis, hēt-er-o-lép'-is
Heteromorphia, hēt-er-o-mór'-fa
Heteronóma, hēt-ér-o-nō'-ma
Heterópterus, hēt-ér-op'-tēr-is
Heterospermum, hēt-ér-o-sper'-mum
Heteróricium, hēt-ér-ot'-ri-kum
Heterotropa, hēt-ér-ot'-ro-pa
Heuchera, hōf'-kēr-a
Hexacéntris, hēx-a-sen'-tris
Hexadésima, hēx-a-dez'-mi-a
Hexaglótiis, hēx-a-glōt'-is
Héxonia, hēx-ō'-ni-a
Heylándia, hē-lan'-di-a
Héynea, hē-ne-a
Hibbértia, hīb-bēr'-ti-a
Hibiscus, hīb-bis'-kus
Hirácium, hī-ér-ă'-si-um
Hieróchiole, hī-ér-ok'-lō-ē
Hígginsia, hīg-gin'-si-a
Híllia, hīl'-li-a

Hindsia, hīnd'-si-a
Hippéstrum, hīp-pe-as'-trum
Hippia, hīp'-pi-a
Hippion, hīp'-pi-on
Hippobroma, hīp-po-brō'-ma
Hippocratea, hīp-po-kra'-te-a
Hippocrépis, hīp-po-kre'-pis
Hippomane, hīp-pom'-a-nē
Hippomátrathum, hīp-po-mīr'-a-
trum
Hippophae, hīp-po-fā'-ē
Hippuris, hīp'-pūr-is
Hiraea, hī-rē'-a
Hirtellia, hīr-tel'-li-a
Hoffmándia, hōf-man'-i-a
Hoffmanséggia, hōf-man-segg'-i-a
Hohenackera, hō-hen-ak'-t-r-a
Hohenbérzia, hō-hen-bēr'-ji-a
Hoitzia, hōit'-zi-a
Holbóllia, hōl-bol'-li-a
Hólcus, hōl'-kus
Holigarna, hōl-i-gar'-na
Holmskiöldia, hōlm-ski-ol'-di-a
Hologýmne, hōl-o-gm'-e
Holophýllum, hōl-o-fil'-lum
Holóstéum, hōl-ōst'-ē-um
Homalánthus, hō-mal-an'-thus
Homalónema, hō-mal-o-nē'-ma
Homéria, hō-mē'-ri-a
Homoiánthus, hō-moi-an'-thus
Hoodia, hōod'-i-a
Hóokeria, hōok'-ri-a
Hórdeum, hōr-de-um
Horkelia, hōr-kē'-li-a
Horminum, hōr-mī'-num
Hosáckia, hos-ak'-i-a
Hósta, hos'-t-a
Hóttónia, hōt-tō'-ni-a
Hóulletia, hōul-lē'-ti-a
Hóustonia, hōus-tō'-ni-a
Hóututynia, hōut-tū-in'-i-a
Hóvea, hō-ve-a
Hóvénia, hō-ve-nē'-a
Hoya, hōy'-a
Hudsonia, hūd-sō'-ni-a
Huérnia, hū-ér-ni-a
Hugelia, hū-gē'-li-a
Hugonia, hū-gō'-ni-a
Húmea, hū-mē'-a
Húmulus, hū-mō-lus
Hunnénánia, hun-ne-man'-ni-a
Hunttía, hunt-le'-yá
Húria, hū'-ri-a
Hutchinsia, hutch-in'-si-a
Hyacinthus, hī-a-sin-th-us
Hyacónáche, hī-é-nau'-kē
Hybanthéra, hī-ban-thē'-ra
Hydránga, hī-dran'-je-a
Hydrástis, hī-dras'-tis
Hydrocharis, hī-drok'-ă-ris
Hydrocýtle, hī-dro-kōt'-il-ē
Hydrólea, hī-drō'-le-a
Hydrómestus, hī-dro-mēs'-tus
Hydropétis, hī-dro-pē'-tis
Hydrophýllum, hī-dro-fil'-lum
Hygrophila, hī-grof'-i-a
Hymenaea, hī-men-ē'-a
Hymenánthera, hī-men-an-thē'-ra
Hymenocállis, hī-men-o-kal'-is
Hymenodictyon, hī-men-o-dik'-ti-on
Hymenodíum, hī-men-ō'-di-um
Hymenogyne, hī-men-ō'-gi-ne
Hymenopáppus, hī-men-o-pap'-pus
Hymenophýllum, hī-men-o-fil'-lum
Hymenoxys, hī-men-ox'-is
Hypóphorbé, hī-o-fōr'-bē
Hýoscyamus, hī-os-si'-a-mus
Hýpécum, hī-pek'-ō-um
Hýpéricum, hī-pēr'-i-kum
Hýphénia, hī-fē'-ne
Hýpocalýmma, hī-p-o-kā-lim'-ma
Hýpocalýptus, hī-p-o-kā-lip'-tus
Hýpochéris, hī-p-o-kē'-ris
Hýpocýrta, hī-p-o-sir'-ta
Hýpodétris, hī-p-odē'-ris
Hýpodýtrum, hī-p-odē'-i-um
Hýpocéstes, hī-p-ōs'-tēs
Hýpóláma, hī-p-olē'-na
Hýpolépis, hī-p-olép'-is
Hýpolytrum, hī-p-ol'-i-um
Hýpoxis, hī-p-ox'-is
Hýptis, hīp'-tis
Hýssopus, hīs-sō'-pus

Iberidella, i-ber-i-del'-la
Iberis, i-bēr'-is
Ichnocárpus, ik-no-kar'-pus
Ícica, í'-sika
Ídésia, í-dē'-si-a
Ílex, í'-lex
Íllecebrium, íl-es-ē'-brum
Íllícium, íl-iis'-i-um
Ímatophýllum, ím-at-o-fil'-lum
Ímpatiens, ím-pā'-shi-ens
Ímperáta, ím-per-ă'-ta
Ímperátoria, ím-pēr-a-tōr'-i-a
Íncarvillia, ín-kar-vil'-le-a
Índigófera, ín-di-gol'-t-r-a
Ínga, ín'-ga
Ínocárpus, ín-o-kar'-pus
Ínula, ín'-ū-la
Íochroma, ín-ō-kró'-ma
Íonidíum, í-ō-nid'-i-um
Íonoposídium, í-ō-nop-sid'-i-um
Íonopsis, í-ō-nop'-sis
Ípoméa, í-p-o-mē'-a
Ípomopsis, í-p-o-mop'-sis
Ípsea, íp'-sē-a
Íresine, í-rē-sī'-ne
Írístia, í-ri-ărt'-ti-a
Íris, í'-ris
Ísántus, í-san'-thus
Ísátis, í-să'-tis
Íschroma, ís-kró'-ma
Íscúria, í-sēr'-ti-a
Ísmétia, ís-mē'-li-a
Ísmène, ís-mē'-nē
Ísnárdia, ís-năr'-di-a
Ísophilus, í-sō-kī'-lus
Ísolepis, í-sō-lép'-is
Ísoloma, í-sō-lō'-ma
Ísómérís, í-som'-er-is
Ísopléxis, í-sō-plex'-is
Ísopogon, í-sō-pō'-go
Ísopyrum, í-sō-py'-rum
Ísótoma, í-sot'-ō-ma
Ísotrópis, í-sō-trō'-pis
Ítea, í'-tē-a
Íva, í'-va
Íxia, íx'-i-a
Íxiolirion, íx-o-lir'-i-on
Íxódia, íx-ōf'-di-a
Íxóra, íx-ōr'-a

J

Jaborosa, jab-ōr'-ō-za
Jacaránda, jak-ar-an'-da
Jacksónia, jak-sō'-ni-a
Jacobinia, jak-o-bin'-i-a
Jacquemóntia, jak-wē-mon'-ti-a
Jacquinia, jak-win'-i-a
Jambosa, jam-bō'-sa
Jamésia, já-mē'-si-a
Jamesonia, já-m-sō'-ni-a
Janípha, jan'-fā-a
Jansónia, jan-sō'-ni-a
Jasione, jas-i-ō'-ne
Jasminum, jas-mī'-num
Jásmine, jas'-min
Jásónia, já-sō'-ni-a
Játropha, jat-rō'-fa
Jeffersónia, jef-ter-sō'-ni-a
Jéssamine, jēs'-sa-min
Jóhnia, jó'-ni-a
Jolífia, jó-līf'-i-a
Jónesia, jōn'-zi-a
Jossinia, jos-sin'-i-a
Juanullóa, ju-an-ūl'-lō-a
Jubea, jū-bē'-a
Juglans, jūg'-lans
Juncágo, jūn-kă'-go
Juncus, jūn'-kus
Juniper, jū-ni-per
Justicia, jus-tis'-i-a

K

Kadsúra, kad-sū'-ra
Kæmpferia, kêm-pē'-ri-a
Kagenéckia, kag-ē-nek'-i-a
Kalanchoe, kal-an-kō'-ē

Kálmia, kal'-mi-a
Kálosánthes, kal-o-san'-théz
Karálmia, kă-ra-lm'-i-a
Káratas, kă-ra'-tas
Kaulfússia, kaul-fōs'-si-a
Kennédya, ken-nē'-ya
Kéntia, ken'-ti-a
Kentípesis, ken-ti-op'-sis
Kentrophýllum, ken-tro-fil'-lum
Kérria, kēr'-ri-a
Kíelmeyéra, kēl-mi-ē'-ra
Kíngia, kíng'-i-a
Kínganélia, kíng-gā-nel'-i-a
Kítábēlia, kí-tă-bē'-li-a
Kleína, klī-ni-a
Klágia, klō'-gi-a
Knaútia, naut'-i-a
Kníghia, nít'-i-a
Kníphofia, nī-fō'-fi-a
Knowlthia, nōl-tō'-ni-a
Knóxia, nox'-i-a
Kóchia, kōk'-i-a
Koenigia, kē-nig'-i-a
Kóleutéria, kōl-ōt-tē'-ri-a
Kóniga, kōn'-ga
Kópia, kop'-si-a
Kraméria, kra-mē'-ri-a
Kresigia, kri-sig'-i-a
Krigia, krē'-gi-a
Krúbera, kru'-bēr-a
Kúnhia, kún'-i-a
Kúnthia, kunt'-i-a
Kydia, kid'-i-a

L

Labiachèa, la-bi-kē'-a
Labisia, la-bis'-i-a
Lablavia, lab-lă'-vi-a
Laburnum, lab-burn-um
Lacæna, lă-sē'-na
Lacépédia, lă-se-pē'-di-a
Lachenália, lak-ē-nă'-li-a
Lactuca, lak-tă'-ka
Lălia, lă'-li-a
Lătia, lă'-ti-a
Lăgásca, la-gas'-ka
Lagenária, lag-en-ă'-ri-a
Lagenophora, lag-en-ol'-ō-r-a
Lagerstremia, la-ger-strē'-mi-a
Lagetta, la-ge'-t-a
Lagoecia, la-gō-ē'-si-a
Lagonychium, lag-ō-nik'-i-um
Lagunea, lag-ū-ne-a
Lagnúria, lag-ūn'-i-a
Laguncularia, la-gun-kū-lar'-i-a
Lagúrus, la-gū'-rus
Lăháya, la-hă'-yă
Lălăge, lă-lă-gē
Lamárkia, la-mărk'-i-a
Lambértia, lam-bēr'-ti-a
Lámium, lă'-mi-um
Lankestéria, lan-kes-tē'-ri-a
Lăntana, lan-tă'-na
Lapagéria, lap-a'-gi-a
Lapeyrousia, la-pē-rō'-si-a
Laplacéa, la-plă'-sē-a
Lăppăgo, lap-pă'-go
Lăpsana, lap-să'-na
Lărdizabala, lărdiz-ab'-a-la
Lărix, lă-rī'-x
Lărréa, lă-rē'-a
Lăserptium, la-sēr-pit'-i-um
Lăsiándra, las-i-an'-dra
Lăsiopétalum, las-i-o-pet'-al-um
Lăsiopus, la-si-ō'-pus
Lăsiopérmum, las-i-o-sper'-mum
Lăsthénia, lă-sthē'-ni-a
Lăstréa, las-trē'-a
Latánia, lă-tă'-ni-a
Lăthyrus, lăth'-i-rus
Lăurus, lă'-rus
Lăvandula, la-van'-dū-la
Lavătera, la-va-tē'-ra
Lăvrdia, lav-ră'-di-a
Lăwsónia, lăw-sō'-ni-a
Lăxmănnia, lax-man'-ni-a
Lăyia, lăy'-i-a
Leavenwórtia, lev-en-wórt'-i-a

C. Butler.
(To be continued.)

The Week's Work.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchard Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cattleyas and *Laelio-Cattleyas*.—The autumn and early-winter-flowering sections of these plants are undoubtedly the most showy and desirable Orchids for blooming at these seasons when, in most large establishments there is a demand for choice cut flowers. For all kinds of decorative purposes there is nothing to surpass these gorgeous coloured flowers, and especially when seen by artificial light. At one time the section was restricted to a few imported species, including *C. aurea*, *C. Bowringiana*, *C. labiata*, *L. Perrinii* and *L. prænans*, but the hybridist has furnished other beautiful kinds having a variety of form and colouring, many of them blooming late and thus prolonging the season of flowering. Space does not permit of the enumeration of the whole of these hybrids, but the following is a selection:—*Cattleya* Martinii, *C. Ariel*, *C. Mrs. W. H. Whiteley*, *C. Portia*, *C. Fabia*, *C. Hardyana*, *C. Iris*, *C. Clarkii*, *C. Ashtoniana*, *C. Mrs. Pitt*, *C. Wendlandiana*, *Laelio-Cattleya Irene*, *L.-C. Ophir*, *L.-C. Clive*, *L.-C. Cornelia*, *L.-C. Berthe Fournier*, *L.-C. Luminosa*, *L.-C. Cappii*, and *L.-C. Charlesworthii*.

The flowers of all these plants, especially when they are cultivated in gardens which are tolerably free from fogs, last in a good condition longer than those which develop during hotter seasons. It is a temptation to allow the flowers to remain for a longer period than is good for the plants; the effect is seen in the pseudo-bulls, which gradually become wrinkled owing to the flowers taking the greater part of the nourishment. Plants that are weakened in this manner require a considerable time to regain their former healthy condition; indeed, if they have suffered considerably from this cause, they rarely make satisfactory growth the following season, and if they do flower they only produce very inferior flower-spikes. This is also very often the starting of the plants on a downward course, and they get weaker and weaker and are only to be saved by very great care. But, on the other hand, it must not be assumed that cutting out the flower-spikes at the wrong time does not have a considerable influence upon the plant's welfare. It is natural for the plants to produce flowers, and the majority of those under consideration do so much more freely than many other kinds of Orchids. Even weakly plants of these *Cattleya* and *Laelio-Cattleyas* will send up their flower-spikes, but they are usually produced considerably later than those of the normal flowering. These weakly plants are benefited by the removal of their flowers as soon as they appear through the sheaths, for this will often assist a plant in regaining its lost vigour. Yet to perform a similar operation in the case of Orchids in full vigour will only result in mischief, and would probably cause the plant to burst away into growth at a time and under conditions most unfavourable for its permanent welfare. Thus it is seen that the removal of incipient flower-spikes may be necessary, whereas under other conditions the cutting out of the inflorescence may be injurious.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LEANGLATTOCK, The Hendre, Monmouthshire.

Renovating old vines.—It is the case sometimes that old vines, having become weakened, and therefore less productive than formerly, are uprooted and burned, when it would be an easy matter to restore them to vigorous growth and a fertile condition. In some instances deterioration is brought about by the pruning continued year after year on the short spur principle. Such vines, provided their roots are in a satisfactory condition, may be greatly improved if cut down beneath the bottom spur, smoothing the wound and dressing it thoroughly with styptic. There need be no doubt as to the vine breaking into growth again from the old stem; as a matter of fact, several growths will be likely to appear, and the cultivator should select the most suitable one for forming the new rod, cul-

tivating it as he would a young vine. We have treated vines 30 years old in this manner, and the results have been in every way satisfactory. This treatment is desirable also if it is intended to inarch old vines with a new variety, and in these gardens we have just inarched Prince of Wales upon Alnwick Seedling. Directions have already been given in previous Calendars for the renovation of unsatisfactory borders containing the roots of early vines, and attention may now be directed to the borders of late vines. If there has been any shanking in the border, this is direct evidence that such attention is needed. In cases where the roots extend into out-of-door and inside borders, one of these should be treated first, leaving the other until next season, bearing in mind that the inside border must on no account be interfered with until all the Grapes have been cut. If most of the roots are deep in the border, take out a trench at its extreme end, and gradually and carefully pull the roots away to a place near the stem of the vines, causing as little damage as possible to the roots. Then coil the roots back and protect them with damp mats. Make the drainage perfect, and cover the material with a thin layer of turf, placing the grass side downwards. Make up the border to a little more than half its depth, and then proceed to add the upper portion. During this latter operation arrange the roots of the vine in layers through the soil. As the work proceeds, cut away any damaged portion of the roots, and shorten any that are extra long and bare of fibres, carefully preserving those which are most fibrous. The borders should be composed of moderately dry soil, and it should be made tolerably firm. When all is completed, a surface mulch should be added and a thorough application of water given. The leaves of the vines should be syringed every day until they fall, but at this season no shading will be required. In cases where the drainage is already in perfect condition and the roots of the vines are fairly near to the surface, it will be sufficient if the top soil be removed until the uppermost roots are exposed, when a top-dressing should be applied consisting of fresh soil, with bonemeal, or some other suitable fertiliser, wood ashes, and crushed mortar rubble, mixed thoroughly together.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VISCOUNT GIBBS, Aldenham House, Elstres, Bedfordshire.

Cucumbers.—Maintain an atmospheric temperature of not less than 65° unless the weather is unusually cold, taking care to promote plenty of atmospheric moisture. The glasswork of the house should be kept thoroughly cleaned that as much light as possible may reach the plants. Apply a moderate surface dressing over the roots, such dressing consisting of three parts well-decayed leaf-mould and one part light, fibrous loam, adding a little finely-broken charcoal. This mixture should be warmed to the same temperature as the house before it is applied to the roots. It is important that the roots are not allowed to suffer from drought even for a short time. Regulate the growths and stop them as they require it, and on no account over-tax the plants by attempting to obtain an excessive number of fruits. If red spider appears upon the leaves it will be necessary to sponge them carefully with warm water, containing plenty of soft soap in solution. Young plants in pots that will fruit late should be exposed to the light and encouraged to become well established in 6-inch pots before it is necessary to plant them cut into the permanent bed. Seeds may still be sown singly in small pots, using very light compost and plunging the pots in a hot-bed. Varieties that grow to a moderate length only are much to be preferred.

Tomatoes.—The plants specially prepared to fruit in winter are now ripening their first fruits. The plants succeed best if trained on wires in a light span-roofed house where the atmospheric temperature is maintained at 55° to 60° and a dry, buoyant atmosphere is maintained by admitting air whenever the weather is favourable. The plants must not be over-watered or in all probability the spot fungus will attack the leaves. The blooms require artificial pollination at this season of the year, and it should be done during the morning. Directly any of the fruits show signs of developing colour they

should be cut from the plants and removed to a warm house to ripen. Successional plants should be potted-on, cultivating them in much the same temperature, and doing all that is possible to encourage them to make strong short-jointed growths. Seeds may be sown at the present time for raising plants to fruit during April and May; raise them in gentle heat. Among the most reliable red-fruited varieties are *Sunrise* and *Winter Beauty*. *Sunbeam* is a very desirable yellow-skinned variety; it sets its fruits freely, is pleasing in appearance, and possesses excellent qualities.

Winter salads.—In many establishments fresh salads are required almost every day in the year. Lettuce, Endive and Chicory form perhaps the most important kinds, and Chicory, being very easily cultivated, may occasionally do service for Lettuce and Endive. It may be grown easily on almost any site, and may be forced just as easily if placed in gentle heat where light is perfectly excluded. The roots may be left in the ground for lifting in batches as required, but on the approach of severe weather it is necessary to lift sufficient to last some little time, storing them in sand or ashes in a structure where frost is excluded. There are now several kinds of Lettuce which are capable of being forced. Seeds should be sown in gentle heat and the seedlings pricked out into boxes, putting them three inches apart. Cultivate them in a light position where the atmospheric temperature is kept at about 50°. The Lettuces may be cut much in the same way as Mustard and Cress as required for use. A batch of Endive should always be in process of blanching, tying the plants up in batches for this purpose as they become necessary. Mustard and Cress should be sown every week in beds, and Onions for drawing, whilst quite small, may be sown similarly. Tarragon should be lifted as required from the open ground and placed in boxes in a structure where there is moderate warmth.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

The Gladiolus.—Although these plants are generally considered to be quite hardy, they are valuable, especially in gardens where the soil is not of a warm, light character, to lift them and plant them rather deeply in either ashes or ordinary soil in the reserve garden. If this is done, protection can be easily afforded the corms in severe weather. When transplanting allow the stems and foliage to remain, but remove the old flower-stalks. *Gladiolus brechenleyensis*, *G. gandavensis* and their hybrid varieties may all be treated in this manner, and it is also a good practice to adopt in the case of *Montbretia*.

Lobelia cardinalis.—These plants should be lifted and placed in boxes for storing. Stand them in a cool, dry shed or some other suitable place, and when the soil about the roots has become quite dry, cut off the old stems and arrange the plants tidily in the boxes, packing some light sandy soil between them. They should be watered in a cool, well-ventilated place and should be afforded just sufficient water to keep them moist, but not enough to cause them to start into growth. Seeds of this plant may be sown at the present time, and if the seedlings require proper care they will furnish suitable plants for bedding out next season.

Protecting plants.—It will now be necessary to protect many half-hardy or tender subjects, and the materials for the purpose should be got together without delay. In the case of plants that have no top growths during the winter, the roots and crowns can be protected by a layer of coal ashes, for although leaf soil and cocoanut fibre are sometimes used for the purpose, the coal ashes are preferable because it is not usually disturbed by birds. Plants that may be protected in this manner include *Acanthus* graciliflorus, *Dieckmannii*, *Hollyhock*, *Triton*, *Alilium aratum*, also *Fuchsia*. *Gunnera scabra* is best protected with bracken Fern and then covered with a wire basket. As these protective materials will remain until the spring they should be arranged neatly so as not to become an eyesore.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Dowager Lady Nunburnholme, Water Priory, Yorkshire.

Planting of fresh trees.—The present year has been one of some difficulty in regard to the cropping of Apples and Pears, and special notes should therefore be made of those varieties which have succeeded well, this being the more important in the case of Pears. When making a fresh selection of varieties, the mistake of choosing an excessive number should be guarded against. If the cultivator has removed to an unknown district, he should consult someone in the locality as to which varieties have proved successful there. The distance at which fruit trees should be planted is one partly depending upon the nature of the soil and the district. Pyramid trees or bushes on the Paradise stock and Pears on the Quince stock grow less vigorously than

may be planted 15 feet apart, but if they are trained horizontally, then 20 feet may be allowed. Morel's Cherries should be given 20 feet between each tree.

Varieties of Apples.—Varieties that succeed well in most districts as pyramids are Lord Grosvenor, Stirling Castle, Warner's King, Lane's Prince Albert, Newton Wonder, and Bramley's Seedling. As standard trees, the following are equally successful: Lord Grosvenor, Ecklinville Seedling, Blenheim Pippin, Dumelow's Seedling, Newton Wonder, and Bramley's Seedling. Dessert Apples suitable for forming pyramids include Irish Peach, Worcester Pearmain, King of the Pippins, Allington Pippin, Cox's Orange Pippin, and Claygate Pearmain. For standards, the first five are equally suitable, and in place of Claygate Pearmain Lord Hindlip may be chosen, being a fine late dessert

at this time of the year, there being more heat in the water pipes and less moisture in the atmosphere than usual, and thrips have a better chance of spreading. In cleaning Codiaums (Crotons) infested with mealy bug, an insecticide may be used in the form of a spray and the plants thoroughly syringed with clear water afterwards. When a sponge is used in cleaning the narrow and especially the curly-leaved varieties, it is difficult to avoid damaging the foliage. During the dull months of winter the glasswork should be washed several times and also the woodwork in the house, so that everything may be as clean and light as possible. Endeavour to get the air of the house changed once each day if possible, but avoid excessively heating the hot-water pipes, this being very harmful to the plants. If the temperatures cannot be maintained without doing



FIG. 145.—ROYAL GARDENS, FROGMORE: HOUSE OF MELONS; THE VARIETY IS EMINENCE.

(Photograph by E. J. Wallis.)

the same varieties upon the free stock, and they may be planted at distances of 6 to 9 feet apart. But Apples on the Crab stock and Pears on the Pear stock must be given 12 feet apart at least. Standard Apple trees of strong-growing varieties ought to be planted at distances of 25 to 30 feet apart, but half-standard Plums, or bushes of what are known as the small fruit, may be planted between them. If the soil is especially adapted for fruit culture, Apples on the Paradise and Pears on the Quince stock may be profitably planted between the standards, but they must be root-pruned occasionally, and they may then be expected to increase in value, and can be safely transplanted to other positions when the standard trees have made such growth as to shade them more than is desirable. Fan-trained trees of Peaches, Cherries, Pears, and Plums

Apple. There are many other excellent varieties of Apples, such as Golden Noble, Beauty of Kent, Bismarck, Devonshire Quarrenden, James Grieve, and Ribston Pippin, for dessert. Those who wish to grow for exhibition may safely select such as Peasgood's Nonesuch, Emperor Alexander, Gascoyne's Scarlet Seedling, Charles Ross, Rival, and King of Tompkins County.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Stove or hothouse plants.—Examine these plants thoroughly for insect pests, and any that are found to be attacked let them be cleaned at once. It is necessary to fumigate the stove occasionally

this, it will be better to put in an additional water pipe.

Lilium speciosum.—Plants which are now passing out of flower should be kept rather on the dry side, and when all the foliage has fallen the stems may be cut down to the level of the pot before placing the pots containing the bulbs in a perfectly cool and dry place, where they remain until early in the spring, when it will be necessary to shake them from the old soil before repotting. The ordinary soil or loam in some gardens is not suitable for this Lily, and in such cases, provided there is plenty of leaf-mould at hand, this may be used instead with some fine, soft sand mixed with it. When this is done, it will be necessary to apply frequent waterings of liquid manure during the growing season of the plants.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, and as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, NOVEMBER 16.—Nat. Chrys. Soc. Com. meet.

TUESDAY, NOVEMBER 17—
Westminster Chrys. Sh. (8 days).

WEDNESDAY, NOVEMBER 18.—Darlington Chrys. Sh.

THURSDAY, NOVEMBER 19—
Edinburgh Chrys. Sh. (3 days). Linnean Soc. meet.

SATURDAY, NOVEMBER 21.—German Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last fifty years at Greenwich—42.3°.

ACTUAL TEMPERATURES—
LONDON.—Wednesday, November 11 (6 P.M.): Max. 66°; Min. 38°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, November 12 (10 A.M.): Bar. 29.9; Temp. 55°; Weather Fine, bright.

PROVINCES.—Wednesday, November 11 (6 P.M.): Max. 67° Cornwall; Min. 50° Lincoln.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—

Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

TUESDAY—
Sale of Nursery Stock at The Nursery, Gloucester Road, Kingston Hill, by order of Mr. J. Puttock, by Protheroe & Morris, at 12.

WEDNESDAY—
Analeas, Rhododendrons, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.

THURSDAY—
Bulbs, Herbaceous Plants, &c., at 11.30; 1,621 cases Japanese Lilioms, at 1; 3,500 Roses, Palms, Azaleas, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

FRIDAY—
Choice Imported and Established Orchids, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

* The
Germination
of Orchid
Seeds.

M. Noël Bernard's earlier investigations into the germination of the seeds of Orchids have already been noticed in these pages (July 8 and August 5, 1905).

Horticulturists specialising in this group of plants know how uncertain is the germination of the seeds of various Orchids, notably of species of *Odontoglossum*, *Phalenopsis*, and *Vanda*. M. Bernard's recent observations and experiments, which he summarises in a lecture given during the International Horticultural Exhibition at Ghent, in April last, on the occasion of the centenary of the Société Royale d'Agriculture et de Botanique de Gand, throw light on one cause of this uncertainty. Whilst not providing a ready remedy, his results cannot be ignored by practical men, since they suggest methods whereby the chances of germination may be increased. The brochure gives an account of M. Bernard's results, and promises a fuller exposition in the near future. We will, therefore, for the present, content ourselves with stating concisely the main points of these discoveries, reserving a more complete account till the detailed work is published.

La Culture des Orchidées dans ses rapports avec la symbiose, par Noël Bernard. Edward Sacré, Gand, pp. 20, avec 6 planches.

Briefly, M. Bernard has shown that germination only takes place when the threads (mycelium) of a certain fungus, which normally inhabits the cells of young roots of the adult Orchid, are present in the soil or other material in which the seeds are sown; and that, unless these fungus threads gain an entrance into the tissue of the minute embryo of the seed, germination fails.

He has sown Orchid seeds on sterilised substances; observed that, in these circumstances, germination does not occur; then, by the addition of a pure culture of the fungus to the seed-bed, has succeeded in causing the seeds, not only of *Cattleya* and *Cypripedium*, which grow fairly readily; but also the seeds of the more refractory *Odontoglossum*, *Vanda*, and *Phalenopsis* to germinate freely. Yet more remarkable, though disappointing from the point of view of immediate application in a practical manner, he has shown that such pure cultures grown on various media used for the culture of fungi in the laboratory lose, after a time, the power of stimulating the embryo to develop.

He concludes that just as disease-producing microbes, cultivated outside the body, may lose their virulence and become attenuated, as was shown long ago by Pasteur's famous experiments, so also the fungus grown apart from its host—the Orchid root—loses its special faculty of inducing germination in the embryos which it penetrates.

We cordially recommend M. Bernard's little book to the notice of those interested in its special subject, or in the progress of botanical research in relation to horticultural practice.

Ordeal
Plants.

The poisonous properties of *Primula obconica*, *Rhus Toxicodendron* and other plants have recently been discussed in our own columns as well as in those of the general Press, producing in the minds of some people the fear lest the familiar *Ampelopsis Veitchii*, which it in no way resembles, should turn out to be the dangerous *Rhus*. Another aspect of poisonous plants which has also attracted some attention of late is that of Ordeal Plants, the best known of which is probably the Calabar Bean, or as it is perhaps better known, the Ordeal Bean of Old Calabar (*Physostigma venenosum*). The bark of the Sassy tree or Redwater tree of Sierra Leone (*Erythrophleum guineense*) is also a well-known poison. With regard to the first, it is interesting to recall some points of its history and introduction into medicine in this country. The plant is a woody papilionaceous climber growing 50 feet high, a native of West Tropical Africa, near the mouth of the Niger and Old Calabar, where, indeed, it is said to be somewhat rare, having been destroyed by order of the Government, though many were preserved in order to supply seeds for use as an ordeal. Their properties first attracted notice in England in 1840. Further researches were made in 1855 and again in 1858, but it was not till about 1863 that it was discovered that an alcoholic extract of the seed possessed the power of contracting the pupil of the eye, so that the substance in question became generally used in ophthalmic cases, as well as in tetanus or lockjaw, epilepsy and other nervous affections, the alkaloid being known as physostigmine or

eserine. Up to about 1863 the Beans, which are about 1 inch in length and of a reddish-brown colour and kidney-shaped, were only occasionally seen in the English market, and their properties being then but little known they failed to find buyers. A quantity was offered for sale in Liverpool without success, and some of them found their way to a rubbish heap, where they were discovered and eaten by some children, with serious or fatal results. In trial by ordeal, the result of their use is very similar to that described by Sir Harry Johnston when writing of the bark of *Erythrophleum guineense*. He says "the bark is stripped off by the medicine man, who smashes it up and triturates it with water into a paste. If he desires to kill his victim outright, he mixes a Strychnos or other poison with it. If the man does not care, or has been bribed to save the life of the accused, the mixture is probably a simple decoction, more or less strong of the *Erythrophleum* bark." As many as 16 species of *Strychnos* are said to be used in ordeal trial. To prepare the potion, the root is finely grated and infused in cold water, which the man or woman accused of some misdeed is afterwards required to drink. It even happens that people only suspected take it of their own accord, in order to prove their innocence. In the opinion of the negroes, the guilty man invariably dies of this poison, whilst the innocent is only rendered indisposed. The first effect of the drug is to intoxicate. The people who drink it take care to place themselves beside a tree or stake, which they grasp firmly when their head begins to reel, for a fall at this moment would be regarded as proof of their guilt.

It will be remembered that, while both these ordeal plants belong to the same Natural Order, Leguminosae, *Physostigma* is a climber of the usually wholesome sub-order Papilionaceae, while *Erythrophleum* is a tree of 40 to 50 feet high belonging to the sub-order Caesalpiniaceae, in which are found plants of very varied properties.

LINNEAN SOCIETY.—A meeting will be held on Thursday, November 19, at 8 p.m., when the following papers will be read:—1, "On a new Species Symphylla from the Himalayas," by Prof. A. D. IMMS, B.A., D.Sc.; 2, "The Freshwater Crustacea of Tasmania," with remarks on their Geographical Distribution, by Mr. GEOFFREY SMITH, M.A., F.L.S. Exhibitions: 1, Mr. HAROLD WAGER, F.R.S., F.L.S., "The Optical Behaviour of Epidermal Cells of Plants," with lantern demonstrations; 2, Mr. C. T. DRURY, F.L.S., "The Singular Growth of a *Scolopendrium* in an Airtight Case"; 3, the Rev. J. GERARD, S.J., F.L.S., photographs of a Yew tree showing twin-like growth; 4, "Wistaria, as Affected by the Direction of Twining"; 5, Miss A. L. SMITH, F.L.S., "Myxococcus pyriformis, a British Species of Myxobacteriaceae"; 6, The Rev. T. R. K. STEBBING, M.A., F.R.S., F.L.S., "Cavernularia obesa, from Borneo," collected by CHARLES HLOE, D.Sc.

BRITISH GARDENERS' ASSOCIATION.—A public meeting of professional gardeners will be held at the new hall of the Co-operative Society, Clay Hill, Haslemere, Surrey, on Saturday, November 14, at 7.30 p.m. An address upon the "Aims and Objects of the British Gardeners' Association" will be given by Mr. J. WEATHERS, secretary of the B.G.A., supported by Mr. E. F. HAWES.

SIR DANIEL MORRIE, K.C.M.G., V.M.H., &c.—The President and Council of the Royal Horticultural Society have unanimously appointed Sir DANIEL MORRIE to be an Honorary Life Fellow of the Society, in recognition of his valuable services to horticulture in various parts of the Empire.

PLANTS IN FLOWER AT GLASNEVIN.—Mr. F. W. MOORE writes as follows from the Royal Botanic Gardens, Glasnevin, Dublin:—"The season has been so abnormal that I thought it might interest you to see some flowers gathered here on November 5, from the open air, where they were absolutely unprotected. There are shrubs, herbaceous and Alpine plants, and flowers are appearing on some of the shrubs that the leaves are falling off. The Elms are quite green still, but the leaves are falling from most of the other trees owing to the heavy fogs and dews at night. It is curious to see the water lilies in the sunny forenoons nicely open. In fact, were it not for the colour of the leaves it is more like April here than November. In the list of plants, I have not included ordinary autumn flowers, such as Asters, *Pyrethrum uliginosum*, and similar species which frequently flower in November. They are as follow: *Amicia Zygomeris*, *Astrantia*, *Abelia*, *Berberis*, *Colutea*, *Clematis*, *Campanulas*, *Cestrum Parqui*, *Coronilla Emerus*, *Clerodendron forficatum*, *Escallonia*, *Fuchsias*, *Dianthus*, *Hypericum*, *Sis. stylosa*, *Dielytra speciosa*, *Medicago arborea*, *Nymphaea Marliacea*, *Enothera taraxacifolia*, *Lavatera arborea*, *Linaria anticaria*, *Moræa irioides*, *Phlox reptans*, *Parochetus communis*, *Phlomis fruticosa*, *Primroses*, *Strawberry*, *Spiræa*, *Solanum jasminoides*, *Roses*, *Veronica angustifolia*, *Verbena venosa*, *Tradescantia*, *Rhododendron parviflora*.

A GARDENER'S BEQUESTS TO THE CHARITIES.—Under the will of the late Mr. BENJAMIN GREAVES, formerly gardener at Broome Hall, Surrey, the Gardeners' Royal Benevolent Institution and Royal Gardeners' Orphan Fund have received £50 each.

NYMPHÆA LOTUS AS FOOD.—A writer in the *Tropical Agriculturist* states that the rhizome of seeds of this plant form a common article of diet for the poorer classes in Madras. The people use rats or hollowed trunks of the Palmyra Palm in order to gather the plant, the rhizome of which is eaten as curry. The seeds, when prepared free from the fruit, are of a dirty white colour, and are boiled like Rice, or ground to flour, which is then made into cakes. The seed is said to be very palatable, but to be inferior in nutritive value to Rice. Sometimes, especially in times of scarcity, a fair price (Rs 40 per 500lb.) may be obtained for the seed as an article of food.

AN HONOURABLE RECORD.—On November 8, 1908, Mr. JOHN BLACK, whose portrait appears on this page, completed his 50th year as head gardener at Smeaton-Hepburn, where he has been with the late Sir THOMAS BUCHAN-HEPBURN and the present owner, Sir ARCHIBALD BUCHAN-HEPBURN. In April last Mr. BLACK celebrated his golden wedding. He has a numerous family, and three sons have served their apprenticeship as gardeners under their father. The eldest is now gardener to the Duke of LEINSTER, at Carton, and the other two control large private establishments in the United States. Mr. BLACK is still the first up in the morning, and the hardest worker on the place, the difficulty being to get him to realise that at the age of 78 years he should relax his efforts. Mr. BLACK has kept the records of the meteorological station in

the Smeaton-Hepburn garden during the 50 years, night and morning, with scarcely a break. A correspondent writes as follows:—"Mr. BLACK was recommended as gardener to Sir THOMAS BUCHAN-HEPBURN by JAMES MCNAB, of the Royal Botanic Gardens, Edinburgh. Sir THOMAS was a great tree planter, and most of the large Conifers which are now such conspicuous features in the grounds were planted by Sir THOMAS and Mr. BLACK. Many uncommon shrubs were also planted, and interesting species seldom seen outside botanic gardens were added to the indoor plant department. Orchids were favourites, and the wall-enclosed garden which in 1858 was in a neglected condition, was brought to a model of neatness. The latest phases—or shall I say crazes—of gardening were initiated. These included low single espalier fruit trees, and a series of flower-beds that were laid out in the bedding-out style of that period, which have ever since continued to be a feature of the garden. At the same time, everything possible was done to preserve its characteristics, and to-day it is one of the most interesting amongst Scottish gardens of the late 17th or early 18th centuries. In recent years the present proprietor



MR. JOHN BLACK, FOR 50 YEARS HEAD-GARDENER AT SMEATON-HEPBURN.

has considerably extended the kept portion of the ground, embellished the portions around the artificial lake, formed an extensive Alpine garden, and made other improvements. Mr. BLACK has officiated as judge at the principal flower shows for half a century. A few years ago the members of one of these societies presented him with a timepiece on the occasion of his officiating at their show for the 40th time."

FARMERS AND SCIENCE.

In his presidential address to the members of the Birmingham Microscopists' and Naturalists' Union, Mr. Walter E. Collinge, M.Sc., F.L.S., F.E.S., Director of the Cooper Research Laboratory, dealt with the value of Economic Biology to the agriculturist and horticulturist. At the present day this subject is recognised and carefully studied by all thoughtful and far-seeing people who are interested in plant and animal life, but it is only comparatively of recent years that the subject of economic biology has received the attention that so important a study demands and merits. Indeed, we in this country are far behind many others, and not until we more fully realise that our field and garden crops suffer to the extent of from 25 to 75 per cent. of their value by the attacks of injurious animals and fungi, that our live stock

are seriously impaired, that stored grain, timber, and other products of great commercial importance are seriously injured will the subject receive the thorough attention it deserves.

It will thus be seen that the subject is one of great scope and importance, as well as of great interest, and in the present days of farming, gardening, and commercial competition the part played by animal and vegetable parasites is now recognised to be one of prime importance. No student of agriculture, and no one who gardens for profit can afford to neglect this subject, for the successful agriculturist and horticulturist must not only be able to grow crops, but he must be able to obtain the largest possible yield by protecting his crops from the damage and destruction caused by disease. In order to successfully combat the pests, it is necessary that we should know something about them, their habits, methods of attack, where they live, their migrations, when they appear, and why they become destructive. Without this knowledge it is almost useless to expect any good results from the steps we take to destroy or hold them in check. With a full knowledge it is often possible to devise simple means for checking them or stamping them out almost entirely, or even possible to prevent their coming. In practically every civilised country, except our own, the subject is being entered into with energy and enthusiasm, with what results all who are interested in agriculture and horticulture know only too well. It is only by long and patient study that we can arrive at proper conclusions respecting the value of those forms of life which are termed useful, and the seriousness of the harm done by those termed injurious. The loss that injurious insects inflict upon our crops and forests is enormous. Many years ago Dr. Riley estimated the average damage to crops in the United States at nearly £60,000,000 per annum. In this country it is no unusual thing to find injury to the extent of 25 to 50 per cent. of the crop, whilst in other cases it is much beyond that. Curtis records that in 1780 the Turnip crop in Devonshire suffered to the extent of £100,000 owing to the injury caused by insects, and about the same time the Turnip sawfly destroyed thousands of acres of Turnips in Norfolk, and again in 1835. In 1881 the Turnip flea beetle did damage to the extent of half a million sterling in this country, and in 1882 the Hop aphid caused a loss of over a million and a half sterling. During the past year, owing to the winter moth laying her eggs long after winter spraying had been completed and even the greatest care removed from the trees, fruit growers have lost tens of thousands of pounds. These cases might be multiplied to almost any extent, although most of us are aware of the seriousness of the situation. With the advance that has been made in our knowledge of the life history of the different species and the improvement in our methods of attack, there is every reason to expect that the farmer and fruit grower will suffer less if he takes advantage of the known preventive and remedial measures. The injuries effected through the agency of insects and other parasites upon live stock are of an extensive nature. The aggregate loss occasioned by the ox warble flies (*Hypoderma lineata* and *H. bovis*) in England has been variously estimated at from £2,000,000 to £7,000,000 per annum. The sheep maggot is another insect which causes considerable loss, but I am not able to give any exact figures. The gadflies (*Tahandae*) and bot flies (*Oestridae*) are further examples of insects causing considerable losses to stock-breeders and feeders, whilst there are a large number of what may be termed minor pests, such as fleas, the flesh fly, stable fly, sheep "k d," &c., while sheep scab, husk, liver-fluke, gid and other diseases due to internal parasites exact a heavy toll. Soil biology and the scientific breeding of plants were next dealt with, and the vast possibilities awaiting the investigator and the agriculturist were referred to. In conclusion, Mr. Collinge pointed out that farmers, stock breeders, fruit growers, and gardeners throughout the land were beginning to realise that the man who could associate science with practice was worth paying attention to, for his advice meant healthier stock, better crops, and bigger prices. The address was illustrated by a large series of lantern slides typical of some of the parasites and the diseases they set up in live stock and crops.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

RENAMING FRUIT AT SHOWS.—Exhibitors are at times thankful to judges and experts for correcting errors in naming fruit at shows. Many a time the correct name of a fruit has been obtained by an exhibitor in this manner, but even judges are liable to fall into an error. A striking instance of this came under my notice at the recent fruit show in the Vincent Square Hall. A competitor staged a dish of Beauty of Hants Apple, whatever this variety may be. I look upon it as an inferior, and perhaps a seedling from Blenheim Pippin. One of the judges erased the name written by the exhibitor and substituted Mabbott's Pearmain, which the Apple does in a slight measure resemble, but upon a closer inspection they are quite dissimilar, and in no way more pronounced than at the time of ripening. The *Fruit Manual* says Mabbott's Pearmain is a valuable dessert Apple in use up till Christmas. Beauty of Hants is in season in October, and is quite useless in November, much less Christmas. The flesh of Beauty of Hants is white and not highly flavoured, whereas in Mabbott's Pearmain it is yellowish and richly flavoured. Having planted the tree from which the fruit was gathered as Beauty of Hants, thirty years ago, obtaining it from R. Smith and Co., Worcester, I have reason to know a mistake was made in altering the name. E. M.

MISNAMING OF FRUITS.—Looking round the stalls in Nottingham market-place recently, I was attracted by a good sample of Pears bearing the label "Williams." Ingratiating myself by a small purchase, I hinted as delicately as possible that a mistake had been made, and that the Pear was the well-known market variety, "Boussoch," which ripens long after the favourite "Williams" are over. My surmise proved correct, but I was not quite prepared to hear the explanation that "if I didn't label them 'Williams' I couldn't sell a Pear." I had an almost similar experience in Leicester on the 24th ult., which shows that the practice is general, at least in the Midlands. My impression is that if any one cared to take the matter up the practice could be proved illegal, but perhaps I may be corrected on this point. L. Fosbrooke.

CLEMATIS INOVIDUA FOR FORCING.—This species, introduced to this country in 1847 from New Zealand, makes an excellent subject for early forcing in a warmth of 50-55°, and is capable of being brought into bloom in the month of February. It is admirably adapted as a market pot plant for Easter decorations. The whitish-yellow blooms have a diameter of 2½ inches, arranged in large corymbs, and these being in open order afford a pleasing appearance. The foliage is shining dark green, and similar in form to that of Smilax. In the open air the flowers appear in April. F. M.

BENTHAMIA FRAGIFERA.—Even in the southern part of Hampshire, within 10 miles of the Isle of Wight, this shrub does not succeed. Fifteen years ago I raised several plants from seed, grew them on in pots until well established, and planted them out in the open in spring. They were planted carefully in the most favourable spots in the garden, and they have grown fairly well, but have never shown signs of fruiting. It may be that the soil is of too cold a nature to enable the plants to grow sufficiently vigorous. S., Hants.

CLIMBING PLANTS IN ARGVLE.—On October 23, during a visit to Crainish Castle, the pretty autumn residence of Colonel and Mrs. Gascoigne, I was surprised at the beauty and vigour of climbing plants. Crainish Castle is situated on the West Highlands of Argyll and close to the sea. The castle overlooks a lovely flower garden, at the top of which there is a retaining wall. On this wall many so-called tender plants are thoroughly happy. Crinodendron Hookeri had flowers for the second time, Escallonia montevidensis was covered with clusters of white flowers, and Berberidopsis corallina was charming with its coral-red flowers. I had never seen Solanum jasminoides in such condi-

tion, the whole plant being covered with a sheet of blossom. Twining here and there was Rhodochiton volubile, and I was astonished when told that this plant had survived the winter of 1907. Fuchsia fulgens also survives the winter, while the old F. Riccartonii is to be seen in huge bushes. On another wall Lapageria rosea displayed its bell-shaped blooms; this Mrs. Gascoigne and her gardener considered their triumph; the white variety, however, shows no signs of flowering. Exogonium Purga in a sheltered corner was a mass of lovely bloom. Echeveria lies out on rocky fissures, and near to them I noticed Fuchsia procumbens in fruit. D. S. McNeill, Follallock, Argyll, N.B.

JAPANESE MAPLES, HARDINESS OF.—The recent correspondence in the *Gardener's Chronicle* bearing on the hardiness of the Japanese Maples has interested me much, as I have had a good deal of experience of these beautiful shrubs. It is claimed for them that they are as hardy as the Laurel, and, as far as resisting the winter's cold is concerned, I do not dispute it; but unless especially sheltered, the more delicate kinds suffer badly from spring frosts and cutting winds just as the new foliage is developing. What is more, they often remain a good deal crippled for the rest of the season. The more vigorous kinds, such as *Acer palmatum* itself, and its varieties atropurpureum and sanguineum, will thrive where many others fail; indeed, I look upon sanguineum as the best of them all for the open ground, as it is of free growth and the foliage, richly coloured throughout the summer, has that character greatly intensified in the autumn before the leaves drop. The remark of your correspondent A. S., p. 314, proves nothing, as the Japanese Maples referred to may be the green-leaved form of *Acer palmatum* or its variety sanguineum, whereas Mr. Clark in his notes includes quite a long list of varieties. W.

ESCALLONIA AND CHOISYA TERNATA FOR NORTH WALL.—Mr. A. C. Bartlett's note on p. 330 is interesting, but he writes from Cornwall. Needless to say, both plants would prove superior additions to the few plants adapted for north aspect walls, if they would thrive around London and in the Midlands. Can any reader affirm he has been successful with them planted in such positions in the latter localities? I have seen Escallonia planted as a hedge, and although it seemed cruel to clip it when past flowering, it did uncommonly well. William Early.

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 10.—The meeting on Tuesday last was held in bright, though cold weather, and there was a good attendance of visitors. The most important exhibit was a group of Ferns, which occupied a very large space, and was accorded a Gold Medal. The ORCHID COMMITTEE granted one First-Class Certificate, three Awards of Merit, and four Botanical Certificates.

The FLORAL COMMITTEE granted one First-Class Certificate and seven Awards of Merit. At the afternoon meeting of Fellows, 22 new candidates were elected, and a lecture was given by Mr. John W. Odell on "British Wild Flowers in the Garden."

Floral Committee

Present: W. Marshall, Esq. (chairman), and Messrs. H. B. May, George Paul, E. H. Jenkins, W. P. Thomson, Chas. T. Drury, John Green, E. H. Bowles, T. W. Turner, G. Reuthe, C. J. Salter, W. Cuthbertson, J. F. McLeod, J. Jennings, C. R. Fielder, Chas. Dixon, F. Page Roberts, Chas. E. Pearson, Chas. E. Shea, J. Hudson, and R. Hooper Pearson.

MESSRS. J. HILL & SONS, Edmonton, occupied the entire width of the hall, plus an extension, with a very finely-grouped collection of exotic Ferns embracing about 150 species and varieties. The whole of the plants were large and well-cultivated specimens, among the most noteworthy of which was a large plant of *Angiopteris evecta*, rarely seen at shows on account

of its size; also magnificent examples of some of the newer varieties of *Nephrolepis exaltata*, including N. v. Amerpohli, N. e. superba, and others of that class; *Phlebodium lauca Mayi*, a grand plumose form of that species, *Pteris serrulata Summerisii*, P. s. Childsii, *Asplenium Mayi* and *Davallia fijiensis robusta*. (Gold Medal.)

MESSRS. H. B. MAY & SONS, The Nurseries, Edmonton, staged a most interesting group of *Nephrolepis*, representing 50 species and varieties of this genus, which in recent years has furnished fine varietal forms as to eclipse any other exotic genus entirely for garden purposes. The contrast between the simply pinnate, specific forms and the finely-divided plumose variations and densely crisped and crested ones is extremely striking. Messrs. MAY also showed *Begonias* of the Gloire de Lorraine type; *Veronicas* of the Andersonii section, *Bouvardias* and *Carnations*, with the variegated *Ficus repens*, small Ferns and Palms intermixed. (Silver-Gilt Flora Medal.)

Single *Chrysanthemums* in variety were extensively displayed by Mr. C. J. SIMPSON, St. John's Nursery, Cheshamford. (Bronze Banksian Medal.)

MESSRS. W. WELLS & CO., Merstham, Surrey, displayed *Chrysanthemums* in variety, having large Japanese blooms, also decorative, single and other types of the flower in good condition. (Silver Flora Medal.)

A group of *Chrysanthemums* was shown by Mr. W. P. HORTON, Cravenhurst, Seaford, Sussex, who also displayed a small rock-garden exhibit and ornamental-leaved plants of exotic species.

MESSRS. JOHN PEED & SON, West Norwood, London, showed a large exhibit of *Chrysanthemums* upon the floor under the wall. At the back tall Japanese overhung large Japanese blooms, whilst the foreground was composed of decorative and single varieties set in *Adiantum* Ferns, the continuity being broken with bamboo eperges filled with decorative and single *Chrysanthemums*. The same firm exhibited, as a separate group, a collection of Alpine plants, and small specimens of succulents. (Silver Banksian Medal.)

Chrysanthemums were displayed by G. FERGUSON, Esq., Weybridge (gr. Mr. F. W. Smith). Many were single varieties of Mr. Smith's raising. A pretty combination was made with *Belle of Weybridge* (chestnut-crimson) and *Wm. Westlake* (yellow). In the foreground were large blooms of Japanese varieties, the group being enlivened with hardy foliage in its autumn tints.

REV. H. BUCKSTON, Sutton Hall Gardens, Elwell, Derby (gr. Mr. A. Shambrook), exhibited a large number of plants of *Cyclamen*. The plants were excellently flowered and well cultivated in every respect. (Silver-Gilt Banksian Medal.)

MR. W. H. PAGE, Tangle Nurseries, Hampton, showed pink-flowered *Astilbe* (*Spiraea*), a few *Carnations* and a dwarf perpetual flowering Rose, labelled Flower of Fairfield.

MESSRS. HOWE LOW & CO., Bush Hill Park, Enfield, showed winter-flowering *Carnations*, also "Salmon King" *Cyclamen*. (Bronze Flora Medal.)

MESSRS. WM. CUTHBUSH & SON, Highgate, London, N., showed *Liliums*, *Azaleas*, *Astilbe* (*Spiraea*), *Lily of the Valley*, and other plants that had been grown from retarded roots; also berried plants in a setting of Palms and Ferns, and a magnificent array of *Carnations*. (Silver Banksian Medal.)

MESSRS. H. CANNELL & SONS, Swanley, Kent, displayed a selection of *Zonal Pelargoniums*, as at the last meeting. (Silver Banksian Medal.)

MR. L. R. RUSSELL, Richmond Nurseries, Surrey, showed berried plants also Ivies with variegated foliage, *Eurya latifolia alba*, *Elaeagnus*, *Garrya elliptica*, ornamental *Conifers*, &c.

MESSRS. CLIBRANS, Altrincham, showed a batch of their pretty hybrids of winter-flowering *Begonias*, having four new varieties, one of which was granted an award (see below).

MESSRS. JAMES VITCH & SONS, LTD., King's Road, Chelsea, filled a large table with varieties of winter-blooming *Begonias*, including the *semperflorens* and the Mrs. Heal types. *Stevia serrata*, a composite plant having a resemblance to *Eupatorium riparium* was exhibited in this group. The flowers are fragrant. (Silver Banksian Medal.)

A large table was filled with pyramidal-trained plants of Begonia Gloire de Lorraine and others of the type. They were freely-flowered, and showed to greater advantage in a setting of Codiaums (Crotons), Aralias, Ferns, Palms, Abutilons, Celosias, &c. The exhibitor was E. H. BROWN, Esq., Highwood, Roehampton (gr. Mr. R. Bradford). (Silver-Gilt Banksian Medal.)

A semi-circular group of flowering plants, principally Begonias and Primulas, relieved with Palms, Codiaums (Crotons), Dracenas, Ferns, &c., was shown by P. TURNELL, Esq., Streatham Hill, S.W. (Bronze Banksian Medal.)

Mr. E. POTTER, Camden Nurseries, Cranbrook, Kent, showed a double-flowered variety of Paul Crampel Pelargonium.

The Misses HOPKINS, Mere Gardens, Shepperton-on-Thames, displayed a small rock-garden exhibit arranged with suitable plants.

Mrs. GRACE LAYTON, Pinbridge, Bourne-mouth, showed paintings of native plants easily recognisable, although having no pretension to botanical details. (Silver Flora Medal.)

AWARDS.

FIRST-CLASS CERTIFICATES.

Nephrolepis rufescens amabile.—This is believed to have originated from N. r. Mayi, a densely-congested variety, but it differs greatly in bearing large, overlapping polydactylous tassels at all tips, in other respects it agrees with the presumed parent in having narrow, imbricate fronds, but has a laxer habit. This Fern was certificated as N. amabile, a specific name, an error which should be corrected and the specific name inserted. In this family the specific differences were originally very marked, but are liable to be entirely obscured by the variations that have occurred, so that the parentage must often be merely presumed by the raiser from his spore-sowing record, rather than from any obvious specific differences. Exhibited by Messrs. HILL & SOXS, Edmonton.

AWARDS OF MERIT.

Begonia Clibran's Pink.—This is an excellent addition to the section of winter-flowering Begonias raised from crossing the tuberous with the fibrous-rooted sections. The flowers are double, and in colour a rich shade of carmine-pink. The plants are very floriferous, and the habit is good. (Shown by Messrs. W. CLIBRAN & SON.)

Chrysanthemum Helly Wells.—A decorative variety of smooth Japanese type; colour reddish-chestnut and buff. (From Messrs. W. WELLS & CO.)

Chrysanthemum Hon. Mrs. Lopes.—This is an extra large yellow Japanese flower. It is probably one of the very best, being of excellent colour, and the largest exhibition size. (From Mr. MARTIN SILSBURY.)

Chrysanthemum Purity.—A large, white, Japanese bloom of exhibition size, and having a pale-lemon tint about the centre. (Shown by Mr. MARTIN SILSBURY, Shanklin.)

Chrysanthemum R. F. Felton.—W. WELLS & CO. (See description on p. 333 of last issue.)

Chrysanthemum Sybic Slade.—Shown by Messrs. W. WELLS & CO. (See p. 333 of last issue.)

Nephrolepis rufescens Mayi var. ornata.—This is a secondary sport from N. Mayi, a robust, erect, congested variety. It is distinguished markedly from the parent form by being tri-pinnate, sub-congested, and somewhat imbricate. It retains the bold, erect habit of growth of N. Mayi, and is a fine decorative form. (Shown by Messrs. H. B. MAY & SON.)

Orchid Committee.

Present: Norman C. Cookson, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), de B. Crawshaw, W. Boxall, F. M. Ogilvie, F. J. Hanbury, C. J. Lucas, G. F. Moore, R. J. Thwaites, A. A. McBean, W. Cobb, J. Charlesworth, J. Cypher, H. G. Alexander, A. Dye, W. H. White, W. P. Bound, H. Ballantine, Gurney Wilson, J. Wilson Potter, R. Brooman-White, H. A. Tracy, and J. Gurney Fowler.

Messrs. CHARLESWORTH & CO., Hayward's Heath, were awarded a Silver Flora Medal for a very select group of new and rare Orchids, all well worthy of the show stand, and in which appeared the pure white *Vanda cœrulea* Charles-

worthii, which gained a First-Class Certificate at the last meeting, the new *Lælio-Cattleya Phœbus* (L.-C. Cappel × C. Iris), a glowing flower, with golden-yellow sepals and petals and deep, blood-red lip, with gold lines; *Cattleya Vulcain maritimum*, deep rose-purple, with white margin to the lip, and others.

Lt.-Col. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), showed three good novelties, viz., *Lælio-Cattleya Golden Beauty* (L.-C. Ernesti × L.-C. Henry Greenwood), a charming yellow flower, with ruby tip to the lip, the spike bearing 10 flowers; *Brassia-Cattleya Mrs. J. Leemann* Westonbirt variety, a delicate primrose-coloured flower, tinged with lilac; and *Cypripedium Dante magnificum*.

FRANCIS WELLESLEY, Esq., Westfield (gr. Mr. Hopkins), sent *Cattleya labiata Her Majesty the Queen*, a large, pure white flower, with a very faint tinge of pink on the front of the lip, the disc being pale yellow; and *Cattleya Gaskelliana Delight*, a finely-formed white flower, with

Messrs. HUGH LOW & CO., Enfield, were awarded a Silver Banksian Medal for a group which contained several white forms of *Cattleya labiata*, including the varieties *Queen Maud*, *Reedleyensis*, and *La Vierge*.

W. P. HORTON, Esq., Cravenhurst, Seaford, staged a small selection of *Cypripediums*, of which the large and finely-formed *C. Cobiae* was the best.

Messrs. SANDER & SONS, St. Albans, showed their new bigeneric hybrid *Chondropetalum Fletcheri*, a very remarkable and pretty flower, with emerald green sepals and petals and white lip.

H. S. GOODSON, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), showed a fine specimen of *Cattleya labiata Amesiana*, with four pure white flowers, with pale pink labellums, on a spike; and *Lælio-Cattleya Clive Keswick* variety, distinct in colour.

Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), sent three very dis-



(Photographed by special permission.)
FIG. 147.—ROYAL GARDENS, FROGMORE: VIEW IN THE PLANT CORRIDOR.

(See page 339.)

a small, deep rose blotch on the lip, and a pale yellow tinge in the tube.

Messrs. JAS. CYPHER & SONS, Cheltenham, staged a most effective group, for which a Silver Flora Medal was given, in the centre of which were a number of fine plants of *Dendrobium Phalaenopsis*, including two nearly white forms, together with the rose-purple *D. Slaterianum*. *Cypripediums* were well represented by C. insignis, *Sanderæ* (about 20 flowers), C. l. Harefield Hall, and other varieties of C. insignis, &c.

Mr. H. A. TRACY, Orchid Nurseries, Amyand Park Road, Twickenham, secured a Silver Flora Medal for a well-arranged group, in which his fine type of *Cypripedium Spicerianum*, raised from home-saved seeds, were well represented. Varieties of *Odontoglossum amabile* and other showy hybrid *Odontoglossums*; a pretty, white *Cattleya*, with purple lip, raised between C. Parthenia and C. labiata alba; and other species were included.

similar varieties of *Lælio-Cattleya Adolph-Harrisonæ* (L.-C. Adolphus × C. Harrisonæ), the one being nearly all yellow, the other cream-white, spotted with purple, and with a purple margin to the lip, and the third bearing some resemblance to C. calumnata.

G. P. WALKER, Esq., Heatherwood, Putney (gr. Mr. McGregor), showed *Lælio-Cattleya Heatherwood* (L.-C. Schilleriana × C. granulosa aurea), a neat flower, with cream-white sepals and petals, and bright purple lip.

J. FORSTER ALOOCK, Esq., Northchurch, Berkhamsted, sent *Cypripedium nobile*, a very large and well-formed flower, and two other good home-raised hybrids, one of which resembled C. triumphans.

H. H. ARMITAGE, Esq., Sheffield (gr. Mr. Baker), sent a flower of a delicately-tinted hybrid between *Cattleya Dowiana aurea* and C. Victoria Regina.

AWARDS.

FIRST-CLASS CERTIFICATE.

Sophia-Cattleya Doris (S. *grandiflora* × C. *Dowiana aurea*), from J. GURNEY FOWLER, Esq., Gilebeands, South Woodford (gr. Mr. J. Davis). A brilliant hybrid, with beautifully-formed flowers of a bright scarlet colour, the veining being slightly the darker, especially on the lip, which has an orange base.

AWARD OF MERIT.

Cypripedium Dante magnificum (*Euryades* × *Charlesworthii*), from Lt.-Col. G. L. HOLFORD. A beautiful flower, with a white dorsal sepal, blotched with vinous purple, the rest of the flower being yellow, tinged with red-brown.

Cattleya Clarkie intensa (*labiata* × *bicolor*), from LEOPOLD DE ROTHSCHILD, Esq. (gr. Mr. Hudson). A fine flower of the shape of C. *Iris*, and bright rose in colour, with a golden sheen on the petals.

Cattleya Labia Cooksonia (C. *aurea* × C. *labiata* Cooksonia).—A very handsome white flower, with intensely bright rosy-crimson lip.

BOTANICAL CERTIFICATES.

Polystachya Laurentii.—A trailing plant, with fleshy, green leaves, and branched spikes of white flowers.

Bulbophyllum lilacinum.—Flowers in dense racemes, white, tinged with purple.

Bulbophyllum cupressum.—The flowers are copper-yellow coloured.

Maxillaria pheniceanthera.—A pretty, profuse-flowering species of the M. punctata class. The flowers are white, sparsely spotted with purple. These four were exhibited by Sir TREVOR LAWRENCE, Bart., K.C.V.O.

Fruit and Vegetable Committee.

Present: A. H. Pearson, Esq. (in the chair), and Messrs. Jas. Cheal, W. Bates, J. Willard, Alex. Dean, H. Parr, J. Davis, W. Barnes, Edwin Beckett, P. D. Tuckett, Geo. Wythes, W. H. Divers, W. Poupert, C. G. A. Nix, A. R. Allan, and Charles Foster.

This Committee had very little brought to its notice; there were the usual seedling and unnamed Apples for consideration and naming, the only exhibit of importance being a collection of Apples and Pears, together with three bunches of Grapes, exhibited from the gardens of the Duke of RUTLAND, Belvoir Castle, Grantham (gr. Mr. W. H. Divers). The Apples were good samples, and embraced a very large number of varieties, the finer being Mère de Ménage, Castle Major, Lane's Prince Albert, Warner's King, Wealthy, Bramley's Seedling, Sandringham, Reineette de Caux, Cockle Pippin, Belle de Boskoop, Broad-Eyed Pippin, and Cox's Orange Pippin. The Pears included Emile d'Heyst, Ungodly, Maréchal de Lamoignon, Beck Bergamot, Beurré d'Id, Beurré Clairgeau, Marie Louise, Beurré du Buisson, Easter Beurré, and Doyenné d'Alençon. The Grapes were Muscat of Alexandria, Black Alicante, and Gros Colmar. (Silver-Gilt Knightian Medal.)

A collection of Apples and Pears was also exhibited by Messrs. HUGH LOW & Co., Bush Hill Park, Enfield.

Scientific Committee.

OCTOBER 27.—Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair), Messrs. W. Hales, E. W. Holmes, G. Massee, G. Gordon, H. T. Gussow, J. T. Bennett-Poe, W. Cuthbertson, J. Douglas, W. C. Worsdell, L. Crawshaw, G. S. Saunders, J. Fraser, and F. J. Chittenden (secretary).

Fasciations in Beans.—Mr. WORSDELL remarked that though the cause of this well-known phenomenon was so far unknown, in many cases it appeared possibly due to an excess of nourishment directed to a given spot, but it was apparently constitutional. He showed numerous specimens of Bean seedlings (*Phaseolus multiflorus*) in which he had, by removing the central shoot as soon as it made its appearance outside the seed, induced fasciation in the shoots which arose in the axils of the cotyledons. A majority of the plants treated had behaved in this way, but not all. In P. vulgaris, in which the cotyledons are raised above the surface, he had failed to induce fasciation, as the long hypocotyl apparently took all the surplus nourishment from the cotyledons. Fasciated roots appear to be rarely met with in nature, but he had been able to

induce the formation of such in one case of *Phaseolus vulgaris*. After removing the radicle, an adventitious root had sprung from the hypocotyl, and this had become fasciated.

Mr. CHITTENDEN, on behalf of a correspondent, showed a fasciated stem of *Calystegia pubescens*.

Adventitious shoots on leaves of Cardamine pratensis.—Mr. HOLMES showed leaves of *Cardamine pratensis* fl.-pl. bearing well-developed shoots arising from the tips and surface. The same phenomenon is frequent in the single form as well as in the double.

Viviparous grass.—Mr. HOLMES also showed a specimen of *Airacacitosa* with numerous small branches springing from the nodes. Such growths are very common in some grass species, and are often found in the inflorescence, particularly after a period of wet weather. They normally occur in that region in some species, as in *Festuca ovina*, in moist mountainous regions.

*Parasitic *Ros canker**.—Mr. GÜSSOW showed further specimens of this disease due to the attack of the fungus *Coniothyrium Fuckelii*.

Aerial tubers in Achenes grandifolia.—Mr. HALES showed specimens of this plant bearing numbers of greenish tubers in the leaf axils. These tubers easily fell away, and were produced by plants which had been grown on after they had finished flowering.

Crocus corns diseased.—Mr. MASSEE showed corns of *Crocus* which had been killed by the bacterium, *Pseudomonas hyacinthi*, which is the cause of the well-known disease of Hyacinths. He wished to draw attention to this disease, for which there is no cure, and to warn cultivators against planting diseased corns. When cut, the corns show the same yellow gummy exudation typical of the disease in Hyacinths.

New certificate.—Mr. BOWLES announced that the Council had had under their consideration a new certificate which, it was suggested, should be designated Certificate of Appreciation, to be awarded for worthy exhibits at the shows of objects demonstrating the results of experimental cultures in gardens, with the object of encouraging individual effort in this direction. The Council suggested that the committee should undertake to consider such exhibits, a suggestion which the committee cordially agreed to carry out.

Curious Narcissus bulb.—From the Rev. J. JACOB came a curious bulb of *Narcissus* in which the axis of a lateral offset had elongated and produced at its apex a small bulb quite normal in structure, about 2 inches above the other bulb.

Poppies with bracts, &c.—From a correspondent at Lincoln, who previously sent Shirley Poppies with numerous bracts just below the flowers, came further specimens. In the accompanying communication he stated that these plants were undoubtedly hybrids, though unfortunately it was not known what the pollen parent had been, though the seed parent was the Shirley Poppy. Little seed was produced this year. From the same correspondent came specimens of *Polyanthus* having an enlarged calyx and no flower, and others with a rather less enlarged calyx and a small flower.

Apples showing "glassiness".—Two specimens of the Apple Lane's Prince Albert were sent, one from Harpenden, the other from Ross, both showing the peculiar greenish semi-transparency known as "glassiness." The appearance is due to the confusion of the cell walls, and the cellular spaces, and it was suggested that this was due, perhaps, either to the very hot weather experienced during the beginning of October, or to the abundant rain following a period of drought. In the former case it was reported that every year from one tree some Apples showing the same appearance were gathered, and that the affected spots rotted after a time, and in the case from Ross 24 Apples showed the trouble, the remainder of those upon the tree being quite normal.

SOUTHAMPTON ROYAL HORTICULTURAL.

OCTOBER 28, 29, 30.—The annual autumn show was held in the Skating Rink, Southampton, on these dates, and was equal in merit to the best of the autumn exhibitions hitherto held by this society. Chrysanthemums, considering the early date, were remarkably good, while fruit and vegetables left little to be desired.

Groups of Chrysanthemums.—Exhibits of these are always well arranged at Southampton. The plants, furthermore, were clothed with good leaves and carried really fine blooms. J. C. E. D'ESTERRE, Esq., Elmfield, Southampton (gr. Mr. C. Hosey), won the premier prize with a desirable exhibit.

Cut blooms were numerous and good. In the class for 12 Japanese Chrysanthemums of distinct varieties, three blooms of each kind arranged in vases, Prince HATZFELDT, Draycot Park, Chippenham (gr. Mr. F. Bible), was the most successful exhibitor, having large, fresh blooms of Bessie Godfrey, Lady Albion, J. H. Doyle, F. S. Vallis, Algernon Davis, Lady Henderson Mrs. F. Pearce, President Viger and J. H. Silsbury. Mr. W. IGULDEN, The Nurseries, Frome, won the second prize with smaller specimens. Prizes were offered for three blooms each of two varieties of white Japanese Chrysanthemums. Major CHICHESTER, Embley Park, Romsey (gr. Mr. B. Hollis), won the leading place with typical examples, Mrs. A. T. Miller and Edith Smith. 2nd, Mr. IGULDEN. Prince CHICHESTER was placed first for three blooms each of two varieties of Japanese Chrysanthemums other than white, with Algernon Davis and Bessie Godfrey in excellent condition. In-curved varieties were not extensively shown, although those seen were of good quality. Prince HATZFELDT had the finest set of 18 specimens, the blooms being large and fresh, although none too well presented. In a smaller class Prince HATZFELDT won the similar position easily, although Mr. F. W. FLIGHT, Cornstiles, Twyford, Winchester (gr. Mr. W. Neville), staged neater, if smaller specimens.

Single-flowered varieties made, as they always do, an attractive display. In the class for six varieties five growers competed. Major CHICHESTER won the first prize with the varieties Will Jordan, Mary Richardson, Florence Robinson and Annie Holden.

Decorative varieties in four distinct sorts were best shown by Mr. B. PEPPLER, Vernon Hill, Bishop's Waltham. The varieties Source d'Or, Soleil d'Octobre and White Quintus are apparently still the favourites in this section. Prince HATZFELDT again displayed his supremacy, winning in the class for 24 specimens in not fewer than 16 varieties, with really fine flowers. Mr. F. CHAMBERLAIN, 75, Shirley Road, Southampton, was the most successful amateur exhibitor.

In the class for table decorations seven persons competed. Mr. R. H. JEFFERY, Nursling, was awarded the 1st prize for an effective combination of pink Carnations, Roses, &c.

Fruit was a distinct and interesting feature of the show. Grapes were very prominent. For three bunches, distinct, J. WILLIS FLEMING, Esq., Chilworth Manor (gr. Mr. H. C. Dredge), was placed first with finely-finished examples of Mrs. Pince, Gros Maroc, and Muscat of Alexandria. A. P. RALLI, Esq., Twyford Lodge, Winchester (gr. Mr. J. Hughes), had the best two bunches of Black Alicante. Mr. J. WILLIS FLEMING, with two superb bunches of Muscat of Alexandria, was awarded the leading prize in the class for this Grape.

Apples were a great feature of the show. As many as 16 growers entered in the class for four dishes of dessert varieties. W. H. MYERS, Esq., Swannome House, Bishop's Waltham (gr. Mr. Ellwood), won easily with beautifully-coloured examples of Cox's Orange Pippin, Benlheim Pippin and Ribston Pippin. Mr. BORMING showed the best kitchen Apples in four dishes, having very fine examples.

Vegetables were good in quality and numerous. Messrs. TOOGOOD & SONS, Seeds-men, Southampton, and Messrs. SUTTON & SONS, Reading, provided the prizes in two classes, which provoked a keen competition, but Mr. W. H. MYERS, Swannome Park, won easily with typical examples of Onions, Celery, Potatoes, Cauliflowers, Tomatoes, and Leeks.

Trade exhibits added much to the interest of the show. A Gold Medal was awarded to Messrs. OAKLEY & WATLING, Florists, Southampton, for a display of floral work. Messrs. E. HILLIER & SONS, Winchester, had an interesting exhibit of Apple, Pear, and Cherry varieties. Mr. W. J. GODFREY, Exmouth, had Chrysanthemums and Zonal Pelargoniums. Messrs. W. WELLS & Co., Merstham, showed new Chrysanthemums.

BRIGHTON AND SUSSEX HORTICULTURAL.

NOVEMBER 2.—The seventeenth annual exhibition of Chrysanthemums was opened on the 2nd inst. in the Corn Exchange and Dome adjoining the Royal Pavilion. Although there was a considerable falling off in the competitive classes for Chrysanthemums, yet the other features, consisting of Begonias, table plants, fruit and vegetables, and non-competitive displays were exceptionally good. There was a total of 322 entries. The weather was fine and bright, and the show was attended by a large number of visitors.

CUT BLOOMS.

In the premier class, being one for 36 Japanese blooms in not fewer than 24 varieties, not more than two of one sort, Mr. C. J. Dicker (gr. to the Executors of the late Hon. Louisa Canning, Frant Court, Sussex), secured the 1st prize. In addition to the cash prize, the president's Silver Challenge Bowl and the Society's Silver Medal were also awarded to this exhibit, the principal varieties staged being Mrs. V.

Capt. J. R. SMILEY, Horsted Place, Uckfield), obtained the 2nd prize.

For twelve large flowering Japanese blooms there was only one entry, the 1st prize being awarded to Mr. E. Jones (gr. to HARRY YOUNG, Esq., Withdean Grange).

For 25 Japanese blooms, in not fewer than 18 varieties in five vases, for which was offered the Society's Silver Medal and a substantial cash prize, Messrs. J. STREDWICK & SONS, Silverhill Park, St. Leonard's, secured the premier position with some well-finished blooms, including two seedlings. Mr. C. J. DICKER, was 2nd. The last-named exhibitor also staged a splendid collection of Apples, consisting of over 60 varieties, and the exhibit is greatly to be commended as coming from a private garden.

PLANTS.

Mr. E. JONES being the only exhibitor in Classes I. and II. for groups of Chrysanthemums, was awarded 1st prize in each class for excellent displays. For a similar group, open to private gardeners and amateurs only, Mr. G. H. BENNETT obtained the 1st prize.

Crawley. The premier award in this section was the Gold Medal worthily earned by Messrs. W. BALCHIN & SONS, of Hassocks, for a magnificent display of Orchids, foliage plants, Lilies of the Valley, Chrysanthemums, &c., arranged in a most graceful manner.

FRENCH NATIONAL CHRYSANTHEMUM.

NOVEMBER 3, 4, 5.—The thirteenth annual congress and exhibition of the French National Chrysanthemum Society took place at Tours on these dates. The congress was held in the Hotel de Ville, and was attended by about 80 persons. M. George Bruant, of Poitiers, presided. The principal business accomplished on the first day was the passing of the *brochure de propaganda*, the decision as to the place of the congress next year, viz., Marseilles, and the voting of the congress medal, M. Charvet being the fortunate recipient.

The show was held in a huge tent supported by a wooden framework erected in the Place



FIG. 148.—ROYAL GARDENS, FROGMORE: SPECIMEN PALMS IN TEAK-WOOD TUBS ON A MOSAIC FLOOR.

(See page 330.)

[Photographed by special permission.]

Knox, Leigh Park Wonder, Mrs. Norman Davis, F. S. Vallis, Joseph Stoney, Viola, Edith Smith, Mrs. R. Hooper Pearson, O. H. Broomhead, Bessie Godfrey, Reginald Vallis, Miss O. Miller, J. Roberts and Walter Jinks. Next in order of merit came Mr. G. Hunt (gr. to PANTIA RALLI, Esq., Ashted Park, Epsom) with a fairly even set of blooms, and was followed by Mr. J. Harris (gr. to Col. C. P. HENTY, Avisford, Arundel).

Mr. G. HUNT was again to the fore with twelve incurveds, distinct, having a bright, even set of blooms, the finest of which were Mrs. B. Hankey, Emblème Poitevine, Buttercup, Duchess of Fife, and W. Biddle. Mr. M. Tourle (gr. to

DECORATIVE CLASSES.

Table decorations are always a strong feature at this show. Miss MABEL HOWELL, Tower Lodge, Queen's Park, secured the 1st prize from 11 competitors.

For an open class consisting of a mantelpiece decoration, Messrs. GEORGE MILES & SON, Dyke Road, were 1st.

NON-COMPETITIVE EXHIBITS.

Fruit, flowers and foliage plants were well shown by Messrs. W. MILES & Co. (Silver-Gilt Medal); Mr. HICKSON also obtained a similar award for fruit, likewise Messrs. SUTTON & SONS, Reading, and Messrs. J. CHEAL & SONS,

de la Gare. It measured more than 200 feet by 125 feet, and was artistically laid out in beds and winding paths. Besides Chrysanthemums, there was a large display of other flowers, including Dahlias, Heaths, Cyclamen, and Begonias.

In the Chrysanthemum classes there were many entries, mostly from local growers. Seedlings were grandly shown by M. ERNEST CALVAT, including some massive blooms in the Japanese section. The Marquis DE PINS, M. CHANTRIER, M. HERAUP, and M. DALBOIS also sent new varieties.

M. PINON had an interesting display of trained plants of Chrysanthemums in pyramid,

fan, and other shapes. Some of the best examples were Tokio, Mrs. Coombes, Chas. Weeks, Prefet Lepine, and Triomphe de Montbrun. M. BURET-REVERDY had close by two big groups, in which were noticed Paris 1900, Satin Rose, Tokio, Henry Second, E. J. Brooks, and Master H. Tucker.

MESSRS. VILMORIN, ANDRIEU ET CIE., Paris, set up finely-developed pot plants in two groups, for which a *Werk of Art* was awarded. We noted Viviani Morel, Algeria; Hy. Weeks, W. Wells. Mme. René Oberthur, Exelda, W. Duckham, Victoria and Albert, Meynell, R. Hooper Pearson, Merstham Yellow, &c. Other exhibitors were MESSRS. KENNY, PELLISIER, BACHET, ROBERT, PAGE, LAPLANE, PARROT (pyramids), LECLERC, CARION, LIQUVILLE, DUPONT, FIERDEFRIED, ALLERY-AUBERT, DALLIERE, MONTIGNY (novelties of 1908), TRAYOGUILLON, BARILETT, &c.

Vegetables were well shown, the collection being remarkable for the great variety exhibited. There were collections from MESSRS. VILMORIN, ANDRIEU ET CIE., the SYNDICAT HORTICOLE DE TOURS, M. BOUCHARD, M. ROBERT, DUPONT FIERDEFRIED, BOCARD, and others.

M. PINGUET-GUINDON was awarded the Grand Prix d'Honneur for a display of Conifers, trained fruit trees, and fruit, chiefly Apples and Pears. This prize was offered by the President of the French Republic. M. BUCHERON and M. VASNOT also showed fruit. Grapes were shown by M. PAJOTIN and by M. DELBOGNET. Trained fruit trees were staged in the promenade leading to the show by M. PLOQUIN and M. JOHANNEAU.

A banquet was given to the jury on the evening of the first day. Among those present were M. Pinguet-Guindon, President of the Tours Horticultural Society, the Mayor of Tours, the Prefect, the representative of the Minister of Agriculture, Mr. Harman Payne, who was appointed president of the jury; Mr. George Bruant, vice-president of the jury; MM. Calvat, Rivoire, Chantrier, Liger, Charvet, Choulet, and Barbier (of Orleans). There was also an interesting excursion to visit some of the sights of the neighbourhood, and other festivities.

CARDIFF AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 4, 5.—The 22nd annual show held in connection with this society took place on the foregoing dates in the Park Hall, Cardiff. The number of entries was somewhat below the average, although the quality of the flowers was good. The exhibition is not confined to Chrysanthemums, but there were displays of Orchids, Carnations, Begonias, hardy fruits and floral designs.

CHRYSANTHEMUMS.—Mr. GEO. DRAKE, Cardiff, secured the first prize, including a challenge cup, for eight vases of specimen blooms, each vase containing three blooms of one variety. He showed well-developed blooms of Reg. Vallis, Mme. G. Rivoli, F. S. Vallis, Mrs. F. W. Vallis, Bessie Godfrey, F. H. Silbury, and Mme. P. Radelli. The MARQUIS OF BUTE (gr. Mr. H. Farmer) was placed 2nd. The 1st prize for 24 blooms of incurved Chrysanthemums in not fewer than 12 varieties was won by Mr. DRAKE. The MARQUIS OF BUTE was again awarded the 2nd prize, but this nobleman was 1st for 12 blooms of Japanese varieties.

In the amateurs' division Mr. F. E. ATKINS, of Llandaff, exhibited 12 remarkably fine Japanese blooms in six varieties, and for which he secured a 1st prize and a challenge cup. The varieties staged were F. S. Vallis (awarded a prize as being the best bloom in the show), Norman Davis, Bessie Godfrey, Maud Jeffries, Algernon Davis, and Mrs. A. T. Miller. In the same section Mr. A. F. HILL, Cardiff, won the premier place in the class for 24 Japanese blooms, and that for 12 varieties.

Mr. DRAKE showed the best stand of six white Japanese blooms. The MARQUIS OF BUTE was awarded a Silver Cup for an exhibit of six Japanese and six incurved blooms of distinct varieties. Among the best of the former were Ben Wells and President Viger, while Mrs. F. Judson and Mrs. Wynn were the best of the incurved flowers.

F. PRIMAVESI, Esq. (gr. Mr. Webber), won the 1st prize and a challenge cup for six vases of cut blooms, three blooms of a distinct variety

in each vase, the best being Lady Talbot, Mrs. W. Knox, and F. Vallis.

In the class for a group of single and large-flowering Chrysanthemums occupying a space of 60 square feet, and arranged with foliage plants, MESSRS. G. WILLIAMS & SONS, Cardiff, were placed 1st. The same firm was awarded a Certificate of Merit for a new variety of Chrysanthemum named Helena Williams, a yellow sport from Mme. R. Oberthur.

Dr. WALLACE, of Cardiff, who for many years past has made a speciality of single varieties, carried off the leading prizes in the classes for this type of the flower.

ORCHIDS were remarkably well shown. MESSRS. JAS. CYRUS & SONS, Cheltenham, showed a fine collection, for which they were awarded a Gold Medal.

J. J. NEALE, Esq., Cardiff, also exhibited a group of Orchids and a collection of insectivorous plants, for which he was awarded a Gold Medal.

MESSRS. W. TRESEDER, P. THOMAS, and W. HEDGE showed bouquets, wreaths, and other floral designs.

FRUIT.—Hardy fruit occupied a prominent place in this exhibition. The 1st prize for a collection of dessert fruits of five distinct kinds was won by Mr. J. H. MULLINS, Preswylfa. A Silver Cup and a 1st prize were awarded to Sir JOHN GUNN for a collection of eight dishes of Apples (four dessert and four culinary varieties), and for four dishes of Pears, two cooking and two dessert varieties. The Grapes staged were generally not of high quality.

MESSRS. BASHAM & SONS, Bassaleg, were awarded a Gold Medal for an exceptionally fine non-competitive display of hardy fruit.

CHELTEHNAM ROOT, FRUIT AND CHRYSANTHEMUM.

NOVEMBER 4, 5.—The annual show of this society was held in the Winter Garden, Cheltenham, on these dates. The entries were about an average in number, a slight falling off in Chrysanthemums being made up by the increased exhibits in the other flower classes. Mr. H. O. LORD, Charlton Kings, secured the Silver Bowl presented by Mr. Horlick, of Cowley Manor, for an ornamental group, the trophy now becoming his absolute property. Mr. LORD having won it in the two previous years successively. The Cup offered by the Mayor and Corporation for six varieties of Japanese Chrysanthemums, was won by Mr. G. MAYHO, and Colonel E. PALEY, of Mickleton, carried off the special prize for the best specimen bloom in the show. Mr. LORD won the chief prizes for a miscellaneous group of plants, and for a collection of 36 varieties of Chrysanthemums. Other winners in the Chrysanthemum classes were Mr. GEORGE PATES, Mr. H. ANDREWS, Tuddington Grange; Mr. G. W. RESTALL, Mr. H. J. TILLEY, Mr. G. E. COX, and Miss ROBINSON.

Fruit was extensively exhibited. The principal winners in the Apple classes were Mr. W. S. C. COX, ROSS; Mr. C. W. POWELL, Mr. J. BOTT, Mr. J. BUTT, Mr. G. GILDER, Mr. C. W. TAYLOR, Mrs. ROBINSON, and Major SELWYN PAYNE. The last-mentioned gentleman won the cup offered for the best dish of dessert Apples.

Mr. POWELL, Mr. HITCH, Mr. NOOREMAN, Mr. C. M. FIELDER, and Major SELWYN PAYNE won the chief prizes for Pears, and those for Grapes went to Mr. HUGH ANDREWS.

LIVERPOOL HORTICULTURAL ASSOCIATION.

NOVEMBER 4, 5, 6.—This society returned to its old quarters, St. George's Hall, for the 29th annual show. The exhibits were slightly fewer in quantity and inferior in quality, although some sections, including the classes for Grapes, Apples, Cyclamen, Begonia, and Salvia were well represented.

Chrysanthemums in pots were, as is usual at this show, a great attraction, especially the trained plants.

Mr. W. WILSON showed the best four large-flowered trained Chrysanthemums, having splendid plants of Mrs. Beckett, Mrs. Dixon, &c. A. A. PATON, Esq. (gr. Mr. J. Pilkington),

won the 1st prize for one specimen of a trained plant.

Mr. T. HITCHMAN and Mr. W. WILSON also secured 1st prizes for trained plants, with single and pompon varieties respectively.

JOHN FINDLAY, Esq. (gr. Mr. E. Wharton), won the 1st prize for six untrained plants.

MISCELLANEOUS PLANTS.—In the class for four stove and greenhouse Ferns, W. TON, Esq. (gr. Mr. G. Eaton), secured the leading award.

The best exhibit of four plants of Gloire de Lorraine Begonia was shown by N. NOBLETT, Esq. (gr. Mr. R. T. Busbush).

Sir W. B. FOXWOOD, Bart. (gr. Mr. P. Jakeman), had the best Orchids, and Dr. J. A. COOK (gr. Mr. G. Osborne) the best Palms and Cycads.

CUT BLOOMS.—In the class for 48 blooms of Chrysanthemums, to include 24 Japanese and 24 incurved varieties, only two competitors staged, and it proved an easy win for last year's champion, Sir W. H. TATE, Bart. (gr. Mr. G. Haigh), with the result that the Cup now becomes this exhibitor's absolute property; 2nd, Sir GILBERT GREENHALL, Bart. (gr. Mr. C. Goves).

Mr. J. YOUNG won the 1st prize for 18 incurved Chrysanthemums, distinct, with blooms of moderate quality; and the best exhibit of 12 incurved blooms, distinct, was shown by THOS. CLARKE, Esq. (gr. Mr. J. Clarke).

R. HOBSON, Esq. (gr. Mr. W. Wainwright), won the premier honour for 18 Japanese blooms, with a fine collection, especially good being Mrs. Barkley, Dorothy Goldsmith, Magnificent, and F. S. Vallis.

The smaller classes were well filled. Mr. P. JAKEMAN was to the fore in the class for six vases of Japanese blooms, distinct, three blooms in each vase, having especially fine flowers of the variety Elsie Fulton. Mr. BACON, Esq. (gr. Mr. J. Rothwell), won in the class for six vases of single Chrysanthemums, Bronze Pagam being shown exceptionally well.

FRUIT.—An important class was for six dishes of distinct varieties. The Earl of Derby (gr. Mr. E. F. Hazelton) led with Black Alicante and Muscat of Alexandria Grapes, Melon Royalty, Apples Cox's Orange Pippin and Mother, and Pear Pitmasdon Duchess; 2nd, Mrs. BRIGHT (gr. Mr. J. Skitt).

Mr. J. SKITT showed the best two bunches of Black Alicante Grapes; whilst Mr. W. EVANS won in the class for any other black Grape with Gros Colmar.

Other prizewinners in the fruit classes were W. CUNNINGHAM, Esq. (gr. Mr. W. Wilson), Mr. W. MACKERRALL, Mr. E. F. HAZELTON, Mr. J. LEE, and Mr. A. A. EVANS.

Non-competitive exhibits were important, and included Orchids, shown by MESSRS. MOORE & CO., Leeds; Begonias, exhibited by MESSRS. CLIBRANS, Altrincham; Apples, displayed by MESSRS. DICKSONS; Liliums, Lily of the Valley, and Begonias, shown by MESSRS. THOS. DAVIES & CO.; Carnations from Mr. W. ROWLANDS; and Orchids from the LIVERPOOL ORCHID CO.

NEWPORT CHRYSANTHEMUM.

NOVEMBER 5.—The annual show was held in the Gymnasium, Newport, Monmouthshire, on this date. The show generally was a success, though several of the Chrysanthemum classes were not filled.

GROUPS OF CHRYSANTHEMUMS.—In the class for a group of Chrysanthemum and ornamental foliage plants, H. OAKLEY, Esq., Chepstow (gr. Mr. W. E. H. Pearce), was the only exhibitor. The group was awarded the 1st prize, including the Mayor's Cup. The exhibit was composed principally of well-grown Chrysanthemums, and it was edged with dwarf plants of single-flowered varieties, intermixed with ornamental-leaved plants.

There were three creditable groups of Chrysanthemums, each arranged in a space of 40 square feet, W. F. DAWSON, Esq. (gr. Mr. R. Long), being placed 1st; 2nd, Mr. T. W. FRANCIS. The 1st prize included the "W. F. Dawson" Challenge Bowl.

Mr. PEARCE had no competitor in the class for a group of miscellaneous decorative plants occupying 30 square feet. He was awarded the 1st prize for a bright, well-arranged exhibit.

The "Lewis Haslam" Bowl, offered for a group of Chrysanthemums occupying 20 square feet, was won by Mr. A. MORGAN.

PLANTS.—G. F. COLBOURNE, Esq. (gr. Mr. Hane), was the only exhibitor in the class for three dwarf-trained Chrysanthemum plants, and deservedly secured the 1st prize.

Mrs. WILLIAMS, Bryn Glas, Newport (gr. Mr. Duff), showed the best three plants of bush form, having Vivand Morel, Hon. Mrs. Ackland, and Nellie Pockett. Mr. HARRIS won the 2nd prize.

Mr. DUFF was also 1st for three bush plants of single varieties.

CUT BLOOMS.—Mr. DUFF had no opponent in the class for 24 Japanese blooms, but he staged a splendid set of large, highly-coloured blooms, and was worthily awarded the 1st prize.

Mr. DUFF was the only exhibitor in the class for 12 Japanese blooms, distinct, and here again he staged good blooms of leading varieties. He also staged the best 12 blooms of Japanese varieties; 2nd, W. A. TODD, Esq., Portishead (gr. Mr. Sutton).

AMATEUR CLASSES.—Mr. W. H. HOLLINGDALE won the "Jas. Clements" Challenge Bowl for 12 blooms of Japanese Chrysanthemums in not fewer than six varieties, and having twice previously won the trophy, it now becomes his absolute property. 2nd, Mr. W. CONYERS KERRY. There were two other exhibitors in this class.

BLOOMS SHOWN IN VASES.—In the class for eight vases of Japanese blooms, distinct, Mr. G. W. DRAKE, Cardiff, won the 1st prize with large, well-coloured, solid blooms of J. H. Silsbury, President Viger, F. S. Vallis, Mme. Paolo Radaelli, &c. Mr. DUFF was a close 2nd.

Six exhibitors entered in the class for six vases of single varieties. Mr. R. FAY won the chief honours, with beautiful vases of Eureka, Grandee, Metta, Edith Pagam, Bronze E. Pagam, and Marchioness of Cholmondeley; 2nd, Mrs. T. W. FRANCIS.

Mr. W. H. HOLLINGDALE was 1st for three vases of Japanese blooms, distinct, with good blooms of Mrs. Percy Cleave, W. R. Church, and Duchess of Sutherland; 2nd, Mr. J. MATTHEWS.

FRUIT.—The best two bunches of Grapes were shown by Mr. LONG, the variety being Muscat d'Alexandria; 2nd, Mr. J. PREECE, with finely coloured bunches of Black Alicante.

Mr. DUFF staged the best six dishes of Apples. T. WILSON, Esq. (gr. Mr. Hobbs), and E. PHILLIPS, Esq. (gr. Mr. Watts), were other prize-takers in the fruit classes.

BURY ST. EDMUNDS CHRYSANTHEMUM.

NOVEMBER 5, 6.—This show was held at the Corn Exchange, Bury St. Edmunds, on these days, during fine weather, and was well attended. The exhibits, taken generally, were quite up to the standard of other years. In the class for 36 cut blooms, in as many varieties, there was only one exhibitor, C. MEZER, Esq., Shortgrove, Newport, Essex (gr. Mr. E. Guile), who showed some excellent flowers, including the best Japanese bloom in the show—a handsome example of Mrs. A. T. Miller. The same gentleman also had no competitor in the class for 12 cut blooms of distinct varieties. In the class for 24 Japanese blooms, in as many varieties, there was stronger competition, the prizes being awarded in the following order—1st, Lord HOWARD DE WALDEN, Audley End, Saffron Walden (gr. Mr. J. Vert); 2nd, Trustees of late Sir JAS. MILLER, Newmarket (gr. Mr. J. Heath); 3rd, Mr. G. W. AGNEW, M.P., Rougham Hall, Bury St. Edmunds (gr. Mr. W. Noble). In the class for 12 Japanese blooms, in 12 varieties, the 1st prize was won by Lord HOWARD DE WALDEN, 2nd, Mr. C. MEZER, The Trustees of the late Sir JAS. MILLER showed the best exhibit of six Japanese blooms, in one variety; whilst Mr. C. MEZER won in the class for six cut blooms of an incurved variety. There were four entries for a group of Chrysanthemums, 7 feet in diameter. Mr. AGNEW was placed 1st. Mr. AGNEW also won in the classes for decorative and single varieties, and he had the best vase of 12 blooms.

The same gentleman also took premier honours for a collection of fruit, and for two bunches of white Grapes. The 1st prize for two bunches of black Grapes went to Hon. W. LOWTHER, Campsea Ash, Wickham Market (gr. Mr. A. Andrews).

Mr. A. B. H. GOLDSCHMIDT, Cavenham Hall, Mildenhall (gr. Mr. Hatch), gained the 1st prize for a collection of 12 kinds of vegetables.

ECCLES AND PENDLETON CHRYSANTHEMUM.

NOVEMBER 6, 7.—This society is to be congratulated on a distinct improvement seen in its exhibition. This was especially noticeable in the plant classes, which this year proved a record as regards quality. Cut blooms were shown in considerable quantity, and were of good quality in their several sections.

PLANTS.—Lady ANNETTE DE TRAFFORD (gr. Mr. J. Ashley) won the 1st prize in a class for a group of plants arranged for effect. This exhibitor showed blooms of moderate quality, and their arrangement was rather flat. The Misses HEYWOOD (gr. Mr. J. Beswick) were placed 2nd for an exhibit that embraced many varieties of single Chrysanthemums.

In a class for six plants of three incurved and three Japanese Chrysanthemums of distinct varieties, JAMES BROWN, Esq. (gr. Mr. J. W. Smith), was distinctly 1st with very fine plants, notably Chelton, Vivand Morel, and J. Bryce; 2nd, Mr. J. Ashley.

Mr. SMITH also showed the best three plants of single Chrysanthemums, the varieties Emily Clifton and Emily Hills being laden with flowers; and in the class for three plants not disbudded the same exhibitor again won the 1st prize, having extra fine examples of Source d'Or and Lady Smith.

In the class for six dinner table plants Sir W. H. TATE, Bart., Woolton (gr. Mr. G. Haigh), added to his Liverpool success by winning the "Highly Coloured" Challenge Cup presented by the late Mr. H. Gossage, Esq.; the same exhibitor won the 1st prize in the classes for 12 incurved and 12 Japanese blooms in not fewer than eight varieties; also for six Japanese, six incurved, six Anemone, six reflexed, 12 incurved, 12 Japanese, six incurved, and six Japanese Chrysanthemums. Other prominent winners in these classes were T. HENSHAW, Esq. (gr. Mr. J. George), Miss LIGHT-BROWN (gr. Mr. J. Roberts), S. F. ARMITAGE, Esq. (gr. Mr. C. Weaver), and Mr. J. BESWICK. SCOTLAND FORBES, Esq. (gr. Mr. W. Holmes), was to the fore in the class for 18 large-flowered Chrysanthemums in six varieties shown in vases; also for 18 sprays in six vases and for six incurved and six Japanese Chrysanthemums of distinct varieties.

Exhibits by amateurs were well staged. Mr. J. H. COUNSEL secured the silver Challenge Cup in the class for 18 blooms. Mr. W. W. WOLLANS won the first honours in four classes with creditable blooms, and Mr. J. B. WROE in two classes. In a class for amateurs not employing a gardener Mr. J. B. WROE won a Silver Challenge Cup and one other 1st prize.

BIRMINGHAM CHRYSANTHEMUM, FRUIT, AND FLORICULTURAL.

NOVEMBER 10, 11, 12.—On the first day of the forty-eighth annual exhibition of this society, held in the Bingley Hall, the weather was cold, but fine.

In point of quality and quantity, Chrysanthemums were below those exhibited a year ago. There was a great falling off in the number of entries in the competitive classes, but honorary exhibitors were more numerous.

Apples were shown in splendid condition, and although vegetables were not so numerous as at some previous exhibitions of this society, the quality not only in the collections, but in the single-dish classes, was superb. It was disappointing to find one competitor only in the principal class for a group of Chrysanthemums, although last year three exhibits were staged. Another discouraging feature was noted in the six classes provided for specimen Chrysanthemum plants. For several years past the number of prizes offered has been in excess of the number of entries. In the classes referred to £15 10s. were offered in 18 prizes, for which 15 exhibits only were staged. There was also a decrease in the important class for cut blooms introduced about three years ago.

An imposing exhibit of shapely, well-coloured Apples was shown by the Agent-General for British Columbia.

GROUPS OF CHRYSANTHEMUM PLANTS.

For the first time, these classes were judged by points. The space allotted in the principal

group was 20 feet by 12 feet. Ferns and foliage plants were admissible. The 1st prize, which included the "William Butler Memorial" Silver Cup, was awarded to the only competitor, J. A. KENRICK, Esq., Berrow Court, Edgbaston (gr. Mr. A. Cryer), who has been a regular exhibitor in this class for a number of years and his first success was well deserved. The flowers, mostly of the large Japanese varieties, were displayed in a tall central pyramid and three small mounds or cones, relieved with Palms, Bamboos and Codiums (Crotons).

In a similar but smaller class there were three exhibitors, the same number as competed twelve months ago. The 1st prize was well won by T. W. PIGGOTT, Esq., Park Hill, Moseley (gr. Mr. R. Bullock), whose group contained some very creditable blooms. 2nd, F. MANTLE, Esq., Holly Law, Beech Lane, Birmingham (gr. Mr. A. J. Davis).

Another class was provided for a group of decorative Chrysanthemums, in which quality of bloom, variety and general effect were the essential points. Thinning was allowed, but not disbudding to single flowers. The 1st prize was won by Mr. C. H. HERBERT, Hazlewood Road, Acock's Green, for a group in which single-flowered varieties mingled with the small delicately-coloured Japanese varieties with pleasing effect. 2nd, Messrs. JAMES SIMPSON & SONS, Harborne.

SPECIMEN PLANTS.

These were shown in very much better condition than was the case a year ago, but there was no increase in the number of competitors.

J. A. KENRICK, Esq., Berrow Court, Edgbaston (gr. Mr. A. Cryer), took the lead in classes provided for (1) six Japanese varieties, dissimilar; (2) three Japanese varieties, dissimilar; and (3) one large flowering variety (Japanese excluded). E. MARTINEAU, Esq., West Hill, Edgbaston (gr. Mr. O. Brasier), was 2nd in each instance.

In a class provided for six large flowering varieties (Japanese excluded) and in another for three single-flowered varieties, the order above was reversed, E. MARTINEAU, Esq. (gr. Mr. O. Brasier), being 1st, and J. A. KENRICK, Esq. (gr. Mr. A. Cryer), 2nd.

The best single plant of any Japanese variety was shown by Col. E. PALEY, Mickleton Manor (gr. Mr. C. Rowland), the plant being a splendid example of "The Princess" variety.

CUT BLOOMS.

The principal class was one for a group of cut blooms arranged on a floor space of 30 feet by 12 feet. Cut foliage and plants were permitted. No restriction was placed upon exhibitors as to the number or kind of vases employed. The 1st prize of £15 and a Silver Challenge Shield were withheld, as the judges did not consider either of the two exhibits sufficiently meritorious for this award. The 2nd prize of £10 was awarded to Mr. H. WOOLNATS, Sandhill Nursery, Shirley. The arrangement of the group was weak and lacked finish, as the legs of the floral receptacles were exposed to view, and a green canvas screen at the back detracted from the general effectiveness. Mr. G. HANCOX, who was placed 3rd, had a well-arranged group, but his flowers were of very poor quality.

BLOOMS SHOWN IN VASES.

The leading class was for 18 Japanese blooms in six varieties. 1st, Sir ALBERT MUNTZ, M.P., Rugby (gr. Mr. H. Blakeway), whose best flowers were Mrs. A. T. Miller, Bessie Godfrey, Mrs. J. Dunn, and Mme. P. Radaelli. 2nd, Mr. W. IGGULDEN, Frome, with beautiful flowers of Mrs. W. Knox and Bessie Godfrey.

The last-named exhibitor was placed 1st in a class for 12 Japanese varieties, three blooms of each. He showed large flowers of Mme. P. Radaelli, J. H. Silsbury, F. S. Vallis, and Mme. G. Rivet. 2nd, Sir ALBERT MUNTZ, M.P. (gr. Mr. H. Blakeway).

In a new class for 12 Japanese varieties, one bloom of each arranged on a table space of 6 feet by 3 feet, the Rt. Hon. JOSEPH CHAMBERLAIN, M.P., Highbury, Birmingham (gr. Mr. John Deacon), won the 1st position with well-finished flowers; 2nd, F. E. MUNTZ, Esq., Umberslade, Birmingham (gr. Mr. H. S. Foster).

Mr. W. IGGULDEN, Frome, had the best vase of any pink-coloured variety in Mme. P. Radaelli, the best crimson-coloured variety in

Magnificent, and the yellow variety in F. S. Vallis.

The best vase of any white variety was exhibited by the Rt. Hon. JOSEPH CHAMBERLAIN, M.P. (gr. Mr. John Deacon), the variety being Mrs. A. T. Miller.

The best four varieties of single Chrysanthemums, eight sprays in a vase, were from the gardens of A. H. HICKMAN, Esq., Cookley, and they were much admired; 2nd, A. HUGHES, Esq., Knowle (gr. Mr. T. Parry).

The last-named exhibitor won the 1st award in a class for six varieties of decorative Chrysanthemums.

Several classes were reserved for local growers, in which the Rt. Hon. JOSEPH CHAMBERLAIN, M.P. (gr. Mr. J. Deacon); T. W. PIGGOTT, Esq., Moseley (gr. Mr. R. Bullock); and R. PROSS, Esq., Edgbaston (gr. Mr. A. W. Young) were the most successful.

In the decorative classes were seen 20 decorated tables, each 8 feet by 4 feet. The judges considered that arranged by E. A. PALMER, Esq., Handsworth (gr. Mr. G. Winter), the best; 2nd, Mrs. E. WINCHESTER, Northfield.

MISCELLANEOUS PLANTS AND CUT FLOWERS.

The Rt. Hon. JOSEPH CHAMBERLAIN, M.P. (gr. Mr. J. Deacon) won the 1st prizes in classes for (1) six Cyclamens and (2) 12 Cyclamens. J. A. KENRICK, Esq. (gr. Mr. A. Crier), who was awarded 2nd prizes in the above classes, took the lead in others provided for (1) six single-flowered Primulas and (2) one tree Fern. Mr. S. MORTIMER, Kewledge, Farnham, showed the best Carnation blooms, occupying a table space of 10 feet by 4 feet; 2nd, Messrs. JAMES RANDALL & SONS, Shirley, Birmingham.

FRUIT.

Competition in the Grape and Pear classes was not so keen as on some previous occasions, but in the large class for a collection of British-grown hardy fruits there were three entries.

The 1st prize for a collection of British-grown fruit occupying a table space of 40 square feet was won by the Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), who had Muscat of Alexandria, Madresfield Court, Black Alicante, and Gros Colmar Grapes well coloured; Cox's Orange Pippin, Gascoyne's Scarlet, Peasegood's Nonpareil, Emperor Alexander, and Ribston Pippin Apples; Doyenné du Comice and Pitmamston Duchess Pears; and a dish of the uncommon Sam Joyce Fig. 2nd, Lord BIDDULPH, Ledbury (gr. Mr. H. Cotton).

Another important class was one for a collection of British-grown hardy fruits arranged on a table measuring 12 feet by 8 feet. Last year's prizewinner, Mr. C. W. POWELL, of Wareham, Hereford, succeeded in retaining the Silver Challenge Cup offered in addition to £5 as the 1st prize. Large, well-coloured Apples were shown in great variety; Pears, Medlars and Nuts were included in this very attractive exhibit. 2nd, Messrs. PEWTERESS BROS., Hereford.

GRAPES.—In the class for six bunches, in not fewer than three varieties, the Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), led with even bunches, four of Muscat of Alexandria, one of Black Alicante, and one of Gros Maroc; 2nd, Lord BIDDULPH, Ledbury (gr. Mr. H. Cotton).

The best three bunches of black Grapes were Gros Colmar, shown by Lord BIDDULPH, Ledbury (gr. Mr. H. Cotton). The Earl of HARRINGTON (gr. Mr. J. H. Goodacre) had the best three bunches of Muscat of Alexandria Grapes.

Mrs. F. NEED, Great Malvern (gr. Mr. F. Jones), led for two bunches of white Grapes (Muscats excluded).

G. BULLEN, Esq., J.P., King's Heath (gr. Mr. A. Ganderton), and C. WINN, Esq., Selly Hill (gr. Mr. T. Sheppard), were successful in the local Grape classes.

APPLES.—Mr. C. W. POWELL, Hereford, won 1st prizes in the classes for (1) six dishes of culinary Apples, and (2) six dishes of dessert Apples. Lord BIDDULPH (gr. Mr. H. Cotton) was placed 2nd in each class.

VEGETABLES.

In the class for Messrs. Sutton & Sons' prizes for nine distinct kinds, there were four competitors. The produce was very meritorious, especially that from the Hon. VICARY GREEN,

Eistree (gr. Mr. E. Beckett), who had Onion Ailsa Craig, Cauliflower Autumn Giant, Leek Prizetaker, &c. 2nd, C. W. ALSTON, Esq., Elmdon Hall, Birmingham (gr. Mr. C. Haynes).

Mr. Robert Sydenham's prizes were offered for nine distinct kinds. Mr. W. FOLKES, Amphill, Bedfordshire, was successful in this class with splendid produce. 2nd, J. KERR, Esq., Loudwater (gr. Mr. T. Avery).

The prizes offered in Mr. Sydenham's local classes were won by Mr. E. DEAKIN, Hay Mills, Birmingham, and J. A. KENRICK, Esq., Edgbaston (gr. Mr. A. Crier).

Messrs. Webb & Sons offered prizes for eight distinct kinds. There were eight exhibitors, the 1st prize being taken by the Rt. Hon. EARL SPENCER, Northampton (gr. Mr. S. Cole); 2nd, Rt. Hon. J. F. HALSEY, Hemel Hempstead (gr. Mr. H. Folkles).

CERTIFICATES OF MERIT were awarded to each of the under-mentioned Chrysanthemums:—Elena Williams (Japanese), exhibited by Messrs. WILLIAMS & SON, Cardiff; Reginald Godfrey (single), exhibited by Mr. W. J. GODFREY, Exmouth; J. W. Molyneux (Japanese), exhibited by Mr. W. J. GODFREY; Lady Clinton (single), exhibited by Mr. W. J. GODFREY; and Mrs. W. Legden (Japanese), exhibited by Mr. W. LEGGOLDEN, Frome.

NON-COMPETITIVE EXHIBITS.

Gold Medals to the AGENT-GENERAL FOR BRITISH COLUMBIA, for Apples; Mr. W. J. GODFREY, Exmouth, for Chrysanthemums and Zonal Pelargoniums; Messrs. GUNN & SONS, Olton, for floral designs; Messrs. GUNN & SONS, for rock plants; King's ACRE NURSERIES, Hereford, for fruit; Messrs. SUTTON & SONS, Reading, for vegetables; Messrs. JOHN WATERER & SONS, Bagshot, for hardy shrubs; Messrs. WEBB & SONS, Stourbridge, for vegetables; Messrs. YATES & SON, Birmingham, for vegetables; and Messrs. RICHARD SMITH & CO., Worcester, for hardy shrubs.

Small Gold Medals to Mr. R. W. GREEN, Wisbech, for Potatoes; and Messrs. HEWITT & CO., Solihull, for hardy shrubs.

Silver-Gilt Medals to Messrs. BAKER'S, Wolverhampton, for hardy shrubs; Messrs. LAXTON BROS., Bedford, for fruit; and Messrs. THOMPSON & CO., Birmingham, for Chrysanthemums.

Silver Medals to Messrs. BICK BROS., Olton, for Alpine plants; Mr. E. BURDEN, King's Heath, for Apples; Messrs. PEWTERESS BROS., Hereford, for fruit; Messrs. JAS. RANDALL & SONS, Shirley, for Ferns and Chrysanthemums; Messrs. W. H. SIMPSON & SONS, Birmingham, for vegetables; and Mrs. THOMPSON, Handsworth, for Cacti.

Bronze Medals to Mr. F. A. GODFREY, Stourbridge, for hardy shrubs; Mr. W. J. ROBERTSON, Great Malvern, for hardy shrubs; Mr. VINCENT SLADE, Tamerton, for Zonal Pelargoniums; Messrs. JAS. SIMPSON & SONS, Harborne, for hardy shrubs; and Messrs. YOUNG & CO., Cheltenham, for Carnations.

Exhibits were also shown by Mr. N. N. ELLISON, West Bromwich, who had one of Ferns; and E. WILSON, Esq., Edgbaston (gr. Mr. A. D. Christie), who exhibited Cactaceous plants.

SOUTHEND-ON-SEA CHRYSANTHEMUM.

NOVEMBER 3. 4.—This society held its annual exhibition of chrysanthemums, fruits and vegetables in the Winter Garden of the Palace Hotel on the above-mentioned dates, and it was a complete success in every way. In the open classes for cut blooms J. TABOR, Esq., The Lawn, Rochford (gr. Mr. J. Burles), was the most successful exhibitor, taking five 1st prizes, in addition to winning the Silver Challenge Cup offered for a circular group of Chrysanthemums in pots, while Mr. H. E. CAMPKIN, Boscombe Road, Southend-on-Sea, was by far the most successful exhibitor in the amateur (open) classes, securing eight 1st prizes and a silver medal. Other successful exhibitors in the open cut bloom classes were Messrs. J. B. STEER, R. MAY, Stroud, Rochford; J. WHIFFIN, Queen's Hotel, Westcliff-on-Sea; F. W. BELCHER; G. W. HETON-ARMSTRONG; and Mrs. MILLER, Leigh House, Leigh-on-Sea (gr. Mr. Epps).

In the principal class for cut blooms, 24 Japanese varieties, Mr. J. BURL'S excellent exhibit, which was a good first, winning the sil-

ver medal and a money prize, consisted of, among others, grand blooms of Reginald Vallis, Walter Jinks (a fine rose-pink flower), F. S. Vallis, Bessie Godfrey, F. Penford, Mrs. A. T. Miller, Leigh Park Wonder (orange-yellow, shaded bronze), Duchess of Sutherland, and Mrs. A. H. Lee. Mr. Epps was a good second in this class.

In the class for a group of miscellaneous plants arranged for effect Mr. A. DAVIE, Elm Road Nursery, Leigh-on-Sea, was the 1st prize-winner, but he was followed closely by the Rev. R. S. KING, Leigh-on-Sea, and Mr. A. Epps.

In the fruit classes Apples and Pears were well shown by Messrs. H. B. HERBERT, G. MURRELL, A. GREEN, W. A. VOSS, Kayleigh, and the Rev. T. O. REAY, Prittlewell.

Vegetables were shown extensively, but the best collection was staged by Mr. MEKKINGS, of Great Wakering.

BROMLEY AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 4, 5.—The 27th annual exhibition of this Society was held in the Drill Hall, Bromley, Kent, on the above dates. There was an increase in the number of exhibitors and of entries in most of the classes, and the quality of the exhibits throughout the show was good. H. F. TIARKS, Esq., of Foxbury, Chislehurst (gr. Mr. John Lye), won for the first time the Challenge Cup offered for 48 blooms of distinct varieties. J. SMAIL, Esq., Warren Wood, Hayes (gr. Mr. Govier), secured the Mayor's Cup in the large vase class. Mr. Govier is one of the younger members of the Society.

The Certificate of the National Chrysanthemum Society was awarded to W. G. DEVON-ASTLE, Esq., Hamilton Lodge, Bickley (gr. Mr. E. Legg), for the premier Japanese bloom in the show—an enormous specimen of the F. S. Vallis variety, perfect in form and in colour.

The fruit classes were this year a feature of the show. A prominent winner in these classes was the late MARTIN SMITH, Esq., Warren House, Hayes (gr. Mr. Blick), who also, as was expected, secured the 1st prize in the newly-formed class for perpetual-flowering Carnations.

COVENTRY AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 5.—The fourteenth annual exhibition of this society was held on the above date in the spacious Coventry Drill Hall. The Mayor (Alderman W. Lee) presided at the opening ceremony. Regret was expressed that the entries did not include this year any from George Sinner, Esq., of Condon Hall, who has been a prominent and successful exhibitor at previous shows. The quality of the exhibits on this occasion was well up to that of previous years.

The exhibits of groups of plants were of much merit, and were especially well staged, the best being shown by W. FINCH, Esq., Coventry, and H. STURMEY, Esq., Quarry Close (gr. Mr. H. Hollick), who took the 1st and 2nd prizes respectively. J. RAVEN, Esq., won the 1st prize in the class for four distinct varieties of single Chrysanthemums. C. V. PUGH, Esq., Radford (gr. Mr. K. Kemp), gained the 2nd prize in this class. J. PALMER, Esq., Berkswell (gr. Mr. W. Parker), showed the best Primulas. In the class for a group of miscellaneous plants—excluding Chrysanthemums—the prizes were awarded in the following order: 1st, W. FINCH, Esq.; 2nd, HUGH ROTHERHAM, Esq.; and 3rd, C. V. PUGH, Esq.; whilst for a group of Gloire de Lorraine Begonias, F. TWIST, Esq. (gr. Mr. W. Hicks), took the premier award.

In the classes devoted to large Japanese blooms Colonel BEECH, Brandon Hall (gr. Mr. E. J. Brooks), scored three successes, his nearest competitors being Mrs. MELLOWDEW, of Copsewood Grange, and Mr. W. FINCH.

TRADE NOTICE.

MR. G. H. COLE has taken over the business of Florist and Seedman at 44, Elms Road, Dewick, S.F., which has been carried on for the past 13 years by Mr. DEAN, Mr. COLE is the son of the late Mr. COLE, of Wiltington Nurseries, Manchester.

GARDENING APPOINTMENTS.

MARKETS.

Fruit: Average Wholesale Prices.

Mr. K. PROBERT, for the past 8 years Gardener to Mrs. MIDDLTON, of Haselbeck Hall, Northampton, as Gardener to H. W. WATSON-TAYLOR, Esq., &c., of Merceon Hall, Whalley, Lancashire.

Mr. W. BOND, for the past 24 years Foreman at Chilton Lodge Gardens, Hungerford, Berks., as Gardener to J. BURTON MUGGER, Esq., of Bladford Park, Bucks.

Mr. H. F. BRIDGE, for the past 4 years Gardener to the Rev. RICHARD BURDON, Haddon House, Wylam-on-Tyne, as Gardener to the Hon. A. HOLLAND HIBBERT MUNDEN, Watford, Herts.

The undermentioned appointments have been made by the Parks Department, London County Council:—On-Chief-in-Charge (4th class) Mr. F. MANKLOW; Gardeners: Messrs. A. E. BUTLER, R. KETT, C. W. MAYHEW, J. G. WHITE, and P. A. WHITE.

Mr. WILLIAM KENT, late Gardener to A. C. DRUMMOND, Esq., Cadland, Southampton, as Gardener to J. W. LARNACK, Esq., Brambley, East Grinstead, Sussex.

Mr. J. COOK, for the past 3 years Gardener to W. L. LEVETT, Esq., at Orleton Hall, Wellington, Shropshire, as Gardener to Lieut.-Col. H. C. LECH, at High Leigh Hall, Knutsford, Cheshire.

Mr. G. W. TURNER, for nearly 6 years Gardener to F. LUBROCK, Esq., Elmsteds, Isle Hill, Sevenoaks, as Gardener to Lord WEARDALE, Weardale Manor, Brasted Chart, Sevenoaks.

Mr. H. BRAY, for the past 7 years at Draycot Gardens, Chippingham, Wilts, as Gardener to B. C. FOSTER, Esq., Duncombe Hall, Towcester, Northants.

CATALOGUES RECEIVED.

HOWDEN & Co., Inverness Nurseries—Nursery Stock. FRANK CANT & Co., Colchester—Roses. THOS. J. RYAN, Donard Nursery, Newcastle, Co. Down, Ireland—Ornamental Shrubs and Plants. J. C. ELLIS, Weston Nurseries, Weston-super-Mare—Bulbs. GEO. COOLING & SONS, The Nurseries, Bath—Roses, Fruit Trees, Shrubs, &c.

HENRY BIRCH, Longwood, Farningdon, Berks.—Roses. THOS. RIVERS & SONS, Sawbridgeford—Fruit Trees, Roses, and Shrubs.

JAMES CREWLER & SONS, Aberdeen—Roses, Hardy Flowering Plants, Shrubs, Trees, &c.

Wm. WATSON & SONS, Ltd., Clontarf Nurseries, Dublin—Roses, Fruit and Ornamental Trees, Shrubs, &c.

JAMES VEITCH & SONS, Ltd., Chelsea—Novelties in Plants. Wm. LUMLEY, Royal Nurseries, Denville, Havant, Hants—Sweet Peas.

CHAS. TURNER, Royal Nurseries, Slough—Roses. MORRE & Co., 150-152, Finchley Road, London, N.W.—Rhododendrons, Azaleas, Camellias, &c.

THOS. KENNEDY & Co., Dumfries, N.B.—Trees, Shrubs, Roses, Hardy Plants, &c.

DICKSONS, Chester—Forest and Ornamental Trees. C. H. MANSFIELD & Co., 10, Portland Street, Stepney, London—Bulbs.

D. PRIOR & SON, Colchester—Roses. W. SEABROOK & SONS, Chelmsford—Fruit Trees and Ornamental Trees and Shrubs.

E. P. DIXON & SONS, Hull—Nursery Stock. W. SMITH & SONS, Aberdeen—Nursery Stock.

W. WELLS & Co., Manchester—Roses—Chrysanthemums, Penstemons, Phlox, Asters, &c.

JONN JEFFERIES & SONS, Cirencester—Roses, Fruit Trees, Trees, Shrubs, &c.

KING & ALLEN, Nurseries, LTD., Hereford—Fruit Trees, Roses, Trees, Shrubs, &c.

V. & T. SAMSON, Kilmarock—Fruit Trees, Roses, Ornamental Trees, Shrubs, &c.

GEORGE MALLETT & Co., Cheddar—Border Plants and Bulbs, Rock Plants, Roots, and Tubers.

LITTLE & BALLANTINE, Carlisle—Trees, Shrubs, Roses, &c.

ANOS PERRY, Ebbw Vale, Midlesex—Trees and Shrubs, Roses, Chimers, &c.

JONN McKENRICH, 85, Giesbach Road, Upper Holloway, London, N.—Liliums and other bulbs.

CLARK BROTHERS & Co., 65, Scotch Street, Carlisle—Fruit and Ornamental Trees.

MISCELLANEOUS.

HARLEY & SUGDEN, LTD., Atlas Works, Halifax—Cast Iron Sectional Boilers.

THE ACETYLENE CORPORATION, 49, Victoria Street, Westminster—Lamp-lights in connection with country house lighting.

FOREIGN.

F. C. HEINEMANN, Erfurt, Germany—Novelties in Plants and Vegetables.

WILHELM PRITZER, Stuttgart, Militärstrasse 74—Roses, Bulbs, and Flowering Plants; also Novelties.

V. LEMONGE ET SONS, Horticulteurs, rue du Mont, Nancy, France—New Plants, Greenhouse and Hardy Flowers, Seeds, &c.

M. HENS, Naples, via Trivis 24-36, Italy—Novelties in Plants.

HARLEM P. KELSEY, Salem, Mass., U.S.A.—Hardy American Plants.

DERVIERE FRERES, A Wetteren, Belgium—Fruit Trees, Shrubs, Conifers, Aquatic Plants, &c.

AMERICAN NURSERY CO., New York, U.S.A.—Hardy Trees and Shrubs.

FREDERICK ROEMER, Quedlinburg, Germany—Novelties in Flower Seeds.

J. FLORENT & SON, Trier, Germany—Novelties in Flowers and Vegetable Seeds.

A. SCHWARTZ, 288, Grande Rue de Monplaisir, Lyon, France—New Plants.

HAAGE & SCHMIDT, Erfurt, Germany—Novelties in Seeds.

MOSELEY FILLS, 1, rue Saint-Symphorien, Versailles, France—Trees, Shrubs, Fruit Trees, Plants, &c.

SOUPERT ET NOTTING, Lincoung—New Roses.

COVENT GARDEN, November 11.

(We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Ed.)

Cut Flowers. &c. Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Acacia mimosa, p. doz. bunches	10-0-10	0	Lily of the Valley, p. doz. bunches	9-0-9	0
Azalea, per dozen bunches	4-0-8	0	extra quality	13-0-10	0
Bougainvillea, per doz. bunches	6-0-8	0	Marguerites, p. doz. bunches white and yellow	2-0-3	0
Calla aethiopica, p. doz.	3-0-4	0	Mignonette, per dozen bunches	2-0-3	0
Camellias, per doz. bunches	1-6-2	6	Narcissus, Paper-white, per doz. bunches	2-0-3	6
Carnations, per dozen bunches	4-0-8	0	Odontoglossum crispum, per dozen bunches	2-0-2	6
best American various	10-0-20	0	Pelargonium, show, per doz. bunches	5-0-6	0
second size	10-0-20	0	double scarlet	6-0-8	0
smaller, per doz. bunches	9-0-10	0	Roses, 12 blooms	1-0-2	6
Cattleyas, per doz. bunches	10-0-20	0	Niphetos	2-0-3	0
Chrysanthemums, specimen a bunch	2-0-3	0	Bridesmaid	2-0-3	0
smaller, per doz. bunches	5-0-12	0	C. Testout	2-0-3	0
Cypridipediums, per dozen bunches	2-0-2	6	Victoria	2-0-3	0
Eucharis grandiflora, per doz.	2-0-3	0	C. Mernett	1-6-3	0
Gardenias, per doz. bunches	2-0-3	0	Liberty	3-0-5	0
Hyacinths (Roman), per doz. bunches	6-0-9	0	Nine Claret	1-0-2	6
Lilac (French) per doz. bunches	2-6-3	6	Mrs. J. Laing	1-0-2	6
Stocks, double white, per doz. bunches	1-6-2	0	The Bridge	1-6-2	6
Lilium auratum, per bunch	2-0-3	0	Spiraea, per dozen bunches	5-0-8	0
longiflorum	3-0-4	0	Statice, per dozen bunches	2-0-3	0
lanceifolium, rubrum	1-0-1	6	Stocks, double white, per doz. bunches	3-0-4	0
album	2-0-2	6	Tuberose, per dozen bunches	3-0-4	0
titium	1-6-2	0	on stems, per bunch	0-9-13	0
			Violets, per dozen bunches	1-6-3	0
			Parma, p.bch.	2-6-3	6

Cut Foliage, &c. Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Adiantum cuneatum, doz. bchs.	4-0-6	0	Hardy foliage (various), per dozen bunches	2-0-6	0
Asparagus plumosus, long trails, per doz. bunches	10-0-20	0	Ivy-leaves, per doz. bunch	1-0-1	6
—bunch	0-9-1	6	long trails per bundle	0-9-1	6
—Sprenger, per doz. bunches	2-6-3	0	short green, per doz. bunches	1-6-2	6
Berberis, per doz. bunches	1-0-13	0	Moss, per gross	10-0-50	0
Croton leaves, per bunch	1-0-13	0	Myrtle, doz. bchs.	1-0-13	0
Cycas revoluta, each	1-0-20	0	(E. & J. L.)	4-0-6	0
Ferns, per dozen bunches (English)	2-0-3	0	French	1-0-1	6
—(French)	0-6-9	0	Physalis, per doz. bunches	4-0-6	0
Grasses, doz. bchs.	1-0-2	6	Smilax, p. doz. trails	3-0-5	0

Plants in Pots, &c. Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Ampelopsis Veitchii, per dozen	6-0-8	0	Erica gracilis nivalis, per doz.	10-0-18	0
Atalia Sebaldii, p. dozen	4-0-6	0	—byonensis, p. doz.	9-0-12	0
—larger specimens	4-0-6	0	Euonymus, per doz.	4-0-9	0
—Mosses, per doz.	4-0-6	0	—from the ground	5-0-10	0
Araucaria excelsa, per 100	12-0-30	0	Ferns, in thumb, per 100	6-0-6	0
Aspidistra, per doz.	15-0-24	0	in small and large pots	12-0-20	0
—green	30-0-42	0	in 48's, per doz.	4-0-10	0
—variegated	30-0-42	0	in 32's, per doz.	10-0-18	0
Asparagus plumosus, per dozen	9-0-12	0	Ficus elastica, per dozen	8-0-10	0
—Sprenger	9-0-12	0	—repens, per doz.	6-0-8	0
—tenuifolium	9-0-12	0	Isoplepis, per dozen	4-0-6	0
Begonia Gloire de Lorraine, p. doz.	9-0-18	0	Keulei Belmore	10-0-18	0
Bouvardia, per doz.	6-0-9	0	—Fostiana, per dozen	18-0-30	0
Chrysanthemums, per dozen, best	9-0-12	0	Latania borbonica, per dozen	12-0-18	0
—from out-of-doors	5-0-8	0	Lilium, 10 in. pot	12-0-18	0
Clematis, per doz.	8-0-9	0	—lanceifolium, per dozen	10-0-18	0
Cocos Weddellii, per dozen	18-0-30	0	Lily of the Valley, per dozen	18-0-30	0
Crotons, per dozen	18-0-30	0	Marguerites, white, per dozen	5-0-9	0
Cyclamen, p. doz.	10-0-15	0	Pelargonium, per doz.	3-0-6	0
Cyperus alternifolius, per dozen	4-0-6	0	—Zonal	4-0-6	0
Cyrtanthus, per doz.	9-0-24	0	Solanum, per doz.	8-0-10	0
Dracana, per doz.	12-0-18	0	Spiraea japonica, p. dozen	6-0-10	0

Apples, Foreign	s.d.	s.d.		s.d.	s.d.
(New Scotland), per barrel	10-0-13	0	Lyches, per box	1-0-15	0
—Gravenstein	12-0-15	0	Melons (English)	1-0-3	6
—King of the Pippins	14-0-17	0	—(American)	1-0-3	6
—Rushmore Pippin	14-0-15	0	Mangoes, per doz.	3-0-6	0
—York Imperial	18-0-20	0	Medlars, per case	4-0-50	0
—English, per bushel	2-6-3	9	Newtown Pippin, per case	7-0-16	0
—Blenheim Pippin	2-6-3	9	Nuts, Almonds, per bag	45-0	0
—King of the Pippins	2-6-3	9	—Brazil, case (24) per cwt.	45-0-50	0
—Pea-good's	2-6-3	9	—Grenobles, per bag	5-0-6	6
—Nonpareil	2-6-3	9	—(French), per bag	8-0-10	0
—Eckinville Seedling	2-6-3	9	—doubles, per lb.	3-0-3	6
—Bramley's Seedling	2-6-3	9	—Barcelona, bag	10-0-12	0
—Lord Derby	2-6-3	9	—Cocoa nuts, 100 lb.	11-0-12	0
—Lord Suffield	2-6-3	9	—Cob, p. doz. lbs.	10-0-10	0
—Warner's King	2-6-3	9	—Christmas, per bag	7-0-10	0
—Cox's Orange	2-6-3	9	—(Italian), p. bag	17-0-19	0
—Do, per box of 2 doz. selected	2-0-3	0	Oranges (Spanish), per case	8-0-10	0
—Do, per tray	2-6-4	6	—(Jamaica), per dozen	9-0-10	0
—Windfalls, bushel	1-0-16	0	—Washington Navel (Natal), per case	13-0-15	0
Bananas, bunch:			—Hilfornian seedless, case	14-0-15	0
—3 Canary	6-6	0	—(Cape) Nectarines, box	16-2	6
—No. 1	6-6-8	0	—(Natal), per box	6-6-9	0
—Extra	8-0-9	0	Pears, Pitunton		
—(Claret)	5-0-7	6	—Duchess, per bushel	4-0-6	0
—Jamaica	5-0-6	6	—Do, per tray	2-6-4	6
—Loose, per doz.	1-0-12	0	—Clapp's Favorite		
Crabberries, case	9-0-6	6	—He, per bushel	6-6-9	0
Dates (Tunis), per dozen boxes	5-0-53	0	—English Catilac, per bushel	5-0-7	0
Figs (English)	0-8-13	0	—U.S., per box	9-2	6
—(Guernsey), p. dozen	0-8-13	0	—per barrel	15-0-18	0
—(Italian) (15)	0-6-8	0	—(French), Dutch	9-0-12	0
—(France) (12)	0-6-8	0	—(F r e n c h)		
Grape Fruit, per dozen bunches (English)	10-0-12	6	Beurre Magnifique	6-0-8	6
—per lb.	0-6-1	6	—(French) Louise	7-0-9	0
—Hambros	0-6-1	6	—Bonne, crate	7-0-9	0
—Gros Colmar	1-0-16	6	—(French), Doyenne	7-0-11	0
—Alcanite	1-0-16	6	—Conice, per crate	7-0-11	0
—Muscats	1-0-16	6	—(California), per crate	7-0-10	0
—Cannon Hall	1-0-16	6	—Finespines, each	2-0-4	0
—bunch	7-0-9	0	Plums (California)	6-6-6	6
—(Guernsey)	0-4-0	9	—Almeria, per bushel	6-6-6	6
—barrel	10-0-16	0	—Frogmanges, per case	8-0-8	6
Grenadilla, p. doz.	1-6-2	0	—Persimmon, per dozen	9-2	0
Lemons	2-6-3	9	—Persimmon, per dozen	9-2	0
—Malaga, case	13-0-17	0	—Quinces, 3 sieve	3-0-4	0
—Limes	2-6-4	0			

Vegetables: Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes (French), per dozen	1-6-2	0	Horsedradish, foreign, per doz.	9-0-10	0
Asparagus, per bundle	0-7-8	0	Indian Corn, p. doz.	1-0-16	0
—Spruce	0-7-8	0	Leeks, 13 bundles	1-0-16	0
—Paris Green	0-7-8	0	—bunches	1-0-16	0
Aubergines, p. doz.	1-6-2	0	—per dozen	1-0-16	0
Beans, Scarlet Runners, p. bushel	2-0-3	6	Marrow (English), per tally	3-0-4	0
—per bag	2-0-3	6	Mint, per doz. bchs.	1-0-16	0
—(Guernsey), lb.	0-3-0	5	Mushrooms, per lb.	1-6-19	0
—(France)	0-3-0	5	—trouters	1-6-19	0
—per lb.	10-0-1	6	—button, per lb.	1-6-19	0
Beetroot, per bushel	1-6-19	0	—per bushel	6-0-8	0
Brussels Sprouts, p. dozen	2-0-2	6	Mustard Dressing, per dozen	1-6-19	0
Cabbages, per tally	2-6-4	0	Onions, per bag	5-6-7	0
—per mat	1-9-20	0	—(Valencia), case	8-0-20	0
—byonensis, p. doz.	0-8-13	0	—picking, per bushel	4-0-8	0
Carrots (English), per dozen bunches	10-0-12	6	Parsley, 12 bunches	1-0-2	6
—washed, bag	2-6-3	9	—Farnsley, per doz.	1-0-2	6
—unwashed	2-6-3	9	Safes, 4 doz.	1-0-2	6
—Dutch, p. bch.	0-8-10	6	Spinach, p. basket	2-0-2	6
Cauliflowers, p. doz.	1-6-3	0	Turnips, per dozen	1-6-20	0
—per tally	1-0-13	0	—washed, p. bag	2-0-2	6
Celery, per roll	1-0-13	0	Tomatoes (English), per doz. lbs.	4-0	0
—unwashed, per dozen	6-0-10	0	—red	4-0-50	0
Celeriac, per doz.	2-0-23	0	—green, quality	1-0-2	6
Chow Chow (Seedling), per doz.	4-0-6	0	—(Tenerife), per bundle of 4 boxes	10-0-13	0
Cucumbers, per doz.	2-0-26	0	Watercress, p. doz.	6-0	0
—per flat	7-0-8	0			
Endive, per dozen	1-6-20	0			

REMARKS.—No Apples from Nova Scotia have been received during the past week, but their prices are about the same. Californian Newtown Pippins continue to sell freely at slightly increased prices. Lemons are arriving in small consignments, and are still very dear. Peas are selling well, especially those from California. Some good samples of Almeria Grapes are arriving and meeting with a good sale. English Tomatoes are not so plentiful as last week and are of a bad colour. Trade generally is quiet. E. H. R., Covent Garden, Wednesday, November 11, 1908.</

Potatoes.					
Kents—	s.d.	s.d.	Lincolns—	s.d.	s.d.
Snowdrop	...	4-0-4	Sharpe's Express	...	3-3-3
Sharpe's Express	...	3-9-4	Evergood	...	2-9-3
Episcure	...	3-3-6	Bedfords	...	2-9-3
Up-to-Date	...	3-6	Up-to-Date	...	2-6-3
Lincolns—	...	2-9-3	Episcure	...	2-9-3
Episcure	...	2-9-3	Blacklands	...	2-6-2
British Queen	...	3-0-6	Dunbars	...	3-0-3
Up-to-Date	...	3-0-6	Up-to-Date, red soil	4	0
Malinco	...	3-6-3	" " grey soil	3	3-6

REMARKS.—Trade is slightly better, but prices are about the same as those of last week. *Edward J. Newbourn, Covent Garden and St. Pancras, November 11, 1903.*

COVENT GARDEN FLOWER MARKET.

Since writing my last notes most flowers in the gardens have been blackened by frost, which has ranged from 14 to 17 degrees. To-day we have milder weather again, but the damage has been done. The frost, however, will not make a great difference in prices for a few days, as growers cut heavily in anticipation of frost and saved a large supply. The frost has also caused the leaves to drop from almost all hardy deciduous foliage shrubs. This will be an advantage to those growers who have supplies of Codium (Grotto) leaves, Asparagus, Smilax and other foliage grown under glass.

POT PLANTS.

On Tuesday several plants showed damage from frost, especially Solanums. I noted some coningsmets feeling the effects of the cold, whilst others close by, which had been grown under more exposed conditions, did not appear to be injured. Many plants will not for some time to come be fit for sale, as cold unless they are put into warmth. I noted a *Fera* which had been taken into a warm room had all its frosts discoloured, while the same variety remaining in a colder position of the building showed no signs of having suffered.

Of *Chrysanthemums* the later varieties are now arriving. Ivory and the pink variety are both good. *Cullingfordii* remains a favourite crimson; *Souvenir de Petit Ami* is a good white, and Mrs. Wingfield is one of the best pink varieties. Heaths are remarkably good; *Erica gracilis* and the white variety are exceptionally well flowered; plants of these in small pots are very pretty, and sell at good prices. *Cyclamen* are well flowered. *Begonia Gloire de Lorraine* is now seen on several stands. *Bouvardias* are of moderate quality only. The pink *Asilbe* (*Spiraea*) appears to be rather a failure, for the colour is not sufficiently deep, and as a market plant it is hardly so saleable as the best white varieties.

CUT FLOWERS.

Since the frost there have been larger supplies of *Chrysanthemums*, but in a few days there may be a falling off in their numbers as with all other flowers, and prices will be very uncertain. Lilies were plentiful during the past week, but the cold will have given them a check, and supplies may be short at the end of this week. *Carnations* continue to arrive in large quantities and they are of good quality. Roses are not quite so abundant, but supplies from France will make up the shortage. The foreign flower market is opened, but at present there is not a great trade except with those persons who buy in bulk to resell in the ordinary flower market. *A. H., Covent Garden, Wednesday, November 11, 1903.*

Obituary.

MARTIN RIDLEY SMITH.—The news of the death of Mr. Martin R. Smith on the 6th inst., at Warren House, Hayes, Kent, will be received with general regret. Mr. Smith was not only a most liberal patron of horticulture, but practised the art himself with rare skill and success. He made *Carnations* his special study, and his collection of these plants was amongst the most famous in Europe. He was president of the National *Carnation* and *Picotee* Society, and at every exhibition contributed plants and flowers from the Warren House collection. The plants invariably exhibited the most excellent culture, and very rarely indeed were the cut flowers excelled in the competitive classes. But Mr. Smith was not merely a cultivator, he was the greatest raiser of new seedling *Carnations* in this country, especially varieties of the border and *Souvenir de la Malmaison* types. In our own pages frequent references have been made to the varieties raised by Mr. Smith, and there are very few gardens in which some of these may not be found. Mr. Smith was among the first sixty horticulturists who were selected by the Royal Horticultural Society in 1897 for receiving the Victoria Medal of Honour.

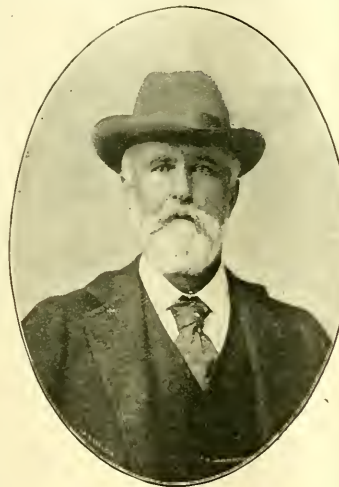
Mrs. H. J. CLAYTON.—I regret to record the death of Mrs. Clayton, wife of Mr. H. J. Clayton, late gardener at Grimston Park from 1872 to 1907. Mrs. Clayton died on the 7th inst. at the age of 72 years. Many an old pupil of Mr. Clayton's, like the writer, will recall the time when she so gently would tie up a wound or visit the sick bed. Mr. Clayton will have the greatest sympathy in his bereavement. *J. Snell.*

ANSWERS TO CORRESPONDENTS.

BEGONIA GLOIRE DE LORRAINE: *E. P. C.* Probably the young plants have been kept on the stage which is more suitable for the mature plants, being at too great a distance from the glass of the roof. If that is the case, and you can arrange a shelf for them nearer to the glass, they will probably regain their vigour by the end of the year, and early in the new year they should be repotted into pots of a larger size. Be careful not to overwater the plants. Remove at once all damaged foliage.

CAULIFLOWER ROOT ROT. *W. B.* The trouble appears to be the early stages of Root-rot caused by the fungus *Thielavia basicola*. No fungicide has at present been found of any service, but the disease is said to be due to the alkalinity of the soil. It is recommended that no lime be used, but that sulphate of potash or double manure salts be applied—and phosphoric acid in the form of acid phosphate—or dissolved bone, to correct the alkalinity of the soil.

GLADIOLUS: *Flower.* The correct pronunciation of *Gladiolus*, as given on p. 309, is *Gladi-ol-us*, with the accent on the first syllable. This is indicated by the position of



THE LATE MARTIN R. SMITH.

the accent. The *o* does not mean that the accent is on this vowel, but that it is to be pronounced as nearly as possible like the *o* in the word *ove*, and not in any of the other and various ways in which this vowel is pronounced in English. Throughout the glossary the accent marks the emphatic syllable, whilst the signs over the vowels merely indicate how they shall be pronounced, according to the key given at the top of the first column.

JUDGING: *University of Minnesota.* What you require is *Rules for Judging*, issued by the Royal Horticultural Society. Copies may be obtained from our publishing department, price 1s. 6d., postage extra.

PROPAGATION OF VINES: *Jno. Ross.* This matter will be the subject of a note in the next issue in "Fruits Under Glass" column.

SPRINGING LEAVES DISEASED: *C. E. M.* This injury has been very prevalent during the last few years in this country. It has been investigated by Prof. Beijerinck who discovered a bacterium as the responsible cause. It is named by him *Pseudo-monas Syringae*. We advise you to cut away all diseased tips and leaves and burn them. Lilies growing in dry situations are very rarely subject to this malady. Spraying is of no use.

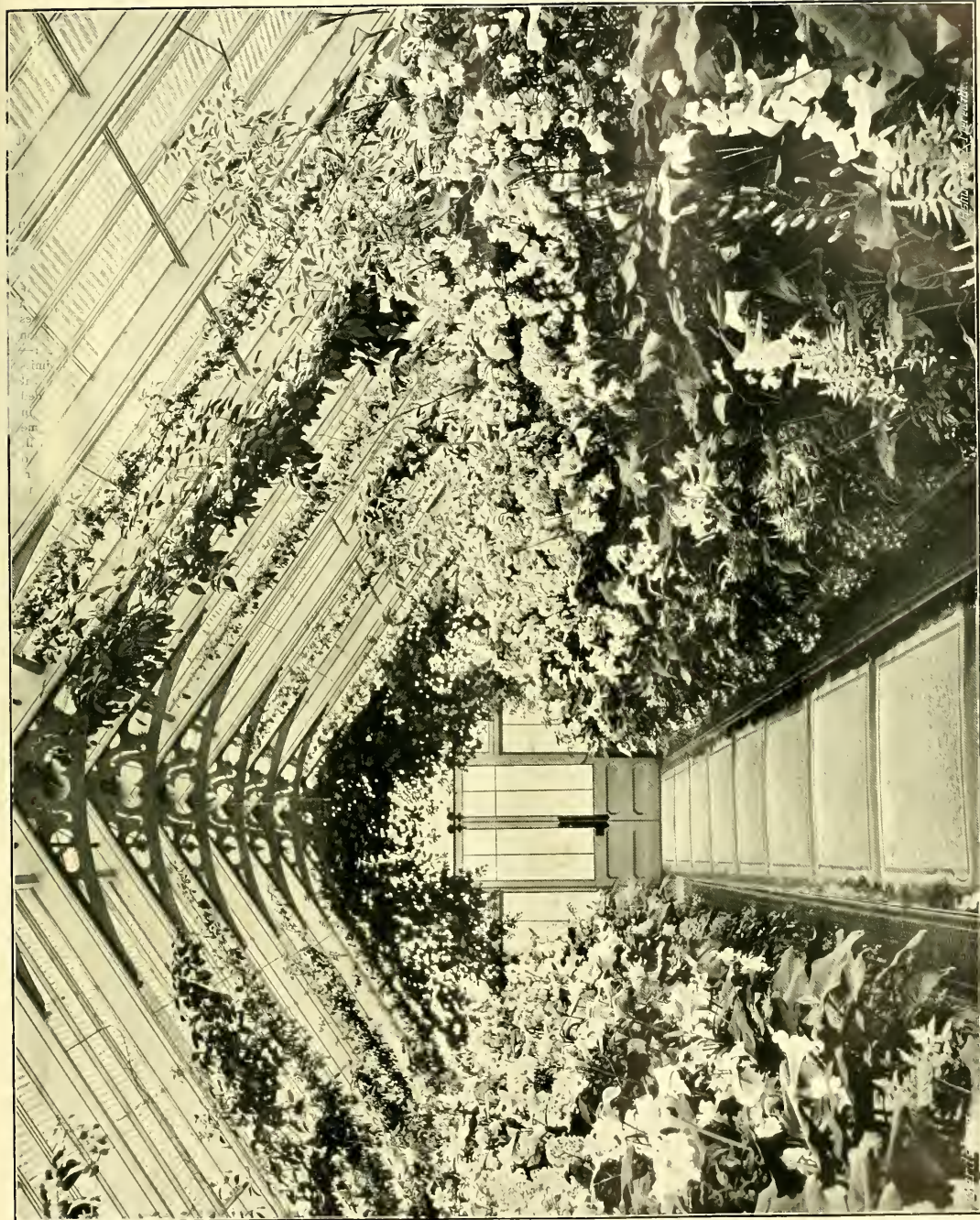
NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to organise the preparation for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time: they should be very careful to pack and label them properly, to give every information as to the country the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. Correspondents not answered in one issue are requested to be so good as to consult the following numbers.

FRUITS: *W. C., Son & Co.* The Apple much resembles Hall Door.—*R. A. H.* 1, Byford Wonder; 2, Melon Apple.—*A. E. Critchley.* 1, Colonel Vaughan; 2, Gilfillower (not Cornish).—*J. Taylor.* Napoleon Pear.—*Nye.* King of the Pippins.—*E. W. S.* 1, Lady Henniker.—*J. Ferryman.* Scarlet Nonpareil.—*W. G. Toller.* Baxter's Pearmain.—*Z.* 1, London Pippin; 2, Small's Admirable; 3, Lord Lennox; 4, Norfolk Beeding; 5, Newton Wonder; 6, Court-pend-pip; 7, Golden Seed; 8, King of the Pippins; 9, Winter Quoining; 10, Duke of Devonshire.—*F. S.* 1, Potts's Seedling; 2 and 3, Small's Admirable; 4, Chelmsford Wonder; 5, Bramley's Seedling; 6, Alfriston.—*James Dunn.* 1, Lane's Prince Albert; 2, Potts's Seedling; 3, Queen Caroline; 4, Dumelow's Seedling; 5, London Pippin; 6, Alfriston.—*F. G. Bal.* 1, Emperor Alexander; 2, Dumelow's Seedling.—*J. Kennell.* Cox's Orange Pippin.—*E. Hillier.* 1, Dumelow's Seedling; 2, Golden Russet; 3, King of Tompkins County; 4, Old Hawthornden; 5, Ribston Pearmain; 6, Byford Wonder; 7, Lane's Prince Albert; 8, New Hawthornden; 9, Court-pend-pip; 10, not recognised; 11, Fearn's Pippin; 12, resembles a highly-coloured fruit of 2, Bramley's Seedling.—*J. W.* 1, Marie Louise; 2, Bergamotte d'Automne; 3, Gasconne's Scarlet Seedling; 4, Golden Spire; 5, Ribston Pippin; 6, Cox's Orange Pippin.—*E. E. Ross Bank.* (Not recognised). There is little doubt but this is a local variety.—*Battson.* 1, Dutch Codlin; 2, Dumelow's Seedling; 3, Hanwell Souring; 4, Small's Admirable; 5, Court-pend-pip; 6, Old Nonpareil.—*E. G. C.* The fruits received were too much shrivelled to be named with any degree of accuracy.—*H. T.* 1, Striped Reine; 2, Allington Pippin; 3, Durondeau; 4, Beurde Jonghe; 5, Fearn's Pippin.—*A. B. C.* September Beauty.—*F. A. Edwards.* Fear Catillac Some of the numbers were detached, the small red Apple is Duchess's Favorite, and the brown russet marked fruit Allen's Everlasting; 2, Wiltshire Defiance; 3, Lady Henniker; 4, Lane's Prince Albert; 5, Broad-Eyed Pippin.

PLANTS: *C. & Sons.* *Cupressus sempervirens.*—*Vitis.* 1, Aster lavis "Robert Parker"; 2, A. cordifolius var.; 3, A. novi Belgii (seedling variety); 4, A. cordifolius; 5, A. novae angliae pulchellus; 6, Helenium autumnale.—*A. E. C.* The plant is a seedling of *Verbascum nigrum*, but it is not typical it may have been hybridised.—*J. U.* *Gerbera Jamesoni* (Barbington Daisy). Hardy in sheltered situations, but does best in a cold greenhouse. Apple next week.—*Hortus.* 1, Selaginella umbrosa; 2, Oncidium candidum; 3, Pteris longifolia; 4, Adiantum hispidulum; 5, Brassia brachiata.—*W. G.* The Orchid is *Maxillaria picta*; the shrub *Gaultheria Shallon*.—*T. B.* 1, Ceanothus rigidus; 2, Cistus incanus; 3, probably Indigofera (send when in flower); 4, Myrtus communis var. microphyllus; 5, send better specimen with flowers or fruit; 6, Echeveria, one of the garden forms of *E. retusa*.

WIREWORKS: *W. S.* If you are quite sure the trouble is from wireworms, you might treat the ground used for vegetables with gas lime at the rate of 1 ton per acre, but it must be turned over afterwards, and left for several weeks before any crop is planted upon it. You had better not apply the gas lime amongst the fruit trees or upon the grass.

COMMUNICATIONS RECEIVED:—*G. H. R.-T.* *H.-J. G.-J.* & *Co.*—*F. H.-W. A.*—*H. MacD.*—*Derby Gard. Soc.*—*A. J. B.*—*W. V. K.*—*C. F.*—*A. H.*—*W. V. K.*—*Commons & Footpaths Preservation Soc.*—*Chloris*—*W. F. R.-G. T.*—*D. E.*—*M. W. A. C.*—*C. H.*—*P. J.*—*N. A.*—*E. B.*—*A. F.*—*M. F.*—*P. T.*—*Davis-Chas.*—*Cook-E.*—*S. E.*—*C. S.*—*A. L.*



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VIEW IN ONE OF THE GREENHOUSES, ROYAL GARDENS, WINDSOR.

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ammonia is somewhat serious. The expansion coils are therefore often placed in what is called an expansion tank, a tank which is filled with a solution of what is called brine. Brine may be made from common salt, but more frequently a solution of calcium chloride is used. It has the property of not freezing at a lower temperature than water. Where brine is used, a grid of pipes, similar to those employed for the gas, is fixed in the chamber, and the brine is kept circulating through the expansion tank and through the grid of pipes by means of a pump. There is a third method in which the cooling effect in the expansion coils may be made use of to produce the low temperatures required in the cold chambers, and this is the one most commonly employed in modern cold stores. A portion of the air of the cold chamber is being continually withdrawn and passed over a cooling appliance, and returned to the store to mix with the air there, just as was explained in connection with compressed air. The air may be cooled by passing over a grid of brine pipes, cooled by the brine circulating in them and through the expansion tank, or it may be cooled by passing directly over the expansion coils themselves, or again it may be cooled and dried at the same time by passing over metal plates or discs or drums that are wetted with brine that has been reduced to a low temperature by passage through the expansion tanks. Cooling and drying the air is the more modern arrangement advantageous to avoid moisture, because it is as well to cool the chamber where the produce is being stored. *Sydney F. Walker.*

(To be continued.)

FORESTRY.

FAILURES IN PLANTING.

UNDER the above heading, in the issue for July 13, p. 378, a writer records some alarming failures in forest planting. I planted this spring about 3,500 trees, mainly of Spruce, English and Japanese Larch, Scotch Fir, and a few Oaks and Austrian Pines; the plants of Austrian Pine were 4 feet in height. Last week we pulled up the dead ones, numbering 160, but not one of the Austrian Pines had died. Perhaps the plants that succumbed had fewer roots than others. Why so many should perish I cannot explain. However, the result is different to your correspondent's experience, who stated that out of some thousands only five per cent. lived.

Perhaps I took more pains in the planting than foresters do. In February, as soon as it was decided to plant, I commenced to dig the holes 12 inches square and the depth of the spade, and the bottom of the hole was loosened with a fork. Most of the ground has a rapid fall, the soil at the upper portion was clayey sand, but the lower part was sticky clay; so much so that I had a few loads of sandy soil carted to cover the roots.

In the process of planting the best of the soil was chopped and put round the roots. We commenced planting on March 17 on the higher ground, but had to wait some days for the water to drain away from the holes in the lower part of the ground, the plants in the meantime being covered with tarpaulin. I could not give any idea of the expense beyond the price of the trees, which were all English grown, for the men were frequently pelted with rain and had to take shelter under tarred sheets. I think some of the failures that occur are due to the plants, after being lifted, lying with their roots uncovered in the nurseries for perhaps a day or two.

Our planting was done to hide an unsightly object in the centre of the enclosure, and the plants were arranged in irregular groups to be further regulated as they grew. *W. P. R., Cwerton Hall Gardens, Preston, November 8.*

NOTES FROM A "FRENCH" GARDEN.

THE Ox-Heart Cabbage should now be planted in previously dug ground which has been liberally manured. They should be planted as deeply as possible in rows of 18 inches apart, and the drills being 3 inches deep.

The Cos Lettuces under the cloches are doing well, and will be transplanted shortly into a fresh bed, putting 14 plants under each cloche, but before removing the plants they will be thoroughly examined and cleansed of decayed seed leaves. Passion Lettuces, if grown under cloches, may now be given a little ventilation, but if grown under lights ventilation must be afforded more freely, as in this case they are more likely to damp off. Should the weather become very cold, the mats must be spread at night, but this must be done with discretion, as

guides. Hot manure is then formed into a ridge (dry manure being already on the ground), and the proportion of each will be according to the plants it is intended to grow. The two manures should be mixed well together. If long strawy stuff is used with short manure, the mixing must be done carefully, as the bed sinks deeper where strawy manure is prevalent and the heat therefore is uneven.

When making a first bed, allow for the treading on the outside path. Plenty of strawy manure should be used for this, and the treading down should be done as the work proceeds. The bed must be kept level and beaten with the back of the fork. It is usual to finish the bed by using strawy manure as advised for the outside path. When completed, it must be trodden down as firmly as possible, and, if necessary, levelled. In measuring the width of a bed, we



FIG. 151.—WINTER-FLOWERING BEGONIA "CLIBRAN'S PINK," WHICH GAINED AN AWARD OF MERIT FROM THE R.H.S. FLORAL COMMITTEE ON THE 10TH INST., WHEN EXHIBITED BY MESSRS. W. CLIBRAN AND SON.

(See ante p. 347.)

dampness is as injurious to the Lettuces as frost.

On the ground where we intend to make the hot-beds next January, the decayed manure which will form the soil is set in ridges 3 feet high and 3 feet wide, with spaces of 10 feet between the ridges. In the beginning of December dry manure will be brought to this open ground and, if the weather is very cold or wet, it can then be spread on the ground and ridges of soil. At the same period the frames will be set on the ground and lights placed in heaps of 15 at each end of the beds, one heap for two beds. This is done in order to save time when starting the hot-beds.

To form a manure bed, the place should first be marked by placing a peg at each corner and sticks at intervals of two or three yards as

allow 10 inches for the path, and 3 or 4 inches over and above the width of the frame. The reason for this is that when bringing the frames and filling them with soil, that side is entirely wasted owing to the treading. The frames are next brought on the bed, set straight and level, and filled with a layer of manure about 2 or 3 inches deep, afterwards putting in the soil to within 2 inches from the top of the frames. The soil must be levelled with a rake, and the frames covered with lights. This work should be arranged so that the bed is completely finished before the evening, as the weather may not permit of its being continued on the following day, for it must not be attempted in frosty weather; neither should frozen manure nor frozen soil be used. *P. Aquatias, Mayland, Essex, November 6, 1908.*

CHRYSANTHEMUMS IN THE L.C.C. PARKS.

THE exhibitions held every year in several of the parks controlled by the London County Council continue to attract a large number of visitors. Londoners appreciate the rich displays of colour, provided at a time when the outdoor attractions in public parks are diminishing. The shows are advertised on all the trams of the Council which lead in the direction of any of them. Finsbury, Victoria, Battersea, Waterlow, and Southwark parks hold the most important exhibitions.

FINSBURY PARK.

The collection in this park is so arranged as to avoid a straight line. A large group occu-

and the show of blooms will continue for two or three weeks longer. The Japanese and single-flowered varieties are those chiefly grown; they are well cultivated, and foliage and blooms of good character were noted, although the flowers are scarcely of exhibition size. We give a list of the more prominent varieties, viz., Willie Bullimore, a flower of a lake colour, florets straight, white suffused with lake on the reverse side; the incurved Japanese J. H. Silsbury; J. H. Daniel, a yellow and crimson incurved Japanese; Mrs. A. T. Miller, the florets snow-white, partially reflexing and incurving at the tips of the florets; Henry Perkins, having a similar form of bloom and of the purest white; Capt. Percy Scott, with orange, reddish-brown

tipped with bright lilac; Mrs. T. W. Pockett, and others. The recent damp weather has as yet not materially affected the blooms. The tasteful arrangement reflects great credit upon Mr. J. Rogers, the superintendent, and his staff. *AL.*

SOUTHWARK PARK.

In spite of evident adverse conditions, the standard here is exceedingly high as regards the quality and quantity of bloom. The size and depth of some of the flowers is surprising considering the neighbourhood in which they are grown. Several novelties were noted, the yellow George Mile-



FIG. 152.—ROYAL GARDENS, FROGMORE: SHOWING A HOUSE CONTAINING SOUVENIR DE LA MALMAISON CARNATIONS.

(See ante p. 889.)

pies a space in the centre of the house, and the pathways lead in a sinuous fashion from end to end. Decorative varieties are trained up the sides and the roof. Among the noticeable blooms were the varieties Norman Davis, Lady Byron, Mrs. A. T. Miller, J. H. Silsbury, Henry Perkins, Buttercup, W. R. Church, R. Hooper Pearson, Phœbus, Nellie Pockett, Lord Hopetoun, and Mme. P. Radaelli.

BATTERSEA PARK.

An interesting display of plants in bloom may now be seen in the frame ground at this park,

florets, yellow on the reverse side; the fire white Florence Molyneux; Lady Byron, a good white Japanese flower; Miss Alice Byron, a white incurved Japanese; Buttercup; Mrs. John Shrimpton having straight, orange-coloured florets of great breadth; Mrs. Coombes, a Japanese, with lilac-coloured straight florets; Mrs. Knox; Mary Ann Pockett; W. Seward; Lady Lennard; W. R. Church; Pantia Ralli; Rev. W. Wilks, having a purplish rose tint and incurved florets; President Nonin; Reine des Roses, a semi-double flower, the florets reflexing, somewhat showy and attractive; Fair Rosamond, a single-flowered variety, white florets

ham, F. W. Lever (very good), Mrs. R. A. Eve, Mrs. Norman Davis, W. Beadle, Violet Carpenter, Margaret Codrington, A. J. Norris, G. F. Evans, and the single-flowered Florrie King. Some very fine blooms of Jumbo, W. Biddle, Mrs. F. Judson, Miss Nellie Southam, Buttercup, and W. Duckham were included among the incurved varieties. Others were Henry Stowe, Mrs. A. T. Miller, Miss Mary Godfrey, Mrs. W. Knox, Mrs. Walter Jinks, Reginald Vallis and J. H. Doyle. The large number of people visiting the show sufficiently proves that the efforts of Mr. D. Carson, the superintendent, are much appreciated. *H.*

[Photographed by special permission.]

THE ROSARY.

NOTES ON THE NEWER VARIETIES.

(Continued from page 324.)

MONS. JOSEPH HILL (*H.T.*, *Pernet Ducher*, 1904).—A beautiful Rose of somewhat irregular growth. It does not succeed as a standard, but as a dwarf Rose it is fairly vigorous. The plant has dark, glossy foliage, and is with me mildew-proof. The flowers are large and have a full centre; colour, pinkish-flesh, shaded yellow, the outside of the petals being coppery-yellow. They are of perfect form and are beautifully pointed, the buds being very long and oval-shaped. It is a free bloomer, and sweetly scented, and the flowers last a remarkably long time in water.

COUNTESS ANNESLEY (*H.T.*, *Alex. Dickson & Sons*, 1905).—I do not recommend this Rose, as with me it is a thoroughly bad doer. I am told

mon centre with the outer petals rose, passing to flesh-veined peach. The plants have an erect growth, are vigorous, and branch freely. They seem to be perpetual bloomers and have never suffered from mildew with me during the four years I have had them.

COUNTESS OF GOSFORD (*H. T.*, *S. McGredy & Son*, 1906).—The much coveted N.R.S. gold medal was well earned by this most lovely Rose. It is a distinct flower, yet after the style of Killarney. Its colour is, shall I say, salmon-pink-rose? with the base of the petals suffused with saffron-yellow, the whole being wonderfully bright. It is one of the thin kinds, but the buds are beautifully pointed with a high centre, and the flowers have nice, open guard petals of good depth and substance, not, perhaps, full enough for exhibition, but it is a very striking garden Rose. The plant is a good grower, of free branching habit, and a constant bloomer.

with a fawn centre suffused with yellow, and the exterior of the petals is of the deepest rosy-red with a suspicion of coppery-yellow shading. It is most striking, and is distinct from any other Rose, though it has been likened to Mme. Abel Chatenay. I think in course of time Elizabeth Barnes will be one of the most popular cut flowers sold in the Covent Garden flower market, and it will equal Mme. Abel Chatenay in popularity in the garden. The blooms are full, slightly pointed in the centre, of beautiful form, and they have a delightful fragrance.

SOUVENIR DU ROSE VILIN (*H. T.*, *Vilin*, 1905).—This Rose, like *Etoile de France*, will not succeed in this country. The raiser described it, I believe, as "opening well." It has never opened at all with me in three years' trial; I shall therefore consign it to the rubbish heap.

MARICHU ZAZAS (*H. T.*, *Souper et Notting*, 1906).—This Rose has done remarkably well

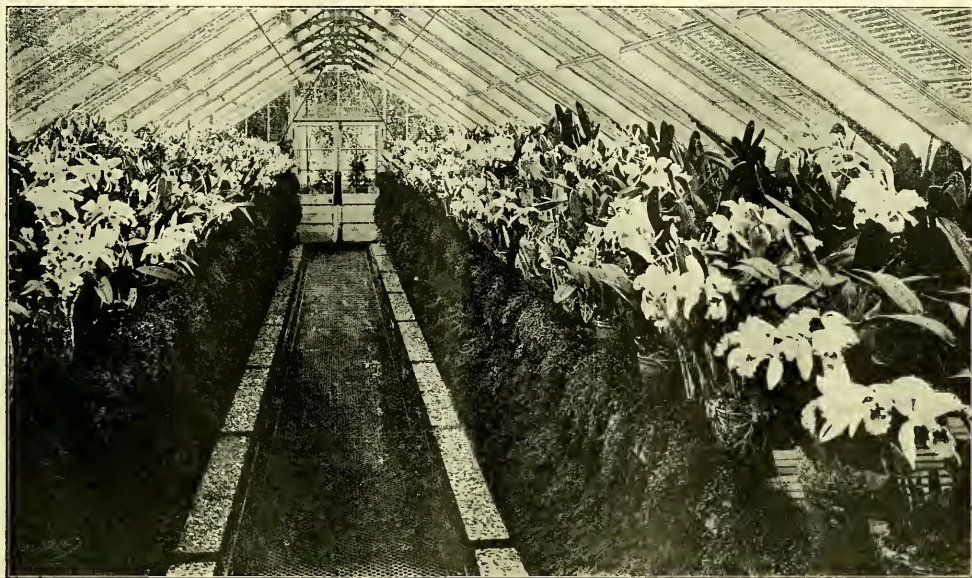


FIG. 153.—ROYAL GARDENS, FROGMORE: SHOWING THE INTERIOR OF THE CATTLEVA HOUSE AS IT APPEARED IN JUNE LAST.

(See page 264.)

[Photographed by special permission.]

it needs generous treatment, and have tried this, but it has been a bigger failure this year than last.

COUNTESSE ALEXANDRA KINSKY (*Tea*, *Souper et Notting*, 1905).—This Rose has done very well again this year, and certainly is to be recommended. It has erect stems and is exceptionally free. It also has a pleasing perfume. The flowers are white, with an apricot-yellow centre. They are beautifully formed, and are very pretty in the bud. Besides being a good garden Rose, I hear it is excellent for forcing.

COUNTESS OF DERBY (*H. T.*, *Alex. Dickson & Sons*, 1905).—Countess of Derby is an honest all round Rose, being a good exhibition sort, a superb garden Rose, and useful for forcing purposes. There are perhaps more beautiful Roses. Its form is too stiff, some might say, being similar to Catherine Mermet. Every flower always opens perfectly, and the blooms are produced on erect flower-stalks. They last well, both on the plant and when cut, and they are very fragrant. The colour is distinct, a sal-

CONTESSE DE SAKÉ (*Tea*, *Souper et Notting*, 1905).—This is a pure white variety with a pale yellow centre, a fairly large and very full flower. It is also a free bloomer, but I neither admire nor recommend it as a garden Rose, though some speak well of it for exhibition purposes. The slightest rain spoils the flowers. I do not think it has come to stay.

COUNTESSE FESTETICS HAMILTON (*Tea*, *Nabonnand*, 1899).—I would like to particularly recommend this very strikingly beautiful Tea Rose of brilliant carmine colour with a coppery centre, as it does not appear to me to be known as well as it ought to be, although it is not new. It is marvellously free, and is a gem as a decorative garden sort.

ELIZABETH BARNES (*H. T.*, *Alex. Dickson & Sons*, 1907).—Very few rosarians living can remember having had such a show of blooms during the month of October as we have had this year. As I write of this Rose, on the 19th of October, it is still holding its own with the best of them. The colour is satiny-salmon-rose,

this year and been greatly admired. It has large and decidedly full flowers, nicely imbricated, on very long, erect stems. The colour is similar to crushed strawberry, with rosy tinge. It is sweetly scented and also is very pretty in the bud stage.

SOUVENIR DE MARIA DE ZAZAS (*H. T.*, *Souper et Notting*, 1906) is a large, fairly full, vivid carmine flower of nice shape. It is a good grower, a free flowering sort, and the flowers are fragrant.

SOUVENIR DE MARIA ZAZAYA (*H. T.*, *Souper et Notting*, 1904).—I do not recommend this Rose, owing to its very stiff and ugly shape.

HUGO ROLLER (*Tea*, *Wm. Paul & Son*, 1907).—This is a distinct and attractive flower, with a very pleasing tea scent, and has proved itself a free and continuous bloomer this season. It is a creamy-yellow with the outside petals crimson; it is also a nicely shaped flower. If it has a fault in its combination of colours, I should say that the contrast is too severe; but all my lady friends admire it.

COLONEL R. S. WILLIAMSON (*H. T., Alex. Dickson & Sons, 1907*).—Satin-white, deepening to bluish in the centre, with round, smooth and most substantial petals, quite large flowers and perfectly formed; this is, in fact, an all round good Rose. It should do well as an exhibition sort, and is also an ideal garden Rose, as it is always blooming and there is never a bad flower. Every bloom is on a stiff and long stalk. A magnificent addition to this class.

MRS HAROLD BROCKLEBANK (*H. T., Alex. Dickson & Sons, 1907*).—This is one of the most perfectly shaped blooms ever introduced. The are large and full and are borne on erect long stalks. The colour is creamy-white with a buff centre, the base of the petals a soft shade of golden yellow, and sometimes the outer petals are tinted salmon-rose. The buds are very prettily flushed with salmon-pink. It is a constant bloomer, and the scent is exquisite. *Leonard Petrie, Gayton, Cheltenham.*

HOUSE OF COMMONS AND PLANT DISEASES.

In the House of Commons on the 12th inst., the following questions relating to the spread of certain plant diseases were addressed to the honourable Member for South Somerset, as representing the President of the Board of Agriculture:—

Mr. Laurence Hardy asked whether the Board are aware that the black scab of the Potato has broken out in Germany; and whether they intend to take steps to prevent the importation of diseased Potatoes into Great Britain by issuing an order in similar terms to the Irish Order of October 1, which prohibits the importation of diseased Potatoes into Ireland?

Sir Edward Strachey: The Board understand that the disease in question has appeared in certain small holdings in Germany that are cropped year after year with Potatoes, but that fields under rotation are free. The Board do not propose to adopt, at any rate at present, the suggestion of the honourable member.

Mr. Laurence Hardy: Whether the Board will proceed against the outbreaks of black scab in Potatoes in England and Scotland by adopting the same measures as are being carried out in Ireland, namely, the immediate destruction of the diseased tubers and the isolation of the infected area; and, if not, why this disease should be treated differently in this country?

Sir Edward Strachey: The number of outbreaks of the disease in Great Britain is far greater than is believed to be the case in Ireland. In all cases growers have been urged to destroy diseased tubers and to take other means for preventing the spread of the disease, but it would be impracticable to "isolate" all the diseased premises. Isolation to be effective would have to be enforced for more than five years.

Mr. Laurence Hardy: Whether, in view of the fact that the Gooseberry-mildew Orders have been in force for more than a year, the Board will now present returns showing the areas infected in each county, the number of outbreaks, and the success or failure of the measures adopted by order of the Board to deal with the disease; and whether the Board will in future secure that the fungicides used in connection with their orders should be approved as efficient by the Board, as is done in connection with sheep dips under the Sheep Scab Orders?

Sir Edward Strachey: A report on the administration and effect of the American Gooseberry-mildew Orders will be issued in due course. There seems no good reason for the adoption of the suggestion contained in the latter part of the question, as the fungicide usually used is that specified in the Board's Orders, and in the rare cases in which other fungicides have been used the Board have been consulted as to their efficiency.

Mr. Laurence Hardy: Whether the Board were advised, as long ago as October 1st, that an outbreak of Gooseberry-mildew had occurred in the county of Surrey; whether any order has been issued by the Board to deal with the disease in the county of Surrey; and whether, in view of the fact that during October and November most of the necessary sales of plants take place, he will say what precautions have

been taken at this time to prevent the spread of so infectious a disease?

Sir Edward Strachey: The reply to the first part of the question is in the affirmative. An inspector visited the affected premises and explained the procedure and precautions to be adopted in dealing with the disease. The Board have no evidence to show that the disease is spreading in Surrey, and have not therefore considered it expedient to issue a special order for that county at present.

The Week's Work.

THE FLOWER GARDEN.

By W. FIFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Bedding Pelargoniums.—Remove all decayed leaves and stir the surface soil occasionally in the case of rooted cuttings in boxes, or that were dibbled into frames. Choose a fine day for watering the plants, it being necessary that the water should drain away quickly so that wet conditions will not last long. It may be necessary to remove caterpillars from these cuttings by hand picking. Afford plenty of ventilation, and keep a little heat in the water pipes. Old plants that were lifted from the beds and are now in warm frames will require to be cleaned and the dead stems cut off.

Other tender bedding plants.—Cuttings of Coleus, Iresine, and similar plants should be kept in an intermediate temperature which will not excite growth.

Berries and fruit in the flower garden.—As this season of the year when the flowers are over and most of the trees and shrubs bare of their leaves, nothing is more pleasing than the bright tints of the berries and fruits of such trees as Cotoneasters, Berberis, Eucynus europæus, Aucuba, Ueddo, Aucuba, Hollies (both green and variegated-leaved), Crataegus pyracantha and the variety Lalandii which forms a splendid plant for clothing walls; it bears its fruits on the wood of the previous year. Then also the Pernettyas furnish large clusters of berries in pink, rose, crimson, white and purple colours according to the variety. This plant thrives best in a moist peaty soil mixed with plenty of sand and leaf mould. The Skimmias, of which S. Fortunei and S. japonica are the best for garden purposes, thrive in a well-drained loamy soil with which is incorporated plenty of peat. Of the Cotoneasters C. Simonsii, C. microphylla and C. m. var. glacialis (syn. C. congesta), are to be recommended. The Sea Buckthorn-Hippophaë rhamnoides furnishes a display of orange-coloured berries in large clusters, set off by beautiful glaucous foliage. It must be remembered in planting that Hippophaë is dioecious, therefore, in addition to the female plants, a specimen or more of the male must be included, in order that the berries may be set, and the same also applies in the case of the Aucuba.

Lawns.—The mowing of lawns should now be discontinued, but in order to keep the sward in a good condition the turf should be swept each week. This will disperse the worm casts, and after the sweeping the roller may be used, but only sparingly.

Frost.—There were 17° of frost registered in these gardens on November 10.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATOCK, The Hendre, Monmouthshire.

Early Peach trees.—Directions have already been given for preparing trees in the early house, and if these directions were carried out the house may now be closed in preparation for forcing. If the borders are in the least dry, give them a thorough watering with tepid water, or greatly diluted manure water. The date at which the fruits will ripen will depend upon the varieties, and in most circumstances it is convenient, for the sake of succession, to have some early and some second early varieties in the same house. If the trees were forced early last season, they will respond more readily to the forcing now about to be commenced. No fire heat should be made use of during the first fortnight, but the house should be kept closed unless the atmospheric temperature rises to 50°, in which case the ventilators may be opened a

little. At the commencement of actual forcing and the employment of artificial heat, a night temperature may be maintained of from 40° to 45°, allowing it to increase during the day from 50° to 55°, and by sun heat from 60° to 65°. Damp the available surfaces in the house with tepid water according as the weather is bright or dull, and spray the trees with water in the morning and afternoon on fine, sunny days. If any of the roots are in an outside border, such border should be thickly covered with tree leaves, and glass lights may be placed over the leaves to afford further protection.

Propagation of vines from eyes.—Well-ripened, strong laterals should be selected for propagating purposes at the time the vines are pruned. They must be kept cool with the ends inserted in moist soil until the end of January or early in February. At that time the eyes should be prepared for insertion by cutting the wood through at half-an-inch on either side of the bud and taking off a thin slice of the wood from the opposite side of the bud. Some 3-inch pots should be properly drained and filled moderately firmly with fine soil composed of three parts and flaky leaf-mould one part with silver sand added. Make a suitable hole in the soil and place a little sand in it. Upon this sand the eye should be firmly embedded so that the point of the bud is just up to the surface of the sand-sprinkled soil. Plunge the pots in a bed having a heat of 80° and in a pit where the night temperature is kept at 60° or 65°, and the temperature during the day 70° to 75°.

When a few leaves have developed and the roots have made corresponding progress, shift the plants into 5-inch pots and replunge them in the bed for a few weeks. They will need to be repotted several times afterwards into moderately rough compost which should be warmed before use. Stop the laterals and sublaterals at one leaf, and after the plants are potted into their final pots and have filled these with roots, give them a light top-dressing with a suitable fertiliser. Maintain a uniformly warm and moist atmosphere with proper attention to ventilation; syringe the plants in the morning and again when the house is closed early in the afternoon. When the canes commence to ripen more liberal ventilation will be necessary.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VISCOUNT GIBBS, Aldenham House, Elstree, Hertfordshire.

Vacant plots.—Land of a light nature may be trenched forthwith. The particular treatment of vacant plots will depend upon the nature of the soil it is intended to grow upon them. At the same time, I am a strong believer in deep trenching in all cases, and if this is done some manure or decayed vegetable matter may certainly be placed in the bottom of the trench. Endeavour to get the whole of the soil as speedily as possible into a suitable medium for vegetable crops, which is only possible by frequently bringing some of the subsoil to the surface. Ground which has been occupied with kitchen-garden crops for a number of years should be given lime and soil freely, and the soil should be worked, and a good surface dressing when the work is completed. Leave the surface as rough and lumpy as possible, thus exposing the soil to the weather. Wet or retentive soils should not be trenched before spring, but the surface may be given a liberal dressing of such materials as wood ashes, old mortar rubble, lime, and soot. The surface ground may then be lightly forked over. All rubbish collected in or about the garden should be burned or charred on vacant pieces of ground and the residue after burning will greatly benefit the soil.

The compost heap.—Every garden should have a piece of ground reserved for the storage of manures and soil likely to be required in cultivation. Any out-of-the-way corner may be selected for the purpose that is well drained, and there should be some provision made for keeping dry small quantities of the various ingredients for raising seedlings, also sheds for storing and turning manure intended for forming Mushroom-beds, and providing shelter for the carrying out of various operations which may be done by the workmen during inclement weather. The present is a good time for making provision for another season, and in doing this each heap of material should be neatly and properly stacked.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The Dowager Lady NUBURNHOLME, Warter Priory, Yorkshire.

Pears.—It is not easy to select varieties to suit all soils, but for pyramids I would recommend Fondante d'Automne, Beurré Hardy, Doyenné du Comice, Louise Bonne de Jersey, Pittaston Duchess, and Josephine de Malines. The following varieties succeed as standards: Beurré d'Amanlis, Williams' Bon Chrétien, Doctor Jules Guyot, Emile d'Heyst, Comte de Lamy, and Hessele. For stewing purposes, Bellissime d'Hiver and Catillac are two of the best garden varieties. The Black Worcester Pear is one of the best that can be planted for forming a standard tree. Good Pears that might with advantage be added to larger collec-

especially in the case of borders under north walls, where Cherries, Plums, and Pears are grown to afford late crops. Drains should be placed in the borders 3½ to 4 feet deep, and in most cases the old-fashioned V-shape rubble drains are most satisfactory. A fresh compost should be used where the staple soil is unsuitable, in which case a compost that is peculiarly fitted for each kind of tree can be applied to a depth of 2 feet. No digging should afterwards be allowed in the spaces I have indicated, but any roots that may be found beyond the width described may be cut off each year. If this is not done, the trees will be likely to make excessively strong and unfruitful growths.

Treatment of permanent borders.—When the pruning is completed the surface soil of the

The best trees for planting are those not more than two years old. They should be planted in permanent positions, and the roots ought to be kept in check by root pruning during the early stages in the life of the tree, as later it is dangerous to lift them. Good varieties include Moorpark, Hemskirk, Kaisha, and Large Early.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Sophronitis hybrids.—These charming hybrids are the result of crossing the brilliant little species *S. grandiflora* with the showy kinds of *Cattleya* and *Lælia*. *Sophro-Cattleya eximia*, *S.-C. Nydia*, *S.-C. Calypso*, *S.-C. Cleopatra*, *S.-C. Doris*, *S.-C. Chamberlainiana*, *Sophro-Lælia Veitchii*, *S.-L. Gratixæ*, *S.-L. Heatonensis*, and *Sophro-Lælia-Cattleya medea*, *S.-L.-C. Dana*, all produce their flowers during the autumn season. On the contrary *S.-C. Queen Empress*, *S.-C. Saxa*, *S.-C. George Hardy*, *Sophro-Lælia lata* and *S.-L. Phroso* flower in the spring and summer. These hybrids thrive best in an intermediate temperature and in pans that may be suspended from the roof rafters during the present season of the year. In the brightest months they are better if kept at a greater distance from the glass, and they require rather more shade than that afforded *Cattleyas*, otherwise their treatment is similar. They produce their flowers before the new growths are fully developed, therefore both at this period and afterwards until their small pseudo-bulbs are fully matured there must be no decrease in the water supply to the roots. Less will suffice during the resting period, but even then if the roots are allowed to get parched the plants will suffer.

Epidendrum vitellinum and its variety majus.—This species produces its flowers during the autumn, and is easy of cultivation when grown under cool intermediate conditions. They require a light position in a well-ventilated house at all seasons, and copious supplies of water during the growing and flowering periods, but in the resting period sufficient only to keep the pseudo-bulbs in a plump condition.

Ada aurantiaca.—This Orchid needs very careful treatment in the matter of root waterings during winter, otherwise the foliage is apt to become disfigured by black spots. If the rooting material is of a porous nature, as advised in a former Calendar, and these are always allowed to get dry before more water is supplied them, little difficulty will be experienced, even during winter. As has been previously pointed out in these columns, a slightly warmer temperature than that of the cool house, such, for instance, as is afforded by the cool intermediate house, is better for this species, and particularly so at this season.

PLANTS UNDER GLASS.

By THOMAS LINT, Gardener to A. STIRLING, Esq., Keir, Perthshire. N.B.

Plants in frames.—Tender plants, such as *Cinerarias*, *Cyclamen*, *Schizanthus*, and others growing in unheated frames must now be removed into structures where means are provided for keeping the atmospheric temperature above freezing point. After the plants have been placed in a heated house they will require frequent attention in regard to watering.

Forcing of flowering plants.—A batch of these plants should now be placed in heat, and they may include *Rhododendron Nobleanum* and *R. Jacksonii*, *R. sinense* (*Azalea mollis*), *Deutzia gracilis*, *Staphylea colchica*, and *Spiræas*. If *Lily of the Valley* crowns are cultivated for forcing, some of these should now be lifted in clumps measuring 18 inches by 12 for placing in boxes. If the crowns are forced in this manner a satisfactory amount of foliage will be produced as well as flowers. A succession of batches of Roman Hyacinths may be placed in heat each week. Also a batch of Early Tulip *Duc van Tholl*. Such early varieties of *Rhododendron indicum* (*Azalea indica*) as *Deutsche Perle* should also be placed in heat, and will require to be syringed twice each day with tepid water. Examine the roots carefully and see that they are not allowed to suffer from drought.



FIG. 154.—ROYAL GARDENS, FROGMORE: ROSE MADAME PLANTIER.

(See page 364.)

[Photographed by special permission.

tions are Doyenné d'Été, Beurré Superfin, Marguerite Marillat, Conference, Beurré Diel, and Winter Nelis.

Peaches.—Reliable and hardy Peaches are Waterloo, Hale's Early, Goshawk, Violette Hative, Bellegarde, and Dymond. Nectarines, include Lord Napier, Hardwicke, and Dryden.

Fruit trees against walls.—The border reserved for fruit trees should not be less than from 4 to 6 feet in width, and for Pears on the Pear stock a width of 7 feet is not excessive. Good drainage is of the utmost importance, and it is usually necessary to apply artificial drainage,

borders should be lightly pricked up with a fork, and this operation is necessary again in July and August, when much watering has to be carried out.

Planting.—In planting Peach and Nectarine trees a little bonemeal may be used with advantage, but all other manures should be excluded. Apricot trees require a deep and well-drained loamy soil, and should only be planted against walls facing to the south or west. Good drainage is more than usually necessary in the case of Apricots, as they require a great amount of water during their season's growth.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the PAPER, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for loss or injury by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, NOVEMBER 24—Roy. Hort. Soc. Coms. meet.

THURSDAY, NOVEMBER 26—

Roy. Hort. Soc. Ex. of Colonial Products and Preserved Fruits (2 days).

FRIDAY, NOVEMBER 27—

Aberdeen Chrys. Sh. (2 days). Dundee Chrys. Sh. (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—41°.

ACTUAL TEMPERATURES:—

LONDON.—Wednesday, November 18 (6 P.M.): Max. 51°;

Min. 38°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden; London.—Thursday, November 19 (10 A.M.): Bar. 29.8; Temp. 47°; Weather—Dull.

PROVINCES.—Wednesday, November 18 (6 P.M.): Max. 54° Ireland S.W.; Min. 47° Durham.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—

Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

WEDNESDAY—

Azaleas, Rhododendrons, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.

2,000 Roses, Fruit Trees, Herbaceous Plants, Palms, Ferns, Azaleas, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 1.

FRIDAY—

Choice collection of rare and valuable Orchids, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

The Fruit and Floral Committees.

It is possible that very few Fellows of the Royal Horticultural Society, or even members of these Committees, are aware that the Fruit Committee is now in its jubilee year, and that the Floral Committee will be so next year. The records in the *Transactions* of the Royal Horticultural Society, and in the horticultural Press do not appear to indicate the causes which led to the formation of these Committees, although, as the Society grew, it became inevitable that some such bodies must be formed at some time. The Society, however, had been in existence more than half a century, and possibly there was agitation in favour of their formation for some considerable time before the Council of that day was induced to take the needful steps to establish them. So far as the Fruit and Vegetable Committee is concerned, it is likely that its origin grew out of the old British Pomological Society, which was still in existence in 1858. In any case, although that Society did survive the formation of the Fruit Committee for some time, it eventually expired after doing much useful work, and it is doubtful whether any member of it remains alive to-day. The late Dr. Robert Hogg and Mr. Thos. Rivers were among its chief members, and records show that they frequently presided at the various meetings. Dr. Hogg continued to associate

himself with the Pomological Society for some time after he became a member of the Fruit Committee, but he continued to be a member of the Fruit Committee until the date of his death. The first chairmen of the Fruit and Floral Committees were clergymen. The first Fruit chairman was the Rev. L. Vernon Harcourt, a greatly honoured name, and that of the Floral Committee was the Rev. Joshua Dix, Rector of All Hallows, Bread Street, London, a devoted florist and a most enthusiastic gardener, well known to the Rev. W. Wilks, M.A., the present secretary. The earliest announcement of the formation of the Fruit Committee was made in the columns of the *Gardeners' Chronicle* on March 6, 1858, when it was stated in an Editorial Leader that the Society had taken measures to organise before another season a permanent Committee of Fruit. In that article certain recommendations were made as to the leading principles that should guide such Committees in the making of awards, and if the extract containing these recommendations, which we now reproduce in another column, be read carefully; we think it will be seen that, taking the Royal Horticultural Society's Committees generally, they have acted in accordance with the suggestions then enunciated. It is a matter for regret that the proceedings of the Society fifty years ago were not so fully reported as they are to-day. Had this been done, more complete details of the formation of these Committees would be available. The Council of 1858 were obviously unwilling that the newly-formed Committee should adopt a revolutionary course, for its formation was accompanied with a string of no fewer than 38 regulations, most of which, however, with age and experience, have fallen into desuetude. The Committee comprised, with the secretary, Mr. Robert Thompson, of Chiswick, and Mr. C. Edmonds, of Devonshire House Gardens, vice-chairman, 32 members, of whom none survive. Amongst these illustrious horticulturists were Jas. Veitch, John Lee, John Fraser, G. Fleming of Trentham, Thos. Ingram of Frogmore, Thomas Moore of the Chelsea Physic Garden, Thos. Osborn, W. Tillery, then of Heckfield, Thos. Rivers, R. Smith of Worcester, and Lewis Solomon of Covent Garden.

Beyond mention of the fact that the Floral Committee, controlled by but 16 regulations, seems to have held its first meeting on July 7th, 1859, with the Rev. Joshua Dix as chairman, no information is furnished as to its original members. The present chairman, Mr. William Marshall, was appointed a member in 1868, and became chairman in 1871. He has thus filled this latter position for nearly half of its history. Many, indeed, of those who have been distinguished leaders of horticulture have, in the past as in the present, been members of these bodies and have thus rendered great and acceptable service both to the Society and to horticulture generally.

The Committees originally consisted of twenty members, but the number was subsequently increased to thirty, and later to forty members.

The next oldest body—the Scientific Committee—was established in 1868, the Narcissus Committee in 1885, and the youngest body—the Orchid Committee—which, in spite of its

youth, finds so much work for its energies, was formed in 1889.

It is very natural that some expression should have reached us in favour of celebrating in some fitting way the joint jubilee of the two elder Committees, and if this took place at the close of the present year or early in 1909 it would serve to link these jubilees into one. The matter is one for the Council of the Society to consider. The 50 years' existence of these bodies is a bright feature in the history of horticulture, and specially in the life and operations of the Royal Horticultural Society. Some form of public celebration, may, therefore, be desirable.

ESTABLISHMENT OF THE FRUIT COMMITTEE OF R.H.S.—

The following is extracted from leading article which appeared in these pages on March 6, 1858, which announced the decision of the Society to form permanent committees. "The constitution of the committee, the 1. of its action, the principles that are to guide have still to be settled: and we are persuaded that in a matter of such great importance, which such varied interests are mixed up, so public discussion would be useful. We shall therefore, be happy to open our columns to short communications on the subject. For ourselves, we cannot but think that the following points should be in all cases first decided:—(1) Has the variety any merit? (2) What is the nature of its merit? (3) Is it so different from other varieties as to deserve cultivation? (4) If so, in what does the difference consist? To this would have to be added, when a variety is approved, its history; that is to say, its parentage, the place where raised, the year when raised, its manner of growth, its period of flowering, the time of maturity, the whole to conclude with a carefully drawn description of the perfect fruit. Such materials would rapidly accumulate and form the foundation of a new catalogue of fruits, which is greatly wanted. Everybody would gladly open a communication with such a committee, or, if any failed to do so, they would be bad guardians of their own interests. The only risk of erroneous judgment would consist in taking the climate of London as that by which new fruits should be judged. Were that indeed to happen the decisions of the committee would lose their value. But we can hardly contemplate such a result, provided sufficient care is observed in striking the committee. For assuming the members to possess the intelligence necessary to their task, they would never take so narrow a view of their duties as to imagine that London is of more importance than York, Edinburgh, or Aberdeen. We, therefore, entirely believe that the committee would receive support in every quarter and that their decisions would be looked at as conclusive upon the varieties which might be brought before them."

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will be held on November 24, at 3 o'clock p.m.; a lecture on "Italian Gardens" will be given by Mr. J. CHEAL.

THE PARKS AND THE UNEMPLOYED.—According to the *Times*, the Town Clerk of Paddington has received a letter from the First Commissioner of his Majesty's Works, stating that he fears the suggestion of the Borough of St. Pancras (which the Paddington Council supported) that an open-air swimming bath should be constructed in Regent's Park is one which it is hardly possible to adopt, inasmuch as it would be impossible to make such a bath in any part of the park without interfering

seriously with the open space for games. The Commissioner adds that he is making provision for finding employment for workmen supplied by the Central (Unemployed) Body for London, in surface draining and cleaning out the lake, and that if circumstances admit, he is prepared to extend this work still further. In the House of Commons on the 16th inst., Mr. B. STRAUS asked the First Commissioner of Works whether, owing to the amount of unemployment in London, he could arrange to have the cleansing of the Serpentine taken in hand with as little delay as possible. Mr. HARCOURT replied that he regretted that this was a suggestion which he was unable to adopt, but he was arranging to clean part of the lake in the Regent's Park.

FLOWERS IN SEASON.—Mr. AMOS PERRY, Enfield, sends a very fine hybrid Iris, raised from *I. Korolkowii* and *I. iberica* by the late Sir MICHAEL FOSTER. It seems to be a worthy addition to florists' Irises. The mingling of the two distinct sections of Iris results in the production of a showy flower, in which the rose-purple and velvety black of the parents are interestingly combined.

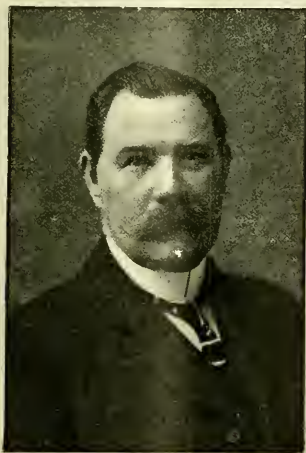
THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held in the Lecture Hall of the Institution, on Monday, November 23, at 8 p.m., when a paper will be read by Mr. HERBERT T. SCOBLE, entitled "The Administrative Aspects of Sewage Disposal."

LABURNUM OUT OF SEASON.—A correspondent, *H. S. T.*, writes as follows: "It is not only in England that Laburnum is flowering a second time. At Antwerp, on November 1, I observed a small tree in full bloom, though the racemes were short, as mentioned by other of your correspondents. A thick, cold fog hung about Antwerp that day. The Laburnum was growing in the Zoological Gardens, which are among the finest in Europe, particularly from an ornithological standpoint, and they contain a few interesting trees and shrubs."

PRIZES FOR SPRAYING MACHINES.—The Royal Agricultural Society's Show at Gloucester is announced to take place on June 22 to June 26, 1909. During the week preceding the show, trials of fruit-tree spraying machines will be held in the neighbourhood of the Show Ground at Gloucester. One competition will be for machines worked by hand-power, and another for machines worked by steam, petrol or mechanical power. The exact date and place will be notified after the number of competitors has been ascertained. Full particulars can be obtained from the Secretary, 16, Bedford Square, London, W.C., to whom entries for the prizes offered must be sent on or before Saturday, March 20, 1909.

DIMORPHOTHECA BARBERIÆ ROSEA.—Mr. GUMBLETON has shown us a flower of a very distinct form of *Dimorphotheca*. It differs chiefly from *D. Barberiæ*, of which a figure appeared in the *Botanical Magazine*, tab. 5337, in having clear, rose-coloured flowers, with bronze tinting on the underside of the petals, a very distinct and pretty combination, and it grows a little less strongly, the flowers being somewhat smaller in size. Though regarded at present as merely a variety of *D. Barberiæ*, for gardening purposes it is not only distinct, but a very much better plant, owing to its attractive colouring. Mr. GUMBLETON takes unusual interest in the genera *Arctotis* and *Dimorphotheca*, and cultivates all the species known as pot plants in a greenhouse. Mr. GUMBLETON received the new variety from Barberton, Transvaal Colony, it having been sent to him by Mr. THORNCROFT.

ELECTRIC LIGHT AND VEGETATION.—Many observations have been made since electric street lamps became common on the effects they produce on the branches of trees that may happen to be close to them. Sometimes these branches push their leaves earlier, and retain them later in the year. There may even be colour differences to be seen, thus Herr GRÆBENER, writing to *Gartenwelt*, has noticed that the leaves on a plant of *Rochia trichophylla*, at distances of 9 to 13 feet from a lamp, not only showed increased vigour, but their leaves remained green while those of plants further removed from the light assumed a red colour. Doubtless many of these effects are to be attributed to the increased warmth, and the matter is worth investigating from this point of view. There may, however, be other and more obscure reactions to the electric light, which is so rich in the violet and ultra-violet rays of the spectrum. These rays are known to produce remarkable chemical effects, with some of which every photographer is familiar. There is, of course,



MR. ARCHIBALD MACKELLAR.

His Majesty's Head Gardener at Frogmore.

the further question, which is, however, hardly pertinent to these examples, of the direct action of the current on the constituents of the air.

PESTS OF FRUIT TREES.—So much interest is being taken in the subject of spraying at the present time, that the little book by Messrs. SPENCER PICKERING and F. V. THEOBALD* should be certain of a welcome. We have seldom seen a better type of practical guide, for it contains exactly the information which the grower wants, tells him what to avoid, and indicates the reason for some of the precautions which are found by practice, or suggested by theory, to be expedient. Although the treatment of the subject only occupies a little more than 100 pages, an enormous amount of information is given, and the book, written by such well-known experts, may be cordially recommended to everyone who desires to know what can be done to prevent or remedy the attacks of the numerous enemies of fruit trees.

* *Fruit Trees and their Enemies*, with a spraying calendar, by Spencer Pickering, M.A., F.R.S., and Fred. V. Theobald, M.A., Simpkin, Hamilton, Kent & Co., Ltd., 1908. Price 1s. 6d. net.

JOURNAL OF THE R.H.S. GARDENS CLUB.—The first number of this publication has been received. As the opening paragraph states, the issue "is a very modest one, partly for want of funds and partly because there has not been time to obtain contributions from members." From the addresses given it is seen that the members are very widely distributed, and are represented in British Columbia, India, West Africa, Cape Colony, France, Norway, California, Canada, and the United States. The object of the Club is to keep past and present students and employes of the R.H.S. in touch with each other, and thus promote a sympathetic, friendly, and mutually helpful association. All past and present students and employes of the R.H.S. are eligible for membership. The Editor appeals for articles, letters, and notes for publication in the next number of the *Journal*, which will be published at Michaelmas, 1909. All communications should be addressed to the Hon. Sec., Mr. R. J. WALLIS, R.H.S. Gardens, Wisley, Ripley, Surrey.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Mr. A. J. BROWN informs us that the annual concert held in the Constitutional Hall, Chertsey, on behalf of the funds of this institution will take place on Wednesday, December 2, under the patronage of Sir EDWARD and Lady STERN. These concerts have been held for many years past at Chertsey, and they have resulted in the collection of considerable sums of money for this charity. We hope that local gardeners and others will endeavour to make the forthcoming event successful. Tickets are 3s., 2s., and 1s. each, and these, or any information may be obtained from Mr. A. J. BROWN, Jesamine Cottage, Eastworth Road, Chertsey.

A BIG RICHARDIA.—In the *Gartenwelt* for October 17 last part of a plant of *Richardia africana* is figured bearing four fully-opened spathes and one unopened, growing in the nursery of R. LEHMANN, Weissensee, near Berlin. The plant threw 15 spathes one after the other, and was standing in a 10-inch pot. The total height of the plant and pot was 42 inches; diameter of the biggest spathe, 9½ inches; circumference, 30 inches. Herr LEHMANN has grown his *Richardias* from seeds for many years, saving the seeds from plants which produce the largest spathes. The plant figured is three years old. In general practice it is found that the size of the spathes and their number are due to good cultivation rather than excellence in variety.

ICONES PLANTARUM.—The recent number of *Hooker's Icones Plantarum* forms a fascicle of descriptions of new species of *Impatiens* by Sir J. D. HOOKER, who has shown a special interest in this difficult and critical genus. The fascicle, in which 25 new species and varieties are described and figured, supplements Sir JOSEPH's epitome of the British Indian species of *Impatiens* in the records of the Botanical Survey of India (1904-1906). The majority of the plants described are from Indo-China, from material in the Paris Herbarium, with a few from China, from the Le Mans Herbarium and elsewhere. We refer with much pleasure to this useful piece of work, and the evidence it affords of the continued botanical activity of the veteran botanist.

Publications Received.—*Intracellular Enzymes*, by H. M. VERNON, M.D. (John Murray.) Price 7s. 6d. net.—*British Mosses*, by the Rt. Hon. Sir EDWARD FRY, G.C.B. (London: Witherby & Co.) Price 1s. 6d. net.—*Studies in Gardening*, a series of articles reprinted from the *Times*, (London: John Parkinson Bland, the *Times* Office, 2, Printing House Square, E.C.) Price 1s. net.—*In My Lady's Garden*, by Mrs. RICHMOND, F.R.H.S. (London: T. Fisher Unwin.) Price 12s. 6d. net.

THE ROYAL GARDENS, FROGMORE.

(Concluded from page 340.)

ORCHIDS.

Orchids are grown in quantity, and 12 houses are entirely devoted to their culture; a house of *Dendrobium formosum giganteum* presented a grand sight. *Cattleya Mossiae* were beautifully in bloom in June, whilst *C. Mendelii*, *Laelia purpurata*, *Odontoglossum crispum*, and most of the showier *Dendrobiums* are also cultivated to perfection. The houses containing *Odontoglossum crispum* had a fine show of bloom, and most of the other houses contained plenty of flowers. All the plants are well cultivated, but the house of *Calanthes* of the *C. Veitchii* class probably surpasses any in cultivation, and Mr. MacKellar may justly be proud of his success with these brilliant and useful Orchids, especially as the specimens have increased in vigour for some years under his care. Those who know *Calanthe Regnierii* in its imported state would scarcely consider it possible that the comparatively small pseudo-bulbs of the freshly-imported specimens could be made to produce pseudo-bulbs of such gigantic proportions as those grown at Frogmore. The plants in the warm *Calanthe* house were uniform throughout, the silvery skin of the old bulbs and the clear green foliage of the new growths which are produced from one to four on a plant, and in June were about equal to the bulbs in height, were quite spotless. It is the practice of some growers to keep the deciduous *Calanthes* quite dry until they are well advanced in growth, but at Frogmore they seem to be kept much more moist at the root in the early stage of growth than in most gardens, and it is probably this circumstance which has largely contributed to their extraordinary development.

THE ROSES OUT-OF-DOORS.

Nearly all varieties suffered this year in greater or lesser degree from the cold weather in April, but, thanks to the more congenial conditions which prevailed during the greater part of May, most of the varieties recovered themselves so fast that, in June, when our

photographs were taken, the plants presented most satisfactory masses of flower. Lady Battersea, one of the earliest to bloom, was excellent. Liberty, another early variety, has

white variety in existence, also Madame Abel Chatenay and Antoine Rivoire were showing well. George Nabonnand is essentially an autumn-flowering variety and should be



FIG. 157.—ROYAL GARDENS, FROGMORE: MR. MACKELLAR'S HOUSE.

done splendidly. The newer Richmond was in full flower, and it is certainly an acquisition to the decorative class of Roses. Madame Ravary has a habit of the very best type and is a continuous bloomer. Its colour is a lovely shade of orange yellow, and it forms a beautiful flower before becoming fully expanded. Gustav Grunerwald and Ulrich Brunner were seen at their best. Mrs. J. Laing, one of the most useful varieties for decorative work, and Frau Karl Druschki, the best pure

planted expressly for that purpose. It usually flowers well into the month of November, but when these notes were taken the plants were full of growth and young flower-buds. Caroline Testout is one of the most useful Roses for making a display in the garden, and, notwithstanding its lack of perfume, it is popular because it is one of the hardestiest in constitution and is a very continuous bloomer. Of climbing varieties *Hawatha* was beautiful; it is certainly one of the best of the newer climbers. Blush Rambler is also an excellent deer and a beautiful Rose. Aimée Vibert, Madame Plantier, Mrs. F. W. Flight, Claire Jacquier, Climbing Caroline Testout, Reine Olga de Wurtemberg and Dorothy Perkins were all flowering freely, and the plants were wonderfully free from mildew. The Terrace walk between the glass range and kitchen garden is 30 feet wide, and is bordered on each side by grass, in which are cut beds for Roses. The oblong ones are in pairs and are filled with hybrid Teas, and between them are circular beds, with iron frames, 10 feet in height and 6 feet in diameter, covered by climbing Roses. These beds are also arranged in pairs—two white, two pink, and two crimson alternately. This is a charming drive when the plants are in flower, and is over 600 yards in length. Our illustration at fig. 154 shows the very old variety Madame Plantier. It is one of several similar specimens which grow in small circular beds cut out of the grass on the side of one of the broad paths.

THE BOTHY.

The new bothy, in which the young gardeners reside, is a model of what such a structure should be. It is situated off the broad path that passes between the herbaceous

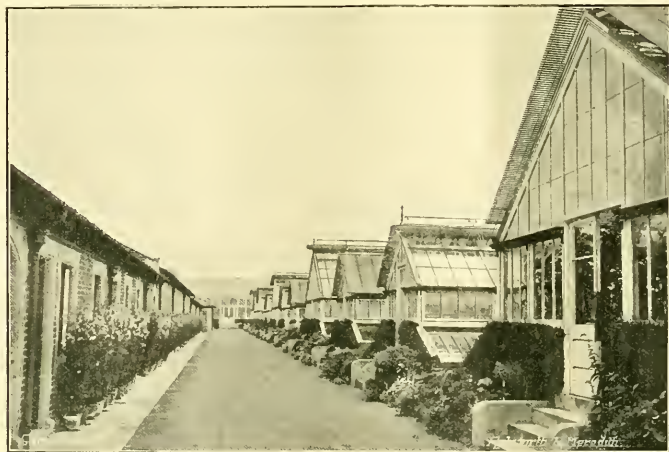


FIG. 156.—ROYAL GARDENS, FROGMORE: SHOWING GARDEN BUILDINGS ON LEFT, AND THE ROCKERY AROUND THE ENDS OF THE GLASS-HOUSES ON THE RIGHT.

borders, in very pleasant surroundings (see fig. 158). It was one of the very first improvements which the King ordered to be carried out in the gardens after his accession. His Majesty gave special orders that a place should be built which should tend to educate the men in matters connected with their profession and elevate their tastes and habits. This order has been faithfully carried out. There is accommodation for 24 men; each man has a separate bedroom, which is furnished with a chest of drawers and wardrobe, so that there shall be no excuse for untidiness. The bedrooms are approached by a wide, stone staircase from the front hall, and each bedroom is connected by a corridor which extends all round the building. At the top of the staircase is the lavatory, which is arranged on the best sanitary lines, and contains two bathrooms. There is also a bathroom on the ground floor. The rooms downstairs are spacious, well ventilated, and are suitably furnished. The dining-room is situated in the middle of the building, and contains two large tables capable of seating about 30 people. The walls are hung with old prints of Windsor Castle and its associations. The sitting-room, which is also used as a library (see fig. 158), is a well-furnished and comfortable apartment. The bookcases contain many instructive books for the use of the young men. There is a bagatelle table in the middle of the room, and other games and means of recreation are introduced to encourage the men to stay indoors after working hours. The kitchen is conveniently situated near the dining-room. It has all the necessary appliances and utensils, and everything is kept scrupulously clean.

The rooms on the ground floor on the right of the picture are sick-rooms for isolating cases of infectious illness. On the opposite side are the caretaker's rooms. The floors in the dining-room, corridors, and passages are laid with Tarazza mosaic. The whole of the building is lighted by gas and heated by hot-water pipes and it is practically fireproof.

HERBACEOUS PLANTS.

The borders of herbaceous plants situated near to the bothy are 300 yards in length, with a broad path between them. Each border is 20 feet in width, and at the back of one of the borders is a row of cordon Pear trees, consisting of 1,800 specimens. The herbaceous plants were not at their best when our photographs were taken by Mr. W. J. Vasey, but they form a magnificent effect in the latter end of August.

THE HEATING APPARATUS.

The arrangements for heating the plant and fruit houses at Frogmore are as perfect as it is possible to make them. Before the alterations were made, about thirty boilers were employed, whilst at the present time there are but seven. This is not only a great saving of labour, but also of expense. The houses are divided into eastern and western sections. There is a boiler-house for each section, each containing three large steel "Cornish" boilers, measuring 22 feet in length. From the boiler houses the main pipes run through tunnels 6 feet high by 4 feet wide. From the tunnels the pipes branch off to the different houses. The main pipes are 6 inches heavy cast-iron flanged pipes. The boilers and main pipes are covered with non-conducting composition to conserve the heat. There are

separate sets of main or leading pipes for fruit and plant-houses, but all the leaders are connected with each boiler, so that each and any boiler may be worked separately for fruit or plant-houses as desired. Altogether there are 13 miles of hot-water pipes. Rain water is used for supplying the boilers, and it is collected from the roofs of the houses in two large underground tanks, each capable of holding 100,000 gallons. The water is pumped into overhead cisterns in the boiler-houses by power obtained from gas engines. From these cisterns a supply is

also are well furnished with trained trees. Two rows of pyramidal Apple and Pear trees have been recently planted, and they extend across the vegetable quarters. These trees will not only afford a very large addition to the fruit stores, but they will also have the effect of relieving the flatness of the open spaces under cultivation of such crops as Onions and Cabbages, which are grown by the acre. Many hundreds of fruit trees have been added during the past six years, and a wall facing to the south, measuring nearly 400 yards long and 12 feet high, although



FIG. 153.—ROYAL GARDENS, FROGMORE: EXTERIOR OF THE YOUNG GARDENERS' BOTHY, AND INTERIOR OF THE LIBRARY.

laid on to the cistern in the fruit and plant-houses for use in watering and syringing.

THE KITCHEN GARDEN.

The magnitude of the fruit and vegetable garden is unequalled in a private establishment and consists of about 60 acres of kitchen garden and orchards. Despite its unusual size, it appeared to be impossible, at the time of our visit, to discover a weed in it. The neatness and order prevailing in the other departments were just as manifest in the quarters devoted to vegetable culture. In addition to the usual vegetable crops, there are plenty of fruit trees in the form of espaliers and bush-trained specimens, whilst the walls

only planted four years ago with Peach trees, is now nearly covered, and the trees bore very heavy crops of fruits during the past season. The out-of-door Peach and Nectarine trees are protected from frosts when in flower by the use of canvas blinds on rollers. These are portable and are removed from the walls when the fruits have set. Frogmore, lying as it does in a low situation in the Thames Valley, is liable to late spring frosts, and such protection is an absolute necessity. The total length of wall space for the training of fruit trees is nearly $4\frac{1}{2}$ miles, and some very excellent examples of trained trees may be seen. So immense are the gardens and

so great are the supplies of produce sent to various heads of departments in the Royal Palaces, that confusion would certainly arise were it not avoided by skilful organisation and assiduous attention to the details of administration.

MR. MACKELLAR.

As we have already stated, the Frogmore gardens are under the care of Mr. Archibald MacKellar, who was appointed head gardener there in succession to Mr. Owen Thomas after the accession of King Edward VII. in 1901. Mr. MacKellar, whose portrait is reproduced on p. 363, was born in Argyllshire, his father being also a gardener. He served his apprenticeship in the garden then under his father's care, and afterwards removed to Hopetoun, the Earl of Hopetoun's seat in Linlithgow, in 1870. On completing two years at Hopetoun he removed to Tynninghame and became foreman out-of-doors. In 1874 he was engaged at Chatsworth in the fruit department, and two years later went to Lord Penrhyn's garden at Penrhyn Castle as general foreman under Mr. Walter Speed, who still holds the position of head gardener. Mr. MacKellar stayed at Penrhyn seven years, and then removed to Floors Castle, the seat of the Duke of Roxburghe near Kelso, to take up his first position as head gardener. It was after spending 11 years at Floors Castle that he was selected to become head gardener to the King (then Prince of Wales) at Sandringham, Norfolk. After the accession of King Edward, Mr. MacKellar was appointed to the Royal Gardens, Frogmore, his place at Sandringham being filled by the appointment of Mr. Thomas H. Cooke, who at that time was head gardener to Earl Wemyss at Gosford, East Lothian.

A view of the gardener's house is given at fig. 157. It is a very attractive building, erected in 1844, and is situated in a central position in the garden.

THE LATE MARTIN RIDLEY SMITH.

ALL lovers of the Carnation will regret the death of the President of the National Carnation and Picotee Society, as recorded in the last issue of this journal. His fame as a cultivator and raiser of new Carnations is world-wide. He took up their cultivation about 20 years ago, and spared no pains to obtain the best varieties. He made a journey to Germany to see the best in flower there, and invited me to go with him. We carefully inspected every plant in the collection of Mr. Ernest Benary at Erfurt, and Mr. Smith purchased all the best self-coloured and fancy sorts. These formed the collection from which he obtained the fine seedlings he raised at Hayes. I have been a careful student of the work done at Hayes during the last 20 years, for I was entrusted by Mr. Martin Smith to introduce all his new varieties to the public in those early years. The first varieties to be introduced were self-coloured ones only (1893): Abigail, Niphetos, Aline Newman, Lady Gwendoline, and Mrs. Louise Jameson. Previous to this, Mr. Smith had been working in quite a new direction. I well remember his state of pleasurable excitement on one of my early visits as he showed me a house nearly full of new varieties of *Souvenir de la Malmaison* he had raised from seed. I sent a report to the *Gardeners' Chronicle*, which was probably the first published notice of them. In 1894 I introduced 10 new varieties of self-coloured and fancy Carnations from the Hayes seed beds; most of them had obtained First-Class Certificates or Awards of Merit. They were a considerable advance upon any varieties hitherto

seen in cultivation. The best of them were Cardinal Wolsey (fancy), Haynes Scarlet (self), Mephisto (self), Miss Audrey Campbell (a fine yellow self), Miss Ellen Terry (a very large white self), King Arthur (a fine crimson-scarlet), Waterwitch (blush), and The Pasha (the best variety of Apricot colour up to that time). The same season (1894) the new type of *Souvenir de la Malmaison* was introduced for the first time. There were five varieties, viz., Mrs. Everard Hambro, Princess May, Sir Charles Freemantle, Sir Evelyn Wood, and The Churchwarden. In 1896 five more new "Malmaisons" were introduced, viz., Lady Grinston, Lord Rosebery, Nell Gwynne (the only pure white yet raised), Prime Minister, and Trumpeter. Every year since then new varieties have been introduced, all of them in some manner different from those already in cultivation. I find, on referring to the Carnation catalogue for this year there are 170 varieties described, including those of the "Malmaison" type, all raised from seed at Hayes. As an instance of Mr. Smith's keen interest, I may say that I noticed him at one of the exhibitions carefully examining the exhibits, after which he remarked to me that quite four-fifths of the varieties exhibited were raised by himself. All his work in connection with the raising of seedlings was done in the most methodical manner, and his personal interest at the time of the flowering of the seedlings was intense. I happened to journey to Hayes on one occasion by the same train as he did. I found his servant waiting at the station with his garden coat and cap; he quickly changed at the station, and went off at once to his Carnation bed. He would have 15,000 to 20,000 seedlings, and from these 200 to 300 would be selected to grow again, and they were tested out-of-doors for border culture as well as for flowering under glass in flower-pots.

When he first commenced Carnation culture, he determined not to grow any of them under glass, but he found after experience that the best flowers were obtained under glass; not that equally large and fine flowers could not be obtained from well-cultivated plants in the borders, weather permitting, but that our uncertain climate has to be reckoned with. Insect pests are also difficult to deal with out-of-doors. In Great Britain and Ireland it is always worth while to cultivate some of the best border Carnations under glass. Even in Germany I noticed that the best self-coloured and fancy varieties in Mr. Ernest Benary's nursery were covered with glass overhead, but they were exposed at the sides.

At Hayes, numerous beds of Carnations were planted in the flower garden, and visitors in the season will remember the excellent effect produced by some of the beds being planted with one variety only. The latest work of Mr. Smith was a very successful attempt to improve the yellow-ground Picotee. As is well known, there is no difference botanically between a Carnation and Picotee. The difference is in colour only. From the point of view of the florist, a Picotee has the marginal colour only, but 20 years ago there were very few varieties that were not marked more or less with flakes on the petals. I had produced a few very perfect flowers some 20 or 25 years ago. One named Agnes Chambers was the first, and this was succeeded by Mrs. Robert Sydenham, Mrs. Douglas, Mrs. Dranfield, and one or two others. Mr. Smith's first success was Child Harold, and his latest is John Ruskin, which, as exhibited last season, I take to be the best yellow-ground Picotee yet raised—the master's last and best gift. He will be long remembered for the work he has accomplished. It rests with those of us who yet remain to carry it on still further, for there is no known limit to what may be done in floriculture.

SELECT LIST OF CARNATIONS RAISED BY THE LATE MR. SMITH.

SELF CARNATIONS.—Agnes Sorrei (crimson), Ann Hathaway (yellow), Ann Boleyn (salmon), Beabow (buff), Cecilia

(yellow), Copperhead (dark apricot), Daffodil (yellow), Ena (scarlet), Galea (maroon), Helmsman (white), Lady Hermonia (salmon-pink), Lady Linlithgow (bright rose), Mephisto (crimson), Miss Audrey Campbell (yellow), Miss Maud Sullivan (delicate pink), Miss Alice (pink), Muck-the-Miller (amber white), Queen of Scots (clear pink), Seymour Corkran (purple), Trojan (white), Triton (maroon), Zella (pure white), Zephyr (blush), King Arthur (crimson-scarlet).

FANCIES.—Aurelian, Banshee, Brodick, Carnival, Chanticleer, Charles Martel, Dido, Dodson, Erl King, Falca, Grey Friar, Guinevere, Hidalgo, Horsa, King Solomon, Lord Justice, Lord Stuyves, Mandarin, Nikado, Mrs. Charles Baring, Molly Maguire, Muletier, Pagin, Pasquin, Rony Buchanan, Sir Lancelot, Robin Hood, Sau Weiler, Strogilow, The Nizam, Twilight, Yolande.

YELLOW-GROUND PICOTEES.—Abbot, Alcinous, Aldebaran, Annot Lyle, Argosy, Countess of Strathmore, Daniel Defoe, Diana, Elbe Deans, Empress, Eugene, Gertrude, Gads, Gretchen, Gronow, Heather Bell, Henry Falkland, Hesperia, Hygeia, Lady Aberbury, Lady Bristol, Lady St. Oswald, Lauran, Lord Napier, Louisa, Lucy Glitters, Mabel, Mrs. Walter Heriot, Mochizuki, Ormonde, Othello, Professor, Sarcobed, Tennyson, Voltaire, Wasp.

SOUVENIR DE LA MALMAISON VARIETIES.—Albion (deep-salmon), Baldwin (rose-pink), Calypso (pale pink or blush), Celandine (pale pink), Lohanne (bright pink), Bright Rose, King Oscar (crimson), Lady Grinston (pinkish ground mottled rose), Lady Jane Seymour (pinkish blush), Lady Rite, Lady Selwyn (pale salmon-rose), Lord Justice (crimson), Margat (bright rose), Mercator (salmon), Monk (salmon), Mrs. Dargie (bright scarlet), Mrs. Torrens (salmon-pink), Mrs. Trelawny (dark-coloured salmon), Nautilus (delicate pink), Nell Gwynne (white), Prime Minister (scarlet), Saint (salmon), The Churchwarden (crimson), Thora (blush). J. Douglas.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

FIBRE FROM PINE LEAVES.—Referring to the paragraph on p. 280 on cloth made from the leaves of *Pinus ponderosa*, I may, perhaps, be allowed to supplement it by saying that the application of the leaves of Pines to textile purposes has been known for a considerable time; for instance, somewhere about the year 1860 a fabric called Pine wool was brought to notice as a special product of some factories that had been recently established near Breslau, in Silesia. The process of manufacture consisted of reducing the Pine needles to a coarse kind of fibre of a brownish-yellow colour. In this state it was used for stuffing cushions, mattresses, etc., and as a kind of wadding. With further developments it was made into yarn and then woven, chiefly in conjunction with animal wool, and sold as Pine wool flannel, with a strong recommendation of its superiority over ordinary flannel, as it was said to be not only very durable, but to keep the body warm without undue heating. The principal species used in the preparation of this wool was said to be *Pinus Laricio*. Articles of underclothing were, a few years ago, and may still be, obtainable in London. About 1887 or 1888 another kind of Pine wool became generally known as a North American product, which was prepared from the long leaves of the Turpentine Pine (*Pinus australis*). This fibre, however, was used chiefly in the manufacture of carpets and matting, much of it being left in its natural brown colour, but some being dyed, chiefly red, so that in the weaving a pattern could be produced. I can testify to the durability of this Pine fibre, having had one of these mats in constant use in my house for a considerable time. Considering the large area over which *Pinus australis* grows in Carolina, Georgia, and Florida, the trees offer an almost endless supply of material. Samples of both this and the products of *Pinus Laricio* are exhibited in the Kew collection. John R. Jackson, Claremont, Lyngstone, Devon.

NOTES FROM THE NORTH-WEST.—Mr. Earley's enquiry in the last issue of the *Gardeners' Chronicle* drew my attention to a plant of *Escallonia macrantha* which was planted here against a north wall fully 50 years ago, when the shrub was a novelty. The wall and the plant are 18 feet high, and there is a fine display of flower on it at the present time. As for *Choriza ternata*, which we treated to a greenhouse when it first appeared, it will grow in any aspect on the west coast, provided it is not exposed to bitter winds that tear the fine foliage. Its aromatic properties protect it from rabbits after it is well established, and we use it here as pleasant cover in the woods. The brightest thing in the woods just now is *Parrotia persica*. Unluckily, my stock seems to have been derived

from cuttings, for the plants never assume an upright growth. It has not flowered in this district, so far as I know. *Schizostylis coccinea* and *Senecio pulcher* are in fine bloom at present. *Pittosporum Tobira*, on a wall, has a few trusses of fragrant bloom, but we cannot emulate its luxuriance on the Mediterranean seaboard, where it scents the whole air at this season. *Antholyza paniculata* is worth growing for its foliage alone. The flowers are long past, but its great sword-like blades are now a fine glowing sheaf of russet and orange shades. *Funkia ovata* and *F. subcordata* are disappointing in their bloom, but well worth planting beside woodland walks for their clear golden-yellow tints in autumn. Rabbits will gnaw them when first planted, but leave them alone when established. The same applies to *Filmonaria mollis*, of which the great spotted leaves are as ornamental in the woodland at this season as are its blue and rose-coloured flowers in early spring. *Herbert Maxwell, Monroith, Scotland, November 15.*

UNSEASONABLE FLOWERS (see also p. 363).—In a garden situated on the west shore of the Gareloch, Dumbartonshire, Scotland, is to be seen a *Laburnum* tree in full bloom with also the seed vessels of last spring attached to the tree. During October Broom growing by the roadside here was also in bloom. *Alexander E. Bruce, The Bungalow, Rosneath, Dumbartonshire.*

RENAMING FRUITS AT SHOWS.—The case of renaming an Apple at the recent R.H.S. Fruit Show mentioned by *E. Z.* on page 846, was in the class for "any other variety of dessert" Apple. As so many persons hold Beauty of Hants to be but Blenheim Pippin under another name, the fruits were disqualified. The three judges were quite assured that the fruits were not those of Beauty of Hants, but were most probably those of Mabbott's Pearmain, and they so named them. Having originally named Beauty of Hants Apple when first seen growing at Glenbyre, Southampton, nearly 40 years ago, I am certain that the fruits in question bore no resemblance in their appearance to the fruits of the original tree. No doubt many varieties were sent out under that name. It very often happens at ordinary R.H.S. meetings that the nomenclature both of exhibitors and nurserymen has to be corrected. *A. D.*

SOCIETIES.

SCOTTISH HORTICULTURAL.

NOVEMBER 3.—The monthly meeting of this association was held on this date. Mr. Whytock, the president, occupied the chair, and there was a large attendance of the members. Mr. David Nicoll, Rossie, Forgandenny, read a paper on "Chrysanthemums: The Growing and Showing of Large Blooms for Beginners." Mr. Nicoll confined his remarks entirely to the details of his own methods of cultivation. Twenty-one new members were elected. The paper for the next monthly meeting, to be held on December 11, will be by Mr. R. P. Brotherton, the subject being "To Prune or Not to Prune?"

ASCOT HORTICULTURAL AND CHRYSANTHEMUM.

NOVEMBER 3, 4.—The members of this society held their twenty-third exhibition on the above dates, and the show was in every way a success. The president, Sir Edwin Durning-Lawrence, Bart., won one of the first prizes in the classes for groups of Chrysanthemums and for vegetables. The weather was fine, and the attendance was numerous.

In the open class for 24 Japanese blooms, distinct, the 1st prize was won by the Hon. Justice SWINFEN EADY, Outlands Lodge, Weybridge (gr. Mr. J. Lock), with good blooms of popular varieties. 2nd, CHRISTIE RESJEN, Esq., Windlesham (gr. Mr. W. Wilson).

In the class for 18 incurved blooms, Mrs. CHRISTY won the 1st prize easily; 2nd, C. ARTHUR PEARSON, Esq.

Mrs. CHRISTY was awarded the 1st prize for 36 blooms of incurved and Japanese blooms in equal numbers, being the only exhibitor.

In the class for 12 Japanese blooms open only to exhibitors employing a single gardener, C. H. AUSTEN, Esq., Englefield Green (gr. Mr. H. G. Worsfold), was placed 1st.

E. IVENSON, Esq., The Charters, Sunninghill (gr. Mr. F. Cappel), showed the best group of Chrysanthemums not disbudded; 2nd, Miss THACKER (gr. W. Neat).

In the classes for vegetables Sir E. DURNING-LAWRENCE was the most successful exhibitor.

TORQUAY DISTRICT GARDENERS.

OCTOBER 5.—This association held a most successful Chrysanthemum show in the Bath Saloons, Torquay, on this date. The fine weather resulted in a very large attendance of the public, and as the association has been fortunate in securing fine days for its shows for the past few years, its financial position at the present time is exceptionally strong. Competition was very keen, and the entries exceeded those of previous years, while seven competitors exhibited for the first time. Sir JOHN EDWARDS-MOSS showed (not for competition) a group of Orchids, including many rare species and varieties, among which was a fine white hybrid *Cattleya*.

In the competitive classes the Rev. T. SHEEP-SHANKS won the 1st prizes in the classes for 36 Japanese and 12 Japanese blooms. COL. CARY was placed 1st in the class for 24 blooms. The best six incurved Chrysanthemums were shown by Mr. H. A. W. FLETCHER, and Mrs. J. LYON gained the 1st prize for 12 large blooms staged in vases. Mrs. C. W. TAYLOR showed the best six white Japanese, Mrs. J. LYON the best six yellow Japanese, and Col. CARY the best six blooms of any other colour in Japanese blooms. The best four vases of single Chrysanthemums were exhibited by Mrs. J. LYON. The Silver Cup presented by Lady Arthur Lopes for a group of Chrysanthemum plants was secured by Mrs. RICHARDSON, and the Silver Cup for a group of single Chrysanthemums, presented by Lady Macgregor, by Mrs. J. LYON.

Many classes, which were well filled, were devoted to fruit and vegetables, the chief winner in these being Mr. P. P. ALEXANDER.

The DEVON ROSERY, Torquay, staged a fine collection of plants, which comprised Orchids, Crotons, Begonias, Heaths, Palms, Chrysanthemums, and Cyclamen, while a splendid display of fruit came from the fruit farm of this company. Messrs. ROBERT VEITCH & SON, Exeter, showed a collection of rock and border plants, a pleasing selection of winter-flowering Carnations, berry-bearing shrubs, and single Chrysanthemums. Mr. W. B. SMALE, Torquay, contributed stove and greenhouse plants; and Mr. J. HEATH, Kingswell, exhibited Violets in many beautiful varieties.

PUTNEY AND WANDSWORTH CHRYSANTHEMUM.

NOVEMBER 5, 6.—Whatever degree of failing enthusiasm may be noticed in some districts in regard to exhibiting Chrysanthemums, nothing of the kind in the least affects the exhibitions of this suburban society. The 31st annual show was held in the Town Hall, Wandsworth, on the above dates, and the display was rather better than usual. Not only were the exhibits of Chrysanthemums numerous and of good quality, but the contributions of Begonias, decorative plants and fruit and vegetables added much interest to the event. Begonia Gloire de Lorraine was especially good. There were many more exhibits of these plants than there were prizes offered, otherwise each collection was worthy of acknowledgment. It is remarkable what fine specimens can be grown in pots as small as 5 inches in diameter, and the colour of the profuse flowers is so bright as to cause the Chrysanthemums to suffer in comparison.

In the class for displays of Chrysanthemums and foliage plants arranged on spaces not exceeding 40 superficial feet, G. P. B. FORES, Esq., Blenheim, Raynes Park (gr. Mr. C. Pullen), won the 1st prize, and the 1st prizewinner of last year, W. W. CHARRINGTON, Esq. (gr. Mr. J. Prentice), was placed 3rd in this class, but was awarded the 1st prize for a group of miscellaneous plants. Madame STUART, The Convent, Roehampton (gr. Mr. A. Smith), won the 1st prizes in the classes for (1)

24 cut blooms of Chrysanthemums, (2) 12 cut blooms, (3) six yellow Japanese blooms, and four of the classes for fruit. J. A. YOUNG, Esq., Stone House, West Hill (gr. Mr. G. H. Street), had the best Chrysanthemum plants, and won 1st prizes for Potatoes and a collection of vegetables. Other winners of 1st prizes included Jas. HOOKER, Esq., Putney (gr. Mr. J. Dark), the Dowager Countess of Kintore (gr. Mr. D. Anderson), and others.

Messrs. JAS. VEITCH & SONS, Ltd., Royal Exotic Nurseries, Chelsea, contributed a large group of choice foliage and flowering plants; Mr. J. RUSSELL, Richmond Nurseries, Surrey, a group of shrubs; and Mr. R. NEAL, Trinity Road, Wandsworth, a group of plants.

WINDSOR CHRYSANTHEMUM.

NOVEMBER 6.—This annual show was held in the Albert Institute, Windsor, and was a success in every way, cut blooms especially being remarkably fine. The flowers that won the King's Cup were probably the finest shown anywhere this season in size, quality of petal, and colour. Fruit and vegetables, also miscellaneous subjects, added to the interest of the exhibition.

CUT BLOOMS.—The King's Silver Challenge Cup was the leading prize in the schedule. It was offered for the best six vases each containing five blooms of a Japanese variety. The Cup must be won three times before it becomes the absolute property of an exhibitor. Last year Prince Hatzfeldt secured the trophy, but this year he was placed 3rd. E. MOCATTA, Esq., Addlestone (gr. Mr. Stephenson), won the trophy on this occasion quite easily, making his second victory. The varieties were Leigh Park Rival (magnificently coloured), Duchess of Sutherland, F. S. Vallis (of enormous size), Reginald Vallis, Lady Talbot, and Walter Jinks. 2nd, G. F. FABER, Esq., C.B., M.P., Rush Court, Wallingford.

In the class for 18 Japanese blooms on long stems arranged in a space of 5 feet by 3 feet, with foliage plants or cut foliage, there were five entrants. E. MOCATTA, Esq., again secured the leading position with handsome blooms of popular varieties pleasingly associated with *Spirea Thunbergii*, golden-leaved Privet, and *Asparagus plumosus*. Mr. FABER followed closely.

In the class for 12 Japanese and 12 incurved blooms, distinct, a silver Challenge Cup formed part of the 1st prize, for which four growers competed. G. B. FORTESCUE, Esq., Dropmore, Maidenhead (gr. Mr. C. Page), won the 1st prize easily with handsome examples of F. S. Vallis, W. Etherington, Edith Smith, Splendour, R. Vallis, Lady Talbot, W. Jinks, and others.

There was a class for 12 Japanese blooms arranged in a vase with any natural foliage, and this made a pleasing display that demonstrated the value of large Chrysanthemums for decorative purposes. Mr. FORTESCUE was 1st with handsome flowers and richly-tinted sprays of Guelder Rose foliage. 2nd, Mrs. GOODLAKE (gr. Mr. H. Hearn).

GROVES OF CHRYSANTHEMUMS in pots were not numerous, although those seen were of much interest. Mrs. E. B. FOSTER, Clewer Manor (gr. Mr. W. Cole), won in the large-flowered section with well-grown plants neatly arranged, and bearing handsome blooms.

Two groups of single-flowered varieties not disbudded made an interesting display, and showed well the value of this section of the flower for decorative purposes. F. RICARDO, Esq., Old Windsor (gr. Mr. E. West), won the 1st prize.

DERBY GARDENERS.

NOVEMBER 6, 7.—This association held an exhibition at the St. James' Hall on these dates. In spite of the difficulties the promoters had to encounter through the hurriedly-arranged show, the parent society having met with disaster, the exhibition was successful. Decorative exhibits were abundant; cut blooms were, however, not numerous, the flowers of local growers having suffered from damp. The groups of Chrysanthemums made an effective display. Sir EDWIN ANNS (gr. Mr. Daines) secured the 1st honours, being closely followed by Councillor FLINT.

Table-decoration presented a charming sight,

the 1st prize being taken by Mrs. FLINT. Table plants exhibited by Mr. J. EVANS, Chaddesden Hall, were very choice; likewise bouquets staged by Mr. J. WOOD.

The Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), showed a collection of fruit the display being a great attraction. Mr. SHAMROCK put up a splendid group of Carnations, edged with Cyclamen; also a group of Begonias. Mr. JOE KING furnished many decorative flowering and foliage plants.

The leading class for cut blooms was one for 12 Japanese Chrysanthemums, the premier position being won by Mr. J. EVANS; 2nd, Mr. F. MEAKIN. Mr. EVANS also led in the class for 12 incurved varieties. The arrangements were admirably carried out by Mr. W. Garton, the hon. secretary.

GLOUCESTERSHIRE FRUIT AND CHRYSANTHEMUM.

NOVEMBER 9.—The 45th annual exhibition of the Gloucestershire Root, Fruit and Grain Society was held on the above date in the Corn Exchange, Gloucester. As showing the rapid strides made by this society in the West of England, it may be stated that in 1894 there were only 50 classes in the schedule and 300 entries. On this occasion there were 116 classes and nearly 700 entries.

In the classes for Chrysanthemums the chief prizes were won by Mr. JAS. HORLICK, Cowley Manor (gr. Mr. M. Maddocks), Sir HUBERT PARRY, Highnam (gr. Mr. H. Berry), and Mr. W. NEATH BAKER (gr. Mr. J. Alpin).

The fruit classes were particularly well filled, and some magnificent specimens, both of culinary and dessert fruit, were shown. In the Apple and Pear classes the principal prize-winners were Messrs. D. PHELPS, Tibberton; Col. HENRY, Ledbury; M. K. M. POWER, Ross; A. HARRIS, Quedeley; W. G. CANNING, Hartpury; JAMES HITCH & SON, Shurdington; W. S. R. COX, Ross; Sir WILLIAM STARLING, Bart., Stanley Park; J. R. BENNETT, Claxhill; Sir WILLIAM WEDDERBURN, Bart., Meredith; and Sir HUBERT PARRY.

The champion pear, a silver cup presented by Mr. Henry Terrell, K.C., awarded to the competitor gaining the highest number of points, was won by Mr. H. DENT, Brocklehurst, Sudeley Castle.

WEST OF ENGLAND CHRYSANTHEMUM.

NOVEMBER 10.—This society held an extremely successful exhibition in the Guildhall, Plymouth, on this date. The cut blooms attained a high standard of merit. In the premier class for 48 Japanese blooms the competition between Mr. W. T. HENDERSON and Mr. C. J. ASHURTON was extremely close, but the result was in the order of their names. Fine blooms in the winning stand were F. S. Vallis, Mme. G. Rivoli, Algernon Davis, J. H. Silsbury, and Valerie Greenham. In the class for 24 Japanese blooms the position of these two competitors was reversed. The display of fruit was probably the finest that has ever appeared at the Guildhall, the entries being very numerous, and the Apples and Pears very large and highly coloured, while some of the Grapes were magnificent. Showy bouquets and floral decorations contributed to the attractions of the show, and the 1st prize collection of salads, occupying spaces of 4 feet by 3 feet 6 inches, and containing almost 50 varieties, proved a great centre of interest. The groups of Chrysanthemums were confined to single varieties, and were, therefore, far lighter in appearance than in the past, when heavy show blooms were introduced into them. Many classes were provided for residents within a radius of 15 miles of Plymouth, as well as for amateurs and cottagers.

The principal prizewinners in the competitive classes were Mr. W. IGGULDEN, Exors. of Lady ASHURTON, the Rev. T. SHEPHERD, the Rev. S. BARING-GOULD, Messrs. WEBBER & SONS, Mrs. BAINBRIDGE, Mr. J. HANNAFORD, Mr. C. BEWES, Mr. C. FINCH, and Dr. BURKE.

The chief prizes for fruit and vegetables were won by Mr. B. H. HILL, but the Earl of MORLEY, General Sir R. POLK-CAREW, the Earl of MOUNT EDGEMOUNT, and the Earl of DEVON were also winners in the fruit classes.

Messrs. ROBERT VEITCH & SON, Exeter, showed a collection of winter-flowering Carnations, also many berry-bearing shrubs and other plants. The DEVON ROSE, Torquay, staged a fine display of Apples. Messrs. HEATH & SON, Chesham, exhibited a representative collection of scented-leaved Pelargoniums, also Orchids and Carnations.

CORN EXCHANGE CHRYSANTHEMUM.

NOVEMBER 11.—The annual exhibition held on behalf of the funds of the Corn Exchange Benevolent Society took place on this date in a room adjoining the Corn Exchange, Mark Lane, London. There was a fair number of exhibitors, but the competition was not so keen as could be desired.

In the class for 12 Japanese blooms, distinct, the 1st prize was worthily awarded to E. MOCATTA, Esq., Woburn Place, Addlestone (gr. Mr. Thos. Stephenson), for a very fine set of blooms, consisting of Lady Talbot, Mrs. W. Knox, Leigh Park Wonder, Reginald Vallis, and other important varieties. The group was awarded a Silver Challenge Cup. 2nd, W. R. CLARKE, Esq., Debden Hall, Loughton (gr. Mr. F. King). There were six competitors in this class.

The keenest competition was in the class for six large Japanese blooms arranged in a vase. There were nine exhibitors, and the 1st prize was secured by C. B. GARRILL, Esq., who had good blooms of F. S. Vallis; 2nd, WICKHAM JONES, Esq., South Norwood.

For a collection of single Chrysanthemums, arranged in a vase, E. MOCATTA, Esq., won the 1st prize.

ALFRED BOVILL, Esq., Dunmow, was awarded the 1st prize for a basket of fruit. The best black Grapes were shown by F. W. SMITH, Esq., Dunnevan, Outlands Park (gr. Mr. H. Haskell).

READING CHRYSANTHEMUM.

NOVEMBER 11.—The usual autumn show was held in the Town Hall, two large rooms being occupied by the exhibits. In each case in the competing groups the plants and flowers were packed much too closely and stiffly. Only two large groups were in competition for the Challenge Cup, the first place being taken by the President, S. B. JOEL, Esq., of Maiden Frleigh (gr. Mr. Johnson), who had much the better flowers; 2nd, C. E. KEYSER, Esq., Aldermaston Court (gr. Mr. A. Galt). There were three smaller groups, each arranged too solid and most inartistic.

Messrs. SUTTON & SONS set up a large group of single-flowered Chrysanthemums raised from seed sown last spring, the plants being shown in carrying numbers of light, elegant blooms. There were several groups of Zonal Pelargoniums in small pots arranged on a table; the best of these came from Lady COOKE, Reading (gr. Mr. J. Wynni). In competition for prizes offered by Messrs. Sutton & Sons for seedling-raised Chrysanthemum plants, the first of these was taken by Mr. PERKINS, of Greenlands Gardens, Healey-on-Thames.

Cut blooms.—Very fine and well-finished blooms were the 24 incurved Chrysanthemums shown by Mrs. GRISTIE, Winklesham (gr. Mr. W. Wilson). A. TATE, Esq., Leatherhead (gr. Mr. W. Mease), won the 2nd prize with larger flowers that lacked refinement. For 12 incurved blooms C. T. CREWS, Esq., Billingsbear Park (gr. Mr. Ashman), was placed 1st. Mr. MEASE won in the class for one variety having fine blooms of Clara Wells. The Silver Medal given by S. B. Joel, Esq., for the best flower in the show was awarded to a specimen of the variety C. H. Curtis. Japanese blooms were shown in large numbers, the best in the class for 24 blooms being shown by A. C. HANDMERLEY, Esq., Bourne End (gr. Mr. Waller). He had capital flowers of Leigh Park Wonder, J. E. Dennis, Mme. Carnot, W. A. Etherington, Reg. Vallis, and other popular kinds. 2nd, Mr. MEASE. For six Japanese blooms of one variety G. W. AYRES, Esq., Mortimer (gr. Mr. Sherlock), was 1st, having fine F. S. Vallis. Mr. WILSON set up the best 12 Japanese blooms, while Mr. WALLER was an easy 1st in the class for six vases of large blooms. Twelve bunches of single Chrysanthemums formed a strong feature. Mr. A. G. NICHOLS, of Strathfieldsaye

Gardens, secured the 1st place with a very bright display. 2nd, Mr. SHERLOCK.

Fruit formed a very large feature at this show, and the competition was generally good. Mr. NICHOLS was 1st in most of the Grape classes. Mr. COOTE won the 1st prize for Lady Downes variety and also 2nd prize in three other classes. Dessert Apples were shown in great numbers, Mr. JOHNSON, Mr. NICHOLS, Mr. ASHMAN, and Mr. F. SCUTTER being prominent exhibitors.

Mr. GARDENER put up the finest eight dishes of Pears, having excellent samples for a rather bad Pear season; and H. F. SUTTON, Esq., Reading (gr. Mr. Wicks), had the best four dishes of these fruits.

Mr. C. FOSTER, University College Gardens, arranged a collection of singularly beautiful Apples, and some cut Chrysanthemums arranged in vases. Floral decorations came from Mr. G. PHIPPE, Mr. S. J. VINDAR, and Messrs. POWELL & SONS, all of Reading.

WOOLTON CHRYSANTHEMUM.

NOVEMBER 11.—The tenth annual show of this society was held in the Church Hall, which is an admirably-lighted building.

The entries were slightly fewer than usual, but in some classes the quality was of the best. This was especially noticeable in the class for large cut blooms, in which five exhibits were staged.

W. TON, Esq. (gr. Mr. G. Eaton), won the 1st prize in the class for 24 Japanese Chrysanthemums in not fewer than 18 varieties with excellent blooms, including Mrs. C. Penfold, for which he received the N.C.S. Certificate as being the best Japanese bloom in the show. The other prizewinners in this class were Lieut.-Col. J. B. GASKELL (gr. Mr. J. Stoney) and THOS. CLARKE, Esq. (gr. Mr. J. Clarke). The best 18 blooms of Japanese varieties, distinct, were shown by Sir W. H. TATE, Bart. (gr. Mr. G. Haigh), while in the class for 12 varieties P. W. BARR, Esq. (gr. Mr. T. Keightley), was placed 1st.

Mr. J. STONEY won the leading position for 18 incurved varieties, but Mr. J. CLARKE, who was 2nd, had the premier bloom in his example of Buttercup.

For nine vases of single varieties, nine flowers in each vase, Mr. H. HOWARD was awarded the 1st prize for fresh, well-grown blooms, but their beauty was somewhat marred in their being staged too high. Mr. G. EATON won the 2nd prize in this class with a charming lot.

Mr. W. Wilson (gr. to W. CUNNINGHAM, Esq.) led in the class for three vases of single varieties.

Chrysanthemums in pots are always shown well at this exhibition. For three Japanese plants of Chrysanthemums Mr. W. WILSON secured the premier award; also for one incurved, one reflexed, and one pompon variety. The best plant of a variety of single Chrysanthemum was won by A. E. E. E. Esq. (gr. Mr. T. Hitchman); while the best plant of an Anemone flowered variety was shown by Mr. T. KEIGHTLEY.

In the classes for miscellaneous plants the principal prizewinners were Mr. T. HITCHMAN, Esq., Mr. G. HAIGH, J. W. HUGHES, Esq. (gr. Mr. J. McColl), Mr. G. EATON, and Mr. J. STONEY.

In the fruit classes the best black and the best white Grapes were shown by Col. R. IRELAND-BLACKBURN (gr. Mr. A. Evans). This exhibitor also secured the leading award for three dishes of dessert and three dishes of culinary Apples, also for one dish of stewing Pears.

Mr. T. KEIGHTLEY showed the best collection of vegetables.

CHESTER PAXTON.

NOVEMBER 11, 12.—The 20th annual exhibition of this society was held in the Town Hall, Chester, on these dates. The number of individual exhibitors and also the number of entries exceeded those of previous years, and the attendance of the public was satisfactory. The 1st prize for a group of single Chrysanthemums was won by F. B. SUMMERS, Esq., Bache Hall (gr. Mr. E. Stubbs), last year's 1st prizewinner. Dr. LAURENCE, of the County Asylum, being placed 2nd. The president of the society, T. GRIMMOND, Esq. (gr. Mr. T. Gibb), was awarded the 1st prize for a group of mixed Chrysanthemums; 2nd, Mr. JOHN M. SPEDD,

Tattenhall (gr. Mr. Green). Only one entry was received in the class for a group of Japanese and incured varieties, the exhibitor being Mr. E. STUBBS, Bache Hall. The group was awarded the 1st prize. Some excellent cut blooms of Japanese and incured varieties were shown, but the number of single varieties exceeded these considerably. The Champion Prize and Medal for the best 24 dishes of Apples was awarded to Mrs. PITCAIRN CAMPBELL, Christleton Hall (gr. Mr. John Weaver); 2nd, Mr. J. SAUNDERSON. In the cottagers' classes some excellent Apples were shown. Trade exhibits of Chrysanthemums were put up by Messrs. DICKSONS, LTD., Chester, Messrs. COLEMAN, Ayrincham, Messrs. McHART & Co., Chester, Mr. F. W. DUTTON, Chester, and Mr. JOHN KIRK.

BRITISH GARDENERS' ASSOCIATION. (LONDON BRANCH.)

NOVEMBER 12.—The third monthly meeting of the winter session was held at Carr's Restaurant on this date, Mr. E. F. Hawes presiding. It was resolved at the general meeting that all members of this branch should contribute 1s. annually to the Journal Fund. At the close of the ordinary business a paper entitled "Famous Old-time Gardeners," illustrated by limelight views, was given by Mr. J. Harrison Dick.

ANCIENT SOCIETY OF YORK FLORISTS.

NOVEMBER 11, 12.—The twenty-ninth annual Chrysanthemum show held in conjunction with this society took place on these dates. Taking the exhibits as a whole, they compared very favourably with those of previous years. The building at York in which this show is held is very suitable for the purpose. The floral exhibits are arranged on the ground floor, and the fruit and vegetables in the galleries.

In the class for a group of Chrysanthemums, interspersed with other foliage plants, there were four competitors, two of the exhibits being very good. The 1st prize was awarded to the HENRIKSSON HOTEL, LTD., Harrogate (gr. Mr. Hanchant), the exhibit being a very fine one. The 2nd prize also went to an exhibitor from Harrogate, Mr. S. SPENCER (gr. Mr. Pettinger), whose plants forming the background were not so good as his Chrysanthemums.

For a group of Chrysanthemums arranged for effect the 1st prize was awarded to Mr. J. W. HIELDS, Acomb, York, for a capital exhibit of well-grown plants. The same exhibitor won the 1st prize in a class confined to amateurs for a group of plants, and the 2nd prize for a pillar group of Chrysanthemums, a somewhat novel but artificial arrangement, and one that it is only possible to stage in a high building. Messrs. THEAKSTONE & SONS, florists, York, were awarded the 1st prize for a very effective exhibit; 2nd, Mr. G. COTTAM, Cottingham, Hull. There was good competition in the classes for incured Japanese, and single Chrysanthemums as pot-grown plants, though the exhibits were not up to the standard of some few years ago. Mrs. GUTH (gr. Mr. T. D. H. Hodge, York), showed well-grown plants in these classes.

The exhibits of cut flowers were very good, especially in the classes for Japanese varieties. For 36 blooms the Marquis of NORTHAMPTON (gr. Mr. Searle) won the 1st prize with a fine array of flowers of leading varieties; 2nd, Mr. W. IGGULDEN, Frome, Somerset. For 18 blooms in not fewer than 12 varieties the Earl of FEVERSHAM (gr. Mr. Williams) was placed 1st. He also secured the same position in the classes for 12 and six blooms of one variety. Capt. HAYCOCK, Wiseton Park, Bawtry (gr. Mr. Musk), was also a successful exhibitor in these classes.

The exhibits of fruit were, on the whole, very good, and Apples in particular. For six bunches of Grapes in three varieties Lord HOTHAM, Dalton Hall, Hull (gr. Mr. Jackson), was a good 1st with Black Alicante, Mrs. Pearson, and splendid bunches of Muscat of Alexandria. The same exhibitor was 1st in the class for six dishes of dessert fruits. For two bunches of black Grapes the Hon. F. F. WOOD (gr. Mr. Dawes) was awarded the 1st prize for Gross Colmar. Lord HOTHAM won in the class for white Grapes. There was keen competition in the classes for

Apples and Pears, Capt. LAYCOCK, the Marquis of NORTHAMPTON, Lord DEKAMORE, Heslington, York (gr. Mr. Goodall), and Mr. J. BRENNAN (gr. Mr. Hathaway) being the most prominent exhibitors.

The vegetables were of good quality, but they were not staged so tastefully as might be desired.

STIRLING CHRYSANTHEMUM.

NOVEMBER 12, 13.—The 19th annual show of the above society took place in the Albert Hall, Stirling, on these dates. Compared with those of former years, the exhibition showed a great advance in the numbers and general excellence of the exhibits. The entries were 80 in excess of those of last year. The lesser hall was requisitioned to accommodate the displays of decorated dinner tables, amateurs' plants, and vegetables.

Mr. STEWART, Dunkeld, secured the premier award of the show, the Hon. President's Cup, in competition with six other exhibitors. Last year's cup-holder, Mr. MORTON, Cullen House, Banff, followed closely, and Mr. D. CARMICHAEL was placed 3rd. Mr. JENKINS, Aberdeen, was the most successful amateur competitor.

A large number of exhibits of plants was seen, and competition in this section was unusually keen. Mr. JENNER, a Stirling amateur, secured the Corporation Cup with four well-grown specimens; 2nd, Mr. WOOD, and Mr. GRAY 3rd. Mr. GRAY led in most of the other classes for plants.

Fruit was well staged, especially fine being Apples. Mr. MORTON showed the best dessert Apples, and Mr. BLACKLOCK, Blairdrummond, was placed 1st for culinary varieties. Mr. RITCHIE won the first prize for Pears, and this exhibitor won three 1st prizes in the Grape classes. Mr. RITCHIE is retiring from his position at Polmaise, having had the care of these famous fruit gardens for more than 30 years.

VEGETABLES.—Mr. JOHN OGILVIE, Larbert, secured the premier place for a collection of vegetables. In the amateur classes Messrs. JENNER and CARRIGAN, Gargunnoch, were the principal leaders.

HONORARY EXHIBITS were staged by Messrs. DRUMMOND & SONS, Stirling, who showed some named varieties of Apples. Mr. JOHN CRAIG, Stirling, flowering and foliage plants, also floral devices. Mr. RODGER, Stirling, showed decorative foliage plants. Mrs. TASKER, Stirling, exhibited 40 varieties of Chrysanthemums, grown outside. Mr. JENNER staged large plants of Chrysanthemum Ladysmith.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL.

NOVEMBER 12, 13, 14.—It is not pleasing to record a decline in the quality of the old-established Chrysanthemum show held by this society, but the falling off was very pronounced. There was an entire absence of "trade" exhibitors.

There were 20 classes provided for in the schedule, but the entries did not average three in each class.

The principal prizewinners were JAS. BROWN, Esq., Heaton Mersey; the Executors of Lady ASHBURTON, Ronisey, Hants; W. IGGULDEN, Frome; Mr. G. W. DRAKE, Cardiff; LT. COL. GASKELL, Liverpool; Sir W. W. TATE, Liverpool; PANTIA RALLI, Esq., Epsom; E. ELLIS HESWALL, Esq., Cheshire; and Sir GILBERT GREENALL, Warrington.

NATIONAL CHRYSANTHEMUM.

NOVEMBER 16.—A meeting of the Executive Committee took place on this date at Carr's Restaurant, Strand, Mr. Thomas Bevan presiding.

An interim financial statement was presented showing a balance in hand to date. The following gentlemen were elected as judges for the December show:—Japanese and incured blooms, Messrs. Wells and Prickett; other cut blooms, Messrs. Howe and J. H. Witty; decorative classes and groups, Messrs. Felton and H. J. Jones. It was arranged that the dinner of the Floral Committee should take place at Carr's Restaurant, on December 7. Friends are invited to this festival. Twelve new Members and one Fellow were elected.

MARKETS.

COVENT GARDEN, November 18.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—E.D.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d.	s.d.	s.d.	s.d.
Acacia (Mimosae), p.doz. bunches	10-12-0	Lily of the Valley, p.dz. bunches	8-0-9-0	
Azalea, per dozen bunches	4-0-5-0	— extra quality	12-15-0	
Bouvardia, per dz. bunches	6-0-3-0	Marguerites, p.dz. bunches white and yellow	2-0-3-0	
Calla aethiopica, p. dozen	3-0-4-0	Mignonette, per dozen bunches	2-0-3-0	
Camellias, per doz. bunches	1-0-2-0	Narcissus, Paper-white, per doz. bunches	2-0-3-6	
Carnations, per dozen blooms, best American varieties	2-0-2-6	Odontoglossum crispum, per dozen blooms	2-0-2-6	
— second size	1-0-2-0	Felargoniums, show, per dozen bunches	5-0-6-0	
— smaller, per doz. bunches	0-10-12-0	— Zonal, double	8-0-10-0	
Catleyas, per doz. blooms	8-0-10-0	Roses, 12 blooms, Niphetos	1-0-2-6	
Chrysanthemum specimen blooms p.doz.	2-0-3-0	— garden daisy	2-0-3-0	
— smaller, per doz. bunches	5-0-12-0	— C. Testout	2-0-3-0	
Cypripediums, per dozen blooms	2-0-2-6	— Kaiserin A. Victoria	2-0-3-0	
Eucaris grandiflora, per doz. blooms	2-0-3-0	— C. Mironet	2-0-3-0	
Gardenias, per doz. blooms	2-0-3-0	— Liberty	3-0-5-0	
— smaller, per doz. blooms	2-0-3-0	— Miss Chateau	2-0-3-0	
Hyacinths (Roman) per doz. bunches	6-0-9-0	— The Bride	1-6-2-6	
Lilac (French) per bunch	2-0-3-0	Spiraea, per dozen bunches	5-0-8-0	
Lapagerias, p. doz.	1-6-2-0	Statice, per dozen bunches	2-0-3-0	
Lilium auratum, per bunch	2-0-3-0	Stocks, double white, per doz. bunches	3-0-4-0	
— longiflorum	3-0-4-0	Tuberose, per doz. bunches	0-3-0-4	
— laurifolium, per bunch	1-0-1-6	— on stems, per bunch	0-9-1-3	
— album	2-0-3-6	Viola, per dozen bunches	1-6-3-0	
— tigrinum	1-6-2-0	— Parmas, p.bch.	2-6-3-6	

Cut Foliage, &c.: Average Wholesale Prices.

	s.d.	s.d.	s.d.	s.d.
Adiantum cuneatum, dz. bchs.	4-0-6-0	Hardy foliage (various), per dozen bunches	2-0-6-0	
Asparagus plumosus, long trails, per doz.	0-10-12-0	Honesty (Lunaria), per bunch	1-0-1-6	
— medium	0-10-12-0	Ivy-leaves, bronze	2-0-2-6	
— bunch	0-9-1-6	— long trails per bundle	0-9-1-6	
Berberis, per doz. bunches	2-6-3-0	— per doz. bunches	1-6-2-6	
Croton leaves, per bunch	1-0-1-3	Moss, per gross	4-0-5-0	
Cycas leaves, each	1-0-1-3	Myrtle, dz. bchs., (E. O. 1st h.)	4-0-6-0	
Ferns, per dozen bunches (English)	2-0-3-0	— small-leaved	4-0-6-0	
— (French)	0-6-0-9	French	1-0-1-6	
Grasses, dz. bchs.	1-0-2-6	Physalis, per dozen bunches	4-0-6-0	
		Smilax, p.dz. trails	8-0-5-0	

Plants in Pots, &c.: Average Wholesale Prices.

	s.d.	s.d.	s.d.	s.d.
Amelopsis Veitchii, per doz.	6-0-8-0	Erica gracilis nivalis, per doz.	15-0-18-0	
Aralia Sieboldii, p. dozen	4-0-6-0	— byemalis, p.dz.	9-12-0	
— larger specimens	9-10-12-0	Eunonymus, in pots	4-0-9-0	
— Moseri	4-0-6-0	— from the ground	3-0-6-0	
Araucaria excelsa, per dozen	12-0-30-0	Ferns, in thumbs, per 100	6-0-10-0	
Aspidistras, p.dz., green	15-0-24-0	— large 60's	12-0-30-0	
— variegated	13-0-12-0	— in 48's, per doz.	4-0-10-0	
Asparagus plumosus, per dozen	9-0-12-0	— variegated	10-0-13-0	
— Sprengeri	6-0-9-0	Ficus elastica, per dozen	8-0-10-0	
— tenuissimus	9-0-12-0	— repens, per dozen	4-0-6-0	
Azaleas (Indian), p. dozen	30-0-42-0	Isoplexis, per dozen	4-0-6-0	
Begonia Gloire de Lorraine, p.dz.	9-0-18-0	Kentia, Belmonte, per dozen	18-0-30-0	
Boraginas, per dz.	9-0-18-0	Latania borbonica, per dozen	12-0-18-0	
Chrysanthemums, per dozen, best disbudged	9-0-12-0	Lilium longiflorum, per doz.	12-0-18-0	
— from out-of-doors	5-0-8-0	— longiflorum, per doz.	10-0-18-0	
Clematis, per doz.	5-0-8-0	Lily of the Valley, per dozen	18-0-30-0	
Crocus Weddelliana, per dozen	18-0-30-0	Marguerites, per dozen	5-0-9-0	
Crotons, per dozen	18-0-30-0	Pelargoniums, per dozen	8-0-6-0	
Cyclamen, pr. doz.	10-0-12-0	Poinsettias, pr. dz.	12-0-18-0	
Cyperus alternifolius, dozen	4-0-6-0	Reos Madame Lezay, per doz.	12-0-18-0	
Cyrtus laxus, per dozen	4-0-6-0	Sela-cinella, per dz.	4-0-6-0	
Dracenas, per doz.	9-0-24-0	Solanums, per doz.	8-0-10-0	
Erica gracilis, per dozen	12-0-15-0	Spiraea japonica, per dozen	6-0-10-0	

Fruit: Average Wholesale Prices.

Apples, Foreign	s.d.	s.d.	Lemons (Naples).	20-23 0
California			Limes	2-6 1-0
(Newtown) Pippin,			Lyches, per box...	1-0 1-5
per case, 4			Mangoes, per doz.	3-0 6-0
tiers ...	9-0 10-0		Medlars, per case	4-0 5-0
4 tiers	7-6 3-0		Newtown Pippin,	
(Nova-Scotian),			per case	7-0 3-0
per barrel...			Nuts, Almonds, per	
Robinson Pippin	12-0 16-0		box...	45-0
King of Tomlin-			—Brazil, new...	45-0 50-0
kin's County...	13-0 17-0		—Grenobles, per	
Blenheim Pippin	13-0 15-0		bag...	5-0 6-6
York Imperials	18-0 20-0		(French), per	
Baldwin	15-0 16-0		bag...	8-0 10-0
English, per			—Doubles, per lb.	3-0 12-0
bushel...			—Barcelona, bag	10-0 14-0
Blenheim Pippin			Cocoa nuts, 100	11-0 14-0
per bushel...	2-6 4-0		lbs. per dozen	12-0 15-0
King of the			—lbs.	12-0 15-0
Pippins	2-6 4-0		—Chestnuts, per	
Pear good's			bag...	7-0 10-0
Nonesuch	3-0 4-6		(Italian), p. bag	10-0 10-0
Ecklinville			Oranges (Naples),	
Seedling	2-0 2-6		per case	8-0 10-0
Braconley			(Italian), p. bag	9-0 10-6
Seedling	3-0 4-6		case	9-0 10-6
Lord Derby	2-0 3-6		Washington	
Lord Suffield	3-0 3-6		Napels (Natal),	
Warner's King	3-0 3-6		per case	13-0 15-0
per sieve:			California	
Cox's Orange			seedless, per	
Pippin	2-6 6-0		case	11-0 15-0
Do, per box of			(Cape Naart-	
2 doz. selected	2-0 3-0		ies), p. box, 30	1-6 2-6
Do, per tray	2-6 4-6		do, per box	6-6 3-0
Windfalls, per			Pears, Pitamond	
bushel...	1-0 1-6		Duchess, per	
Ram, bunch:			bushel...	4-0 7-0
No. 3 Canary...	6-6		—Do, per tray...	2-6 4-6
No. 1 "	6-6 8-0		—Clapp's Favorite	
Extra "	8-0 9-0		per bu. bel	5-0 7-0
Claret "	5-0 7-6		English, per	
(Claret)	5-0 7-6		case...	5-0 6-0
Jamaica	5-0 5-6		(U.S.), per box	4-0 5-6
—do, per doz.	0-4 1-0		per bushel...	15-0 18-0
Crabapples, p. case	4-6 9-0		(French), Duch-	
es (Tunis), per			ess, crate	9-0 10-6
dozen boxes	5-0 5-3		(French), p. c.	
Figs (Italian) (12)	0-6 10-0		Beurre Magni-	
(12)	0-6 8-0		fic, per crate	6-0 8-6
Grape Fruit, case	10-0 12-6		(French) Louis-	
es (English),			es, crate	7-0 8-0
per lb.	0-6 1-6		(French), Doy-	
Hambros	0-6 1-6		enne du Com-	
Gros Colmar	0-6 1-6		ice, crate	7-0 10-0
Alicante	0-7 1-0		(California), p.	
Muscats	1-0 3-6		case	7-0 10-0
Canon Hall			Pineapples, each...	2-0 4-0
—do, case	1-6 4-0		Pinus (4000	
(Lisbon), case	7-0 9-0		nian), per box	5-6 6-6
(Guernsey)	0-4 0-9		Pomegranates, per	
(America),			case	7-6 8-6
per barrel	10-0 18-0		per box	2-0 2-6
Grenadilla, p. doz.	1-6 2-0		Perismon, p.	
Lemons:			box	0-9 2-0
Malaga, case...	13-0 17-0		Quinces, per sieve	3-0 4-0

Vegetables: Average Wholesale Prices.

	s.d.s		s.d.s
Artichokes(French), per dozen	1-6 2-0	Endive, per dozen	1-6 2-0
Asparagus, per bundle:		Horseradish, forain, per doz.	
— Spruce	0-7 0-8	— bundles	12 0 15 0
— Paris Green	3-6 4-3	— Lettuce, 12 bunches	0 9 1-0
Aubergines, p. doz.	1-6 2-0	— Lettice (French), per dozen	0 10 1-0
Beans— — (French), p. lb. (Guernsey), per lb.	0-6 0-8 0-8 0-9	Marrow (English), per doz.	1 0
Beetroot, per bushel	1 3	Mint, per doz. bchs.	6 0
Brussel Sprouts, 4 bushel...	2 0	— Mustums, per lb. — broilers	1 0 0 10
Cabbages, per tally	9 0	— buttons, per lb.	1 0
— per mat	1 0	Mustard and Cress, per dozen pun.	1 0
— greens, p. bus.	0 6 0 8	Onions, per bag	10 0
Carrots (English), dozen bunches	2 0	(Valencia), case	10 0 11 0
— washed, bag	2 0 3 0	Dutch, per bag	8 0 9 0
— unwashed	1 6 1 9	— pickling, per bushel...	4 6
Dutch, p. bag	1 6	Parsley, 12 bunches	1 0 2 0
Cardewers, per dozen	2 6	Parsnips, per bag	2 0
— per tally	6 0 10 0	Salsify, p. dz. bdls.	4 0 4 6
Celery, per roll	0 11 1 0	Spinach, p. basket	2 0 2 6
— unwashed, per dozen	7 0 10 0	Tunips, per dozen bunches	1 0
Celeriac, per doz.	2 0 2 3	— washed, p. bag	1 6
Chow Chow (Sec- hum edulo), p. dozen	4 0 6 0	Tomatoes (English), per 12 lbs.	1 0
Cucumbers, per dz.	2 0 3 0	— yellow...	4 0
— per flai (3 doz.)	7 6	red	10 0 4 6

REMARKS.—The Grape trade has slightly improved, especially for Black Alicante. Almeria Grapes are arriving in a very good condition, and are a little firmer in price. The last consignment of Oranges from Jamaica arrived in a very green condition, and, in consequence, they did not meet with a good demand, but best coloured fruit are valuable. Amongst Apples, Californian Newtown Pippins are good. The total arrival of this fruit was 7,000 cases, and the market is firm. The "Kanawha" arrived on Sunday last with 22,000 barrels of Nova Scotia Apples on board; these proved to be a very good sample, but owing to the depression in trade they only met with a medium market. The "Adelaide" arrived yesterday with a consignment of 3,000 cases of Pears from Australia, comprising the varieties Doyenne du Comice, White Doyenne, Ester Beurre, Winter Nellis, and other kinds. Prices ruled much higher for best Pears. Trade generally quiet. *F. H. R., Covent Garden, Wednesday, November 18, 1898.*

Potatoes.

	s.d.	s.d.		s.d.	s.d.
Kenis—			Lincolns—		
Snowdrop	4-0 4-3		Sharpe's Express	3-3 3-6	
Sharpe's Express	3-3 4-0		Evergood	2-9 3-0	
Epique	3-3 3-6		Beaumont	2-6 2-9	
Up-to-Date	3-6		Up-to-Date	2-6 3-0	
Epique	2-9 3-0		Rouge	2-9 3-0	
British Queen	3-0 3-6		Dunbars	2-6 2-9	
Up-to-Date	3-0 3-6		Up-to-Date, red soil	4-0 4-6	
Minipour	3-6 3-9		grey soil	3-3 3-6	

REMARKS.—Prices have not changed since last week and trade generally is about the same. *Edward J. Newborn, Covent Garden and St. Pancras, November 18, 1898.*

COVENT GARDEN FLOWER MARKET.

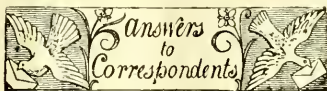
A person interested in both buying and selling has remarked that the prices I quote are always inaccurate. They are obtained from growers, salesmen, commission agents (who both buy and sell), and large buyers, the price lists of plants and flowers being compiled as carefully as possible; but the prices must always be considered approximate only. Those who receive to sell on commission prefer the prices put at the minimum, while those who purchase for provincial traders like the prices given at the maximum. As an instance of how prices fluctuate, fairly good Chrysanthemums in pots may be bought at 6s. per dozen, but extra fine specimens are worth 24s. or 30s. per dozen.

CUT FLOWERS.

Hardy flowers are past or almost so. Single Chrysanthemums are pretty and in demand for florists' purposes. There is little demand for extra large blooms, those of medium size with good stamens and most favour. Lilies are likely to advance in price, for growers will keep back their flowering as much as possible for the Christmas trade. Roses continue plentiful, there being large consignments received from France. Narcissi, Soleil d'Or and Paperwhite, Crimson Ranunculus and "Mimosa" (Acacia) are seen in the foreign flower market. Candelabras are plentiful, also Azalea Fielder. Stocks of Violets are not so large, but they have been rather overabundant this season.

POT PLANTS.

Indian Azaleas, in white, pink and red colours, are well flowered. A noticed white variety of *Koss Madame Levasseur*. Cyclamen are seen on several stands, also Poinsettias. Begonia Gloire de Lorraine is at issue, also the varieties *Reis Leopold de Rothschild* and *Tarnford Hall*. Solanums are plentiful and generally of good quality. Hardy trees, Conifers, climbers, &c., are seen in large quantities. Ferns are abundant and cheap. *A. H., Covent Garden, Wednesday, November 18, 1898.*



ADDRESS: Mrs. K. L. Your letter has been forwarded to the Rev. G. H. Engleheart.

AMERICAN BLIGHT ON APPLE TREES: T. D. Spray the trees with the caustic alkali wash. See reply to W. C. R., p. 335, in the issue for November 7. Place some mats under each tree as it is sprayed to protect the hardyaceous plants, or cover them with a few inches of soil.

BOWLING GREEN: J. G. B. Details were given in the issue for August 29, p. 176.

BUDDLEIA VARIETIES: B. W. (Cotnam).—This plant is not hardy in all districts, and although it will succeed in favoured situations, it will certainly be injured during periods of very severe frosts.

CYANIDING A PLANT-HOUSE AND VINERY: A. J. The answer to your query is given in the issue for November 7, page 336. The quantity (?) is per 1,000 cubic feet.

DESIGNS FOR FLOWER-BEDS: Anxious. We believe Messrs. Cannell & Sons, of Swanley, publish a book of designs, but in order to become proficient in forming your own plans it will be necessary to have some knowledge of geometry. A simple text book on geometry may be purchased cheaply from the scholastic publishers.

EXAMINATION OF THE ROYAL HORTICULTURAL SOCIETY: E. C. S. Apply to the secretary of the Society, Royal Horticultural Hall, Vincent Square, Westminster. Advertisements appear from time to time in these pages from persons willing to coach candidates by correspondence.

GLADIOLUS SEEDLINGS: B. P. As these are choice varieties your better plan is to lift them now and to store them in sand or dry earth. With the ordinary varieties it would

suffice to protect them with a layer of ashes or straw, but as you are especially desirous of saving your new varieties, it will be well not to risk them in the open all the winter.

GRAPES SHANKING: G. Shankling is usually the result of a defective border, but it may be brought about by some other cause which gives the vines a check. During the coming season overhaul the borders and see that the compost is sweet and the drainage satisfactory. The Peaches, we suspect, were overfed and too liberally watered. The sewage, if placed on the border before it was properly fermented, would be harmful. We advise an application of lime in the form of old mortar rubble, which will act as a corrective if the soil is sour, and lime is, in any case, beneficial to all stone fruits. The top layer of soil might also be removed and renewed.

GRASS WITH FUNGUS: A. W. G. The growth upon the grass consists of the fructifications of *Phystrum cinereum*, one of the myxomycetes or slime fungi. The fructification itself is composed of a great number of sporangia, each filled with violet-brown spores. These organisms in the vegetative state form creeping plasmodia, and the sporangia of some species are frequently to be found amongst damp, and especially rotting vegetation.

HYACINTHS IN BOWLS: Macdon. Use moss fibre with which has been mixed a considerable quantity of ground shell. Place some lumps of charcoal in the bottom of the bowls, and after the compost has been thoroughly wetted plant the bulbs, using large ones for the purpose. No water will be required for some time afterwards, but the moss fibre should never be allowed to become dry.

NAMES OF FRUITS: N. E. T. 1, Kedleston Pippin; 2, Gravenstein; 3, Broad-Eyed Pippin; 4, Yorkshire Beauty; 5, Gravenstein; 6, Sturmer Pippin; 7, Melon Apple; 8, Worcester Pearmain; 10, Tom Putt; 11, Lodgement Nonpareil; 12, a deformed fruit, not recognised.—T. H. 1, Blenheim Pippin; 2, Baxter's Pearmain; 3, White Nonpareil; 4, Gipsy King; 5, Leon Leclerc de Laval-F. H. Channell. J. G. Minchall Crab.—J. N. Radford Beauty.—W. A. 1, American Mother; 2, King of the Pippins; 3, Wiltshire Defiance; 4, Brownlee's Russet; 5, Dean's Codlin.—Jarman. 1, Rymer; 2, French Crab.—A. Reader. 1, Tower of Glamis; 2, Lane's Prince Albert; 3, Early Red Calville; 4, Round Winter Nonesuch; 5, Lord Suffield; 6, Cellini Pippin; 7, Queen Caroline; 8, Golden Noble.

NAMES OF PLANTS: C. H. We do not undertake to name varieties of Chrysanthemums.—G. B. M. K. *Cyperus longus*, but it is not from Japan.—C. E. J. 1, Clematis paniculata; 2, *Acer campestre*.—H. C. 1, *Epidemium pinnatum*; 2, *E. rubrum*; 3, *Pulmonaria saccharata*; 4, *Lygodium scandens*.—W. D. *Cotoneaster frigidus*.—F. H. 1, *Selaginella variabilis*; 2, *Pteris sulcata*; 3, *Polypodium pectinatum*; 4, *Selaginella caulescens*; 5, *Doodia aspera*.—R. O. 1, *Eria convallaris*; 2, *Oncidium flexuosum*.—J. G. 1, *Eriobotrya japonica*; 2, *Datura*; 3, *Conigera*.—Young Gardener. 1, We cannot determine this from leaf only; 2, *Camelina repens*; 3, *Nephridium Filix-mas*; 4, *Cytisium falcatum*.—A. B. *Berberis stenophylla*.—G. W. 1, *Pelargonium "Little Trot"*; 2, *Adiantum Facotii*; 3, *Acacia dealbata*; 4, *Berberis vulgaris*; 5, *Corydalis lutea*; 6, *Saxifraga hypnoides*.

PEASGOOD'S NONESUCH APPLE: J. N. It is stated in the *Fruit Manual* by the late Dr. Hogg that this variety was raised by Mr. Peasgood, of Stamford, but whether from chance seed or as the result of an arranged cross we have no information. It was given a First-Class Certificate by the R.H.S. Fruit Committee on September 18th, 1872.

COMMUNICATIONS RECEIVED.—S. T. M. thanks for your contribution of 2s. for the R.G.O.F. box.—E. S. (next week).—E. Beckett.—R. P. B.—W. Mark W.—R. W.—F. J.—W. H. G.—A. Insoll.—H. B. R.—H. B.—F. W.—J. G. R.—H. T. Bedegbury Court.—A. T. A.—S. A. F. R.—J. T.—Essex—J. C. & Co.—A. S.—Sprouts—C. P. Raffill.—F. J.—E. S.—Hans G.—T. L.—J. O'H.—R. G.—Vancouver C. H. F.—T. D.—A. L.—A. L.—A. Y.—A. L.—E. L.—W. G.—T. R.—R.—H. M.—J. B.—W. K.—E. L. H.—F. Blackthorn.



THE

Gardeners' Chronicle

No. 1,144.—SATURDAY, November 28, 1908.

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CULTURE OF FRUIT TREES IN POTS.

AN Orchard house in which all kinds of dessert fruits both in and out of season can be produced is a necessary adjunct to gardens having any pretence to completeness. This provision is by no means an expensive one, and it comes within the reach of the owners of the small and medium-sized gardens, seeing that houses suitable for the culture of fruit-trees in pots vary in prices according to the requirements of individual proprietors of gardening establishments, and may be obtained from £10 upwards. Those in possession of an unheated Orchard house may obtain supplies of ripe Apples, Apricots, Peaches, Pears, Plums, Nectarines, Cherries and Figs, not to mention Gooseberries and Currants, a few weeks earlier than the same kinds of fruits would ripen out-of-doors, and still earlier in structures in which a flow and return 4-inch hot-water pipe is provided. But it is more especially to the owners of gardens situated in the Midland and Northern counties, where the climatic conditions are unfavourable to the production and ripening of the above-mentioned fruits out-of-doors, that the possession of such a house is most essential.

A span-roofed house extending from north to south is, all things considered, the most suitable kind of structure for the culture of pot-fruit trees, seeing that the trees equally share the benefit of the sunshine throughout the day from the end of March onwards. The length, width, and height of span-roofed houses may vary, according to the requirements, from structures measuring 12 feet by 8 feet, to others 200 feet long, 30 feet wide, and 15 feet high from floor line to bottom of the ridge. However, a suitable-sized house may be found in a structure 20 feet wide inside the walls; 12 feet high from floor-line to apex, and 4½ feet high to the eaves, including 2½ feet 9-inch brick wall and front ventilating sashes 2 feet deep and about 3 feet wide, so as to correspond with the width of the two bays immediately above them in the roof. Span-roofed houses should, as a matter of course, be provided with two sets of front and roof ventilators on either side. A house of the width indicated will accommodate five rows of young pot-trees standing on the ground space between the side pathways, one row of the taller trees placed under the ridge, two of the smaller ones on either side at a little over 2 feet apart, and one row on the space between the front ventilators and the pathway, the trees in each succeeding row being set anglewise to those in the preceding row, so as to allow the individual trees room to develop, subsequently affording more standing room in proportion to the extension of the growth of the trees. Bush and pyramidal-trained trees are capable of yielding heavy crops of fine fruit at the age of three to five years from the bud and onwards, with their roots in pots ranging from 9 to 12 inches in diameter. Owing to an annual extension of branch growth many of the trees will require to be shifted into pots 15 and 18 inches in diameter. A few cordon Pears, Apples, Plums, Apricots and Cherries may be profitably grown among the bush and pyramid trees, as the single upright stems take up very little room, and, moreover, when studded with bright-coloured ripe fruits, they are very effective.

Fruiting trees of all the kinds mentioned above growing in 9-inch and 11-inch pots and well furnished with fruit buds may generally be obtained from any nurseryman having a reputation for the growth of fruit-trees in pots, at the following prices:—Apples, 3s. 6d., 5s. and 7s. 6d. each; Apricots, 7s. 6d. to 15s. each; Pears, 3s. 6d. to 7s. 6d. each; Plums, 3s. 6d. to 10s. 6d. each; Peach and Nectarines, 7s. 6d., 10s. 6d., 15s., to 21s. each; Figs, 5s. 6d. to 10s. 6d. each.

Varieties of the several kinds of fruit that are known to fruit well in pots should be selected for pot-culture, although for the matter of that, most if not all, cultivated varieties of the respective kinds, even shy-bearing varieties, will be found to fruit freely enough when subjected to pot-culture, as with such restricted root-space the trees necessarily make short-jointed growth and become well furnished with fruit buds. Mention may be made of a few selected varieties of the respective kinds for the guidance of beginners and amateur fruit-growers who may contemplate the culture of fruit-trees in pots. *Apples*: Allington Pippin, Bismarck, Baumann's Red Reinette, Beauty of Bath, Astrachan Red, Cox's Pomona, Cox's Orange Pippin, Emperor Alexander, James Grieve, King of the Pippins, Cellini, Lady Sudeley, Peasgood's Nonesuch, Wealthy, Worcester Pearmain and Lane's Prince Albert. *Apricots*: Moorpark, Jemskerk and Shipley. *Cherries*: Bigarreau Napoleon, Black Eagle, Black Tartarian, Early Rivers, Governor Wood, May Duke and Werder's Early Black. *Figs*: Brown Tur-

key, Pingo de Mel, Violette Sepor, Negro Largo and White Marseilles. *Grapes*: Black Hamburgh, Buckland Sweetwater, Madresfield Court, and Foster's Seedling. *Peaches*: Alexander, Amnden June, Hale's Early, Crimson Gálante, Dymond, Goshawk, Royal George, Violette Hâtive, Princess of Wales, and Sea Eagle. *Nectarines*: Cardinal, Early Rivers, Elruge, Lord Napier, Pineapple, Humboldt and Victoria. *Pears*: Bergamotte Espéren, Beurré Bachelier, Beurré d'Amanlis, Beurré Ballet Pere, Williams's Bon Chrétien, Doyenné Bouchoc, Le Lectier, Marie Benoist, Pitmaston Dussich, and Doyenné du Comice. *Plums*: Bryanston Gage, Coe's Golden Drop, Denniston's Superb, Green Gage (old), Jefferson, Red Magnum Bonum (white), Late Transparent Gage, Swan, Oullin's Golden Gage, Reine Claude de Bavay, and Washington.

Maiden trees of Apples, Cherries, Pears and Plums may be purchased from a fruit-tree nurseryman at from 1s. to 1s. 6d. each, and Apricots, Peaches and Nectarines from 1s. 6d. to 2s. 6d. each. The trees should be obtained from the nursery as soon as they have shed their leaves in the autumn. The roots should be shortened prior to being potted into pots 7 or 8 inches in diameter. Clean pots should be used for this purpose, and in these should be placed a piece of potsher (hollowside downwards) over the hole in the bottom of each pot, following with smaller pieces and finishing with potsherds passed through a ¼-inch meshed sieve to fill in the chinks, covering these with a layer of thin turf, grass-side downwards, to secure perfect drainage. Pot the trees into these pots in a compost consisting of, say, four bushels of good turfy loam, well broken up, of one lime, or plaster rubble, one peck each of some good plant food and charcoal, and an 8-inch potful of new soot, mixing the whole well before using. In the process of potting the compost should be rammed well round the roots, so as to make the soil firm up to within an inch of the top of the rims of the pots. This done, the pots should be stood closely together on a bed of cinders and ashes out-of-doors where water is not likely to accumulate, and the plants should be well watered to settle the soil about the roots. On the approach of winter the pots should be protected from the effects of frost by a covering of tree leaves and stable litter, the latter being added to prevent the leaves being disturbed by the force of the winds. Any young growths which the trees may have made during the current year should be shortened in December. The trees should be allowed to remain in their winter position during the ensuing year, taking out every other potted tree when growth has commenced in the spring, and standing them in a like position, about 9 inches apart, in order to afford proper space for the trees to develop a sturdy, healthy growth. The foundation of healthy fruitful trees should be made by judicious disbudding and pinching of the growths, careful watering and syringing overhead. After the soil is permeated with young roots, surface dressings of Peruvian guano or some other approved chemical manure should be given immediately before applying clear water at the roots, and this should alternate with waterings of diluted liquid manure three or four times each week. About the middle of September the trees should be turned out of the pots, the balls of soil and roots pricked round slightly with a pointed stick and then repotted into pots 9 inches in diameter. The pots should have 2 inches of potsherds placed in the bottom of each for drainage in the manner indicated above, also using the same kind of mixture as recommended for a rooting medium. In potting, ram the compost well round the balls, using flat rammers to work the soil into the space between

the edge of the pots and the roots, and blunt ones to make the soil firm on the top up to within an inch of the top of the rim. The pots should then be placed on a bed of cinders and ashes, as previously recommended, and watered, syringing the trees overhead two or three times each day, in order to freshen up the foliage and preserve the leaves on the trees until the roots have taken hold of the soil, and with this object in view the trees should be shaded with a strip of tiffany during sunshine for a week or ten days, by which time the roots will have pushed into the compost. On the approach of winter the pots should be protected from the effects of frost as advised above. If the disbudding and pinching of the shoots retained to form the tree and produce fruit the following year has been judiciously attended to during the previous April and the four following months, very little winter pruning will be necessary, further than the shortening of a

THE GENUS EUPHORBIA.

COMMONLY known as Spurge-worts, the members of this large and extensive genus are widely distributed over the world, occurring in large numbers in tropical and sub-tropical Africa, also in Europe, India, equatorial America, and the Canary Islands. The species vary greatly in habit. They are represented in this country by about a dozen annual or perennial herbs, several of which are common garden weeds. Most of the species, however, are of succulent habit, and vary in size from fleshy herbs a few inches high to large trees 30 feet and upwards in height. They all possess a powerful acrid and poisonous milky juice, which contains active medicinal properties.

In a genus having such a wide distribution, it is perhaps not surprising that there exist great differences in the structure of the stem and

of bright scarlet bracts. Another species, *E. splendens*, having very thorny stems, was formerly largely grown as a decorative warm-greenhouse or stove plant, but is now comparatively seldom seen. Of hardy species the best is *E. epithymoides*, a beautiful herbaceous perennial plant, with yellow flowers and numerous light-yellow bracts, surmounting the tops of the numerous herbaceous shoots. A pretty annual species well worth a place in the herbaceous border is *E. variegata*, in which the upper leaves, together with the floral bracts, are white, and remain in good condition from one to two months during late autumn. The collection in the Succulent House at Kew is probably the richest in point of numbers in cultivation. Numerous grand specimens are there planted out in a stony border in the centre of the house. One specimen of *E. Tirucalli* has formed a large tree, and, having long since



FIG. 159.—GROUP OF EUPHORBIAS SHOWING DIVERSITY IN HABIT.

[Photograph by C. F. Raffill.

- 1, *E. mamillaris*; 2, *E. corulea*; 3, *E. cervicornis*; 4, *E. Candelabrum*; 5, *E. pereskiaefolia*; 6, *E. grandicornis*; 7, *E. Caput-Medusae*; 8, *E. ornithopus*; 9, *E. Nivalia*; 10, *E. parvimamma*; 11, *E. bubalina*; 12, *E. procumbens*; 13, *E. collettoides*; 14, *E. Berbeltoii*; 15, *E. uncinata*.

growth here and there in order to get the trees into symmetrical shape before removing them to the glass structure wherein they are to fruit.

In the following winter the growths of Apples, Apricots, Pears, Plums and Cherries will require to be spurred in more or less, and the third year it will be necessary to shift them into 11-inch pots, the work being a repetition of that previously described. The pots when placed in the house in which the trees are to fruit should be stood in each case on two bricks, the latter being placed clear of the hole in the bottom of the pot, so as to afford a free passage for the water applied at the roots, and at the same time preventing the soil becoming waterlogged at any time. *H. W. Ward.*

(To be continued.)

leaves. In outward appearances some of the species resemble members of the Cactus family, also species of *Ceropegia*, *Stapelia*, *Pelargonium*, *Cotyledon*, and *Crassula*. The structure of their flowers has remained fairly constant, and the milky juice furnishes a ready means by which *Euphorbias* may be distinguished from most other plants of similar habit.

Although the genus as a whole possesses but little decorative value, there are several species which are cultivated for the sake of the beautiful bracts which surround the otherwise inconspicuous flowers. The best known of these is *E. pulcherrima*, commonly known in gardens under the name of *Poinsettia pulcherrima*, with its large, bright red or vermilion bracts, and the almost equally well-known *E. fulgens* (syn. *E. jacquiniiflora* of gardens), with its wreaths

reached to the roof, has frequently been pruned back. A gutta-like substance is obtained from this plant in Angola and Loanda, which is used in some industries as a substitute for gutta-percha. A large clump of *E. Candelabrum* is to be seen near the centre of the house, forming erect stems reaching to the roof, without a branch. A young plant is depicted in the accompanying illustration (No. 4). This species forms an erect tree, 30 feet or more in height, in its native habitat. The bulk of the collection, however, are grouped together on a stage at the north end of the house. Here are to be seen the whole of the specimens illustrated, together with a large number of others. They furnish an object-lesson in "divergence from an ancestral type" such as can hardly be equalled in any other garden in the world. *C. F. Raffill.*

* PRONUNCIATION OF PLANT NAMES.

PRONUNCIATION.—In the first word in each line the accent (') is short; (') is long.

In the second word vowels are to be pronounced as—

arise, ât, âge, ârt, âir, âll
end, égg, éat, érr, éwe
in, it, ire, sir
on, ôtter, ôde, ôr, dô, ôwl, ôil
us, ütter, üse, üru
"ch," as in chin; "th," as in thin
"s," as in soft; "f," as in far
"g" as in go.

All other letters are unmistakable.

L

(Continued from page 371.)

Lebécia, le-bek'-i-a
Lecanopteris, lek-an-op'-ter-is
Lecythis, les-uh-is
Lechbouria, lek-bôw'-ri-a
Lêdum, lê'-dum
Lœria, le-er'-si-a
Leinthus, li-an'-thus
Leimanthum, li-man'-thi-um
Leophyllum, li-o-fil'-lum
Lémnia, lem'-na
Lemônia, le-mô'-ni-a
Lénnea, len'-ne-a
Lens, lens
Lentibularia, len-ti-bû-lâr'-i-a
Leocilius, le-o-kî'-lus
Leonotis, lê-o-nô'-tis
Leontice, lê-on-ti-sê
Leontodon, lê-on-to-don
Leontopodium, lê-on-to-pô'-di-um
Leonurus, lê-on-ûr'-us
Leopoldinia, lê-o-pôl-din'-i-a
Lepanthus, le-par'-thi
Lepchinia, le-pê'-in'-i-a
Lepichosma, lek-kôz'-ma
Lepicystis, lep-i-sis'-tis
Lepidagathis, lep-idag'-athis
Lepidium, le-pid'-i-um
Lepidosperma, lep-i-do-sper'-ma
Lepismum, le-piz'-mi-um
Lepileum, le-plâ-le-um
Leptandra, lept-an'-dra
Leptanthus, lept-an'-thus
Leptanella, lep-ti-nel'-la
Leptocaulis, lep-to-kâl'-is
Leptocarpus, lep-to-kar'-pus
Leptocera, lep-to-sê'-ra
Leptochloa, lep-tok'-lo-a
Leptodactylon, lep-to-dak'-til-on
Leptodermis, lep-to-dêr'-mis
Leptogramma, lep-to-gram'-ma
Leptomeria, lep-to-mêr'-i-a
Leptosiphon, lep-to-si'-fon
Leptospermum, lep-to-sper'-mum
Leptostelma, lep-to-stel'-ma
Leptostyne, lep-to'-stê
Leptotes, lep-tô'-têz
Leptoridia, lep-i-rô'-di-a
Leschenaultia, les-ken-aul'-ti-a
Lessedzia, les-pe-dê'-za
Lessoria, les-sêr'-ti-a
Lestibudesia, les-ti-bû-dê'-zi-a
Lettisoma, let-sô'-mi-a
Leucadendron, lê-ka-den'-dron
Leucaethum, lû-kan'-thê-mum
Leucas, lê'-kas
Leuchtenbérigia, lêk-ten-ber'-ji-a
Leucocarpus, lê-ko-kar'-pus
Leucocoryne, lê-ko-kô'-ri-ne
Leucojum, lê-ko'-jum, or lû-kô'-um
Leucophyta, lê-ko-fî'-ta
Leucopogon, lê-ko-pô'-gon
Leucospermum, lê-ko-sper'-mum
Leucostegia, lê-ko-stê'-gi-a
Leucostemma, lê-ko-stem'-ma
Leucothoe, lê-kôth'-oe
Leuzea, lê'-ze-a
Leviticum, le-vis'-ti-kum
Lewisia, lêw'-is'-i-a
Leycesteria, lêy-sê'-ri-a
Leyssera, lay'-sêr-a
Liabum, li-â'-bum
Liätis, li-â'-tris
Libanotis, lib-an-ô'-tis

Libertia, li-bêr'-ti-a
Libocedrus, lib-ô-sê'-drus
Libonia, li-bô'-ni-a
Lichtensteinia, lik-ten-sti'-ni-a
Licuala, lik-â'-la
Liebigia, lê-bîg'-i-a
Lightfootia, light-foô'-ti-a
Ligularia, lig-ulâr'-i-a
Ligusticum, lig-us'-ti-kum
Ligustrum, lig-us'-trum
Lilac, li'-lak
Lilium, li'-li-um
Limatodes, lim-a-tô'-des
Limeum, li'-me-um
Limnanthemum, lim-nan'-thê-mum
Limnæthes, lim-nan'-thêz
Limnœcharis, lim-nôk'-ar-is
Limônia, li-mô'-ni-a
Limosella, li-mo-sel'-la
Linanthus, li-nan'-thus
Linaria, li-nâr'-i-a
Lincomia, lin-kon'-ni-a
Lindelfia, lin-del-ôf'-i-a
Lindenbérigia, lin-den-ber'-gi-a
Lindérnia, lin-dêr'-ni-a
Lindleya, lind'-lê-a
Lindsaea, lind-sê'-a
Linnæa, lin-nê'-a
Linnociera, lin-os-î'-e-ra
Linosyris, lin-os-î'-ris
Linum, li'-um
Liparia, li-pâr'-i-a
Liparis, lip-â'-ris
Lipostoma, li-pos'-to-ma
Lippia, lip'-pia
Liquidámbur, li-quad-am-bâr
Liriodendron, li-rî-o-den'-dron
Lisanthus, li-san'-thi
Lissanthus, lis-an'-thê
Lissoschilus, lis-so-kî'-lus
Listera, lis'-ter-a
Lithospermum, lith-os-per'-mum
Litobrochia, lit-to-brok'-i-a
Littæa, lit-tê'-a
Littorella, lit-tô-el'-la
Livistonia, livi-stô'-ni-a
Liàvea, lê'-ve-a
Lojydia, lôy'-di-a
Loasia, lô-â'-sa
Lobelia, lô-bê'-li-a
Lodgesia, lod-di-jê'-si-a
Lodoicea, lô-dô-î-sê'-a
Loeflingia, lê-ling'-i-a
Loeselia, lê-sê'-li-a
Logania, lô-gâ'-ni-a
Loseleuria, lô-se-lû'-ri-a
Lôlium, lô'-li-um
Lomagramma, lô-ma-gram'-ma
Lomaria, lô-mâr'-i-a
Lomatia, lô-mâ'-ti-a
Lomas, lô'-nas
Lonchites, lon-kî'-têz
Lonchocarpus, lon-ko-kar'-pus
Longchampsia, long-shamp'-si-a
Loniceria, lon-i-sêr'-a
Lopezia, lô-pe'-zi-a
Lophanthus, lô-tan'-thi
Lophiola, lô-fî-ô-la
Lophiria, lô-fîr'-a
Lopholêpis, lô-ô-lêp'-is
Lophospermum, lô-o-sper'-mum
Lopimia, lô-pim'-i-a
Lôpus, lô'-pus
Lôrençia, lô-ren'-te-a
Lôreya, lôr'-e-a
Lôtus, lô'-tus
Loudonia, lôw-dô'-ni-a
Loura, lôw-rê'-a
Loureira, lôw-re-rê'-ra
Lôwina, lô'-e-a
Lubinia, lô-bin'-i-a
Luchlia, lô-kû'-li-a
Luchma, lô-kû'-ma
Lûbna, lô-bû'-na
Lûbia, lô-bi'-a
Lûisia, lô-is'-i-a
Lumizera, lum-ni'-zêr-a
Lunaria, lô-nâr'-i-a
Lupinus, lô-pî'-nus
Luxemburgia, lûx-em-bûrg'-i-a
Lûzula, lô-zû'-la

Lycaste, li-kas'-tê
Lýchnis, lik'-nis
Lycosérissa, lis-i-o-sêr'-is-sa
Lýcium, lis'-i-um
Lycopersicum, li-ko-pêr'-si-kum
Lycopodium, li-ko-pô'-di-um
Lýcopsis, lik'-op'-is
Lýcopus, li'-kô-pus
Lýcoris, li-kôr'-is
Lýgodium, li-gô'-di-um
Lýonia, li-ô'-ni-a
Lýonsia, li-on'-si-a
Lýperanthus, li-per-an'-thus
Lýperia, li-pêr'-ri-a
Lýsimáchia, lis-i-mak'-i-a
Lýsinêma, lis-in-ê'-ma
Lýthrum, lith'-rum

M

Maba, mâ'-ba
Machridea, mak-brî'-de-a
Macedonia, mak-don-al'-di-a
Machæranthera, mak-ê-ran-thê'-ra
Macleamia, mak-lâ'-ni-a
Macleaya, mak-lê-â'-a
MacLura, mak-lû'-ra
Macodés, mak-ô'-dêz
Macradenia, mak-râ-dê'-ni-a
Macranthus, mak-ran'-thi
Macrochilus, mak-ro-kî'-lus
Macrolamys, mak-ro-klam'-is
Macronemum, mak-rok-nê'-mum
Macromeria, mak-ro-mê'-ri-a
Macropodium, mak-rô-pô'-di-um
Macrorhynchus, mak-rô-rin'-kus
Macrostylis, mak-ros-tî'-lis
Macrotrypis, mak-rô-trîp'-is
Macrotrys, mak-rô'-tis
Macrozamia, mak-rô-zâ'-mi-a
Madaria, ma-dâr'-i-a
Madia, mâ'-di-a
Mæsa, mæ'-sa
Magnolia, mag-nô'-li-a
Mahœnia, mâ-hêr'-ni-a
Mahonia, mâ-hô'-ni-a
Maianthemum (See "Majanthemum")
Maiëta, mi-ê'-ta
Majanthemum, ma-jan'-thê-mum
Majorana, ma-jor-â'-na
Malachadenia, mal-â-kâ-dê'-ni-a
Malachodendron, mal-â-kô-den'-dron
Malachra, mal-âk'-ra
Malaxis, mal-âk'-is
Malcolmia, mal-kô'-mi-a
Malesherbia, mal-hêr'-bi-a
Malope, mal'-ô-pê
Malpighia, mal-pig'-i-a
Malva, mal'-va
Malvâstrum, mal-val'-trum
Malvâviscus, mal-val-vis'-kus
Mammæa, mam-mê'-a
Mammillaria, mam-mil-lâr'-i-a
Mandevilla, man-de-vil'-li-a
Mandirôla, mau-di-rô'-la
Mandrâgora, mau-drag'-ô-ra
Mauëtia, ma-nê'-ti-a
Mangifera, man-jîf'-er-a
Manglesia, man-gle'-si-a
Mangosteen, man-gô-stên'
Mancaria, man-kîr'-i-a
Mânhot, man'-hot
Manihot, man-is-âr'-is
Nantisia, man-tis'-i-a
Nanulea, man-ûlê'-a
Narritia, ma-ran'-ta
Narattia, ma-rat'-ti-a
Marettia, mar-sê'-ti-a
Margaravia, mark-grâ'-vi-a
Marguerite, mar-gûêr'-ê-t
Margaricarpus, mar-jîr-i-kar'-pus
Mâncaria, mâ-ri-âl'-a
Mânthus, mâr-an'-thus
Marica, mâr'-i-a
Mariscus, mâ-ris'-kus
Mârlea, mâr'-le-a
Marrubium, mâr-rû-bi-um
Marsdenia, mars-dê'-ni-a
Marshâllia, mar-shâl'-li-a
Marsypianthus, mar-sip-i-an'-thus

Martinezia, már-tin-ê'-zi-a
Martynia, már-tin'-i-a
Masdevallia, maz-de-val'-li-a
Massan'gea, mas-san'-je-a
Massônia, mas-sô'-ni-a
Mastacanthus, mas-ta-kan'-thus
Matayba, ma-tâ'-ba
Mathiola, ma-ti'-o-la
Matônia, ma-tô'-ni-a
Matourea, ma-tôur'-e-a
Matricaria, mat-ri-kâr'-i-a
Mâtia, mat'-ti-a
Maurandya, mâu-ran'-di-a
Mabria, mâu'-ri-a
Mauritia, mâu-rit'-i-a
Maxillaria, mak-di-lâr'-i-a
Maximiliana, max-i-mil-i-â'-na
Maytenus, mâ-tê'-nus
Mâzus, mâ'-zus
Meconopsis, mek-on-op'-sis
Medeola, mê-dê'-ô-la
Medicago, med-i-kâ'-go
Medinilla, mêd-nîl'-la
Megacarpia, meg-a-kâr-pê'-a
Megacilium, meg-a-kin'-i-um
Megasea, mê-gâs'-e-a
Megastichus, mêg-a-stak'-is
Megarthria, mêg-âr-thî'-a
Melaleuca, mel-a-lû'-ka
Melampodium, mel-am-pô'-di-um
Melampyrum, mel-am-pî'-rum
Melanandra, mel-an-au-thê'-ra
Melanorrhæa, mel-an-ô-rhê'-a
Melanoselinum, mel-an-os-e-lî'-um
Melanosticta, mel-an-os-ik'-ta
Melanthium, mel-an'-thi-um
Melaspherula, mel-as-fer'-u-la
Melastoma, mel-as'-tô-ma
Melhania, mel-hâ'-ni-a
Melia, mê'-li-a
Meliâanthus, meli-an'-thus
Mêlica, mêl'-i-a
Mêlichrus, mêl-i-krus
Mêlicocca, mêl-i-kok'-ka
Mêlicope, mêl-i-kôp'-pê
Mêlicytis, mêl-is'-i-tus
Meliôtus, mêl-iô'-tus
Melissa, mel-is'-sa
Melitta, mel-î'-ta
Melocactus, mel-ok-ak'-tus
Melocanna, mel-ok-an'-na
Melochia, mêl-ô-ki-a
Melodinus, mêl-o-dî'-nus
Melenocylon, mê-mes-i-lon
Meniocus, mê-ni-ôk'-us
Meniscium, mê-nis'-ki-um
Menispermum, mê-ni-sper'-mum
Menonvillea, men-on-vil'-le-a
Méntha, men'-thi-a
Mentzella, ment-zê'-li-a
Menyanthes, men-an'-thêz
Menziesia, men-zî-ê'-si-a, or ming-ê'-zia
Mercurialis, mer-kû-ri-âl'-lis
Merendia, mêr-en-dê'-ra
Meriania, mêr-i-â'-na
Mértensia, mêr-tên'-si-a
Mesembryanthemum, mes-em-bri-an'-thê-mum
Mesochlœna, mes-ô-klê'-na
Mésipulus, mes'-pi-lus
Messerschmidtia, mes-er-schmidt'-i-a
Mésua, mes'-û-a
Metastelma, met-as-tel'-ma
Metastasia, met-a-tâ'-si-a
Methônica, mê-thon'-i-ka
Metrodorea, mê-tro-dôr'-e-a
Metrosideros, mê-tro-sid-ê'-ros
Mêum, mê'-um
Meyenia, mê-ê'-ni-a
Meyera, mê-ê'-ra
Mezœon (or um), mê-zê-re-on (or um)
Michauxia, mî-châux'-i-a
Michelia, mî-kê'-li-a
Micônia, mî-kô'-ni-a
Micranthemum, mî-kan'-thê-mum
Micranthera, mî-kan-thê'-ra
Microcala, mî-krô-kâ'-la

C. Butler.

(To be continued.)

ORCHID NOTES AND GLEANINGS.

VANDA CŒRULEA CHARLESWORTHII.

THE beautiful blue-flowered *Vanda cœrulea* is one of the most charming Orchids, but, at the same time, attempts have been made to obtain an albino. In the variety illustrated at fig. 160, all the colouring in the flower is eliminated. *Vanda cœrulea* Charlesworthii is noteworthy because it is the first wholly white-flowered variety of this species. In all other respects the flowers are similar to those of the type. The entire absence of colouring is remarkable, especially as the lip of this *Vanda* is usually of a very pronounced shade of blue. When exhibited at the meeting of the Royal Horticultural Society on October 27 last by Messrs. Charlesworth & Co., Hayward's Heath, the Orchid Committee awarded the variety a First-Class Certificate.

TRICHOCENTRUM ALBO-PURPUREUM.

This rare and pretty little Orchid has been in flower for some weeks in the Orchid Nurseries of Mr. H. A. Tracy, Amyand Park Road, Twickenham. The plant, which is in a suspended Orchid pan, has oblong-lanceolate leaves about 3 inches in length, the short peduncles bearing one to two flowers, each an inch and a half across. The tawny sepals and petals are tipped with green, the large lip, which is two-lobed at the apex, is white with a large purple blotch on each side of the crest. Mr. Tracy recently imported another *Trichocentrum* from Peru, but only one or two plants survived. The frail little scarlet *Nasonia punctata* also died, but odd plants of *Eriopsis sceptum* and a few other interesting things, including *Sobralia Catleya*, survived.

HOW TO CONSTRUCT COLD CHAMBERS.

(Concluded from page 357.)

FOR the storage of bulbs, plants, cut flowers, &c., any one of the arrangements previously described may be utilised, and complete control of both temperature and humidity may be obtained by any of those methods in which the modern refrigerating plant is employed. With cabinets and cold chambers containing ice or freezing mixtures, it is not so easy to maintain a control of the temperature and humidity as with the other apparatus. With compressed air a constant temperature can be maintained with comparative certainty, but it is not so easy to control the humidity. The constant temperature is secured by varying the speed of the compressor. With apparatus in which a refrigerator is used, the temperature is governed by allowing more or less of the liquid refrigerant to pass into the expansion coils. Between the condenser and expansion coils there is a valve fixed, which is very carefully constructed and it gives the engineer complete control over the rate of producing cold from that apparatus. Allowing more liquid to pass into the expansion coils lowers the temperature and increases the rate of producing cold, and *vice versa*. The lower the temperature in the cold chamber the more work the compressor has to perform.

The compressor may be driven by any convenient source of power: an electric motor, a gas or oil engine, or a steam engine.

With ammonia there is another system in which the compressor is replaced by the use of steam. It is known as the absorption system, and depends for its working upon the variation in the quantity of ammonia that water will dissolve at different temperatures. Two vessels are provided, in one of which the water carrying ammonia is heated, the ammonia being driven off, and passing to the condenser, just as from the compressor referred to above. It passes from the condenser to the expansion coils, as in the compression system, and from the expansion coils to another vessel containing water, called

the absorber, in which it is dissolved. In principle the main working is very similar to that described above, the alternate absorption and expulsion of the ammonia taking the place of its compression.

SHOWING WHAT IS GOING ON IN COLD CHAMBERS.

FOR keeping a check upon what is going on in a cold chamber there are several mechanisms at the command of the refrigeration engineer. He knows by the pressure to which the refrigerant gas is lowered in the act of expansion what its temperature is. With each substance employed in refrigeration there is a temperature corre-

below the air in a cold chamber or in the cooling and drying apparatus.

The actual temperatures of the air in each chamber may also be ascertained by means of thermometers fixed in the chambers. They are electrically connected with indicators which can be read in any part of the building, or, if desired, in the proprietor's or manager's house, some distance away. The temperatures may also be recorded upon a chart, similar to the barometer charts that are to be seen in almost every town. The humidity may be tested in the usual way, by wet and dry bulb thermometers fixed in each cold chamber, an attendant going into the chamber



FIG. 160.—A PURE WHITE VARIETY OF *VANDA CŒRULEA*, SHOWN BY MESSRS. CHARLESWORTH AND CO. (FIRST-CLASS CERTIFICATE).

sponding to every pressure, and the gauges which are fixed on refrigerating apparatus have two scales, showing both temperature and pressure, so that the person in charge can tell at a glance the temperature of the refrigerant. It is usually kept at about 10° Fahr. below that of the substance it is cooling. Thus, when the expansion coils are fixed in the cold chamber, the temperature to which the gas is lowered will be 10° below that of the air it is cooling. Similarly, it will be 10° below that of the brine in the expansion tank, and the brine will be kept 10°

for the purpose of examining them; or it can be shown by two electrical thermometers fixed in each chamber, one having the usual wet rag over it, and the indications may be given at any spot that may be desired, just as the thermometric indications are. There are also instruments on the market which give accurate indications of the actual humidity corresponding to any temperature and any difference between the wet and dry bulb, and such apparatus may be fixed in any convenient position.

For the cabinets and smaller cold chambers,

the maximum and minimum thermometers must be employed.

Small cold storage plants are now constructed for the use of butchers, poultrymen, &c., and these would be suitable for stores, such as might be erected for nurserymen in a moderate way of business. They occupy little space, and can be driven either by electricity, gas, steam, oil, or any other convenient source of power.

The writer hopes it will be clear from the foregoing account that, not only is there a wide scope for the use of cold storage in horticulture, but that it is within the reach of every grower and every dealer, large or small. *Sydney F. Walker.*

DEFORESTATION IN NEW ZEALAND.

(Concluded from page 356.)

DARWIN, in the *Voyage of the Beagle*, mentions that he landed on the coast north of Auckland and noted at that time how the Maoris burnt out large areas of forest, which became replaced by fern-clad wastes. It is no doubt due to their activity that such a large area of soil contains the Kauri gum. That this forest would re-establish itself in some localities, if given a chance, is shown by the clump of young Kauri and *Phyllocladus trichomanoides* to be seen springing up in the gulches on the Nihotupu foot hills. In one enclosure I saw quite a plantation of self-sown young Totara and Maitai coming up very well, but they were rigorously protected against fire by the enlightened owner. Wretched clumps of hundreds of Nikau Palms *Rhopalostylis sapida* are here to be seen, left exposed by the burning of the protecting trees. Like some species of tree Ferns, these Palms can resist fire. This is no doubt due to the storage of water in their tissues, but when once they are exposed to light and wind, the lamina of the leaves does not expand, and the rachis remain vertical as in bud, never assuming the horizontal position. Thus they persist, forming piteous caricatures of the unspoilt trees as seen in the depth of their native habitat, with their graceful spreading habit, rivalling Polynesian forms in size and beauty.

The same story of regrettable devastation is repeated in the Thames Valley, a huge alluvial plain south of Auckland, now cleared from end to end, but formerly clothed with beautiful trees. It was at this spot, on a magnificent tree—a Rimu, I believe—that Captain Cook wrote his name, and that tree was religiously preserved by the Maoris. However, what the savage respected the settler disdained, and the tree was burnt with its compeers.

From Thames, Mangroves (*Avicennia officialis*) run in for some distance, as the river forms a huge estuarial swamp. Flax (*Phormium tenax*) and Cabbage trees (*Cordylina australis*), associated with Manuka, succeed; then clumps of fire run Kahikatea reveal the natural inhabitants of the soil.

Why clearing has taken place is not apparent, there is no attempt to plant the *Phormium* systematically; and Kahikatea, though a valuable wood, which is perfectly tasteless, and therefore much used at home for making butter boxes and exported to Australia for the same purpose, is apparently only fit to be burnt or cut out. It seems to occur to nobody that the supply of this tree is limited; for the river beds, its natural habitat, have all been cleared, and it only grows singly in the mixed forest.

As the land rises towards the foot hills, the usual Manuka waste occurs, varied by good meadow land where the forest soil was saved by immediate sowing and systematic clearing. Where the land is neglected, Bramble, Gorse and Broom speedily take possession. These hills, which culminate in Te Aroha Mountain, over 3,000 feet, are fortunately reserved; they are rocky and steep, and are still clothed with forest from about a thousand feet upwards. The Nikau Palms can be observed in their full beauty, with the splendid Cordylina

insignis as undergrowth, while the beautiful Saxifragaceous *Ixerba brexioides*, covered with corymbs of white blossoms, an inch or more in size, is one of the dominant trees. The exquisite crimson Rata (*Metrosideros diffusa*) forms flaming epiphytic splashes against the evergreen background.

Cutting for firewood, resulting in an impenetrable upgrowth of Fern, is steadily encroaching on the mountain slopes.

There are many gold mines in these hills, working and otherwise, with tracks running up to and connecting them with each other. This makes it easier to penetrate the hills than is usually the case in this trackless country. Here immigration again merely results in wholesale burning out, as the bare slopes of what must have been the exquisite Warongamui Valley testify. After Morrinsville on the way to Rotorua, the monotonous Manuka plains which extend down to Lake Taupo begin. A gratifying break occurs round Mamakau, where the

Nothing short of an actual deposit of salt by the evaporation of constantly-streaming water seems to kill it.

The great Weirakei geyser was the only exception which came under my observation. There a mass of *L. ericoides*, which clothed the bank just behind the recurrent column of boiling water, was clipped to an almost Moss-like thickness (see fig. 161).

Round the Blue and Green lakes on the way to Lake Tarawera there is some grateful shade, but clearings by the roadside show a wild growth of Hawthorn and Bramble, which luxuriate everywhere. The latter is supposed to be proscribed by legislation.

There is some attempt made at planting by the Government at Rotorua, but only of Larch and other foreign trees. At Waitapu there is another area on which planting is being tried by prison labour. I believe it was only on the earnest representations of Mr. Cheeseman, whose splendid handbook of the New Zealand



FIG. 161.—A HOT SPRING IN THE WEIRAKEI VALLEY, NORTH ISLAND, N.Z. THE TREES BEHIND THE GEYSER ARE *LEPTOSPERMUM ERICOIDES*.

railway crosses a low range still clothed with some splendid forest, including the lovely Kawaka (*Libocedrus Doniana*), but it is being rapidly stripped of the sound trees by the colony of saw mills established there.

The world-renowned Rotorua is a Manuka waste. That the country was previously a forest dip is shown by the remnants persisting on the top of a hill beyond Ohinemutu, untidy patches of bush on the far side of Rotorua Lake and Kahikatea on the swampy near side, and on some of the promontories and gorges. Here, of course, volcanic activity has much to answer for. Curiously enough, the hot springs, which merely betray themselves in various localities by the steam continuously arising from them, do not affect the growth around. Both *Leptospermum scoparium* and the really charmingly graceful *L. ericoides* fringe the boiling water or muddy area, as the case may be.

Flora has earned him a world-wide reputation in systematic circles, and the lasting gratitude of every botanist visiting the country, that planting of *Podocarpus Totara*, the glory of New Zealand forest, the chosen tree of the Maori for his war canoe, and a splendid wood for all industrial purposes, was attempted on anything like an adequate scale.

A weary day's coaching in blazing sun, loose sand, and drying dust, takes one to Lake Taupo, through nothing but Manuka and bracken, varied sometimes by *Dracophyllum subulatum*, the formation being composed of loose scoria from successive eruptions. By the lake, Broom is encroaching rapidly on the Manuka, and formed a blaze of colour in November. After crossing the lake to Tokaanu the coach drive passes over high, wind-swept Tussock plains (*Poa caespitosa*) and sand ridges. Here again in the gulleys the handsome tree *Nothofagus Menziesii* is to be

seen, and road cuttings show the blackened trunks of trees sticking out of the sand. Ancient forest crowns the hills on each side, but scorched inroads are showing in it. The ridge culminates in the volcano Tongariro, 7,000 feet high, the single cones of the active Ngauruhoe and Ruapehu, with spreading outcrops, standing alone.

The forest of the North Island, especially of the northern portion, and on the north-western side is strikingly Polynesian in appearance, as is shown by its varied character, typical undergrowth, and epiphytic luxuriance. Appearances are borne out by pronounced generic affinity, many species even being in common. A greater number of plants, however, are endemic, not occurring elsewhere, and many of the most interesting are purely local in incidence, being restricted to small areas. With the destruction of their environment they also disappear and are lost to science. That this strange outlier of the great Indo-Malayan vegetation region, whose varied types have been a focus of interest to the botanical world, is to be shorn not only of its natural grace, but also of its phytogeographical interest, is an offence to, not a necessity of, civilisation.

One or two generations cannot dissipate a storehouse of natural treasures, fostered by climatic and geographical conditions, without causing irreparable loss, and this fact will soon be proved to the national cost in the altered topographical and climatic conditions which the wholesale razing of forest land invariably entails. *L. S. Gibbs.*

The Week's Work.

THE FLOWER GARDEN.

By W. FIVE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Plants for cultivation under trees.—Sites under the dense shade of trees where plants not growing satisfactorily may be made to appear attractive if a few loads of leaf-mould and loam are applied to them, and possibly a few pieces of rock, and suitable species afterwards planted. Such pieces include the common kinds of Fern and Heath, also Foxgloves, Primroses, Aconites, and Snowdrops, as most of these plants flower early and mature their growth before the trees develop their full complement of leaves. Certain shrubs also will succeed under the drip and shade of trees. Such are *Daphne Mezereum*, *Euonymus*, *Acubus*, *Buxus*, *Taxus*, *Ephedra*, *Ilex*, *Spiraea*, *Prunus*, *Ruscus*, *Vincetoxicum*, *Hypericum* (St. John's Wort), and *Hedera* (Ivy).

Flowering shrubs.—Some of the most valuable flowering shrubs for various purposes include *Deutzia crenata gracilis*, *Forsythia suspensa*, *Kerria japonica*, and its double-flowered variety; several species of *Viburnum*, *Hypericum*, *Philadelphus*, *Staphylea*, *Syringa*, *Cydonia*, *Pyrus*, and *Cytisus*.

Protection of tender trees and shrubs.—The best kind of protective material for certain Conifers, *Viburnums*, and other tender shrubs is one that affords only partial shade. Branches of Spruce, Fir, or English Yew having a good supply of twiggy shoots answer admirably. A dense covering, such as mats or straw, is not desirable. Upright poles may be driven into the ground at distances of 2 or 3 feet and the Spruce or Yew branches woven round them in the fashion of a basket. Plants growing against walls or upon crevices may be given a covering of the same description, but the branches should not be fixed in such a manner as to exclude light. Dry Bracken fronds may also be utilised for protective purposes, especially in the case of Roses and other plants in beds.

Plants in tubs.—These plants are now under cover, and include *Agrostis*, *Aloysia citrodora*, *Myrtus*, and others, which merely require the protection of an unheated house, and the more tender plants, such as *Fuchsia*, *Pelargonium*, and *Hydrangea*. They should not be allowed to dry off, or partially dry off, too rapidly.

Briars for budding Roses.—The present is a good time to collect Briars as stocks on which to bud Roses. Briars with clean stems about 3 inch in diameter and from 3 to 4 feet in height should be selected. Trim the roots of

each plant and put them into rows arranged at distances of 4 feet, putting the stocks 6 inches apart in the row. Tread the soil in about the roots during the planting process, and when this has been done apply a surface dressing of short manure as a protection from frost.

Rose cuttings.—If not already done, cuttings may now be taken off with a "heel" attached. Plant them in rows about 9 inches asunder, and put the cuttings 2 inches apart in the row. They should be made about 9 inches in length and inserted 5 or 6 inches deep. A border with a north or east aspect, containing light and sandy soil, is a suitable site for them.

Herbaceous plants.—In the case of recently formed borders the lifting of plants for the purpose of division will scarcely be necessary, except in a few cases where the weaker species are in danger of being robbed by more vigorous growing plants. Most of the plants may now be cut down almost to the ground level, and when this has been done the surface soil may be picked over with a fork, after which mounds of ashes may be placed around tender species as a protection against frost. The whole of the border may be given a good mulching, composed of charred garden refuse and leaf-mould. We are at present replanting *Delphiniums* which have been divided, for division is necessary in cases where varieties of particular colours have to be perpetuated. At the same time *Delphiniums* may be very easily raised from seeds, and when this is done there will have to be rigorous selection practised before the plants can be employed generally for effect. *Delphiniums* require a rich, mellow loam with some well-rotted manure incorporated with it, and a moderately moist situation. As different varieties vary from 2 to 8 feet in height, suitable plants may be selected for various situations. When planted in beds a distance of from 2 to 3 feet should be allowed between each plant, the greater distances when they are planted in borders.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATTOCK, The Hendrie, Monmouthshire.

Late-keeping Grapes.—The time for cutting these Grapes from the vines must be determined by circumstances. If they are allowed to hang upon the rods longer than is necessary they become a drain upon the vines, and the necessary pruning is inconveniently deferred. Muscats of all kinds, and other Grapes, except the very latest keepers, should be cut, bottled, and stored in the Grape-room early in December. The Grapes will then keep just as well as if they were left upon the vines. Lady Downe's and Gros Colman do not develop their full flavour until the end of December, and they are expected to keep in good condition until April or May. These and also the varieties Appley Towers and Gros Guillaume should not be cut until about the last day in December. Previous to cutting the Grapes, the Grape-room should be well cleansed, the bottles filled with clean water containing a piece of charcoal, and the bottles fixed in their racks. When cutting the Grapes, do not shorten the laterals, but cut them immediately above the bud which will be left for next year. The laterals then being of considerable length, the wood will easily reach to the water contained in the bottle, and the fruit will be held at such a distance that it will not come into contact with the bottle or with the shelf or rack containing the bottle. It is scarcely necessary to add that the greatest care must be taken not to rub the berries. Maintain the atmospheric temperature of the room from 50° to 55°. Ventilate it moderately when the weather is favourable. Keep the bottles filled with clean water, and remove any decayed berries as they appear.

Cherries.—Trees that are planted out or that are growing in pots, but were forced early last season, may now be got in readiness for forcing, as the fruit will be needed to close the house early in December if early fruits are required. Much fire heat is extremely detrimental to Cherries at any stage of growth. For the first fortnight after the house is closed, no fire heat must be employed, but the house may be moderately ventilated when the temperature has been forced to rise to about 55° by sun heat, closing the ventilators again when the temperature falls to 55°. The use of artificial heat must be commenced

very gradually: slightly warming the pipes so that in cold weather the temperature at night, so far as it depends upon fire heat, will not exceed 40°, and during the day 50°. At this stage considerable discretion must be exercised in the syringing or watering of the trees and damping of the paths. In the case of planted-out trees, the borders may be given a mulch of short litter.

Second early Peaches.—The interior of the houses should be thoroughly cleaned, lime-washed and painted, the trees cleaned and trained, and the borders top-dressed as in the case of the earlier house. Keep the ventilators widely open at present. It is a bad practice to keep tender plants in Peach houses while the Peach trees are at rest, as fire heat may then have to be employed, which excites the buds into growth, and when the ventilators are opened subsequently they suffer a check and, in consequence, are apt to fall. Keep the trees in a uniform state of moisture, remembering that dryness will cause bud rotting.

PLANTS UNDER GLASS.

By THOMAS LEWY, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Allamanda.—Plants of any species of *Allamanda* should now be gradually dried partially off, never allowing this, however, to be carried to such a length as to cause the roots to suffer. The plants should always be kept in a stove temperature, and as a rule the moisture which is prevalent in a plant stove is sufficient to keep the roots in a proper condition without direct applications of water. The shoots may be pruned back to three or four eyes of this season's growth, unless it is necessary for the plant to cover a greater amount of space.

Clerodendron Balfourii requires to be treated similarly to *Allamandas*, except that in pruning the shoots should be merely thinned out, as those made this year will produce flowers next season.

Bougainvillea glabra.—This plant should now be resting in a cool house. It will submit to very severe pruning if the wood has been well ripened.

Begonia Gloire de Sceaux.—This glorious winter bloomer is now coming into flower, and should therefore be placed in a rather dry atmosphere as the metallic-looking leaves soon show evidence of decay if any of the fallen flowers rest upon them for some time and the atmosphere contains much moisture. The plants need to be fumigated once or twice each month for the destruction of yellow thrips. This *Begonia* is a gross-feeding plant and needs frequent waterings with liquid manure, and an occasional sprinkling of an artificial manure over the surface of the soil during the flowering season.

Euphorbia (Poinsettia) pulcherrima.—The plants are now developing their bracts, and should be liberally fed with liquid and artificial manures. Keep the plants in a position close to the glass, and turn them round once each week to prevent them getting one-sided. When the crimson bracts are perfectly developed, the plants should be removed into a temperature of 55° and a rather dry atmosphere.

Violets in frames.—In order to prevent excessive damping, the plants should be very carefully examined each week, removing all decayed leaves and flowers, but taking every care not to break the petioles if the healthy leaves, for they are very brittle, and if cracked the leaves will be certain to damp off. Admit air on every favourable occasion, and take means to prevent frost affecting the interior of the frame.

Helleborus niger (Christmas Rose).—Plants of the Christmas Rose should now be lifted and planted in large boxes which have plenty of holes in their base by which the waste water may pass away. Plant the roots in a light, porous soil or in leaf-mould, and place the boxes in a structure where there is a moderate degree of heat. Water the plants each day with clear, tepid water. In this district, at any rate, this method succeeds much better than allowing the plants to remain out-of-doors and simply covering them with hand lights, for the flower-stems become much longer and the blooms themselves are purer white.

Affording water.—Hard-wooded plants need to be watered with extreme care during winter, especially any that were potted this year.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holford, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Cymbidiums.—In this genus C. Mastersii, C. giganteum, C. erythrostylum, and the hybrids C. Tracayanum and C. Winnianum, make choice additions to the flowering Orchids in winter. These species are either in flower or fast developing their spikes, and the blooms, when opened, last a considerable time in perfection, whether on the plants or in a cut state. When the flowers have fully expanded on the plants, less root moisture will be needed until the growing season comes round again. We allow the rooting materials to dry out before again applying water at this period, and then give a thorough soaking, especially in the case of large specimens. Plants of the late-winter and spring-flowering species are completing their pseudo-bulbs, and many flower-spikes are already visible. Throughout the winter months these spikes will slowly develop, and while less moisture at the roots is needed, water should be applied whenever it is found that the compost is approaching a state of dryness. Any root-bound plants that have required a little stimulant during the growing season may still be assisted by occasional waterings of weak liquid farmyard manure until the flower-spikes are fully developed.

Cyclopates.—The species L. Shinneri shows considerable variation in colouring, from pure white and other delicate shades to dark, richly-coloured forms. It is a very useful winter-flowering Orchid, and the plants are now pushing forth flower-buds from the base of the last-made pseudo-bulbs. L. macrophylla, and the hybrids L. Ballie and L. Mary Gratrix, are also commencing to produce blooms. Strong, healthy specimens will sometimes carry a large number of flowers without impairing the health of the plants, but in the case of valuable and weakly plants it is always advisable to remove what reduce the number of flowers immediately the buds appear. During the flowering period the plants should be kept just moist at the roots, but a smaller quantity will afterwards suffice to maintain the foliage and roots in a healthy condition.

Zygopetalum.—Z. Mackayi, Z. crinitum, and Z. intermedium are winter-blooming species which are well known for the lasting qualities of their flowers. The flower-scapes, which are produced simultaneously with the young shoots which appear shortly after the completion of the season's growth, are now well advanced. As the Orchid advances more or less active, the roots of the plant should never be allowed to remain in a dry condition for any length of time, but when all the flowers are expanded only a very small amount of moisture should be afforded, otherwise spotting of the blooms may occur. These remarks also apply to the hybrids of the above species which flower during late winter and early in spring.

Odontoglossum citrosomum.—This species having completed its season's growth, will need to have the supply of water gradually reduced, for the plants require a long and decided rest during the dormant period. They may remain suspended in the orchid house, and if a little moisture is afforded them at long intervals it will suffice to keep the pseudo-bulbs plump and the foliage fresh, provided the pseudo-bulbs have been properly matured beforehand.

When the plants have ceased their flowering their season of rest commences and the majority of them will remain more or less dormant until next spring. During this stage of inactivity the amount of moisture applied to the roots must be lessened. But the drying of these plants severely, directly their growth has ceased, is a mistake. The reduction of moisture should be gradual and as long as the roots are sufficiently active to take up water it should be applied. Sometimes the new pseudo-bulbs start rotting shortly after the flower-spikes have been removed. The decay sets in at the apex of the growth and is caused by moisture settling at that spot. Care should be taken to obviate this when cutting the flowers, and it is best done by severing the sheath not more than half way through, but just sufficient to allow the flower stem to be drawn out. The sheath will thus remain almost intact, and if a small quantity of powdered charcoal is placed in the top this will

serve to dry up any moisture that may be present. Subsequently, when the conditions are favourable, the sheath may be removed altogether.

Other members of this class of Orchids belonging to the spring and early-flowering types are in many instances fast completing their season's growth. There must be no lack of moisture at their roots, and every encouragement should be afforded the plants to thoroughly mature their pseudo-bulbs.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Rhubarb.—If a new plantation of Rhubarb has to be made, the ground should be heavily manured and trenched without loss of time. The Rhubarb is a very deep-rooting plant, and the results are therefore most satisfactory when the soil has been stirred to a considerable depth. The site should be an open one, except that it needs protection on the north and north-east. When the trenching has been done, a good dressing of fresh soot and lime may be applied to the surface and the ground left in this condition until February or March, when the Rhubarb should be planted. If large quantities are forced each year, the roots for this purpose should be cultivated on a south border, as by this means the growth ripens earlier. There are now so many improved varieties available, that it is surprising these are not more often employed. A good strain of Royal Albert may still be recommended for forcing, but, excluding this one, few of the old kinds are worth cultivation. Of the newer sorts, I may mention The Sutton, Hobday's Giant (an extra large growing kind of first-class quality, worthy of cultivation in any garden), and Day's Champion. The best method of propagating Rhubarb is by dividing the stools as often as it becomes necessary. In order to keep up a continuous supply of forced Rhubarb, fresh batches of roots must be introduced to the forcing house every three or four weeks, and only those varieties that force well should be used for the purpose.

The Herb border.—This should now be syringed and cleaned, and afterwards given a top-dressing, which will not only be beneficial to the roots from a manurial point of view, but also afford them some protection from frost. There is no better material for this purpose than that obtainable from a disused hot-bed. This material should be passed through a coarse sieve for use upon most herbs, but the Thymes, especially the Lemon Thyme, should be dressed with finely sifted road sand, and this should be worked well in amongst the growths. Mint should be covered to the depth of 2 inches with well-decayed leaf-mould which has been passed through a sieve. Make sure that a good stock of dried herbs is in readiness for use in the kitchen; it is not yet too late to collect some kinds, for instance, Sage. The growths should be laid out thinly after being cut, allowing them to become thoroughly dry before tying them into small bunches for suspending in an open shed.

Turnips.—Plants raised from late sowings have made good progress during the last six weeks. Do not hesitate to lift a good number of those which are fit for use and store them in small clamps in cinder ashes or sand. Great care should be taken not to allow these to become heated, or the worst consequences will follow. Any Turnips which are not sufficiently matured should have a little soil drawn over the bulbs as a protection against frost, especially the more tender kinds, such as Snowball and Jersey Lily.

Broccoli.—Keep a sharp look-out for any varieties which are about "turning in," and protect the young heads from frost immediately they have formed.

Material for protective purposes.—It will now be necessary to take measures to guard the crops against damage from severe frosts. There is no form of covering that will be found so suitable as bracken. It is very light, is not at all unsightly, and excellent for excluding frost. Celery, Broccoli, and many other kinds of vegetables should be given a light covering with bracken or straw whenever severe weather appears likely. Globe Artichokes may have a mound of finely-sifted cinder ashes placed around the base of each plant, and upon this a covering of long litter, bracken, or straw. Un-

heated frames containing vegetables for winter consumption or seedlings picked out for next spring's supply should be well protected by outside linings and by covering the glass at nights with mats, and, if necessary, long litter also, to keep out frost. At the same time the crops in these frames need all the ventilation that is practicable and as much light as possible.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The DOWAGER LADY NUNBURNHOLME, Water Priory, Yorkshire.

Cherries.—If the growths of dessert Cherry trees are excessively strong, the trees should be partly or wholly lifted. In replanting them add plenty of lime rubble and wood ashes to the soil. Take care to see that the soil is not over rich. These Cherries do not like winter pruning, therefore the greater attention should be given to root pruning and summer pinching. Good varieties include Early Rivers, Frogmore Bigarreau, Governor Wood, May Duke, Black Tartarian, and Bigarreau Napoleon, and for north walls Kentish and Morello.

Plums.—Plum trees succeed in most districts, and may be grown as standard or pyramidal trees at distances of 6 to 9 feet apart. The pyramids may be lifted or root pruned every three or four years. The choicest kinds only should be selected for cultivation against walls, including Jefferson, Kirke, and Cook's Golden Drop. They may be planted against a wall facing to the west, and if a few additional trees are planted against a north-west wall they will be extremely valuable for affording extra late fruits.

Pruning.—As most of the leaves have now fallen from the trees, a start should be made with the pruning and every advantage taken of the mild weather to push the work forward. Apple, Pear, and Plum trees in the open quarters should be taken in hand first, and all prunings and leaves should be afterwards raked up and burned so as to make the borders appear tidy. It is important that the operator should have some knowledge of the different varieties, especially in the case of young trees whose shoots require more severe pruning in order to lay a good foundation for future years. Beginning with old trees that have filled their allotted space, these should have the young wood spurred in from two to four buds, according to the variety. It is generally safe to prune strong-growing varieties to four buds, and weakly or medium growers to two buds. Care must be exercised in pruning varieties which form fruit-buds at the end of the current season's shoots, such as Lady Sudeley and Irish Peach Apples, and Jargonelle and Marie Louise Pears. Allow the shortest of these to remain until next year, when they can be cut back. Old trees are frequently found to be so crowded with branches that sunlight and air are excluded from the interior, and in such cases fruit is only produced at the extremities of the trees. Therefore, as new shoots generally form freely at the base, a few of the oldest of the branches should be removed annually. The same applies to trees that are overcrowded with old spurs; some of these should be removed each year, and wherever the use of the saw is necessary, let the rough edges of the cuts be smoothed over afterwards with the knife. In pruning young bushes and pyramid trees, if previous instructions with regard to pinching have been followed, very little will remain to be done, beyond the shortening of leading shoots to 10 or 15 inches, according to the size and variety of the trees and the space available, and spurring in the side shoots to about two buds.

Training.—After pruning is completed, training should be given attention. For the purpose of training very young trees, stakes about 3 feet in length should be provided. These should be driven in the ground where required, securing the branches with strong string and training them in any desired direction to maintain a shapely tree, but at the same time allowing sunlight and air to have free access.

Standard trees.—Very little pruning is necessary for these trees, but this should be most carefully done until the tree is five or six years old. The leading shoots should be shortened to about a third or half their length, and any branches which cross each other must be cut back.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, and at early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Appointments for December.

TUESDAY, DECEMBER 1—
Nat. Amateur Gard. Assoc. meet.
WEDNESDAY, DECEMBER 2—
Nat. Chrys. Soc. Early Winter Exhibition (2 days).
SATURDAY, DECEMBER 5—
Soc. Franc. d'Hort. de Londres meet. German Gard. Soc. meet.
MONDAY, DECEMBER 7—
Nat. Chrys. Soc. Exec. Com. meet.
TUESDAY, DECEMBER 8—
Roy. Hort. Soc. Coms. meet. British Gard. Assoc. Exec. Council meet.
WEDNESDAY, DECEMBER 9—
Exh. of the Carpeted Flowering C.arnation Soc. in R.H.S. Hall, Westminster.
THURSDAY, DECEMBER 10—
Nat. Rose Soc. Ann. Meeting and Dinner.
FRIDAY, DECEMBER 11—
Nat. Sweet Pea Soc. Ann. Meeting.
MONDAY, DECEMBER 14—
United Ben. and Prov. Soc. Com. meet.
THURSDAY, DECEMBER 17—Linnean Soc. meet.
SATURDAY, DECEMBER 19—German Gard. Soc. meet.
TUESDAY, DECEMBER 22—
Roy. Hort. Soc. Coms. meet.
FRIDAY, DECEMBER 25—Christmas Day.
SATURDAY, DECEMBER 26—Bank Holiday.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last fifty years at Greenwich—41° F.

ACTUAL TEMPERATURES:—
LONDON.—Wednesday, November 25 (6 P.M.): Max. 52°; Min. 44°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, November 26 (10 A.M.): Bar. 30.1; Temp. 52°; Weather—Fine.
PROVINCES.—Wednesday, November 25 (6 P.M.): Max. 52° Ireland S.W.; Min. 41° Scotland N.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—
At 67 & 68, Cheapside, E.C., Bulbs, by Protheroe & Morris, at 10.30.
MONDAY, AND FRIDAY—
1,000 Roses, in variety, at 67 & 68, Cheapside, 1.30.
WEDNESDAY—
2,400 Roses, in variety, at 1.30. Palms, 600 Azaleas, Rhododendrons, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris.
Spring-flowering Bulbs, Tree Ferns, Lily of Valley, &c., at 11.30.
2,400 cases Japanese Lilies, at 1, at 67 & 68, Cheapside.
THURSDAY AND FRIDAY—
Unreserved clearance sale of Nursery Stock, at the Nurseries, Chelmsford, by order of Messrs. Saltmarsh & Son, by Protheroe & Morris, at 11.30.
FRIDAY—
Orchids, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

The Parliamentary questions and answers on this subject which were published in our last issue related to the occurrence in this country of two fungal diseases, namely, the American Gooseberry-mildew and black scab of Potatoes.

The American Gooseberry-mildew (see *Gardeners' Chronicle*, December, 1905, January 27 and February 3, 1906) is said to have come to us from America. Black scab of Potatoes, which, according to the information supplied by the Board of Agriculture, is becoming common in this country, has reached us from the Continent.

The spreading of the American Gooseberry-mildew has been carefully traced by Mr. Salmon in its progress through these

islands. If anyone will compare the maps which have been published in the *Journal of the Royal Horticultural Society* illustrating the distribution of the disease in Ireland in 1904 and 1906 he cannot but be convinced that the mildew is establishing itself in its new home with slow but sure success. In the north-east counties of Ireland it occurred during 1904 in isolated stations; in 1906 it was already widespread in County Down. Whereas in the earlier year it was reported from nine counties, in the latter year it had invaded eleven. In 1904 *Sphaerotheca mors-uvæ*, the parasitic fungus responsible for this Gooseberry-mildew, was known in Europe only in Ireland, Russia and Denmark; in 1906 it had spread into Sweden, Norway, Germany, Poland, Austria, Finland. As everyone knows, it has now appeared in England.

There can be no doubt that unless its progress—without haste and without rest—can be stayed, an epidemic of the disease will declare itself in this country during the next few years.

Every horticulturist knows the history of the progress from America to England and thence to France of the Vine-mildew and of the Hollyhock-rust.

Now both the diseases under consideration, black scab of Potatoes and American mildew of Gooseberries, have this in common, that the fungi responsible for them, once established in their respective host-plants, have means of resisting the action of all but the most thoroughgoing and drastic remedial measures. A diseased Potato of one year left in the soil is a centre of infection for next year's crop of Potatoes; on the young wood of a fallen branch from an infected Gooseberry plant there may be resting-spores enclosed in a hard coat. These spores, surviving the winter, are liberated, borne to a neighbouring Gooseberry bush, germinate thereon, penetrate its tissues and produce, in the next autumn, a fresh crop of innumerable spores.

Remedy then in these, as in so many other cases, is extremely difficult, but mere difficulty in no way excuses the careless or indolent from the obligation to arrest the spread of infectious disease, when once its true nature has been ascertained.

It is inevitable and reasonable that, as disease ceases to be regarded as an inscrutable mystery and comes to be known as the outcome, at all events in great numbers of cases, of the activity of parasites, sensible men will endeavour to organise remedial measures. Later on they come to accept as their watchword the old saw that "prevention is better than cure." Thus there has grown up the science of preventive medicine, with respect to human and animal diseases; and thus, too, there is growing up a science of preventive medicine with respect to plant diseases.

Now as soon as this position is accepted, it will follow of necessity that men must, in order to secure prevention, submit to some interference on the part of the State with their individual liberty. Submission of this sort, or indeed of any sort, is not exactly a salient trait of our race. Hence there is bound to be a transition period when efforts on the part of authority to enforce regulations will be resented and obstructed, or at any rate

accepted without enthusiasm by those whose such regulations are meant to benefit. Lethargy and obstruction can only be overcome by the assiduous cultivation of public opinion with respect to the state of knowledge which affords a basis for intervention. We have recently had an example of intervention in the issue of the American Gooseberry-mildew orders by the Board of Agriculture. We can hardly escape the conviction that orders of this kind, which may seem a great innovation to horticulturists and are bound to press hardly on individuals, must become more frequent and more peremptory in the future.

The success of such orders in securing the end aimed at, for example, the isolation of diseased plants or areas, must depend, first, on the scientific certainty of the cause of the disease, together with accurate knowledge of the life-history of the parasite; second, on the appeal which such orders make to the good sense of the horticultural community; third, on the dissemination, by the responsible authority, of information serving to educate public opinion. In France it is a practice for the authorities to issue large posters describing the life histories and modes of prevention of such diseases as the leaf blight of Potatoes and mildew of Vine. Illustrated bills are hung up in railway stations and like places. It might break the monotony of railway travelling if a similar experiment were tried in England. Again, if not already done, it might be worth while for the Board of Agriculture to present bound copies of their pamphlets—revised wherever necessary—to free libraries and perhaps also to schools where nature study and gardening form part of the curriculum. Small devices like these may produce but small effects. But the effects, such as they are, will be in the right direction and cumulative. It will be only by resorting to these or similar methods that general recognition of the necessity for preventive measures is likely to be obtained.

Although plant diseases are difficult of prevention, and still more difficult of cure, some advance is being made along the lines of isolation, of spraying, and of breeding. That advance, to be satisfactory, must be led by a Board of Agriculture, certain of the scientific bases of its activity, and possessed of the confidence of the horticultural community. Science, and practice as well, must be represented on the councils which formulate proposals for the progress of horticulture. For, in the last resort, the success of such proposals will depend on the intelligent goodwill of the men whose vital interests are bound up in horticulture.

OUR SUPPLEMENTARY ILLUSTRATION of *Epidendrum falcatum* (syn. *Parkinsonianum*) has been prepared from a specimen which flowered in July last in the Chelsea Physic Garden (Curator, Mr. W. HALES). This fine old Mexican species was discovered by HARTWEG, growing on rocks near Oaxaca, in 1837, and later it was collected for Mr. BAKER, of Birmingham, by Ross, in the Orizaba district. It flowered with Mr. BAKER in 1839. About the same time it was sent by JOHN PARKINSON, Esq., British Consul at Mexico, to the Duke of BEDFORD's collection at Woburn

Abbey, and named *Epidendrum Parkinsonianum* by Sir WILLIAM HOOKER, and figured in the *Botanical Magazine*, t. 3778 (1840). Mr. BARKER also flowered it, and his specimen was named *E. aloiifolium* by Mr. BATEMAN (*Orchid Mex. and Guat.*, t. 25, 1843). It is also the *E. lactiflorum* of A. RICHARD. *Epidendrum falcatum* Lindl. was described by the author in TAYLOR'S *Annals of Natural History*, February, 1840, and it therefore has priority over the other names. The species is very distinct. It grows in an inverted position, which renders it advisable to cultivate it on blocks, rafts, or shallow baskets which can be suspended. The short stems proceed from stout rhizomes, and bear fleshy, linear, lanceolate, acuminate, channelled leaves, from the axils of which the flowers are produced. The sepals and petals are pale yellow-green. The large trilobed white labellum has the side lobes rounded, and the much longer linear-lanceolate middle lobe tinged with yellow at the tip. The flowers, which are powerfully fragrant, last in perfection for a considerable time if kept in a rather dry and cool atmosphere. It thrives well when grown with *Lælia anceps*, *L. albidia*, *Cattleya citrina*, and others, which, in the earlier days of Orchid culture, had a special-house, called the Mexican House, provided for them.

LINNEAN SOCIETY.—A meeting will be held on Thursday, December 3, at 8 p.m., when the following papers will be read:—1, Dr. G. HERBERT FOWLER, F.L.S., "Biscayan Plankton: The Ostracoda"; 2, Mr. BUNZŌ HAYATA, "Note on *Juniperus taxifolia*," Hook. and Arn.; 3, Mr. R. I. Pocock, F.L.S., "Mimicry in Spiders." Exhibition: Dr. ROSENHEIM, lantern slides by starch grain colour process.

THE PERPETUAL-FLOWERING CARNATION SOCIETY.—The annual exhibition of this society will be held on Wednesday, December 9, 1908, at the Royal Horticultural Hall, Westminster. This will form the fifth exhibition held under the society's auspices, and the management is endeavouring to attract larger numbers of gentlemen's gardeners and amateurs as exhibitors, for whom a section of the schedule is especially devoted. Hitherto much of the success of these shows has been due to the trade growers, and these, of course, are liberally catered for in the schedule. We notice that growers in the Channel Islands are debarred from competing in some of the classes. This is doubtless owing to their advantage in climate and is not merely a compliment to their superiority as cultivators. A scheme for the registration of new varieties has been formulated, and a new scale of points for judging has been adopted. Further particulars can be obtained from the hon. secretary, Mr. HAYWARD MATTHIAS, "Lucerne," Stubbington, Fareham, Hants.

APPOINTMENTS FROM KEW.—The following appointments from Kew are announced in the current number of the *Kew Bulletin*:—Mr. THOMAS CARTWRIGHT, a member of the Kew gardening staff, has been appointed by the Sudan Government, on the recommendation of Kew, superintendent of an experimental rubber plantation at Jebelain, on the White Nile. Mr. ROBERT BAND, also a member of the gardening staff, has been appointed by the Secretary of State for the Colonies, a Curator of Botanic Stations in the Agricultural Department of the Gold Coast. Mr. J. F. DUTHIE, B.A., F.L.S., who was appointed assistant for India on the staff of the Royal Botanic Gardens in 1903, has resigned the post owing to ill-health, and Mr. J. HUTCHINSON, formerly a member of the gardening staff, has been appointed assistant for India in the place of Mr. DUTHIE.

EXPERIMENTS WITH RUBBER SEEDS.—Experiments have been carried out by Mr. H. F. MACMILLAN, curator, and Mr. T. PETCH, Government mycologist, Peradeniya, as to the weight and germinative capacity of Hevea Rubber seed. The seed, states the *Kew Bulletin*, was collected from (A) a group of trees about 20 years old which had never been tapped, and from (B) a group of trees about 30 years old which were tapped regularly in 1905 (29 lbs. of dry rubber being taken from eight trees in three months), occasionally in 1906, but not at all in 1907. One thousand seeds were taken from each group, and each 1,000 were divided into 10 lots of 100 each, which were weighed separately. One lot from each group was planted on September 14th, and the remaining lots were planted in pairs, after weighing at intervals of a week, until all were planted. It was found that the seeds lose weight rapidly during the first fortnight after collection, and then more gradually till about the sixth week, after which time their weight remains more or less constant unless they are transferred to a drier atmosphere. The loss in weight appears to be due almost entirely to loss of water. From the experiment it was clear that the seeds from tapped trees are smaller, weigh less per 1,000 seeds, are actually denser, but lose more weight in drying than those from untapped trees. With regard to the germination tests, it was found that seeds from untapped trees were practically worthless if kept longer than two weeks, but that the seeds of tapped trees keep better, and both in percentage of germination and time of germination are better than seeds from untapped trees. These results, of course, apply only to germination, and as yet there is no indication as to the quality of the trees which would result from the two sets of seeds. When dry and shipped to England the kernels constitute about 50 per cent. by weight of the whole seed and yield 42.3 per cent. of oil. It is computed from the figures obtained from the experiments that 280,000 fresh seeds or 350,000 dry seeds (yielding 700,000 kernels) = 1 ton. The value of the kernels may be about £10 per ton.

MANURE AND WEEDS.—The question of the vitality of seeds in manure is one that sometimes forms the subject of discussion, and any new experimental evidence is therefore worth consideration. We learn that Mr. OSWALD has been studying the influence exerted on seeds by the processes of fermentation that go on in stored manure, comparing such effects with those produced on the seeds during their passage through the digestive tract of the cattle. His results are of interest, as showing that whilst about 12 or 13 per cent. of the seeds of weeds fed to cattle germinated if the manure was at once spread as a top-dressing, only between 2 and 3 per cent. came up if the manure was ploughed into the land, and none, or practically none, showed evidence of vitality if the manure had been previously stacked for six months in the yard.

***BRITISH MOSSES.**—Sir EDWARD FRIS is known to everyone as a great legal authority, and to a few as one who for many years has taken much interest in the Mosses. The little book, the second edition of which he has just published, tells of the natural history of the Moss in delightfully simple language, and it contains also an outline sketch of the part played by these organisms in the past. It is a little book which may be read with profit by anyone who is interested in the group, and in its breadth of suggestion it is distinguished from the features that often mark booklets of this class.

* *British Mosses*. Second Edition. By the Rt. Hon. Sir Edward Fry, G.C.B. London: Witherby & Co., High Holborn, 1908.

DUBLIN SEED AND NURSERY EMPLOYEES' ASSOCIATION.—Under the auspices of this flourishing society a conversation was held in the Gresham Hotel, Upper Sackville Street, on Thursday, the 19th inst. The function was very largely attended, members and their friends present numbering more than 150. In connection with the conversation, an exhibition of various subjects was organised, and these included photographic views, a collection of cereals and dried plants representing agricultural weeds; also exhibits of wild Clovers, and a case containing Irish insects; specimens of fungi injurious to plants; autumn-tinted foliage, hedge plants, and a model of a vine border. The proceedings also included a musical programme.

THE SAN JOSE SCALE.—From time to time warnings appear with reference to the San Jose Scale insect, and the probability of its obtaining a foothold in this country. It is certain that it is imported in considerable numbers, and Mr. W. E. COLLINGE, Director of the Cooper Research Laboratory, states that in the winter of 1905-06 some 10 per cent. of the fruit imported into Germany showed its presence. Of course, as Mr. COLLINGE points out, the fecundity of the insect is so great that if an acclimatised variety did happen to settle in this country, the results might well be disastrous. But we may reflect that, even in America, it has not as yet become universal, though it is disquieting to know that it seems to be extending into Canada. We recollect, however, that about seven years ago considerable alarm was manifested when it appeared in certain orchards in Ontario, though we have been unable to learn that it has succeeded in generally establishing itself there as an important pest.

PROPER STOKING OF GARDEN FURNACES.

—Very frequently one has the opportunity of observing, even in the case of a good sort of heating apparatus, a thick cloud of smoke streaming out of the chimney, good money being, as it were, thrown into the air. In such cases it is generally the stoker who is to blame. A little care prevents this waste, and enables the heating power of the fuel to be utilised to the utmost extent. It is wrong, when supplying fresh fuel, to spread it over the entire surface of the fire, as then a large proportion of the combustible gas in the fuel escapes into the chimney unused, and the soot—the unconsumed part—blackens the whole neighborhood. The stoker should spread the glowing part of the fuel over the entire surface of the firebricks, and the fresh fuel spread over the glowing embers or partly-consumed fuel in such a manner as to leave the hinder part free. The developing gases spread over the burning fuel and are completely consumed, whereby the fullest use is made of them. The stoker should be quick in his movements—a dilatory man is never a good stoker.

Publications Received.—*Sommaire du cours de Botanique*, by Jean Massart. Prix 1fr. 25.—*The New Flora of the Volcanic Island of Krakatau*, by A. Ernst, Ph.D. Translated by A. C. Seward, F.R.S., with two sketch maps and 13 photographs. (Cambridge University Press.) Price 4s. net.—*Life Histories of Familiar Plants*, by John C. Ward. (London: Cassell & Co.) Price 6s.—*The Principles of Gardening for Australia*, by C. Rague-Luffmann. Price 2s. 6d.—*Suggestions for School Gardens*, with appendices. Prepared for the Board of Agriculture, Jamaica, by J. R. Williams, M.A., Inspector of Schools. (Jamaica: Government Printing Office, Kingston.)—*Trees*. Vol. IV., Fruits, by the late H. Marshall Ward, Sc.D., F.R.S., edited by Percy Groom, Sc.D. (Cambridge University Press.) Price 4s. 6d. net.—*The Transvaal Agriculture Journal* (October, 1908).—*Bulletin of Miscellaneous Information*, Kew. No. 9, 1908.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

CHOISYA TERNATA.—On p. 346 Mr. Earley asks for information in connection with the flowering of this shrub in the Midlands. I have not seen plants of it growing in the Evesham neighbourhood, but late in September I saw a basket of the flowers brought into a train between Evesham and Birmingham, which had evidently been cut from out-of-doors. One of the few pleasant recollections I have of a brief sojourn in Derbyshire is the memory of this old favourite flourishing extremely well in anything but a favoured district. The plants were growing against a low wall facing north, and after severe and protracted winter were only slightly injured, and they flowered well during the succeeding summer. The situation was in the Peak district, where the snow ploughs were at work almost daily for a period of three months. It must be remembered that the plants mentioned above were planted on an unfavourable aspect, and that, given warm, sheltered spots, there is no doubt that *Choisya ternata* would prove to be hardy in many parts of Britain. *J. Wright, Evesham.*

ESCALONIA AND CHOISYA TERNATA FOR NORTH WALLS.—Mr. Earley's kindly criticism of my note suggests that these gardens enjoy exceptional climatic conditions, whereas, as I showed in a note on page 208, this is far from being correct. For instance, our mean temperature for January last was 37.09° Fahr., and the minimum was 9°. For nine consecutive days at the end of last year and beginning of this the maximum temperature was 38°. I feel safe in saying that the conditions here are approximate to those around London, and with this in mind, I recommended *Choisya ternata*; but as the Escalonia seems to require considerable atmospheric moisture, I particularly mentioned the warmer districts. It may be interesting to record that, two years ago, I found a seedling *Choisya* growing under a bush in the open border. *A. C. Bartlett, Pencarrow Gardens, Cornwall.*

JAPANESE MAPLES.—Hardiness is a relative term, and especially so when applied to these plants; but if any readers who have a doubt about growing Japanese Maples out-of-doors will call here, I shall be pleased to show them a plant of *A. palmatum septemlobum*, 18½ feet high, 17½ feet across, with the main stem 2 feet 11 inches in circumference. I have often been told that this is the finest plant in the kingdom. If there is a larger one, I shall be glad to hear where it is growing. During the last three weeks this plant has been a glorious mass of shades of gold, orange, brown, and red, all mingled together, and at this stage the branches have a plumy appearance which enhances their beauty. We have no record of planting, but, judging by the rate of growth, I consider it has been here nearly 40 years. The plant was not seriously injured in the severe winter of 1893, when the thermometer on the grass registered 8° below zero, and I find plants 2 feet high and upwards will pass through the winter safely, but smaller plants are often injured and sometimes killed. I once raised 400 plants from seeds obtained from the specimen already referred to, and amongst them there were over 40 distinct varieties. These were planted out when two years old, and all died except four. We have a plant of *A. palmatum atropurpureum* and *A. p. dissectum*; I do not find any difference in the hardiness of them, and as so many forms can be raised from seeds of one plant, it does not appear likely that there is any difference in that respect. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

I agree with Mr. Clark that Japanese Maples are as bardy as Laurels. They, however, start into growth before we are free from late frosts, and the young growths are almost invariably damaged. This can be prevented if they are planted in a position with a west aspect, so that the frost will leave the plants before the sun reaches them. *W. H. G., Lincoln.*

—*W.* stated (p. 346) that my remarks on this subject proved nothing. I referred to a collection of 15 or 16 of the very best varieties, which were growing in the open,

and these include the following, many of which were mentioned in Mr. Clark's notes:—*Acer crataegifolium*, *A. japonicum*, *A. j. vitifolium*, *A. j. dissectum*, *A. carpinifolium*, *A. rubrum carolinianum*, *A. hyrcanum lobatum*, *A. rubrum*, *A. linearilobum*, *A. atropurpureum*, *A. septemlobum elegans purpureum*, *A. polymorphum atropurpureum*, &c. I am convinced that Japanese Maples should be seen in every garden. *A. S., Yorkshire.*

CRATÆGUS IN FLOWER.—We have in these grounds in an exposed position of the park, two Thorn trees. One has lost all its leaves, the other is in full leaf and flower, some of which I enclose. The trees are each about 15 feet high and cover about 20 feet of ground. They are planted 18 feet apart. *Thomas Dore, Roschill Gardens, Caversham, near Reading.*

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 24.—The usual fortnightly meeting of the Committee was held in the Society's Hall, Vincent Square, on Tuesday last, and it was attended with a good average exhibition.

The ORCHID COMMITTEE'S awards included two First-Class Certificates, three Botanical Certificates, and three Awards of Merit.

The FLORAL COMMITTEE awarded a First-Class Certificate to a variety of *Polystichum* raised by Mr. C. T. DREYER; an Award of Merit to a new species of *Primula* introduced from China by Messrs. BEES, LTD., and a similar award to two varieties of single-flowered *Chrysanthemums*.

The FRUIT and VEGETABLE COMMITTEE recommended an Award of Merit to a new Pear.

Considerable comment was caused by the presence of an exhibit of Bon-bons decorated with artificial fruits and flowers, which gained admission by reason of the application for space being for "artistic table decorations." The Society's officials, not less than the visitors, regretted that an exhibit of the kind should have been presented.

At the afternoon meeting of Fellows Mr. J. Cheal delivered a lecture on "Italian Gardens."

Floral Committee.

Present: W. Marshall, Esq. (chairman), and Messrs. C. T. Druery, Henry B. May, W. A. Bilney, Jas. Walker, T. W. Turner, G. Reuthe, Chas. Dixon, R. Hooper Pearson, Walter T. Ware, Jno. Jennings, W. Howe, W. Bain, Chas. E. Pearson, J. T. Bennett Post, Chas. E. Shea, W. Culbertson, W. P. Thomson, E. H. Jenkins, W. J. James, Geo. Paul, Charles Black, Jas. Hudson, J. F. McLeod, and J. W. Barr.

Two excellent exhibits of *Chrysanthemums* were staged. One put up by Mr. NORMAN DAVIS, Framfield, Sussex, was arranged under the wall opposite to the entrance. The manner of staging was only excelled by the high quality of the blooms, especially the Japanese varieties. Mr. DAVIS utilised epergnes and large vases for displaying the flowers, and as a background he arranged tall Palms and graceful Bamboos. The groundwork was formed of smaller vases of single and decorative varieties, above which the large vases and epergnes stood in bold relief with blooms of the best exhibition quality of most of the popular and newer varieties. We noticed as especially fine, *Polyphème* (yellow), Mrs. J. Hygate (white), True Gold (an excellent shade of deep yellow), Dr. Enguehard (rather small pink blooms), Miss Gertie Court (rose), Edith Jameson and Mrs. J. C. Niel (yellow). The single varieties were also noteworthy, especially pleasing being *Arcturus* (scarlet-crimson) and *Mensa* (white), of regular outline and with a beautiful yellow centre. There was a host of other decorative plants used as relief, and a suitable border was made with green velvet.

On an adjoining table Mr. DAVIS arranged many vases that could not be accommodated in his large group; a white sport from the well-known Edith Jameson, labelled Mrs. A. M. Falkner, was shown. Mr. DAVIS has also a white sport from the popular Walter Jinks variety. (Silver-gilt Flora Medal.)

The other large display of *Chrysanthemums*

was exhibited by Mr. H. J. JONES, Hither Green, Lewisham, and it received the same award as the preceding group, viz., a Silver-gilt Flora Medal. This display was arranged at the end of the building sometimes occupied by the concert platform, and part of the group extended round the northern wall. It was carpeted with green cloth and many handsome specimens of *Ananasia sativa* (Pineapple), *Codiums* (Crottons), *Abutilons*, *Ferns*, *Palms*, &c. The principal features were large groups of Japanese blooms, either in rustic tripods, epergnes, or large decorative vases, and coloured foliage was intermixed with the blooms. Then there were smaller groups of single and decorative varieties, with vases of single blooms of newer varieties, also fancy baskets filled with blooms. The varieties of especial note were: John Day, Lord Brook, Kitty Gulliver, Guy Hamilton, Gertie Court, Mme. R. Oberthur, White Mme. Barkley, Mrs. Wakefield (a reddish shade of terra-cotta), Lord Brook, Harold Swales, Edith Jameson (very fine), Mrs. Wynne, and True Gold.

Another large exhibit of *Chrysanthemums* was presented by Messrs. W. WELLS & Co., Merstham, who showed many novelties, especially in single and decorative varieties. (Silver Banksian Medal.)

Messrs. GEO. WILLIAMS & SONS, Manor House Nurseries, Cardiff, showed a collection of seedling *Chrysanthemums*, and a lemon-coloured sport from the well-known Mme. Oberthur variety.

A number of single, thread-petalled, and pom-pom *Chrysanthemums* was shown by Messrs. H. CANNELL & SONS, Swanley, who had also one of their bright groups of Zonal Pelargoniums. (Silver Banksian Medal.)

Mr. R. RUSSELL, Nurseryman, Richmond, Surrey, showed two groups of hardy Bamboos, arranged with berried and ornamental-leaved shrubs. (Silver Banksian Medal.)

Begonia of the winter-flowering type were shown in batches of varieties by Messrs. JAS. VEITCH & SONS, LTD., King's Road, Chelsea, and intermixed with these were groups of *Rhododendrons* of the javanic-jasminiflorum type, also *Luculia grattissima*, and the fragrant *Stevia serrata*. (Silver-gilt Banksian Medal.)

Messrs. CUTBUSH & SONS, Highgate, London, N., showed *Carnations* in variety, all fine blooms of popular varieties, and, as a separate exhibit, a group of ornamental-leaved plants of greenhouse species. Very pretty were plants of *Dracæna Douceti*, with its stiff, narrow leaves; also the broad-leaved *D. Massangeana* and *D. Victoria*. Others were *Phoenix Roelenii*, *Araucaria excelsa* and *Aralia Veitchii*. (Silver-gilt Banksian Medal.)

Filmy Ferns were shown by Messrs. H. B. MAY & SONS, The Nurseries, Upper Edmonton, in a group of other subjects. These moisture-loving Ferns are not often displayed at exhibitions, and the group attracted much interest. They were principally species of *Trichomanes*, but there were others, including the lovely *Todea superba*. The remainder of the group was made up of *Veronicas*, *Solanums*, *Begonias* of the Gloire de Lorraine type, and crested Ferns. (Silver-gilt Banksian Medal.)

Begonia The Queen, said to be a sport from Mrs. Leopold de Rothschild variety, was shown by Mr. ARTHUR YOUNG, Oxted Nursery, Surrey.

Some large plants of *Begonia Gloire de Lorraine*, all plentifully furnished with blossoms, were shown by Mr. E. B. JOHNSTONE, Esq., Groombridge (gr. Mr. Paskett). (Bronze Flora Medal.)

Messrs. HUGH LOW & Co., Bush Hill Park, Enfield, exhibited *Cyclamen* in batches of salmon, pink, white and other varieties; also *Leonotis Leonurus* and the *New Wallflower* *Cheiranthus x kewensis*. (Bronze Flora Medal.)

A pleasing group of *Primula obconica*, with flowers having a wide range of colouring, was shown by the Duchess of BEDFORD, Chenies, Rickmansworth (gr. Mr. J. Dickson). (Silver Banksian Medal.)

Messrs. BARR & SONS, King Street, Covent Garden, London, showed *Nerine flexuosa alba*, and a few other bulbous flowers.

Exhibits of Alpine plants were presented by Misses HOPKINS, Mere Gardens, Shepperton-on-Thames; Messrs. WARE, LTD., Feltham (Silver Banksian Medal), and Messrs. JOHN REED & SONS, Norwood.

Paintings of flowers were exhibited by Miss FANNY FARRER, 19, Shaa Road, East Acton.

AWARDS.

FIRST-CLASS CERTIFICATE.

Polystichum aculeatum gracillimum Druey.
—A remarkably graceful slender form of the species, in which the normal pinnales of half-an-inch are lengthened into almost hair-like ones of 2 inches. The fronds are much widened and assume a charming semi-decumbent habit. The plant is interesting, as forming one of a batch directly derived from spores of the merely bipinnate, slender-tipped *P. a. pulcherrimum*, after some 35 years of sterility. About 75 per cent. of the sowing were exact replicas of the parental form, 20 per cent. marked variants on similarly slender and beautiful lines, and the balance nearly normal reversions. Shown by Mr. CHAS. T. DRUEY.

AWARDS OF MERIT.

Primula malacoides.—This new species has been raised from seeds gathered by Mr. George Forrest on the high Alps (9,000 feet) of Yunnan, China. A large number of plants were shown in 3-inch and 4-inch pots. In general appearance they were like glorified plants of *P. Forbesii*, but with a laxer habit. Some of the plants in 3-inch pots bore as many as nine inflorescences. The flowers are borne in verticillate whorls, each flower being 1-inch to 1-inch across, pink in colour, with a yellowish eye. The plants shown were brought from an unheated frame, but it was said that others were flowering out-of-doors, the species being very much harder than *P. Forbesii*. Shown by Messrs. BEES, LTD.

Chrysanthemum Merstham Jewel.—A single variety with shades of bronze, yellow, and red, with a yellow ring around the disc. The blooms have a diameter of about 4½ inches. (Shown by Messrs. W. WELLS & CO.)

C. Caledonia.—An extra large single variety, with a diameter of 7½ inches. Colour rosy-lilac, with a distinct white ring around the disc. (Shown by Messrs. GEORGE WILLIAMS & SONS, Manor House Nursery, Cardiff.)

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, de B. Crawshaw, H. Little, W. Boxall, W. Bolton, Gurney Wilson, H. A. Tracy, W. Cobb, J. Forster Alcock, H. G. Alexander, J. Cypher, W. P. Bound, J. Charlesworth, F. M. Ogilvie, A. A. McBean, Stuart Low, R. C. Thwaites, R. Brooman-White, J. Wilson Potter, A. Dye, and J. Charlesworth.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Flora Medal for a group in which were two superb novelties, viz., *Cypripedium Dreadnought* and *Vanda cincta* var. *R. Chollet*. The group also contained plants of the singular *Chondropetalum Fletcheri*, showing more of the influence of *Chondrorhyncha Chestertonii* than in the plant shown at the last meeting. Also *Cirrhopetalum Roxburghii*, a fine specimen of *C. Medusæ*; *Vanda Watsonii*, *Oncidium uniflorum*, and a large number of *Cypripediums*.

Messrs. CHARLESWORTH & CO., Haywards Heath, staged a select group, for which a Silver Flora Medal was voted. We noticed the showy orange and tubed *Lælio-Cattleya Sunray*; *Odontoglossum Uro-Skinneri magnificum*, with a fine rose-spotted lip; the brightly-coloured *Odontodia Bohnhoffii*; *Coclogyne sulphurea*, with three spikes, and a large form of *Oncidium bicallosum*.

From the Royal Gardens, Windsor, Mr. A. MACKELLAR sent cut spikes of *Dendrobium forosium* giganteum. A noteworthy feature was the varying tint of the colour in the labellums.

LT.-COL. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent *Cypripedium Hitchianii superbum*, a variety with a fine dorsal sepal that is spotted with rose colour. An interesting cross between *C. Mrs. Tautz* and *C. hirsutissimum* with the peculiar broad petals of *C. hirsutissimum* and the new *C. Arethusa*. (See Awards.)

Messrs. HUGH LOW & CO., Enfield, were awarded a Silver Banksian Medal for a group in which were several specimens of *Cynochas malacatum*, *C. chlorochilum*, *Platychis latifolia*, *Cochlidium vulcanicum*, *Coclogyne fuliginea*, and other species. A very attractive white form of

Cattleya labiata resembling *C. l. Amesiana*, but with a darker lilac tint on the lip, was seen in this exhibit.

Messrs. JAS. CYPHER & SONS, Cheltenham, were awarded a Silver Banksian Medal for a group principally composed of well-grown *Cypripediums*.

Messrs. HEATH & SONS, Cheltenham, secured a Silver Banksian Medal for a group of *Cypripediums* and other Orchids, the best of which were *C. Blanche Moore*, a well-formed flower, finely marked.

Monsieur MERTENS, Mont St. Amand, Gand, was awarded a Bronze Banksian Medal for a small selection of hybrid *Odontoglossums*, including the dark-coloured *O. Vuylstekei* and the finely-formed *O. Vuylstekeae*.

Messrs. J. VEITCH & SONS, Chelsea, showed the new *Cypripedium Queen of Sweden* (*secundum* X *Euryades*), a very distinct and beautifully coloured flower having in some parts a resemblance to *C. triumphans*. The upper sepal is bright rose with a small green base and a clear white tip and margin, the central part having deep claret-coloured lines, on each side of which were rose-purple spots. The petals are long and tinged with reddish purple; the lip is of a deep mahogany red with a shining surface, staminate yellow.

DE B. CRAWSHAW, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent *Odontoglossum Waltonense* variety (*Kegejani* X *crispum* Raymond Crawshaw), a handsome hybrid with the fine substance and clear yellow ground colour of *O. Kegejani* (polychanthum).

Messrs. ARMSTRONG & BROWN, Tunbridge Wells, showed *Cattleya labiata Amesiana*; *Cypripedium insignis* *Sylhetense* giganteum, a very large and distinctly-marked flower; *Neobenthamia gracilis*, &c.

F. BOSTOCK, Esq., Springfield, Cliftonville, Northampton, showed *Cypripedium Actæas* *Springfieldense*, a light-coloured variety, with very pale, greenish-yellow flowers, having the greater part of the dorsal sepal pure white.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford, sent a fine inflorescence of *Cymbidium Maggie Fowler*, and the large and finely-formed *Cypripedium Ernest Read*.

Mrs. TALBOT CLIFTON, Lytham Hall, Lytham (gr. Mr. Floate), exhibited a large specimen of *Odontoglossum Hallii*, a strong-branched flower-spike bearing 38 flowers.

FRANK ALCOCK, Esq., Oxonodon, and GURNEY WILSON, Esq., Haywards Heath, showed varieties of *Cattleya Mrs. Pitt*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cypripedium Dreadnought (Troilus X insignis Harfield Hall), from Messrs. SANDER & SONS, St. Albans.—A noble *Cypripedium*, which attracted as much attention as did Messrs. SANDER & SONS's *C. Leeannum*. J. Gurney Fowler, which this novelty slightly resembles in the somewhat square expansion of its great dorsal sepal. In colouring it is nearer *C. Aeson* giganteum, but the dorsal sepal of *C. Dreadnought* is far superior to that fine hybrid. The dorsal sepal, which is over 3 inches across, has the lower half gamboge yellow, with light-purplish spotting the upper part being pure white with some purple spotting in the middle. The broad, wavy-edged petals are tinged and netted with pale purple, the broad margins being primrose yellow, and the basal portions having dark, purple-brown spots. The lip is large, the surface being tinged with reddish-brown; staminate large, and of yellow colour; lower sepals large and circular.

Vanda carulea "R. Chollet", from Messrs. F. SANDER & SONS.—A grand variety, with the bright blue of the flowers appearing as body colour and not as surface colour, as in other forms. The veining and lip is violet-blue, and the flower is perfectly circular in form. It is named in compliment to Monsieur R. Chollet, the able chef de culture in Messrs. SANDER'S establishment at Bruges.

Cypripedium Sanaetocus Etonense (Actæas Langleyense X insignis Harfield Hall), from Messrs. JAS. VEITCH & SONS, Chelsea.—Since showing their fine *C. Aeson* giganteum and *C. Actæas Langleyense*, Messrs. VEITCH have produced nothing equal to the fine new *Cypripedium*, which, when fully developed, will rank as one of the best among hybrid *Cypripediums*.

The dorsal sepal is large, pure white, with a pale, yellowish-green base that has purple-brown spotting, changing to rose colour towards the white upper part. The petals are greenish-yellow, tinged with purple-brown; the lip is of the same shade of yellow as honey, with a purplish-brown face. The lower sepals are pale green, with dark lines; staminate large and yellow. It is a solitary seedling, being the only plant raised.

Cypripedium Arctura (Milo X Sallicaria aurum), from LT.-COL. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A finely-formed, and perfectly-shaped flower of good substance. The fine form of *C. Milo* and the features of *C. insignis Chantini* obtained through it are well retained, but the colouring of the other parent of *C. Milo* (*C. ænanthus superbum*) has been quite eliminated in this hybrid. The dorsal sepal is pure white, with a greenish-yellow basal area that is evenly spotted with clear, rose-purple. The petals, lip, and staminate are lemon-yellow, with a slight, dusky-purple hue on the veining.

Odontoglossum Grogonia (Edwardsii X Uro-Skinneri), from J. HUBERT GROGAN, Esq., Slaney Park, Balinglass, Co. Wicklow, Ireland.—A very remarkable hybrid, with the general characters of *O. Thompsonii*, but with well-marked indications of *O. Uro-Skinneri*, both in the pseudo-bull and flower. The plant bore a strong, many-branched inflorescence of purple flowers, with rosy-mauve labellums having a yellow crest.

BOTANICAL CERTIFICATES.

Oncidium microgogon, from GURNEY WILSON, Esq., Glenthorpe, Haywards Heath.—A pretty species of the *O. barbatum* section, distinguished by the large, clear, yellow petals and the similarly-coloured, petal-like, side lobes to the lip.

Coclogyne fuliginosa, from Messrs. ARMSTRONG & BROWN, Tunbridge Wells.—A singular species with tawny flowers, having a fringed labellum of a sooty-black colour.

Bulbophyllum Careyannum, from Messrs. ARMSTRONG & BROWN.—A well-known species, with a short raceme closely set with brownish flowers.

CULTURAL COMMENDATION.

To Mr. Bristow (gr. to Mrs. Temple, Leyswood, Groomsbridge) for a fine plant of *Coclogyne barbata* with six spikes, all profusely flowered.

Fruit and Vegetable Committee.

Present: Joseph Cheal, Esq. (in the chair), and Messrs. W. Bates, Geo. Woodward, A. Dean, H. Parr, James Vert, A. K. Allan, J. Davis, H. Markham, J. Lyne, Edwin Beckett, Chas. Foster, J. McIndoe, J. Jaques, Geo. Wythes, Owen Thomas, H. Somers Harris, C. G. A. Nix, G. Reynolds, and John Riven.

The principal exhibit was a collection of Apples shown by J. G. WILLIAMS, Esq., Pendley Manor, Tring (gr. Mr. F. G. Gerrish). There were 40 dishes, and all the fruits were of remarkably fine quality, being large and coloured to a high degree on a mellow ground. The varieties represented the best of both culinary and dessert kinds. (Silver-gilt Knightian Medal.)

A collection of Apples and Pears was exhibited by Sir EDMUND LODER, Leonardslæe, Hordsham, Sussex (gr. Mr. W. A. Cook). The exhibit was brightened with fruiting sprays of *Cotoneaster Simonsii*, and at the back were some interesting sprays of berries and flowers. (Silver Banksian Medal.)

An exhibit of Potatoes was displayed by Messrs. GEO. MASSEY & SONS, Spalding. In addition to a large assortment of tubers of new and popular varieties, there were many seedlings of the first year's growth. (Silver Banksian Medal.)

A Cultural Commendation was awarded to Mr. J. Banting, gardener to the Earl of Druce, Tortworth Court, Falfield, for fruits of *Diospyros costata*.

AWARD OF MERIT.

Pear Danas Hovey.—This variety is by no means new, for it was raised as far back as 1854 by Mr. Dana, of Massachusetts, U.S.A., a raiser of many new Pears, of which this is described as being the best. The variety has several synonyms in the United States. It is a somewhat small fruit, with a russet skin and an

agreeable flavour. The flesh is soft and melting. It is in season in mid-winter, keeping in a good condition until January. (Shown by Messrs. JAMES VEITCH & SONS, LTD.)

Scientific Committee.

NOVEMBER 14.—*Present*: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs. J. Fraser, W. Cuthbertson, L. Crawshaw, R. A. Rolfe, J. T. Bennett-Poë, W. Fawcett, W. C. Worsdell, G. S. Saunders, R. Curtis, and F. J. Chittenden (secretary).

Grease bands.—Mr. W. VOSS showed a grease band from a Plum tree in fruit garden at Enfield Highway. The grease band was about 6 inches wide, and upon it were a few specimens of the female winter moth, *C. brumata*. The band had been on the tree a month, but not till now had any winter moth been caught. The insects were near the bottom of the band. Mr. Voss promised to send up a band from the same garden to each meeting.

Fasciation in Mushroom.—Mr. WORSDELL showed a fasciated specimen of the common Mushroom, *Agaricus campestris*. Fasciation is apparently very uncommon in fungi.

Abnormality in Rubus.—Mr. J. FRASER showed a specimen of *Rubus thamnosifolius*, with foliaceous sepals and adventitious roots at the base of the fruiting panicles, which are mostly flowerless. The internodes of the fruiting panicles (or what should have been such) are very little developed on the whole of last year's stems. Barren stems and leaves of this year are normal.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

NOVEMBER 5.—*Committee present*: Messrs. E. Ashworth, R. Ashworth, Thorp, Cowan, Ward, Warburton, Ball, Keeling, Holmes, Ashton, Parker, and Weathers.

A. WARBURTON, Esq., Vine House, Ilaslingden (gr. Mr. Dalgleish), obtained Silver Medals for a collection of Cypripediums and a general group. Cypripedium *insigne* var. *excelsis* was awarded a First-Class certificate. *C. x aureum* var. *Romona*, Vine House variety, received an Award of Merit.

E. ROGERSON, Esq., Didsbury (gr. Mr. Price), received a collection of Cypripediums, for which a Silver Medal was awarded. Notable plants in this group were *C. x Germain Opioix*, *C. x Thalia* var. *gigantea*, *C. x Priam*, and *C. x Boadicea* var. *rosita*, the last-named receiving an Award of Merit.

Z. A. WARD, Esq., Northenden (gr. Mr. Weatherley), staged a group of Odontoglossums, including fine forms of *O. crispum* and a number of hybrids. One of the most beautiful hybrid Odontoglossums (*O. x Wardii*, *C. crispum* Luciani *x O. x Vuylstekei*) received a First-Class certificate. (Silver-Gilt Medal.)

R. ASHWORTH, Esq., Newchurch (gr. Mr. Fletcher), was awarded a Silver-Gilt Medal for a miscellaneous group of Orchids, in which Odontoglossums were prominent. *Cattleya x Fabia*, R. Ashworth variety, received an Award of Merit.

Mr. J. BIRCHALL, Alderley Edge, exhibited two forms of Cypripedium *Chalesworthii*.

Mr. W. SHACKLETON, Great Horton, Bradford, received a Bronze Medal for a group of Cypripediums.

J. MCCARTNEY, Esq., Bolton (gr. Mr. Holmes), was awarded a Bronze Medal for a collection consisting principally of *Cattleyas* and *Laelias*.

J. H. CRAVEN, Esq., Keighley (gr. Mr. Corney), displayed a fine form of Cypripedium *x Gaston Bullel*.

G. SHORLAND BALL, Esq., Under Fell, Burton, Westmoreland, was awarded a Silver Medal for a group of Cypripediums. *C. x Lecaean* var. *Ballii* was voted a First-class Certificate. This flower has a beautifully-fringed dorsal sepal. *C. x Mennon* var. *Queen Alexandra* received an Award of Merit.

C. PARKER, Esq., Preston, was awarded a Bronze Medal for a group of Cypripediums.

J. J. HOLDEN, Esq., Southport (gr. Mr. Johnson), exhibited *Cattleya labiata* var. *Amesiana*, and Cypripedium *x auburnense*.

H. J. BROWLOW, Esq., Rainhill (gr. Mr. Morgan), staged some choice varieties of Cypripediums, including *C. x Thalia* var. *Mrs.*

Francis Wellesley, *C. x Germain Opioix*, *C. x Priam*, and *C. bellatulum album*. (Silver Medal.)

Mr. J. ROBSON, Altrincham, exhibited Cypripedium *x Dido* (*C. triumphans x C. x Sallierii* var. *Hyacum*) (Award of Merit), a similar award being given to *Cattleya x Ariadne*, parentage unrecorded.

Messrs. H. LOW & Co. staged a group of *Cattleyas*, in which were some choice albino forms. (Silver Medal.)

Mr. W. BOLTON and Mr. A. J. KEELING also staged exhibits of plants. (Bronze Medal.)

PARIS AUTUMN SHOW.

NOVEMBER 6-15.—The last of the great horticultural shows that will be held in the greenhouses on the Cours la Reine, Paris, by the National Horticultural Society of France, took place on these dates. The show was one of the grandest ever held there. The entries in the various classes numbered 319. The jury numbered 59 persons in all, and was divided into 16 sections. In some classes competition was very keen, there being, in some cases, as many as 20 or more entries. The principal prizes were as follows:—Grand Prix d'Honneur to those following:—MM. CROUX ET FILS for fruit and fruit trees; to M. CALVAT for seedling Chrysanthemums; Félix d'Honneur to MM. SALOMON ET FILS for Grapes; to M. PINON for trained Chrysanthemums; to MM. LEVEQUE for Chrysanthemums and Carnations; to M. DEBRIE-LACHAUME for floral decorations; to M. COLIN for Chrysanthemums; to M. LESUEUR for Orchids; to M. GOULIN for fruit; to MM. VALLERAND FRÈRES for flowering plants; to M. VALTIER for vegetables; to MM. NOBLET-BRUNET, VILMORIN, ANDRIEU ET CIE, and L. CAYRON received the felicitations of the jury for the excellence of their various collections.

Along the handsome promenade by the side of the Seine were exhibits of various horticultural sundries. At the entrance to the first of the large greenhouses were groups of hardy ornamental shrubs and plants of various kinds. M. ALFRED MONNIER planted beds with Conifers, &c. M. LECOINTE exhibited a collection of Conifers, Hollies, Euonymus, Box, &c.

Large numbers of trained fruit trees occupied the whole length of the central promenade in several rows. They were trained in every variety of form known to French gardeners, the exhibitors including MM. NOMOT-BRUNET, CROUX ET FILS, MOSER ET FILS, LECOINTE, A. MARTIN, GEO. BOUTCHER, ANDRÉ, LIÈVRE, and BROCHET.

Hardy shrubs, ornamental trees, Conifers, &c., were also shown by M. A. BROCHET and M. PAUL LECOLIER.

The entrance afforded a view right through the first greenhouse and down the corridor that unites it with its fellow at the extreme end of the show. On entering on either side were seen borders filled with pot plants of dwarf-grown Chrysanthemums arranged by MM. VILMORIN, ANDRIEU ET CIE. There were a number of medium-sized blooms on bush plants and standards, and a border of brightly-coloured pompon varieties. They also had a large rectangular sunken garden, with sloping sides. On the lower level of this garden a geometrically-arranged bed contained blooms graduated in great diversity of colour, with a huge centre trained plant of a yellow Japanese variety. Along the sides of this sunken garden were a number of pot plants displayed in beds cut out of the turf. These plants were some of the finest in the show, especially the following:—Loiseau-Rousseau (immense), Papa Bie, Nivose Femina, and Polyphème.

Orchids and other plants were staged in the two side rooms behind MM. VILMORIN's borders of Chrysanthemums. One from Messrs. A. TRUFFAUT ET FILS was comprised of Azaleas, Dracenas in great variety, Anthuriums, ornamental foliage plants, Begonias, &c. There were also several handsome collections of Orchids from such noted cultivators as MM. MARON ET FILS, LESUEUR, REGNIER, C. DIETRICH and BERANEK.

Almost the whole of the body of the interior of the first greenhouse, with few exceptions, was filled with Chrysanthemums, the exceptions being down the sides, where the fruit was arranged.

M. LEON CAYRON, of Cherbourg, famous for

his grafted Chrysanthemums, showed many plants in pots, including some that were grafted. Among the varieties was noticed Swanley Giant, Surprise, Amateur Rozière, Chrysanthémiste Leroux, and numerous French varieties but little known in this side of the Channel. Another exhibitor, M. A. GOUVON, showed a group of dwarf plants in pots, cleverly sunk in the ground. The plants had medium-sized blooms, the best known being as follows:—Phœbus, Oceana, Mrs. Barkley, Le Peyrou, Priode of Exmouth, W. Tricker, Mme. Ed. Roger, and many of French origin.

There was a large competition in the class for novelties. Eleven prizes were awarded by the jury, and the Floral Committee granted at least 60 First-Class Certificates to new seedlings. The well-known Grenoble raiser and grower, M. ARNIST CALVAT, was awarded 13; VILMORIN, ANDRIEU ET CIE, eight; M. L. NONIN, eight; the Marquis de PINS, seven; M. CHANTRIER, five; and M. HERAUD, five.

Collections of plants in pots and cut blooms were arranged about the show. M. ANATOLE CORDONNIER, of Bailleul, had set up in good form four collections of cut Chrysanthemums in large specimen blooms, including the novelties of the Marquis de PINS. Two long narrow beds close by were staged by the well-known French nurserymen, MM. LEVEQUE ET FILS, in neat, dwarf pot plants, displaying medium-sized blooms. The same exhibitors staged a circular bed and two corner exhibits.

An exhibitor who made a fine display at the Tours Exhibition only three days before is M. PINON. Here again at Paris he made an imposing effect with tall pyramids, star-shaped specimens, fan-shaped, and Japanese pyramid Chrysanthemums, freely flowered, the whole lot occupying somewhere about three-quarters of the length of one side of the greenhouse.

Just opposite to a collection from M. LACHAUME, who set up in good style, a long group of plants in pots, all bearing large blooms, mostly three or four on a plant. Another well-known grower, M. OPOIX, the head gardener to the Luxembourg garden, showed a tastefully-arranged exhibit of Chrysanthemums, edged with Ferns, single-flowered varieties, and Baronne de Vinols, with several sports from this variety; also several pompon Chrysanthemums, almost the only ones in the show. From the ASILE DE VILLEVARDEY came a pretty group of pot plants. These were edged with Gerbe d'Or pompon, an old favourite with the Parisian growers. M. J. H. LECOINTE ANÉ showed a closely-packed collection, consisting of medium-sized blooms of Chrysanthemums of average merit. M. GIBLIN contributed a rather novel group. It consisted of large trained specimens in big pots at the back, while in front at intervals were three rows of large cut blooms in vases.

MM. LEVEQUE ET FILS, who are famous not only for their Roses but for their Carnations, showed two lots of these latter flowers, prettily set up in a bed on the ground level. Another Carnation grower, M. BERANEK, also showed a collection of Carnations.

In the corridor that unites the two greenhouses a spacious area contains fruit and vegetables, also numerous lots of Chrysanthemums and some decorative displays of other flowers.

Among the fruit exhibits was one conspicuous above all others by its novel and effective design. It occupied a large area of rectangular form, and was edged with trees. Several panels were filled with fruit, and in the middle was a kind of tower, with shelves and rows containing other fruits. The exhibitor was M. H. LEMAIRE.

Another fruit exhibitor in the corridor was M. OLIDA, who showed a good collection of Grapes and Pears. The well-known firm of fruit growers, MM. CROUX ET FILS, also displayed a big collection of Apples and Pears on plates in immense variety. An important exhibit from M. L. THIBAUT consisted almost entirely of Apples and Pears.

M. MONTIGNY, Orleans, showed four groups of Chrysanthemums, chiefly novelties of the past two or three years. In the middle of the central passage M. FONTENAU had an effective circular group of dwarf Japanese trees. In the far right-hand corner were collections of rare old books, pictures, plates, engravings, &c., chiefly from the libraries of MM. MOMMÉJA, HARMAN PAVNE, NONIN, VILMORIN, and ROSETTE.

MM. CAVEUX et LECLERC displayed a collection of flowers, and M. FRANÇOIS large plants of *Chrysanthemums* in tubs, in addition to cut blooms of *Chrysanthemums*. Other exhibitors included M. LECOLIER, who staged shrubs.

Going down the flight of steps leading to the promenade along the Seine MM. VILMORIN, ANDRIEU et CIE. set up one of their usual exhibits of vegetables. M. RIGAUD showed a collection of Potatoes, and close by was noticed vegetables in large and varied numbers in an immense and splendidly-arranged border, 6 feet wide and 27 yards long, the exhibitors being the ECOLE D'HORTICULTURE ST. NICOLAS. M. COMPOINT showed a large collection of Asparagus, and another firm, MM. ANGEL et FILS, exhibited a collection of Potatoes, Carrots, &c. The well-known exhibitors who trade as LA PENSÉE arranged a notable group. It was 50 yards long, and contained almost every vegetable in season. M. FERRARD showed Potatoes and Tomatoes.

In the second large greenhouse was more variation than in the first, although there was but little to choose between them in point of interest. A fine group of Hydrangeas by M. DESIRÉ RAMELET was one of the features. Among many other interesting floral collections, M. FERRARD staged several beds containing *Primula obconica*, *Nagelia*, *Cyclamen*, and Ferns.

For brilliancy of colour nothing equals the single and double-flowering Begonias seen at the Paris show. Two exhibitors are always prominent, M. BILLARD and MM. VAILLARD, who also showed some fine *Cyclamen* and *Gloxinias*.

In the nearest corner of the second greenhouse was a display from M. ADNET, consisting of a choice collection of hybrid Gerberas. Some of these were certificated by the Floral Committee. The firm of VILMORIN, ANDRIEU et CIE exhibited a neatly-arranged exhibit of *Primula obconica*. In the middle of the greenhouse, making a most conspicuous subject, was a group from M. GEORGE TRUFFAUT, who had a grand display arranged on a circular lawn. This consisted of a remarkable monument of white *Lily*, at least 9 feet high in the centre, and around the base, in the middle bed, on a mossy surface, were clumps of *Lily* of the Valley.

M. AUG. NONIN showed several groups of *Chrysanthemums*, chiefly choice exhibition, decorative, and other varieties. There were among many others those following, viz., Tout Paris, W. Duckham, Gloire de Vauves, Sapho, Naples, W. R. Church, Mrs. Coombes, A. J. Brooks, Paul Randet, and Duchesse d'Orléans.

The many grand exhibits of fruit consisted chiefly of Grapes, Apples, and Pears in immense quantity. The leading exhibitors were MM. CHATRIOT, DUBOST, MERCIER, THIBAUT, LECHEIT et FILS, OLIDA, ANGEL et FILS, OPOIX, BROUHER, CROUAS, SARGET, PARENT, RIBET, LEQUEN DAMOY, ECOLE DE ST. NICOLAS, DUFOUR, LEQUEN, SALOMON et FILS, ROUSSEL, SAVREAU, RICOIS, ECOLE DE FLEURY-MONDEAU, SADRON, FAUCHEUR, LANEELLE, BRIL FRÈRES, MERCIER, DEFRESLE, LUQUET, MARIN, GRAPPERIES DE SOMAIN, WHIR, BERGERON, VERRIER, BALU, GERBOUT, CHEVILLON, DUTONT-BARRIER.

ABERDEEN NATURAL HISTORY AND SCIENTIFIC.

"Natural History and Forestry" was the subject of a lecture delivered by Mr. William Dawson, B.Sc., the recently-appointed lecturer in forestry at Aberdeen University, at a recent meeting of this society. Mr. Dawson said the squirrel has reduced the value of most Scottish woods of an age between 20 and 60 years by one half, and in many cases has rendered the trees worthless. In the northern half of Scotland, from Kincardineshire northwards, the depredations have been most severe. He estimated the damage done by the squirrel, at an average of £10 per acre, to amount to £2,500,000. The rabbit attacks old Beech trees, and strips them of their lower bark, thus quite destroying young woods, from which they should be kept out by strong fencing. The rabbit, as well as the squirrel, must be summarily dealt with. Roe deer and red deer were also injurious to trees, and did much damage to the bark.

The lecture was illustrated by lantern slides.

ROYAL HORTICULTURAL OF ABERDEEN.

(ANNUAL MEETING.)

NOVEMBER 7.—The annual meeting of this society was held on this date, Councillor Milne, vice-chairman, presiding. The annual report showed that the income for the year has amounted to £416 13s. 8d., and the expenditure to £477 2s. 11d., giving a deficit for the season of £60 9s. 3d., the free balance at the credit of the society to be carried forward to next year being £31 16s. 1d. The show held in August last was a good one, but the financial result was not satisfactory, owing to bad weather on the last day. The membership, unfortunately continues to show a slight decrease. The officers were elected, and Mr. Alexander Wilson, Lord-Provost of the city, was made honorary president.

HORTICULTURAL CLUB.

"FRENCH" GARDENING.

NOVEMBER 10.—After the last monthly dinner of this club at the Hotel Windsor, Mr. G. Monro in the chair, paper on "French Gardening" was read by Mr. C. D. Mackay. The lecturer declined to accept any responsibility for the glowing descriptions of French methods and results which had appeared in the daily Press as if inspired by him. There is little doubt that these have led people to start the French system without the requisite experience, the inevitable result being failure. The lecturer explained that he had been induced to advocate the introduction of these methods into England after visiting France and also Belgium, and seeing what could be done there under conditions of climate and soil, which latter are in no way superior to those obtaining in England. The usual daily importation of French salad produce into this country is 4,000 to 5,000 crates of Lettuce, 500 crates of early Carrots, 100 of Asparagus, 100 of French Turnips, and 50 of Celeriac, the whole of which he contended could be profitably grown on this side of the Channel, with the contingent advantages of saving of freight dues and preserving greater freshness in the produce when delivered to the consumer; to say nothing of the increased employment of labour in the land involved. It, however, by no means follows that any market grower could adopt the French system of clothes and frames and manuring by merely reading directions. The French system is the outcome of long experience, and one very material point is that the eight-hour labour system, or any approach to it, is unknown in France in this connection, and the grower, assisted probably by his wife, devotes his whole life to culture, and is prepared at any hour to do what is needful. He has, moreover, acquired the knack of rearing successional crops of different things on the same area so as to keep his land always profitably occupied. In the subsequent discussion, participated in by Messrs. T. W. Sanders, A. H. Pearson, G. Gordon, C. Foster and G. Monro, some statements in the lecturer's book on the subject were challenged, and the difficulties involved in standing in the way of the large prospective profits shown were fully discussed. Mr. G. Monro, in his summing up, pointed out that with Tomatoes, Cucumbers and Beans, which at one time were mainly imported from abroad, our growers here, by adopting better cultural methods, have entirely turned the scale, not merely fully supplying our own needs, but actually exporting immense quantities to the Continent.

REIGATE CHRYSANTHEMUM.

NOVEMBER 11.—The 20th annual show held in connection with this society took place in the Public Hall, Reigate, on this date. The show was very successful, there being a great improvement seen on those of previous years.

In the class for 18 Japanese blooms in six varieties, shown in six vases, the 1st prize was won by V. NICHOLL, Esq., of Redston Hill (gr. Mr. T. Kemp); 2nd, A. BLAIR, Esq. (gr. Mr. F. Cordell). The best group of *Chrysanthemums* was shown by J. AUBRECHT, Esq. (gr. Mr. W. M. Blackwood); 2nd, F. E. BARNES, Esq. (gr. Mr. T. Cutter). For a group of single *Chrysanthemums* the 1st prize was awarded to

Col. INGLIS (gr. Mr. F. Phillips); 2nd, T. CUTTER, R. WILKINGTON, Esq., Betchworth (gr. Mr. C. Payne), exhibited the best 25 blooms of Japanese varieties, shown in five vases, 1st; 2nd, F. PHILLIPS. In the class for 12 incurved and 12 Japanese *Chrysanthemums*, distributed, the 1st prize was taken by Mr. C. PAYNE.

Mr. T. KEMP won the cup offered for 18 Japanese varieties, and Mr. W. M. BLACKWOOD the cup for a group of Japanese, incurved and single varieties. Mr. W. M. BLACKWOOD had the best incurved blooms in the show, and Mr. E. H. GUY won the cup in the amateurs' and cottagers' section.

Prominent exhibitors of vegetables were Messrs. T. CUTTER, J. DILLEY, F. PHILLIPS, H. A. JOHNSON, and C. JOHNSON.

COLCHESTER CHRYSANTHEMUM AND FRUIT.

NOVEMBER 12.—The annual exhibition of this society was held in the Corn Exchange and the new Town Hall, Colchester, on this date. Never before has Colchester had a better autumn show, both in regard to quality and keen competition in most of the classes. Exhibits of fruit, for which there were more than 30 classes, were a feature of the show.

The 1st prize for a group of *Chrysanthemums* was taken by Mrs. DE LARENT-LEXDEN (gr. Mr. W. Richardson). The arrangement of this exhibit was excellent; it contained some fine incurved blooms, and at the base were single varieties; 2nd, Mr. W. DRAKE, Colchester.

The classes for cut blooms were well represented. Miss WILLMOTT, Warley Place, Gt. Warley (gr. Mr. Preece), was an easy 1st prize-winner, having splendid blooms in both classes in the Japanese section. There were grand blooms of F. S. Vallis, and this kind secured the N.C.S. Silver Medal for the best bloom in any class. 2nd, W. E. EYKE, Esq., Braintree (gr. Mr. J. Doidge). Miss WILLMOTT also secured the premier award for incurved blooms, having choice flowers of Mrs. F. Judson, Duchess of Devonshire, Mrs. B. Hankey, Emblème Poitevine, &c. W. E. EYKE, Esq., was again 2nd, having smaller but excellently-finished blooms.

Fruit was a feature at this show. Amongst Apples, Allington Pippin won the award as the best dish of dessert Apples in the show, Miss K. M. COURTAULD, Colne Engaine (gr. Mr. Barthling), being the exhibitor. Grapes were not numerous, but those staged were very good, the leading prize for black Grapes being taken by the Hon. W. LOWTHER, Campsea Ashé, Wickham Market (gr. Mr. Andrews), A. T. OSBORNE, Esq. (gr. Mr. A. Gibbs), won the 1st prize for the variety Muscat of Alexandria. The Hon. W. LOWTHER (gr. Mr. Andrews) was placed 1st for a collection of kitchen Apples. Other successful exhibitors in the fruit classes were: J. L. GODLEA, Esq., Wakes Colne; E. T. BOGGIS ROFFE, Esq., Warmingford; S. F. HURNARD, Esq.; Miss K. M. COURTAULD; D. G. OPEN, Esq.; the Rev. R. W. CHILTON, Warmingford Rectory; Hon. C. HANBURY; and Mrs. H. DE LARENT.

In the class for early varieties of vegetables, the Rt. Hon. JAS. ROUND, Birch Hall, Colchester (gr. Mr. H. Bishop), won the 1st prize, having fine Celery, Potatoes, and Cauliflowers. The Hon. W. LOWTHER was a very close 2nd.

The Messrs. SEABROOK & SONS, Chelmsford, staged a collection of hardy fruit not for competition.

BAKEWELL FRUIT AND CHRYSANTHEMUM.

NOVEMBER 12, 13.—The members of this society held their twelfth exhibition in the Town Hall on the above dates.

The groups of *Chrysanthemums* which were eight in number formed the chief feature of the show.

The challenge cup offered by F. Lees, Esq., was won by Mrs. MCCREAGH-THORNHILL, Stanton Hall (gr. Mr. G. Harvey) for the second year in succession, with a perfectly-arranged group, composed of very fine blooms of the leading varieties.

The silver teapot given by Mrs. McCreagh-Thornhill for the best group of natural-grown or decorative *Chrysanthemums*, brought four

competitors, and was easily won by STANLEY ORME, Esq. (gr. Mr. Keetley).

The leading class for cut blooms was one for 12 Japanese Chrysanthemums, distinct. The premier position was won by Mr. A. McNEES; 2nd, Mrs. McCREAGH-THORNHILL.

Mr. EVANS led in two classes for incurved varieties, and he was followed closely by Mrs. McCREAGH-THORNHILL.

The exhibits in the class for four vases of single Chrysanthemums was much admired, especially that shown by Mrs. McCREAGH-THORNHILL, and to which the 1st prize was awarded; 2nd, STANLEY ORME, Esq.

The best vase of Chrysanthemums arranged with foliage was shown by Mrs. ABRAHAM.

BRADFORD AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 13, 14.—The 22nd annual exhibition of the above society was held on these dates in St. George's Hall, Bradford. The exhibition was a great success, and was visited during the two days by upwards of 5,000 visitors. The opening ceremony was performed by the Lord Mayor, Councillor Jas. Hill, J.P. Competition in the open class was not so keen as in some past years, but the quality of the blooms was never better.

ARTHUR JAMES, Esq., Rugby (gr. Mr. A. Chandler), who has generally taken the chief award in the principal class for Japanese blooms, was this year beaten by Mr. THOMAS STEVENSON, of Addlestone, Surrey. Mr. STEVENSON also obtained the award for premier bloom. There was also a reversal of last year's decision, so far as the first and second prizes were concerned, with regard to the class for 18 Blooms of incurved varieties. This time Mr. G. W. DRAKE, Cardiff, was placed 1st with a group of beautifully-formed blooms, amongst which was a specially fine specimen of the variety May Phillips, which won for him the special prize for the best bloom in this class. Mr. E. ELLIS, Hefwall, followed closely. Mr. CHANDLER beat Mr. STEVENSON in the class for 12 dissimilar Japanese varieties, but for incurved dissimilars he was surpassed by Mr. DRAKE. Mr. STEVENSON also won the 1st prize in a class for six varieties in 18 blooms, in which Mr. CHANDLER was placed 2nd. The former exhibitor likewise won the chief prize for six vases of Carnations. Altogether Mr. STEVENSON won three 1st and two 2nd prizes, while Mr. CHANDLER took one 1st and three 2nd prizes. Mr. JOHN BROOKE was successful in the classes for bouquets, taking no fewer than three 1st prizes and one 2nd. In the local classes Mr. JOHN THORNTON again carried off the Lord Mayor's Cup (given by Mr. J. E. Fawcett). His collection of 18 Japanese blooms in 12 varieties was a very fine one.

NATIONAL CHRYSANTHEMUM.

NOVEMBER 16.—At a meeting of the Floral Committee held at the Essex Hall on the above date, Mr. D. B. Crane in the chair, the following varieties of Chrysanthemums were awarded the Society's First-Class Certificate from a large collection of blooms submitted:—

C. Frank Payne.—A Japanese bloom, of a charming bluish shade, and a type of flower which, although of good size, showed no coarseness.

C. Noreen Jay.—A decorative variety; colour, a brilliant shade of crimson scarlet, with old gold reverse. The variety is good both as sprays and when disbudded.

C. November Gold.—This also is a decorative variety; colour, rich golden-yellow. It should prove a good sort for supplying the market.

C. Hilly Wells.—A decorative variety of a pleasing shade of orange-buff. The flowers are well supported on stiff, erect stems.

C. Merstham Jewel.—A single flower of bright bronzy-red, with yellow zone around the disc.

C. Peter Pan.—This also is a single variety, of a bright fawn shade; the variety is very free in flowering, and was given the award because all the lateral flowers were open before the terminal one faded. (The above varieties were shown by Messrs. WELLS & Co.)

C. Albert Williams.—An incurved flower; colour, yellow. This is likely to develop into a useful variety for market purposes. (Shown by Mr. H. W. THORP.)

WINCHESTER CHRYSANTHEMUM.

NOVEMBER 17, 18.—This annual show was held in the Guildhall, Winchester, on these dates, and was one of the best of the series.

In the class for a collection of Chrysanthemum plants in a limited space, quality of blooms to be the principal desideratum, there were only two exhibitors, the Earl of NORTH-BROOK, Stratton Park (gr. Mr. E. Henderson), gaining the 1st prize with good blooms on tall plants. For nine distinct conservatory plants, each plant having not fewer than five blooms, there were four entrants. The best specimens were shown by J. A. FORT, Esq., 68, Kingsgate Street, Winchester (gr. Mr. G. Cousins), the varieties including J. H. Silsbury, F. S. Vallis, and Mrs. Judson, each plant having about one dozen choice flowers and desirable foliage; 2nd, Col. F. A. DICKENS, Edge Hall, Winchester (gr. Mr. G. Adams).

In the similar class for nine plants, but of white or yellow varieties, C. MITCHELL, Esq. (gr. Mr. C. White), was placed 1st, having the varieties C. H. Curtis, F. S. Vallis, and Nellie Pocket in excellent condition. Mr. A. J. FORT was awarded the 2nd prize; he showed a notable specimen of F. S. Vallis. The best exhibit of six plants was shown by the Rev. A. G. BAKER, Sunnyside, Compton Road (gr. Mr. F. W. Stone); 2nd, The Rev. Canon VALPY, Winchester (gr. Mr. F. Smith). In the class for a collection of miscellaneous plants arranged for effect there were four competitors. A. P. RALLI, Esq., Twyford Lodge, Winchester (gr. Mr. J. Hughes), was placed 1st for an attractive display, in which were several Orchids; F. C. BIRCH, Esq., Christchurch Road, Winchester (gr. Mr. E. Long), followed closely.

Japanese varieties.—Exhibits of cut blooms were numerous. The principal class for Japanese Chrysanthemums was for 36 blooms in not fewer than 24 varieties. Amongst five competitors, P. RALLI, Esq., Ashted Park, Epsom (gr. Mr. G. H. Hunt), was an easy 1st prizewinner, with high-class examples of Miss M. Hankey, F. S. Vallis, Lady Talbot, Mrs. H. Barnes, Algernon Davis, &c. Lord ASHBURTON, The Grange, Alresford (gr. Mr. C. E. Garratt), was awarded the 2nd prize, his blooms being less even than those in the 1st prize exhibit. In the class for 24 blooms of Japanese varieties, in not fewer than 18 varieties, ARTHUR PEARSON, Esq., Fresham Place, Ascot (gr. Mr. C. C. Moore), won the premier award with full-sized blossoms; 2nd, M. HOPKINSON, Esq., Morton House, Kingsworthy (gr. Mr. A. J. Marsh).

Seven growers competed in the class for 12 Japanese varieties, distinct, the best exhibit being shown by W. GARTON, Esq., Sarisbury Court, Southampton (gr. Mr. D. Edwards). For six Japanese varieties, three blooms of each kind, arranged in vases, there were six competitors.

Incurved varieties.—In the class for 36 blooms, not fewer than 24 varieties, P. RALLI, Esq., was 1st with a stand of blooms that has not been excelled this season. Amongst the best examples were May Phillips, Duchess of Fife, L. Faure, Godfrey's Reliance, Triomphe de Montbrun, Emblème Poitevine, and Clara Wells.

Single-flowered varieties were well shown. The best six bunches of distinct varieties were exhibited by W. H. MYERS, Esq., Swanmore House, Bishop's Waltham (gr. Mr. G. Ellwood).

Fruit and vegetables were well and numerously shown. W. H. MYERS, Esq., showed the best exhibit in each of two classes for a collection of vegetables.

Non-competitive exhibits were staged by Messrs. E. HILLIER & SON, Winchester; W. H. MYERS, Esq.; Mr. C. FAY, Totton, Southampton; and Messrs. HEATH & SON, Cheltenham.

NEWCASTLE-ON-TYNE AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 18, 19.—The 4th annual exhibition of this society was held in the Town Hall and Corn Exchange, Newcastle, on these dates. There was a good competition in nearly all the classes, although the quality of the flowers generally was not so good as on some previous occasions.

Trained plants formed one of the features of the show, Mr. W. ROME, who has previously won finally the challenge cups in both the open and restricted classes, again proved successful in these competitions.

In the open class for 12 vases of Japanese Chrysanthemums, in not fewer than 12 varieties, three blooms in each vase, there was a keen contest. JAMES KNOTT, Esq., Close House, Wylam (gr. Mr. W. Rome), was placed 1st, having well-finished blooms of J. H. Silsbury, Algernon Davis, Mrs. A. T. Miller, T. Miller, Reginald Vallis, F. S. Vallis, Mr. G. Mileham, W. Knox, and Bessie Godfrey; 2nd, Capt. LAYCOCK, Wieston, Notts (gr. Mr. Musk).

In the class for six vases of Japanese blooms, the 1st prize was won by C. LACY-THOMPSON, Esq., who showed fine blooms of Reginald Vallis, F. S. Vallis, Mme. P. Radaielli, Mrs. G. Mileham, &c.; 2nd, Capt. LAYCOCK; 3rd, J. B. SIMPSON, Bradley Hall, Wylam (gr. Mr. J. Kerr). The best four vases of Japanese Chrysanthemums were displayed by Capt. LAYCOCK; 2nd, C. LACY-THOMPSON, Esq.

In a class confined to exhibitors from the counties of Northumberland and Durham, for four vases of Japanese Chrysanthemums, in four varieties, each vase to contain three blooms, the 1st prize and a challenge cup were awarded to Mr. J. KNOTT; 2nd, Mr. J. B. SIMPSON.

In the open class for 12 incurved Chrysanthemums, Mr. J. ELLIOTT, Junr., Jesmond Dene, was placed 1st, S. D. SHAFTEO, Esq., Bemesh Park, following.

The classes for single vases were well contested. The class for 12 vases was awarded the Silver Medal offered for the best bloom in the show, the variety being Bessie Godfrey.

Mr. T. REAY, South Shields, showed the best bush-trained plants.

In the fruit classes, Mr. MUSK and Mr. T. BELL were prominent exhibitors. The vegetable classes were well contested, the local pitmen showing fine produce.

Trade exhibits were put up by Mr. W. LAWRENSEN, Yarm and Newcastle, who displayed Carnations, Orchids, Heaths, Chrysanthemums, and shrubs; Messrs. CLIBRANS, Manchester, who displayed Chrysanthemums and winter-blooming Begonias; Messrs. FINNEYS, Newcastle, vegetables and fruits in variety; Messrs. HUGH LOW & Co., Enfield, flowering Cypripediums in variety; Mr. W. A. WELSH, Sunderland, Cyclamen; Mr. W. R. ARMSTRONG, Newcastle, Lily of the Valley and other plants, intermixed with Orchids.

SCOTTISH HORTICULTURAL.

NOVEMBER 19, 20, 21.—With such a fine season as was experienced in the north, it was anticipated that a good display of the popular winter flower would be made at the exhibition held in the Waverley Market, Edinburgh. Certainly the show was one of the finest yet held. There was a considerable increase in the number of entries for cut flowers, and in the classes for bouquets and floral designs. For some years past this association has, in a large measure, substituted vases for boxes or stands in displaying cut blooms. At the present time there are 20 classes for vases and not one for boards. The handsome prizes offered annually for cut blooms have had a large share in gaining for the association the reputation of holding one of the best Chrysanthemum shows in Britain. The Waverley Market is an ideal site for such a show, yet even this, with its great area, was seriously taxed to accommodate the enormous number of visitors which flocked to this show to see the exhibits and listen to the band, which, on this occasion, was that of the Grenadier Guards.

For the premier prize, the City of Edinburgh Queen Victoria Memorial, consisting of the City of Edinburgh Cup and £20 in money, for 15 vases of Japanese Chrysanthemums, in 15 varieties, three blooms in each vase, Chrysanthemum foliage only to be used, open to all, there were six entrants, and the 1st prize was won by Capt. STIRLING, Keir, Dunblane (gr. Mr. Thos. Lunt), who was awarded 137 points out of a possible 180. This cup, it may be mentioned, has to be won three times before it becomes the property of the competitor. The varieties were: Reginald Vallis, 11 points; Bessie Godfrey, 11; F. S. Vallis, 11; Melchet Beauty, 11; Victoria and Albert,

10; Edith Jameson, 10; Mrs. F. W. Vallis, 9; Marquise V. Venosta, 9; Mrs. C. Penford, 9; J. H. Silsbury, 9; Lady Cozens, 9; Mrs. G. Mileham, 8; A. H. Broomhead, 7; Mrs. A. S. Pine, 7; and Miss R. Stoop, 6. The 2nd prize of £15 fell to J. W. BELL, Esq., Rossie, Forgandenny (gr. Mr. David Nicoll), with 123 points; the 3rd of £10 to J. D. FLETCHER, Esq., Rosehaugh, Ross-shire (gr. Mr. W. M. Moir); and the 4th of £5 to Sir JAMES SIVEMRIGHT, Tallaluan Castle, Kincardine-on-Forth (gr. Mr. Geo. Stewart).

For the Scottish Challenge Cup, which, with £10 in money, forms the 1st prize in the second class for eight vases of Japanese Chrysanthemums in eight varieties, Chrysanthemum foliage only to be used, confined to Scottish gardeners and amateurs, there were 11 entrants, and the 1st place was taken by GEO. KEITH, Esq., Usan House, Montrose (gr. Mr. A. Hutton), with 84.5 points out of a possible 96. To Mr. HUTTON'S Lady Talbot too (which obtained maximum points), fell the Silver Medal offered for the best bloom in the show. The varieties were: Lady Talbot, 12; F. S. Vallis, 11; Reginald Vallis, 11; Mrs. G. Mileham, 11; Victoria and Albert, 10; President Viger, 10; Mrs. A. T. Miller, 9; and J. H. Silsbury, 9. Sir WALTER DALRYMPLE, Bart., Luchie, North Berwick (gr. Mr. R. Addison), won the 2nd prize of £7 with 82.5 points. The 3rd prize of £5 fell to A. R. BURNS, Esq., Summerhill, Shandon (gr. Mr. J. Finnie), the 4th of £3 to the Duke of ATHOLL, K.G., Dunkeld (gr. Mr. J. F. Stewart); and the 5th of £2 to the Earl of MAR AND KELLIE, Alloa Park, Alloa (gr. Mr. W. J. Buchanan).

In the class for six vases of Japanese Chrysanthemums, in six varieties, three blooms in each vase, confined to private gardeners and amateurs, there was keen competition. The 1st prize of £5 was awarded to the DOWAGER, Countess of SUFFIELD, Collen House (gr. Mr. A. Morton); the 2nd prize of £4 to Mr. J. F. STEWART, Dunkeld; the 3rd of £3 to CHAS. DICKSON, Esq., Viewbank, Lasswade (gr. Mr. D. Mackay); the 4th to Mr. R. ADDISON; and the 5th to Mr. A. HUTTON.

In the class for two vases of Japanese Chrysanthemums, in two varieties, three blooms of each, confined to growers within the municipal boundaries of Edinburgh and Leith, Mr. R. GRIFFIN was 1st, Mr. J. MCINTYRE 2nd, and Mr. JOHN McDONALD 3rd.

For three vases of Chrysanthemum blooms, any decorative varieties, not more than 12 sprays in each vase, there were 13 competitors. EARL WEMYSS, Gosford House (gr. Mr. W. Galloway), was 1st with *La Triomphe* and its sports arranged with suitable foliage.

For one vase of disbudded blooms, arranged for effect, with any foliage, A. SINCLAIR HENDERSON, Esq. (gr. Mr. G. Scott), was placed 1st, and Mr. D. KIDDO, Carberry Towers, 2nd, with handsome mass of *J. H. Silsbury*, relieved with sprays of *Prunus pissardi*.

Single-flowered varieties receive considerable encouragement at Edinburgh, their merits being recognised for decorative effect. For six varieties there was keen competition. Mr. A. E. TOWN, Stoneybank, Musselburgh, easily won the 1st prize with extremely fine blooms of Edith, Bronze and White Pagan, Mary Richardson, Crown Jewel, and Kitty Bonnet. Mr. W. G. PIRIE, Dalhousie, Castle, obtained the 2nd prize.

For six distinct varieties suitable for market, three single and three double, there were six entrants. Messrs. TODD & Co. won the 1st prize with a fine display of such varieties as Romance, Money-maker, Kitty Bourne, and White Pagan. Mr. J. BRUCE, Davidson's Mains, was 2nd.

A silver medal was offered for the best new Chrysanthemum not yet in commerce, with a bronze medal as 2nd prize. The former was awarded to Messrs. G. WILLIAMS & SON, Cardiff, for *Helena Williams*, a primrose sport from the Japanese Mme. Oberthur, the 2nd award going to Messrs. WELLS for *T. F. Felton*, decorative.

BOUQUETS AND FLORAL DESIGNS.

Five pounds were offered for one bridal and two bridesmaids' bouquets. Miss TODD, Stoneybank, Musselburgh, was 1st with a choice exhibit, especially the two of *Rose Mme. A. Chateau*. Col. A. E. AITKEN, Lansdowne Park (gr. Mr. A. Campbell), was 2nd. For a Chrysanthemum bouquet there were 13 competitors. Mr. A. M. CRABBE, 22, Hope Ter-

race, Edinburgh, was 1st, with a pleasing combination of *Source d'Or* and its yellow sport.

The best Carnation bouquet, an elegant one of *Enchantress*, came from Miss TODD.

For a basket of Chrysanthemums, L. BOASE, Esq., Binrook, Dundee (gr. Mr. Beas), beat seven opponents with a pleasing arrangement.

Messrs. LAIRD & SINCLAIR, Dundee, won the 1st prize for a floral wreath, and Miss TODD the 1st prize for a floral design.

For the best decorated dinner-table, 10 feet by 5 feet, of Chrysanthemums, with any foliage, £3 was offered as the 1st prize; 12 competed. The Earl of HOME, Bothwell Castle (gr. Mr. W. P. Bell), was 1st with a light arrangement of single-flowered varieties.

In the Chrysanthemum plant classes, D. R. W. HUE, Esq., Edinburgh (gr. Mr. W. Pulmar), and Lady STELL, Edinburgh (gr. W. Michie), won the chief honours, the former competitor also winning the silver medal for the best single plant in these classes, and along with the 1st prize, a silver medal for the best six Japanese plants in 7-inch pots. Mr. T. L. BELL, Edinburgh, won nearly all the 1st prizes in the amateur section, and he also obtained the bronze medal for the best specimen plant.

For the best group of Chrysanthemums and foliage plants arranged for effect on the floor of the hall there were three competitors, and the 1st, 2nd and 3rd prizes, of £6, £5 and £4 respectively, went to the competitors in the following order:—(1) D. JARDINE, Rawlinson; (2) J. E. DAVIS, Ballathie; (3) W. H. CALDER, Lauriston Castle. In the other plant classes for Palms, foliage plants, Ferns, &c., the leading prizewinners were Messrs. A. McMILLAN (Douglas Castle), A. KNIGHT (Brayton), J. TEMPLETON (Richmond House), A. WILLIAMS (Harrigge), and H. E. HUGHES (Kingsmeadows).

HARDY FRUITS.

The entries for hardy fruit were considerably under the average, but in most of the other classes for fruits the competition was good. The leading prize, for a collection of 24 dishes of fruit, on a space 10 feet by 5 feet, brought out only two competitors, Messrs. N. F. BARNES (Eaton) and D. KIDDO (Carberry Towers), to whom the 1st and 2nd prizes were awarded in the order given.

The 1st prize of £10 10s. is presented by the Honorary President of the Association, and is shared in the other fruit classes by the leading prizewinners:—Grapes: Messrs. T. LUNT, McNEILL (Craigernie), and PIRIE (Dalhousie Castle). Apples and Pears: Messrs. N. F. BARNES, C. WEBSTER (Gordon Castle), P. McANDREW (Husil), and P. MELVILLE (Rosemount). In the two classes for market growers, for baskets of dessert and culinary Apples, Messrs. J. HARRIS (Silsoe) and D. LOGAN (Coldstream) were 1st and 2nd respectively.

For the best collection of 12 distinct kinds of vegetables, Mr. J. GIBSON was the winner last year, won the 1st prize of £6 6s., Messrs. R. STUART (Thirlstone), R. T. RAE (Roxburgh), and W. P. BELL (Bothwell Castle) being 2nd, 3rd and 4th respectively. For the smaller collection, Mr. J. HIGGATE (Yester) was 1st; and the principal prize-takers in the other classes were Messrs. J. GIBSON, J. WALDIE (Dollabeg), J. PATTERSON (Rutherford), A. McMILLAN, and J. TURNER (Galsheals).

NON-COMPETITIVE EXHIBITS.

There were non-competitive exhibits from the GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA, who showed Apples (Gold Medal); J. W. MOORE, LTD., Rawdon, near Leeds, Orchids (Gold Medal); WM. CUTBUSH & SON, Highgate, London, Carnations (Gold Medal); W. WELLS & Co., Merstham, Surrey, Chrysanthemums (Gold Medal); WM. BROWN & Co., Edinburgh, floral designs (Gold Medal); GEO. BOYES & Co., Leicester, Carnations (Silver-Gilt Medal); H. N. ELLISON, West Bromwich, Ferns (Silver-Gilt Medal); LAXTON BROS., Bedford, Apples (Silver-Gilt Medal); JOHN DOWNIE, Edinburgh, Begonias (Silver Medal); M. CAMPBELL & SONS, Blantyre, Carnations (Silver Medal); GEO. WILLIAMS & SONS, Cardiff, Chrysanthemums (Silver Medal); W. DAVIE & Co., Haddington, Potatoes (Bronze Medal); D. McLEOD, Chorlton-cum-Hardy, Orchids; and J. A. MURIE, Edinburgh, Leeks.

A First-Class Certificate was awarded to single Chrysanthemum "*Caedonia*," exhibited by Messrs. GEO. WILLIAMS & SONS, Cardiff.

BOLTON CHRYSANTHEMUM.

NOVEMBER 20, 21.—An excellent show was held in the Albert Hall, Bolton, on these dates.

In the class for a miscellaneous group of plants four excellent exhibits were staged, the premier award and the president's silver cup being won by JOHN HARWOOD, Esq. (gr. Mr. W. Burgess). *Codiaeums* (Crotons) in this exhibit were admirably coloured, and well-flowered *Bertolonias* were another effective feature. J. W. MAKANT, Esq., followed closely. The best group of undisbudded Chrysanthemum plants, arranged in a half-circle, was also shown by Mr. HARWOOD, with an exhibit that needed more brightly-coloured flowers, especially towards the top; 2nd, CHARLES TAYLOR, Esq. (gr. Mr. H. Wainwright), with greater variety of Chrysanthemums, but the group lacked an effective background. The best group of large-flowering Chrysanthemums was shown by H. T. FARKE, Esq. (gr. Mr. W. Drinkwater). In the class for a table of Orchids, J. McCARTNEY, Esq. (gr. Mr. W. Holmes), won with a rich display.

Cut blooms.—In the class for 12 incurred and 12 Japanese varieties, distinct, Mr. G. W. DRAKE was 1st, A. JAMES, Esq. (gr. Mr. A. Chandler), being a close 2nd prizewinner. Mr. JAMES excelled in the class for 36 Japanese blooms in not fewer than 24 varieties, with a choice display, his example of *F. S. Vallis* being extra large; 2nd, Sir E. EVANS (gr. Mr. J. Jones).

G. RHODES, Esq. (gr. Mr. James Lee), had the best six vases of single varieties, undisbudded; whilst in the class for decorative varieties, Sir JOHN MARK (gr. Mr. J. P. Holt) took the lead.

In the classes for other plants, prominent exhibitors were G. F. ARMITAGE, Esq. (gr. Mr. C. Weaver), O. ROBINSON, Esq. (gr. Mr. J. Nixon), T. AITKEN, Esq. (gr. Mr. F. Banner), Mr. W. BURGESS, EDWARD HOPKINSON, Esq. (gr. Mr. T. Grundy), Mr. JAMES LEE, and Mr. H. SHONE.

In the fruit classes JAMES AMPLETT, Esq. (gr. Mr. R. Jones), was successful for Grapes. Lady HINDLIP (gr. Mr. L. Bailey) showed the premier dessert Apples, and Mr. R. JONES had the best culinary varieties. Mr. H. BROMLEY had the best three dishes of Pears.

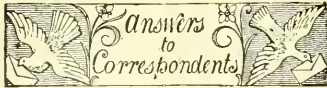
Mr. C. WEAVER had the best collection of vegetables in eight varieties.

Mr. J. LEE, Birkenhead, was awarded a Certificate of Merit and a Gold Medal for a display of 70 dishes of Apples of leading dessert and culinary varieties.

Obituary.

EMANUEL BONAVIA, M.D.—We regret to have to record the death of Dr. Bonavia, an old and valued correspondent, at his residence, "Westwood," Richmond Road, Worthing, at the age of 82 years. Dr. Bonavia interested himself at Worthing in crossing plants of various kinds, and some of the seedlings have been illustrated in these pages. Two recent instances are *Pelargonium Clorinda* (see *Gardeners' Chronicle* Suppl. Illust., April 15, 1905) and *Hippeastrum Queen of Spots* (see *Gardeners' Chronicle* Suppl. Illust., April 27, 1907). He cultivated a large number of varieties of Grapes, many of them possessing unusual interest. The variety *Cornichon Blanc* was illustrated in these pages on October 8, 1904, from fruits supplied by Dr. Bonavia. He was an enthusiastic amateur gardener, and was always anxious to assist others either in procuring rare plants or in matters of cultivation, and the long period he had spent abroad was the means of his possessing valuable information in these matters.

CECIL GREENWOOD.—Many of our readers interested in Sweet Peas will receive with regret the announcement of the death, on the 20th instant, of Mr. Cecil Greenwood, a representative of Messrs. Cassell, Ltd. Mr. Greenwood has been a member of the Executive Committee of the National Sweet Pea Society since its formation.



BLACK CURRANT SHOOTS: *S. W., Anxious.*
B. H. B., and J. C. The branches are badly affected with the Currant-bud mite. In our issue for January 26, 1907, p. 56, an article records that Mr. Collinge cured the trouble by dusting the bushes with a mixture of sulphur and lime when the insects were migrating from the old to the new buds. Mr. Collinge recommends one part of unsifted lime and two parts of sulphur, to be applied in March, April, and May. Other writers have recommended smearing the bushes with grease of any kind in January and repeating the dressing in April; spraying with soft soap, quassia extract and water at the rate of 2 ounces of soap and 4 ounces of quassia to each gallon of water; and digging out the top soil from below the bushes and burning it. If the diseased buds are few, hand-picking and burning them should be adopted, and if very badly affected, the bushes should be grubbed up and burned. Some varieties of Currant, notably the Boskoop Giant, are said to be less liable to attacks by the mite.

BOOKS: *A. P. L'Hybridation des Plantes*, by Raphaël de Noter, Paris. Librairie des Sciences Agricoles, 11, Rue Cassette. Price 2s. 1d., postage extra.—*E. A.* We do not know of any work such as you require.

BRUGMANIA: *A. T.* Brugmansias, or, as they are now called, Daturas, need, as you suppose, greenhouse treatment, and it is not at all surprising that your specimen, being in a dwelling room, is losing some of its foliage. The best thing you can do is to remove it to the plant house, give it plenty of water at the roots, syringe it occasionally, and vaporise it with one of the nicotine vaporising compounds if it is attacked by the white fly, as is frequently the case with these species.

BRUSSELS SPROUTS AND CELERY AT A COMPETITIVE EXHIBITION: *Sprouts.* In the Royal Horticultural Society's *Code of Rules for Judging*, of which a revised edition has been published within the past few weeks, the maximum number of points recommended for Brussels Sprouts is six, whether shown as plants or as picked Sprouts. Celery, on the contrary, is recommended a maximum of eight points, being two each for the qualities of size, solidity, condition, and uniformity. Assuming that the judges at your show will be guided by the code we have mentioned, and provided that you have Brussels Sprouts and Celery in equally good condition, it will certainly pay you best to select the Celery for exhibition.

BULB GROWING IN LANCASHIRE: *R. R.* You can purchase bulbs retail from any of the nurserymen in the county (a list of their addresses is given in the *Horticultural Directory*); but we do not know of any Lancashire firm who make a speciality of bulb producing.

CUCUMBERS: *Constant Reader.* We are unable to say definitely what is the cause of your Cucumbers being bitter, but it may arise from an extra slow development of the fruits. You had better employ sufficient fire heat to maintain the requisite temperatures, and at the same time admit a little air during favourable weather. Promote an abundance of atmospheric moisture by frequently damping the paths and other surfaces in the house. If the Cucumbers do not improve in quality, it will be well to obtain a fresh variety for cultivation next time, or, at the least, get your seeds from a different source.

DRESSING FOR PEACH TREES IN WINTER: *Anxious One.* Diluted Bordeaux mixture is a safe and efficacious specific to use for these trees in winter.

EUPHARIS LILIES: *H. B.* We presume you mean Eucharis grandiflora (amazônica) not Heuchera, as you have spelt the word. The Eucharis is a bulbous plant of the Natural

Order Amaryllidaceæ, and a native of the banks of the Amazon River. It is necessary to treat the plants as stove subjects, by which we mean that they require a minimum night temperature of 65° to 70°. As your specimens are now flowering, you may give them alternate waterings of diluted liquid manure, maintaining the heat at a point we have already described, and syringing the plants once or twice each day according to the weather, carrying out the operation immediately after the open flowers have been cut. A week or two after the plants have flowered they may be partially rested by decreasing the amount of liquid manure and water applied to the roots, and by reducing the temperature at night by a very few degrees. It was formerly the practice in many gardens to force batches of Eucharis to bloom at certain periods of the year, thus endeavouring to obtain two and sometimes three crops of flowers from the same specimens, but although this may safely be done for a few seasons, there is no surer way of decreasing the vigour of the bulbs. We would therefore advise you never to allow the roots to get perfectly dry. If Eucharis bulbs are allowed to greatly depreciate they usually become subject to the attacks of the bulb mite, and when this takes place the bulbs cease to be profitable.

FERN: *H. V. M., Bampton.* The markings on the fronds have been caused by thrips. Fumigate the house with some preparation of nicotine, or spray the plants with tobacco water. Maintain a moist atmosphere in the fernery at all times.

FREMONTIA CALIFORNICA: *S. A. P. Kitecat.* We are unable to guess what disease your plant may be suffering from, except that the conditions you describe appear to indicate the presence of a parasitic fungus or possibly of canker. If it is merely canker, some powdered charcoal rubbed over the place occasionally might be of some assistance. The important thing to determine is whether the trouble commenced in the roots and it is now spreading upwards through the stem. If this is the case, we fear the specimen will not continue to thrive.

GAS LIME ON FIELD: *A. L.* You cannot apply this substance to pasture land, as the caustic properties will kill the turf. Gas lime can only be safely applied to land when it is fallow, and some weeks must be allowed to elapse before crops are again cultivated on the land so dressed.

HARDY CYCLAMEN: *A. T.* These might conceivably be got to flower in the dwelling room, but they could not be cultivated in those conditions throughout the year. If you wish to flower them indoors, they should be placed in a house similar to what is known as the Alpine House at Kew. You should be able to purchase Hippeastrum bulbs from any of the nursery firms.

LICHEN ON APPLE TREES: *Anxious One.* Treat the trees with the caustic alkali wash. For recipe see p. 335 in the issue for November 7.

MARKET GARDEN: *W. H. G.* The sandy soil covered with meadow grass would be likely to suit many market-garden crops, but we are unable to form an opinion upon certain circumstances such as drainage, water supply, and the need there may be for expensive manuring. These matters are very important ones and should be fully considered upon the spot by some expert. A sandy soil is not the best for fruit trees unless it also contains a proportion of clay. You might purchase fruit stocks from some of the fruit-tree nurserymen. They are either grafted or budded with the fruits, as circumstances render desirable in each case. Young fruit trees require a certain amount of pruning each year, but if you have no experience on this subject you had better employ an expert to do the work, it being impossible in a short paragraph to convey to you the knowledge which is usually obtained by many years of experience. You should not commence to prune your Roses before March at the earliest, and Tea Roses may very well be left until May before being pruned, it being then only necessary to cut back the shoots to a point below the portions injured by frost.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time; they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. Correspondents not answered in one issue are requested to be so good as to consult the following numbers.

PLANTS: *E. L. H.* *Pyrus Sorbus*, the Service Tree; The fruits are "bleited" and used as are Medlars.—*S. G.* You should have enclosed your name and address. 1, *Viburnum Lantana*; 2, *Elaeagnus orientalis*; 3, *Ligustrum lucidum*; 4, *Loniceria species* (send when in leaf and flower); 5, appears to be a wild form of *Pyrus Malus*; 6, *Cornicola Emers*; 7, *Cornus capitata* (*Benthamia fragifera*); 8, *Cornus*, probably *bacillaris* (please send when in leaf); 9, *Forsythia viridissima*.—*X. Y. Z.* *Staphylea pinnata*.—*G. C.* *Euonymus europæus*, the Spindle Tree.—*T. H.* 1, *Pteris tremula*; 2, *Pteris cretica*; 3, *Blechnum coccineum*; 4, *Epiphyllum drum*, erectum; 5, *Oncidium abortivum*; 6, *Pleurothallis rubens*.—*A. G.* *Nephrolepis Nays*, so far as we can judge by the scrap sent; 2, *Pteris cretica albo-lineata*; 3, *Pteris serrulata cristata*; 4, *Polypodium glaucum*; 5, *Adiantum formosum*; 6, *Adiantum cuneatum gracillimum*.—*Teobay.* *Phytolacca serrulata*.

NAMES OF POTATOS: *B., Ltd.* We are unable to assist you in the naming, or even in checking the names of the varieties you send. Potatoes can only be determined by cultivating the variety and noting the habit of growth, cropping quality, strength of haulm and leaf, and many other points. In an ordinary sack of, say, Up-to-Date variety, one can select tubers that represent many types of the Potato.

NEW YORK NURSERYMEN: *Enquirer.* Siebrecht & Son, 569, Fifth Avenue; Peter Henderson & Co., 35, Cortlandt Street; Chas. Thorley, 543, Fifth Avenue; J. M. Thorburn & Co., 33, Barclay Street; Suzuki & Iida, 11, Barclay Street.

NIGHT SOIL FOR VINES: *Anxious One.* We do not recommend the use of this material for vine borders. Apply it to out-door fruit trees, or the shrubbery.

NOTICE TO LEAVE: *Insolent.* You do not state whether you were engaged as a head or under gardener, but, assuming that you are fulfilling the position of head gardener, you are entitled by custom to a month's notice. We are not able to enter into the further circumstances mentioned in your letter.

PLANTING ONIONS FOR SEED PURPOSES: *E. S.* The best way of treating large Onions intended for seedling purposes is to pot them up during December into the smallest pots possible, those having a diameter of 5 or 6 inches will generally suffice. Three parts of each bulb should be left uncovered, using only just sufficient soil for the bulbs to root into. Place them in a cool house or cold frame, keep them moderately dry, and do not allow the young growth to become drawn. Plant the bulbs in an open, sunny position early in March, and afford them a slight protection against frosts and cold winds until the weather is warmer. The bulbs should be planted three parts their depth.

SPOT DISEASE OF GRAPES: *J. B.* Have you tried syringing with liver of sulphur (potassium sulphide)? Mix half an ounce of the chemical with two gallons of water.

COMMUNICATIONS RECEIVED.—*W. M.*—*Chas. C.*—*F. M.*—*E. H. C.*—*A. W. F.*—*E. C. B.*—*J. C. A.*—*B. R.*—*J. B.*—*A. O.*—*W. J.*—*W. W.*—*C. C.*—*W. E.*—*F. G.*—*B. W.*—*E. G.*—*F. M.*—*S. G. R.*—*Dun.*—*H. Tribe.*—*H. L. & Co.*—*H. S.*—*D. H.*—*A. W. B.*—*E. B.*—*H. W.*—*W. L.*—*Linnean Soc.*—*J. H. W. W.*—*A. G. G.*—*J. C. W. & S.*—*T. C.*—*F. W.*—*W. J. B.*—*C. H.*—*P. C.*—*Foster.*—*H. F. Mc.*—*J. W. Mc.*—*H. E. M.*—*A. D. R.*



TWO NEW HYBRID TEA ROSES.

THREE FLOWERS AT TOP, ALBATROSS ; COLOUR, IVORY WHITE WITH SLIGHT BLUSH.

THREE FLOWERS AT BASE, LYON-ROSE, PINK WITH CORAL RED CENTRE.



THE

Gardeners' Chronicle

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SAGE.

CUR morietur homo dum salvia crescit in horto is an oft-paraphrased question which, if we may imagine a monk indulging in a little dry humour, perhaps contains a solemn pun on the word "salvia;" for while *herba* is flourishing in his garden, what reason is there that a man should die? Some perhaps more modern ways of setting forth the admirable properties of Sage are far more emphatic. Thus, "He that would live aye, must eat Sage in May," but the older setting of this is perhaps less open to contradiction: "Eat Sage in May and live aye," which, though like the first in indefiniteness, has at any rate a more limited construction.

It will be remembered how Chaucer, describing the epilogue to a certain feat of arms, employs words which have been assumed to mean Sage:

"Some had *salves* and some hadde charmes, Fermacyes of herbes, and eke *sawe* They drunken, for they wolde here lyes have."

But there are others who consider "salve" and "saw" to be mere medicinal compounds. Yet, without accepting Sage as a panacea, it is possible to agree with Gerard that "no man needs doubt the wholesomeness of Sage ale, being brewed, as it should be, with Sage, Scabious, Betony, Spikenard, Squinanth and Fennell seeds." And, to sum up, there are plenty of data to prove that Sage has been a

cultivated garden plant for almost as long a period as gardening records extend, and, though usually it appears as Sauge or Salge, yet Salvia is glossed Fenfearn in the 10th century and Fenvern in the 13th.

It is not a little curious how certain varieties of common plants came to be appreciated more than others, and the Sage furnishes an instance of this. As early as the 16th century Lyte described four sorts, one of them variegated, and 50 or 60 years later these and others are so well defined that there is no difficulty in identifying them. Thus, there was the common green, which had no great repute, Wormwood Sage, which "in smell and taste hath some affinity with Wormwood"; Red Sage, which was held in the greatest esteem of all. This variety procured its distinctive name from the stems, which are reddish purple, and from the leaves, which are a dull dark-green, hence in Bauhin's Pinax called "*Salvia nigra*." Traces of the younger discovered a variety of this, which he afterwards propagated and distributed among his friends, and which Parkinson describes by the name of Party-coloured Sage. The leaves, which are blotched with white and pink, and occasionally a whole shoot with its foliage comes white and pink, sometimes only one of these, presents a very pleasing appearance. We found this some years ago in an old garden, and it has since formed one of the most interesting plants on a mixed border.

Sage of Virtue, which Evelyn calls also Guernsey Sage, is a narrow-leaved form that Professor Martyn identified with *Salvia triloba*. In the 17th century this was in great request for making Sage-tea, which, strange as it may appear, was a decoction in constant request by many people. Nearer to our own times tea was brewed from the leaves of the broad-leaved Sage, which was also called Balsam Sage. Another custom of early herbalists was to group plants, not necessarily on account of botanical affinities, into couples. Thus, they might be male and female, garden and field, tame and wild, and yet have very little in common. So it is by no means wonderful to find in Teucrium *Scorodonia* the wild Sage of mediaeval England. On account of its scent it was very usually named Ambrose, from Ambrosiana. Hindheel was another name, which is supposed to apply to some occult habit of deer to use it as a medicine in the same way that cats cure themselves with grass. *Scorodonia* was bestowed on the plant on account of its smelling like Garlic, and so one of the common names found in the herbals is *Garlicke Sage*. *Salvia verbenacea* enjoyed a long period of popularity on account of its supposed efficacy in restoring clearness of vision to those whose sight was impaired. This was effected by means of the seeds, one of which, being introduced under the eyelid, in working its way out, gathered to itself any extraneous matter on the surface of the eye, which it left free of impurities. In Culpeper's words, it was "a handsomer, safer, and easier remedy by a great deal than to tear it off with a needle." Its name, "Wild Clary," was in everyday parlance Clear-eye, and in the lines:

"It is thyself, mine own self's better part;
Mine eye's clear eye, my dear heart's dearer heart"

Shakespeare seems to be referring in oblique fashion to the plant. Orval is an anglicised French name, and *Oculus Christi* and others, with their English equivalents, indicate in the clearest manner the high position this weed occupied in the esteem of people of every class.

Common Clary would appear not to have been so long in use as the above, unless one may accept a line in one of Neckham's poems as alluding to it. A plant named *Orminum*, &c., was early used to cure argema of the eyes; it had leaves like Horehound and grew 3 feet in height, and is mentioned by several old authorities, but it is not till Turner describes it that one can be really certain of its identity. It, too, was called Clear-eye, but was administered internally. *Orvale* and *Toutbonne* are other names. As a garden plant it is well worth cultivating, for though the flowers are light blue, the foliage and bracts give the whole plant a silvery aspect that distinguishes it from all others. It exists only a few years, but continues the species by odd seedlings, which, like self-sown Hollyhocks and Mary Thistles, are much to be preferred to artificially-raised ones.

Salvia Horminum, which Lyte styles Double Clary, cannot be traced further than the date of his *Herbal* (1578), in which it is remarked that it is "founde in this countrey sowne in the gardens of herboristes." Aiton dates its introduction with that of Gerard's 1596 catalogue, in which it appears by the name of *Horminum verum*, and this date has been followed by others ever since he published the *Hortus Kewensis*. The violet and red or pink varieties were also in cultivation about the same time, the best form being the violet, though some people like the last-named, but it is not at all a common plant. Usually the type is to be purchased as "Bluebeard." Another 16th century Sage is *Salvia glutinosa*, which appears in Gerard's catalogue as *Colus Jovis*, and is described in his *Herball* as *Jovis Colus*, which, he says, "representeth in the highest top of the stalk a distaffe wrapped about with yellow Flax, whereof it took his name"—Jupiter's distaff, and in another paragraph he refers to its rarity, but "which I have in my garden." In Switzerland it is employed to snare noxious insects.

Salvia Ethiopis dates from L'Obel, and was thought to be a kind of Mullein. Of recent garden Sages, *Salvia fulgens*, splendens and patens are the best known, and, on the whole, are perhaps the pick of the Mexican species. *S. splendens* was the first of the trio to reach this country, and its variability was early discovered, Loudon in 1829 mentioning an improved form. The erratic way it flowered in the open not improbably caused it to fall into disrepute, but even when it refuses to flower till very late in the year it is yet worth the space it occupies, and there are several improved early-flowering forms of much value. *S. fulgens* appeared five years later than the last-named, or in 1827, and it at once became popular on account of the long period it continues to produce flowers, as well as for its brilliant colour, which it may be said varies considerably in plants raised from seeds. It may be noted, for the benefit of those who find it grow too tall, that it was at one time customary when planting to lay the plants on

their sides and to secure each with a peg, by which simple means a group was considerably dwarfed.

Though *S. patens* has been long known to botanists, it was not till 1838 that it was introduced to Britain. Mrs. Loudon states that tubers were imported, but Benthams early in 1839 clearly shows that seeds were sent to several parties by Mr. John Parkinson, at that time the Consul to Mexico, and that the first plant to flower did so in the nursery of Page, Southampton. Harrison, on the other hand, while agreeing with that statement so far as regards seeds, claims the honour of introduction to Mr. Tweedie, and Low's Clapton Nursery as that in which it first bloomed. It is a mistake to propagate this species by means of seeds, on account of many of the seedlings being very inferior. A far preferable method is to select or secure a good variety and increase it by cuttings in spring, in the same way that Dahlias are propagated, or if there is a sufficient stock of plants the tubers may be split up, and, after being started enough to show the buds, they may be planted out in April. In warm, dry soils the tubers can be left out all the winter, but there is always the danger of an extra severe frost, which would assuredly destroy them. Unlike the other *Salsias*, *S. patens* enjoys much rotted manure in the soil. It is undoubtedly one of the finest summer and autumn-flowering plants of its colour, which painters distinguish as cerulean. *R. P. Brotherton.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM LEONIDAS (HALLIO-CRISPUM × TRIUMPHANS).

THIS "hybrid," if such it can be called, I raised, and afterwards exhibited in bloom at the R.H.S. meeting on June 23 last, with one of its half-brothers named Leo (*Hallii* × *triumphans*). In this plant the additional parent of *crispum* has, up to now, exerted but very faint influence upon the seedlings, except that the markings of *Leonidas* are, perhaps, bolder and the blossom is also better in form. A reference to *Gardeners' Chronicle*, May 25, 1907, p. 326, when a description of Leo was published, will be useful in tracing the details of descent.

In crosses yet raised from *O. Hallii*, its influence is almost always greater than that of the other parents, this fact, no doubt, resulting from its being a purer species than most of the yellow and brown ones, owing to its being so far removed in its habitat from other *Odontoglossums*. *de B. Crawshaw.*

ODONTOGLOSSUM VENEZA (WATTIANUM CRAWSHAWIANUM × TRIUMPHANS).

I RAISED this cross to see which would prove the strongest species, *O. Lindleyanum*, *O. Harryanum* or *O. triumphans*; the two former having been united to make *Wattianum*.

The result has been in favour of *O. Lindleyanum*, both as to the floral as well as the vegetative habit of the seedling, for the hybrid is in full growth as well as full bloom at the same time, this being the great characteristic of *O. Lindleyanum*.

The bloom has the ground colour yellow with the segments almost totally covered with brown, though slightly marbled by the ground colour.

The lip is large, thick and stiff, with right-angled shoulders, having the narrowest margin of yellow around its edge, and a semi-circular line in front of the crest, otherwise it is one solid mass of brown. Almost all evidence of the feathery crest of *O. Harryanum* is lacking, and two long divergent yellow keels of *O. Lindleyanum* take its place.

Its column is white. Its ? parent, which I raised to prove the parentage of *O. Wattianum Harryanum*, a natural hybrid, was originally published in the *Orchid Review* for October, 1900, pp. 289-299. *de B. Crawshaw.*

ODONTOGLOSSUM OXUS (TRIPUDIANUS × WILCKEANUM).

THIS further addition to the number of the "yellow and brown" hybrids has been raised by Messrs. Sander & Sons, and was shown in their group at the R.H.S. meeting on November 24. Intermediate in size and form between the parents, it promises to be a useful plant, though it is no advance upon existing hybrids. The sepals are light yellow, but almost covered by a confluent blotch of bright brown. The petals are creamy-white, having a blotch and a few spots as in *O. Wilckeanum*. The lip is almost white, with a blotch of bright brown. In form the flower resembles the seed parent. The crest is intermediate, and the column white with two side lines of brown. The wings are brightly tipped with brown, as is the edge of the stigma and lower surface of the column.

Some people seem to rather despise the yellow-grounded section at present, only appreciating the white and purple hybrids. All things have their turn, and so one need not be despondent at having and holding good "yellows." *de B. Crawshaw.*

BULBOPHYLLUM VIRESCENS.

A FINE inflorescence of this remarkable species, of which a full-size Supplementary Illustration was given in the *Gardeners' Chronicle*, October 13, 1906, is kindly sent by Sir Jeremiah Colman, Bart., Gattopark, Reigate (gr. Mr. Collier), in whose collection it has attained a greater size than formerly. The very stout scape, which is a foot in height, is curved at the top, and bears a 6-inch wide umbel of nine large flowers, the upper sepals of which are about 6 inches in length, and all erected to a common centre, where their slender tips mingle. The lateral sepals, which are rather longer than the dorsal sepals, have the basal parts broad and falcate, their continuations being slender and tendril-like in appearance. The colour of the flowers is yellowish-white, veined with green, the base of the hinged labellum and face of the column being violet-purple, shading off to mauve. It is a Malayan species, requiring a moist, warm house. It belongs to the same section as *B. Ericssonii* and *B. Pahudii*.

THE ROSARY.

NOTES ON THE NEWER VARIETIES.

(Continued from page 360.)

GRAND DUCHESS ALBANYA (*H.T.*, *James Weller*, 1906).—This has bloomed well with us this year. In colour it is a creamy-white, in the way of *Kaiserin Augusta Victoria*, but the flowers are more cup-shaped. *Perle von Godesberg*, a sport from *K. A. Victoria*, we also grow; it is a light yellow flower and a stronger grower; but the beautiful lemon shade of *Kaiserin Augusta Victoria* is hard to beat.

PEERLESS (*H.T.*, *Lippiatt*, 1907).—We only have had one very poor specimen of this New Zealand Rose—a pot plant; but, as far as one can judge, it seems to be quite a promising variety. The flower is fairly large, full, and well formed, and it is quite a beautiful and novel colour, being pale green shaded with white.

LADY HELEN VINCENT (*H.T.*, *Alex. Dickson & Sons*, 1907).—We have one maiden plant of this, and have not been as successful with it as we hoped to be; but, growing at the raiser's nursery, it seems to be very robust out-of-doors, so we are ordering another plant of it, and hope, as a cut-back, it will do well. It is a beautiful Rose, and no doubt will take a high place as an

exhibition variety. Its form is perfect, the flowers are large, and the buds long and beautifully pointed. The colour is shell pink, but the reflex of petals pale bluish; whilst the base of petals is veined and suffused with peach, with a yellow zone. It is delightfully fragrant, and a very free bloomer.

MRS. G. W. KERSHAW (*H.T.*, *Alex. Dickson & Sons*, 1906).—This is a glowing-deep rose-pink colour, but quite distinct, and a beautiful flower of good form, with a high pointed centre. It has been marvellously free this year.

MRS. PETER BLAIR (*H.T.*, *Alex. Dickson & Sons*, 1906) is a splendid decorative Rose. It makes a big bush, and produces a mass of nicely-shaped flowers of moderate size. The flowers are of pale golden yellow and fragrant throughout the entire season. The plants have beautiful foliage, and the variety should be in every garden.

MARQUISE DE SINEZ (*H.T.*, *Pernet Ducher*, 1906).—This is a charming Rose, and quite remarkable for its distinct colour, which is a golden orange, shaded with bronzy-red; the buds are ochre-carmine. The flowers are fragrant, fairly full, large, and of cup form, set off by dark, glossy foliage.

YVONNE VACHEROT (*H.T.*, *Souper et Nolting*, 1905).—This variety has nicely-formed, large flowers, produced on stiff, upright stems. The colour is porcelain-white, suffused with soft pink. It has bloomed well this summer. *Leonard Petrie, Gayton, Cheltenham.*

FRUIT REGISTER.

APPLE BEAUTY OF HANTS.

I DO NOT know anything of the origin of this Apple beyond the fact that thirty years ago I obtained a standard-trained tree of it from Messrs. R. Smith & Co., Worcester, along with many more. In appearance it is almost identical with *Blenheim Pippin*, although it is neither so large, nor so well coloured, nor is it so good in flavour as that old favourite. As a cropper it has much to recommend it, for when there are Apples at all there are sure to be some on this tree. The particular cause of my referring to it now is that it ripens earlier than *Blenheim Pippin* (from which it may be a seedling), and it is a desirable variety for that reason, coming into use early in October when Worcester Pearmain is past and *Blenheim Pippin* and Cox's Orange Pippin are still insufficiently ripe.

APPLE JOLLY BEGGAR.

ALTHOUGH this is an old variety it is seldom seen in gardens, but those who value good quality in a cooking Apple would do well to pay attention to it. The fruits attain full size early in August, and when cooked, their quality is very good. The flesh is pure white and soft, though remaining in a whole condition when baked, for example. The growth of the tree is vigorous, and if not checked by root pruning and keeping its branches thin the tree is a long time in coming into a full-bearing condition. *E. Molyneux.*

GRAPE DIAMOND JUBILEE.

I HAVE seen this Grape growing on several occasions, but, until quite recently, not quite satisfactorily. The exception was at Byram Park, Yorkshire. Two years ago Mr. Taylor, the gardener, enarched it upon a stout young vine of Appley Towers. The fruit this season is really very good, in bunch, berry and flavour. It is nearly 40 years since I first grew the true Black Morocco Grape, yet if my memory serves me right, I could see distinct evidence of its being one of the parents of *Diamond Jubilee*, both in fruit and foliage. *Yorkshire Gardener.*

NOTICES OF BOOKS.

* NEW WORK ON NATURAL HISTORY.

It is greatly to be hoped that all those into whose hands this book falls will carefully study Dr. Farmer's preface and ponder in their hearts the introductory problems which Professor J. Arthur Thomson lays before them in the opening chapter. For if this be not done it may easily be imagined that all the interesting and useful information with which the book is filled, is nature study, whereas it is really the material with which teachers and others who have to train pupils to acquire knowledge for themselves may advantageously work. Nature study is a method of education in which ordinary subjects are correlated with one another by bringing the pupil into closer contact with the less artificial aspects of his environment and teaching him to enquire, discover, deduce and to accumulate experience for himself, instead of leaving him in such a mental state that he requires to be told what he is to do whenever circumstances arise which are different from those to which he is accustomed.

Every true gardener remains a nature student all his life, and the conditions in which he customarily finds himself are those which the exponent of nature study looks upon as ideal. Professor Thomson rightly says, "In spring and summer the school nature study should include much observation—as far as possible in the open air—of the works and ways of animals (and he might have added of plants also, though the volume under consideration deals with the zoological side only) such as ants, bees, wasps, spiders, earthworms, snails, birds." He very wisely says also that the teacher must try to avoid the one extreme of reading the man into the beast, endowing the bees or the bird with the best human attributes (a serious fault of many popular writers as well as teachers), and the other extreme of thinking and speaking of the creature as if it were an automatic machine. Professor Thomson gives a very good table contrasting the characteristics of animals and plants which is well worth the reader's attention. A considerable portion of the first volume has been written by Mr. W. P. Pycraft, who deals in his usual accurate and straightforward way with the natural history of mammals and birds. He states that the promoters of nature study in this country most unreasonably use the word animal when they mean mammal. One cannot help feeling that he is wrong, and that he has based his statement on a curious kink in the mind of Mr. Kay Robinson, who some time ago most vigorously upheld, and has since encouraged in his paper the *Countryside*, the use of the word animal for mammal, saying that the idea implied is that the latter word is not a nice one, though we may say that most of us must have imbibed it with our mother's milk.

A good deal of information is given about creatures that are not British, which though enabling the reader to grasp the subject more easily, cannot be of much use in his actual nature study teaching. Chapters on common mammals, common British birds, and migration are included, which are much to the point.

Reptiles, amphibians, fishes and their more lowly relatives are discussed by Professor Thomson only too briefly, while Mr. Oswald Latter is responsible for the chapters on invertebrates. Readers may well learn something that they did not know before about earthworms, for much that Mr. Latter writes is based upon his own careful observations. If cockroaches do not come often within the gardener's ken the earwigs do; and the same may be said of wasps, the consideration of which brings the volume to a close.

No one can be too familiar with the habits of creatures which are of economic importance,

and the more one learns about them the more one is able to appreciate that, like men and women, few of them are wholly bad. When it is realised that many so-called pests do an immense amount of good in some directions, the problem arises as to how to take advantage of this fact by not destroying them, and yet, at the same time, to prevent the harm that they may cause in other directions.

In conclusion, it must be said that the half-tone illustrations which make up the plates are very good and represent the successful work of many natural history photographers.

The publication of the succeeding five volumes of this important work will be looked forward to with much interest. A consideration of the plant side of nature study will begin in the third volume *W. M. W.*

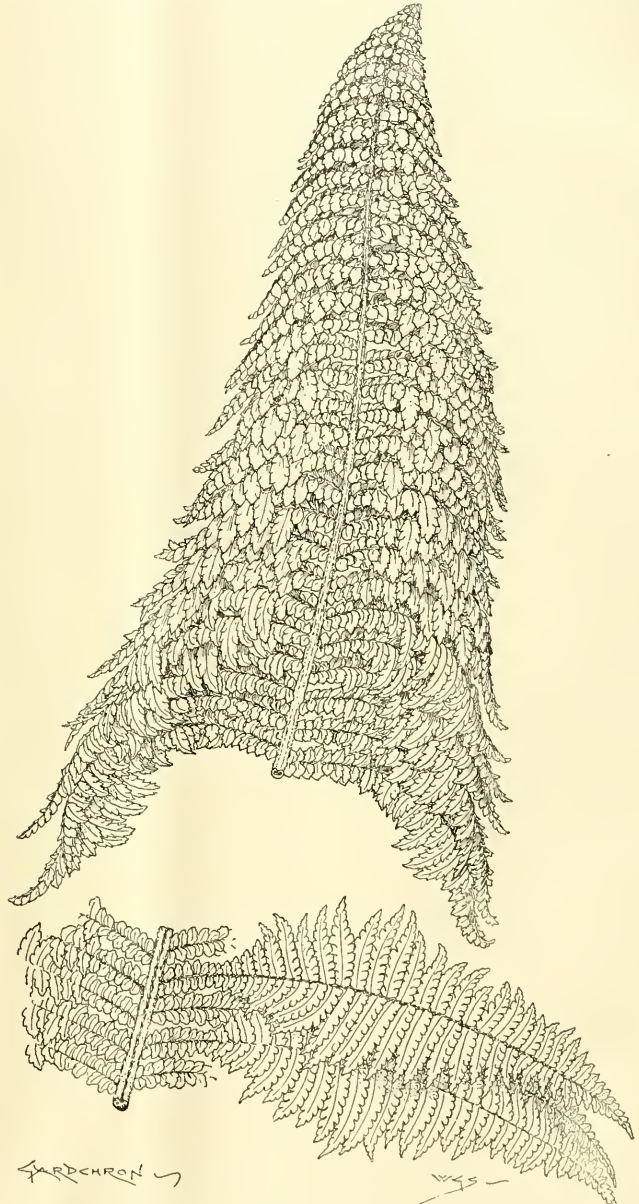


FIG. 163.—*NEPHROLEPIS RUFESCENS MAYI* VAR. *ORNATA*, AWARDED AN AWARD OF MERIT AT THE MEETING OF THE R.H.S. ON NOVEMBER 10, WHEN A PLANT WAS SHOWN BY MESSRS. H. E. MAY AND SONS. (See p. 347 ante.)

* *The Book of Nature Study*, Volume I. Edited by Professor J. Bretland Farmer, D.Sc., F.R.S. The Caxton Publishing Company. Price 7s. 6d. net.

* FOREST UTILISATION.

Professor Fisher's *Forest Utilisation* is a revised and edited English version of Gayer's German book, which is not only the standard work on the subject in Germany, but has served as the model, and provided much of the subject-matter of leading French treatises on the utilisation of forest produce. The original volume contains a rich store of information on subjects so varied as the structure, physical qualities, and defects of wood, the treatment of timber in the forest, sawmill, creosoting vat, and charcoal kiln, transport by land and water (road-making, tramways, rafts), wood depots, sale of wood, conversion of timber, utilisation of minor products such as resin, peat and grass, and so forth. The English version is the result of the collaboration of three writers—Professors Gayer, H. Mayr, and Fisher. Professor Fisher has supplied a translation that reads, often at least, as if it were an original work; he has also contributed many interesting and valuable notes derived from his own wide experience and from French sources, and has added a number of well-chosen illustrations. The veteran author, Professor Gayer, has aided in bringing out the second German edition, upon which this volume is based, and has invoked the assistance of Professor Mayr, his successor to the Chair of Forest Utilisation in Munich.

In a work covering so wide a field of practical knowledge, parts of the subject are apt to suffer at the hands of the authors, however erudite they be. And in the first part of the book, which deals with the structure and properties of timber, Professor Mayr unfortunately plunges into scientific discussions upon branches of the subject on which he is imperfectly informed, both as to the facts and principles which are already generally appreciated, and as to the complexity of the problems involved.

We read the astonishing statement: "Mayr's observations . . . show that [wood] vessels never contain water, but serve exclusively for aeration and for conducting oxygen to the neighbouring parenchymatous cells . . ."

A little later, after an airy dismissal of Hartig's sagacious work on the structure of the annual ring in relation to transpiration and nutrition, we are told: "Fibrous cells are spindle-shaped, parenchymatous cells, with similar function to those of sclerenchyma." Some pages further on we are introduced to "Mayr's Law" concerning the specific weight and hardness of wood, which is: "Assuming identity of soil, the specific weight and hardness of wood decreases with distance from the optimum climate of its production. . . ."

Within the natural habitat of any species of tree the centre of its habitat produces the heaviest and hardest wood." [By habitat, "station and age of distribution" are here meant.] If the statement were verified, it might be called a "rule" until the complex underlying principles were explained. But the statement is not yet justifiable, as we are still without a proper definition and method of recognising the hypothetical optimum climate; and the measurements in different timbers are too limited in number to warrant generalisation. Moreover, the underlying facts to which Professor Mayr refers have long been known to practical men in this and other countries. The dealer in foreign timber is aware of the soft southern or even spongy southern types of timbers of the Scots Pine and Oak, which contrast with the harder types occurring in intermediate localities? Equally lacking in novelty, justification, and nomenclature is "Mayr's Law" concerning the durability of timber: this law states that "the more intense the colour of heartwood the more durable it is." So far as this "rule" is applicable at all it is already well known, as regards European and some of the timbers of commerce. But even among the limited number of timbers that have been more or less tested in this respect, the "rule" breaks down; indeed, its refutation is given in the book under review, where white Holly wood and light-coloured Cypress woods are cited as durable.

It is to be hoped that in a future edition Prof. Fisher will ruthlessly remove these and similar blemishes, which, however, are minor blotches on a work that stands alone of its kind in

the English language, and will be found useful to all interested in trees, timber, and forests.

We note a few misprints, such as *Sciadopitya*, *Armillarea*, *Lelcowa*, "grains of resin per kilogramme" (p. 110), "data in tons of 1,000 kilos. (p. 91).

The book contains a large number of well-reproduced illustrations, including two excellent coloured plates showing types of Oak, Spruce, and Larch timber.

CULTURAL MEMORANDA.

GALEGA OFFICINALIS GRANDIFLORA ALBA.

This plant reaches a height of 3 feet; it possesses compound leaves which appear in bunches, and its blooms bear a resemblance to those of Sweet Peas; the floral season lasts from the end of June till frosts come. The flowers are not injured by rain, and retain their freshness when cut for a considerable length of time. Its cultivation is of the simplest character, the seeds being sown in a cold frame in April, or on a prepared bed in May in the open air. As soon as the seedlings are sufficiently strong they should be pricked in four rows in a half-shaded spot, at about 1½ feet apart. In a few weeks the first blooms appear, and the growths are then stopped, when from the axils of the leaves flowers continue to be produced. When the autumn frost has destroyed the flowering stems, the plants should be covered with tree leaves, twigs, or straw litter. They will in the spring push out many growths, and will produce large numbers of long-stalked flowers. The plants fill a gap at the end of June, a period when *Pinks*, *Pyrethrons*, *Campanulas*, &c., with white flowers are passing out of flower, and *Asters*, *Dahlias*, *Gladioli*, &c., have not yet commenced to bloom. F. M.

The Week's Work.

FRUITS UNDER GLASS.

By T. COOMBE, Gardener to Lord Llangattock, The Hendre, Monmouthshire.

Strawberries.—Where ripe Strawberries are required very early in the season, plants may now be started into growth by arranging them upon shelves placed near the glass in a suitable house. In our case plants are arranged in this manner over a bed of fermenting tree leaves, which promotes a suitable humidity. This method is preferred to that of plunging the pots into a bed of warm leaves, as, in the latter case, they are likely to suffer a check when they are removed from the bed. Pick all the decayed leaves from the plant, and substitute for the loose surface soil a fresh compost of loam, lightly mixed with manure from a spent Mushroom bed, a little soot, and an approved artificial manure. Do not use more fire-heat than is enough to slightly warm the pipes, and in mild weather afford sufficient ventilation to cause the atmosphere to circulate both by day and night. Spray the plants overhead with tepid water early in the afternoon of fine days, and exercise care in applying water to the roots. Plants in pots at present plunged out-of-doors, and intended for the supply of successional crops, may be protected during severe frosts by a covering of bracken.

Early pot vines in pots.—When these vines have developed some growth and leaves, the atmospheric temperature may be increased to 60° at night, allowing a rise to 70° by day, with careful ventilation in mild weather if the heat is likely to rise above 70°. When closing the house early in the afternoon, spray the vines overhead with tepid soft water, and damp the ground surfaces of the house with weak guano water. Disbud any surplus shoots whilst they are still very young, and complete the disbudding as soon as the flowers have advanced sufficiently for the best bunches to be selected for the crop, which should not be sufficient to overburden the vines. When the disbudding has been done, remove any surplus bunches, stop the lateral growths at two leaves beyond their bunches, and sub-laterals at the first leaf. When this stage has been reached the roots will be very active, and closer atten-

tion must be given to watering, using tepid water slightly enriched with liquid manure. Maintain the temperature of the plunging manure at 70°.

Young vines.—Vines that have been raised from eyes this year, having now lost their leaves, should be cut back to two buds if this has not already been done, and the cut surfaces be dressed with styptic. It is assumed that these vines will be grown another season with a view to forming canes for bearing a crop in 1910. Keep them at rest until it is time to start them into growth at about the middle of next month.

The formation of vine borders.—If any vines have to be planted next spring, the borders should now be made. The chief points to consider are to provide thorough drainage, and take the necessary measures to prevent the roots of the vine penetrating into unfavourable soils. There need not be more than 3 feet deep of compost, nor need the border have a greater breadth than 4 feet in the first year. The compost may consist of good and roughly broken turfy loam, mixing with it crushed mortar rubble or lime plaster rubble, wood ashes and finely-crushed bones, employing more or less of each material, according to the texture of the loam. The soil should be moderately dry at the time of forming the borders. It must be made tolerably firm, and should be protected from wet until the vines are planted. Borders may be formed entirely inside the house, or partly outside the house or portions of the border may be inside and out, but in this case the vines should be planted inside. (See also the remarks on this subject in the issue for February 1 last.)

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Dendrobium.—Plants of the autumn-flowering members of this genus as *D. Phalenopsis*, *D. Statterianum*, *D. bigibbum*, and *D. formosense* have nearly all ceased flowering, and should be afforded a long and decided rest. Under proper conditions they will remain in a dormant state until next April. During the intervening period the plants should be kept in a light position in a warm atmosphere where air is admitted whenever outside conditions will allow. The affording of moisture to the roots of these *Dendrobiums* during their inactive season is a very important matter. The cultivator should be guided by the state of the pseudo-bulbs and foliage, which soon show signs of shrivelling if the rooting material is allowed to become too dry. Thrips sometimes infest these plants at the time of flowering, when fumigation cannot be practised for fear of disfiguring the blooms. The plants should, therefore, be examined at the present time, and if they are found to be infested with these pests they must be thoroughly cleansed before being placed in their resting quarters. Imported plants of the species of *Dendrobium* mentioned above often arrive during the winter months and get distributed throughout the country. They usually travel well, and arrive with sound dormant eyes, but they should not be encouraged to break away into growth immediately on being received. The plants should be first thoroughly cleansed and gradually inured to the light, afterwards placing them under similar conditions to those of established resting plants. If possible, do not allow the "eyes" to break away until the spring, when the plants may be potted up.

Vanda teres.—Plants of this species have completed their growth. This fact is indicated by the natural sealing over of the pots of the roots. During the period of inactivity, similar conditions and temperatures to those advised above for *Dendrobiums* will be found suitable for these plants. Overhead syringings should be discontinued, and water should be afforded only in quantity sufficient to prevent shrivelling. Plants of *V. Hookeriana* and its hybrid are still active, therefore, until signs of rest are apparent, continue to afford these a liberal treatment.

Cattleyas and Lælio-Cattleyas.—Owing to the printer having omitted a heading in the "Calendar" of last week, the directions for treating *Lælio* and *Lælio-Cattleyas* during the resting season appeared as if they referred to *Odontoglossum citrosum*.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq.,
Keir, Perthshire, N.B.

Coleus thyrsoides.—This species should be cultivated in an atmospheric temperature of 50° during winter, and be kept in a position close to the roof glass. It is much better not to hurry the plants into flower until spring, for there being more light at that time than in January the blooms develop a deeper shade of blue, and under the cool treatment the plants preserve a dwarf habit.

Cyclamen.—A batch of the earliest plants already showing flower-buds should now be introduced into heat, and placed close to the glass. Afford plenty of tepid water daily to the roots whilst the plants are in this warm atmosphere and keep a sharp look-out for thrips. When the flowers have opened, the plants must be removed to a cool greenhouse or conservatory.

Chrysanthemums.—It is now time to take cuttings of all varieties of *Chrysanthemums*. Prefer to use thumb pots and place only one cutting in each pot, because then they suffer very little check when potting becomes necessary. In the cultivation of *Chrysanthemums* for furnishing large blooms, the most important point is to preserve them from suffering a check at any time. The soil to be used in these small pots should be of the most porous character, but it should contain sufficient plant food to support the cuttings for two or three weeks after they have formed roots. A small piece of old turf should be placed at the bottom of the pot. This will serve the purpose of drainage, and, the roots entering firmly into the turf, it will form a good support to hold the soil together when potting is necessary.

Potting soil.—A favourable opportunity should be taken to procure some fresh loam from an old pasture field for use next year in potting operations. It is best to cut this turf at a time when there is a little frost on the ground, for being old pasture, it is sometimes infested with wire worm and many others pests that during the winter are apt to go down into the turves and be cut, which should be about 3 to 3½ inches deep. If the turf is moderately dry at the time it is cut, it should be carted away and stacked at once, making the stack in the shape of a ridge, so that it will throw off rain. The stack should be placed as near the potting shed as circumstances will allow. Any of last year's loam that still remains should be put under cover and kept dry for immediate use. Equal foresight should be exercised in regard to the provision of leaf-mould, sand, and broken lime rubble, all of which materials should be stored in a place conveniently near to the potting shed.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Alterations.—With the exception of a few days, the weather has been favourable for all sorts of outdoor work. In most cases, therefore, it will be possible to complete the planting of trees and shrubs, and any alterations, before the end of the year. The present is a good time to drain any ground that is generally in a wet condition, and, therefore, unpleasant to walk upon. The drains should be laid at a depth of from 3 to 4 feet. If the subsoil is removed by this means, the surface water will not be likely to give much trouble. The distance allowed between each drain will depend upon the nature of the soil, and may vary from 12 to 18 feet. Drains, however, may be rendered useless by the haphazard way the trenches are afterwards filled, for if much ramming is done the soil will be rendered less porous than it ought to be. It is, therefore, better to allow the soil time to settle naturally, and if the drains are inserted below a turf-covered surface, care should be taken to employ soil of the same nature and quality as that adjoining it. Otherwise, the grass, making a different growth to that by which it is surrounded, will become conspicuous.

Plants effective in winter.—There are certain plants that are usually cut down to the ground surface at this season, which, if left, would make a good effect during the winter months. Such plants include *Solidago*, *Phlox*, autumn-

flowering *Aster*, *Senecio*, *Eulalia*, *Hydrangea paniculata*, and *Fuchsia Riccartonii*. *Cornus sanguinea* is well known for the good effect it affords in winter by reason of the vivid colouring of the young wood. Many of the *Spiræas* such as *S. Lindleyana* and *A. arifolia*, also *Willows* in variety, of various shades and colours, are very prominent. We have some *Willow* trees here planted by the late Lord Wantage in 1901. One has a height of 50 feet and a clear stem of 20 feet long, the circumference varying from 3 feet 6 inches to 4 feet. This and other specimens have planted in simple poles from 8 to 10 feet in length, and 4 to 6 inches in circumference, and they were inserted in the ground about 4 feet deep.

Christmas Roses (Helleborus).—These plants are very useful for affording flowers for cuttings in December and January, and in order to have the blooms as pure and fresh as possible, frames should be placed over the plants as soon as the flower-buds appear. *Helleborus niger* and its varieties generally succeed best in a sheltered and shady border, having a deep rich loam into which a fair quantity of leaf-mould is intermixed. By the frequent application of liquid manure it is possible to increase the length of the flower-stems.

Shrubs.—The present is a suitable time for applying mulchings of decayed garden refuse to the shrubberies. The delicate forms of silver and golden coloured *Hollies* will benefit if given a good coating of the soil, wood ashes and soot. Single specimens upon the lawn especially need this attention. A good mixture of road grit, leaf-mould and peat will help to maintain peat-loving species in the best condition.

The rockery.—Keep the rockery free from fallen leaves and rubbish of any description. It may be necessary in some cases to add a little soil or other material to the roots of various Alpine plants, such materials as peat, slate, lime or granite. Take care that the tender species are not overgrown by stronger habited plants. There are certain species sometimes seen on rockeries that are more suitable for the woodland or wild garden.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

General work.—Although there is less pressure of work at the present season than earlier in the year, advantage should be taken of good weather to do all that is possible before the advent of the New Year brings extra responsibilities.

Potatoes.—These may now be planted in fairly large quantities if the necessary means are provided for forcing very early tubers. Care should be taken to select varieties which are known to produce but little haulm, and quickly mature. The sets which have been laid out to sprout in gentle heat will now be sufficiently advanced for this purpose. I prefer growing these in 10-inch pots or boxes rather than smaller pots. The pots or boxes should be well drained and about half-filled with a compost consisting of one part well decayed leaf-soil and one part light fibrous loam, free from wireworm. Bury the tubers to the depth of 3 inches, and more soil can be added for moulding up the young plants after they have reached the top of the pots. They may be placed in a gentle heat of from 50° to 55°, applying but little water until the growth is above the soil. Any position will suffice for the sets before this stage is reached, but as soon as the growth is seen the receptacles containing them should be placed near the glass, so as to produce stout, short-jointed growths; severe forcing must not be practised. Sets may also be planted in heated pits, with the slightest possible hot-bed of leaves, allowing sufficient room between the soil and the glass for the growth to properly develop without coming into contact with the latter. The following are among the many desirable varieties for the purpose of early forcing:—*Sharpe's Victor*, *Sharpe's Express* and *May Queen*. Tubers for successional crops should be prepared and laid out thinly on suitable trays.

Mushrooms.—Beds in full bearing should not be subjected to an excessive temperature, it being far better to err on the side of too little

rather than too much heat, as by this means the quality of the produce will be not only superior, but the beds will continue to bear for a longer period. Endeavour to maintain an even temperature of from 50° to 55°; damp the paths and walls with tepid water about twice each day, and when the beds show signs of exhaustion apply a thorough soaking of larmyard liquid manure in a tepid state. Mushrooms growing in cool sheds will be greatly stimulated if a quantity of fresh horse manure is placed on the paths and turned over every morning. This will help to raise the temperature of the building, and the escape of ammonia will be beneficial. Beds which have been made up in the open during the autumn should be thoroughly covered to a depth of from 8 to 12 inches with good stable litter. Very fine Mushrooms may often be cut from these when well protected during mid-winter, but should this fail to be the case, provided the beds were properly made and spawned at the right moment, good returns may be expected in the New Year. Keep plenty of good material in preparation, and make up new beds in the Mushroom house as circumstances require. The best place for preparing the material is a good open shed facing to the north. The manure should be turned regularly until it is in a sweet condition for placing together to form a bed.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The DOWAGER LADY NUNBURGHOLME, Warter Priory, Yorkshire.

Insect pests.—The present is the best time in the whole year to do battle with insect enemies, because more drastic measures can be employed when the trees are at rest. As soon as the pruning of the trees is completed, all cuttings, leaves, and other rubbish should be cleared away from beneath the trees and burned. Although grease bands are not so generally employed as they were a few years ago, they are useful, especially in the case of large orchard trees. The band should be tied tightly around the stem of each tree, and care should be taken that there are no spaces between the paper and the tree, any places that would afford a passage for the insects should be filled up with clay. Examine the bands occasionally, and any that are not sticky should be smeared with fresh grease. Any Apple, Pear, and other fruit trees that are affected with mussel scale or American blight should be cleansed of these pests directly the pruning and training is completed, and before manure or top-dressings any kind are applied. The caustic soda spray is one of the most simple and effective winter dressings for destroying all kinds of insect pests that attack fruit trees, and this is easily prepared. But there are many safe and effective proprietary washes that can be bought ready mixed. These winter sprays are best applied by a knapsack sprayer, but in the case of a small garden, a hand syringe with a suitable spraying nozzle does equally as well. Care should be taken to apply the specific to every part of the tree, whilst badly-infested trees may, in some cases, need a second application at the beginning of the year, or before the buds begin to swell.

Goscherry and Currant bushes that have been badly attacked by caterpillars this season should, after their pruning is completed, have all the surface soil about them removed to a depth of 3 or 4 inches, and replaced with fresh compost. When this is done, apply a good dressing of newly-slaked lime, also dust the trees with a mixture of soot and lime, as this will deter the birds from destroying the buds. Lime is an excellent material for destroying pests kept in kind that attack fruit trees. It assists in rendering the bark bright and clean, and is also beneficial to the roots. Lime forms an excellent dressing for all fruit trees on both light and heavy soils, and its more general application is warranted.

The fruit room.—Examine the fruit frequently, and remove any that are specked and decaying. Do not handle Pears more than is absolutely necessary, and it is as well to store these fruits in a separate room by themselves, because an Apple store is usually too cold for dessert Pears. Allow a free circulation of air in the fruit room by keeping the ventilators open on all favourable occasions, and, as the Pears keep better in the dark, the shutters should be kept closed.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, DECEMBER 7—
Nat. Chrys. Soc. Exec. Com. meet.

TUESDAY, DECEMBER 8—
Roy. Hort. Soc. Com. meet. British Gard. Assoc. Exec. Council meet.

WEDNESDAY, DECEMBER 9—
Exh. of the Perpetual Flowering Carnation Soc. in K.H.S. Hall, Westminster.

THURSDAY, DECEMBER 10—
Nat. Rose Soc. Ann. Meeting and Dinner.

FRIDAY, DECEMBER 11—
Nat. Sweet Pea Soc. Ann. Meeting.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last fifty years at Greenwich—40.6°.

ACTUAL TEMPERATURES—
LONDON.—Wednesday, December 2 (6 P.M.): Max. 44°; Min. 38°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, December 3 (10 A.M.): Bar. 30.2; Temp. 43°; Weather—Foggy.

PROVINCES.—Wednesday, December 2 (6 P.M.): Max. 50°; Cornwall; Min. 29° Yorkshire.

SALES FOR THE ENSUING WEEK.

MONDAY—
800 lots Dutch Bulbs, Perennials and Border Plants, at 11; 1,000 Roses, at 1.30, at 67 & 68, Cheapside, E.C., by Frotheroe & Morris.

WEDNESDAY—
800 lots Dutch Flowering Roots, Herbaceous and Border Plants, Ferns, &c., at 11; 4,500 Roses and Fruit Trees, at 1.30; 100 lots Palms and Plants, 600 Azaleas, 100 Rhododendrons, &c., at 5, at 67 & 68, Cheapside, E.C., by Frotheroe & Morris.

FRIDAY—
800 lots of Dutch Bulbs, 200 lots of Perennials, Border Plants and Bulbs, at 11; 100 Roses, at 1.30; Imported and Established Orchids, at 12.45, at 67 & 68, Cheapside, E.C., by Frotheroe & Morris.

Plant Collecting in China.

Professor C. S. Sargent, of the Arnold Arboretum, Harvard University, has sent us the following extract from a letter written by Mr. E. H. Wilson on August 29 last at a point on the extreme western borders of Szechuan:—

"The trip through the Chin-ting-shan region proved a failure: proximity to the Chantu Plain, with its number of large cities and populous villages, has long since caused the total destruction of the forests. This range is now clothed with dense jungle of brushwood, in which the lack of variety is disappointing.

"Descending the Min Valley towards Kuan H—, I crossed over into the territory of one of the semi-independent tribes. The Chief proved very amiable, and allowed me to traverse his country at will. The region is unknown botanically, and here and there forests remain. I secured several interesting

Conifers and various flowering shrubs. I abandoned Potanin's old route on account of a dispute amongst the tribesfolk through whose territory the route lies. Descending the Min Valley to the city of Kuan, I crossed the river, and, striking westwards after a journey of 25 days, reached Taitien-lu. The route lay through the territories of several semi-independent tribes and was full of interest. The roads and means of accommodation were excessively bad; it would be hard to imagine a more difficult journey, but none I have ever made has given such complete satisfaction. Three passes, respectively 10,040 feet, 14,600 feet, and 15,200 feet, were crossed, and the scenery generally was wild and entrancing. For days together the road led through virgin forests, with magnificent *Coniferae* and *Birch*, with *Larch* overtopping all. Here and there we had to hew a pathway for ourselves, and how we managed to wade certain wild mountain torrents in safety will remain a mystery which I am unable to explain. One night we slept out in the forest under an improvised shelter of Spruce boughs. However, in spite of obstacles, we got there and secured a good haul of material. Three weeks were spent in the forest around Taitien-lu, and the return journey, for sake of time, was by the main highway.

"Of *Coniferae*, particularly *Picea* and *Pinus*, I have secured a large collection of material. I hardly know how many species, but at least 15 of the former genus and half-a-dozen of the latter. Of *Pinus yunnanensis* I have fine material, and the same is true of *P. Armandii*. Of this latter species I am inclined to think there are two distinct forms, one with cones half as large again as the other.

"*Larch* was very abundant in many places, and on the Ta-Pao-shan overtopped Spruce and Silver Firs, reaching the highest altitude of any tree in the region. On my former journey here I decided that all the *Larch* in the west was referable to one species. I now think this conclusion hasty. Certainly, on the journey just concluded the *Larch* trees in three distinct regions could easily be distinguished by their cones. I managed to secure seeds of each kind, and hope you will succeed in raising plants. Of herbarium material I have ample to settle the question of identity. *Larch* in these regions ripens seeds the latter end of June and in early July. In the forests I secured seeds of a magnificent *Birch* having orange-coloured bark. This species is frequently 80 to 100 feet high by 10 to 12 feet girth. It is certainly the handsomest *Birch* in China, as far as my experience goes. Huge trees of Maple, Poplar, Hornbeam and Ash abound, but Oak is entirely absent. Curiously enough, whilst the forests around Taitien-lu abound in *Rhododendrons*, those on the new route traversed possess very few.

"Of flowering shrubs, *Berberis*, *Hydrangea* and *Lonicera* were richest in species. Of *Lilacs* I got three species, all of them good. I managed to rediscover *Magnolia villosa* and secured material of another species having large white flowers and broadly-ovate pubescent leaves. *Pyrus*, particularly the section *Sorbus*, was very common. The hairy *Davidia* and *Tetracentron* were found, also *Salix magnifica*, the latter in quantity. In the Min Valley I discovered *Rosa Hugonis* in quantity, much to my surprise (*Père* Hugué Scallan

first discovered this species, and I believe the region is doubtfully given as Shensi).

"The summer season has been very dry and hot, and, speaking generally, there is promise of a very fair seed season. *Coniferae*, however, promise little or no seed. On the many thousands of specimens of *Picea* and *Abies* seen, it was only here and there that a new cone was visible. I am hoping that the autumn will prove that there are more than appear at present; otherwise, I fear we shall secure but very few seeds."

Muscat of Alexandria Grape.

A matter of interest to Grape growers is before the Fruit and Vegetable Committee of the Royal Horticultural Society in relation to the identity of a Grape which, although grown under the name of Muscat of Alexandria, is thought by some to be distinct. At the last meeting of the Committee, we are informed, Mr. James Vert placed before the Committee a bunch of white Grapes which had been cut from a vine which is one of several of the same variety grown by him for several years past. All the vines were originally received from the same nursery under the name of Muscat of Alexandria. At a local exhibition recently the variety was held by the judges not to be true Muscat of Alexandria, although evidently closely resembling it. It was this circumstance that induced Mr. Vert to place a bunch before the Fruit Committee, in order that this body might determine, if possible, whether the judges on the one hand, or himself and the nurseryman on the other, were correct. There being no certified bunch of the true Muscat of Alexandria before the Committee for comparison of wood or leaves, the Committee, whilst generally agreeing that the Grape shown was not true to name, yet invited Mr. Vert to place a second bunch before the members at the next meeting, and some of the members will bring bunches of the Muscat with leaves at the same time. On that test so far hangs the question as to whether Mr. Vert's Grape is correctly named. If it be found wrong, then there will further remain the question as to what variety it is. Without doubt it is a good keeping Grape, whatever the variety may be, but as presented at the meeting the berries appeared to lack that rich Muscat flavour so generally found in the true variety. The berries were also less long or oval in shape. The question of the identity of this white Grape naturally brings to the mind the variety which Mr. Lock exhibited at last year's Fruit Show, and which created much discussion and considerable dissent. It would be strange if Mr. Lock's vine and Mr. Vert's were found to be identical in variety and to have been put into commerce as Muscat of Alexandria. Differences in soils and situations sometimes cause slight variations in vines, but of all white Grapes few have more marked characteristics, or are more widely known, than is Muscat of Alexandria, therefore it should not be impossible to decide definitely whether these vines in question are of that variety or not. Mr. Vert has agreed to send eyes of his variety to Wisley, where it can be grown with Muscat of Alexandria. It would add interest to that test were eyes of the Outlands Park vine sent at the same time.

OUR SUPPLEMENTARY ILLUSTRATION represents two varieties of Rose of recent introduction. Albatross is a Hybrid Tea variety of ivory-white colour, slightly suffused with pink. The flowers are somewhat globular in shape, the outer petals being shell-like, with edges recurving backwards in a pleasing manner. The growth is moderately robust, and the variety promises to be valuable for garden purposes, whilst the blooms are recommended for the exhibition table. Lyon-Rose is tinted with coral-red, the bases of the petals being yellow. It is a flower of exquisite colouring. Blooms of both these varieties were exhibited by Messrs. Wm. PAUL & SONS at meetings of the Royal Horticultural Society in April last, thus proving their value for forcing as well as cultivation in the open.

NATIONAL ROSE SOCIETY.—The thirty-second annual general meeting of this Society will take place at the Westminster Palace Hotel, Victoria Street, Westminster, on Thursday, December 10, at 3.30 p.m. The annual dinner will be held on the evening of the same day at the same hotel, the function being fixed for 6 p.m.

BRITISH GARDENERS' ASSOCIATION.—On Thursday, December 10, a public meeting of gardeners will be held at Collier's Restaurant, Commercial Street, Newport, Monmouthshire, when an address will be given by Mr. J. WEATHERS, secretary. Mr. W. W. PETTIGREW, Superintendent of the Public Parks, Cardiff, will preside. The meeting will commence at 7 p.m. At the last meeting of the Executive Council the new members elected brought the total up to 1,365. A resolution was passed unanimously declaring that the association was not a trades union within the meaning of the term, and had no connection with any trades union organisation in the kingdom. The next meeting of the London branch will be held at Carr's, on Thursday, December 10, at 7.30 p.m., when Mr. A. J. HARTLESS will deliver an address on "A Gardener's Education."

THE SMITHFIELD SHOW.—Next week being that of the Smithfield Show, Lord CARRINGTON will be "at home" to farmers at the offices of the Board of Agriculture and Fisheries, 4, Whitehall Place, S.W., on Tuesday and Thursday, December 8 and 10, from 12 to 2 p.m., and from 3 to 4 p.m. It is not possible for him to accept many of the very numerous invitations he receives to attend agricultural gatherings in different parts of the country, and he hopes, therefore, that farmers who are in London for the cattle show and who desire to see him will do him the honour of calling upon him on the days mentioned. Lord CARRINGTON will visit the show of the Smithfield Club on Monday, December 7, and he has accepted an invitation to be present at the annual dinner of the Farmers' Club and the Central Chamber of Agriculture on Tuesday, December 8th.

MR. ARTHUR E. THATCHER, who has acted as foreman in the shrub and hardy plant department at Aldenham House, Elstree, during the past nine years, has accepted an appointment in the Arnold Arboretum, Boston, U.S.A. Mr. THATCHER had a good knowledge of trees, shrubs, and hardy plants generally, and the further experience he will gain will be likely to fit him for an important post later on. Mr. THATCHER was the recipient of many valuable presents, including one from the Hon. VICARY GIBBS, and others from the Hon. EDITH GIBBS, the employees at Aldenham House, and the St. Dunstan's Lodge of Odd-fellows (of which he was an active member). He has the good wishes of all who have known him at Aldenham for the past 24 years.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, December 7, at 5 p.m., when a paper will be read by Mr. J. A. EGGER, entitled "Agricultural Co-operation in Connection with Small Holdings." This is one of two ordinary general meetings held, for the convenience of country members, in the afternoon instead of in the evening.

THE WARM WATER METHOD OF FORCING PLANTS.—The following remarks on this method of forcing plants are extracted from a lecture given by Dr. HANS MOLISCH, of Prague, before the meeting of the German naturalists and medical men held at Cologne, in September last. The process forming the subject of his lecture was carried out in the experimental garden of the Physiological Institute of the Prague University. Twigs and branches set with flower buds were taken of hardy trees and shrubs of various lengths, from 20" to 40" C.M., and immediately submerged in warm water at temperatures varying from 25° to 40° Centigrade = 77° to 104° Fahrenheit; but mostly of a temperature of 30° Centigrade = 86° Fahrenheit, and usually for a period of nine hours. The submerged twigs, &c., were then removed from the water to a glass-house, having a temperature of 59° to 64.4° Fahrenheit, the butt ends being immersed in water. At first these were covered with tin caps, so as to exclude the light; but later, when it was remarked that there was little difference between covered and uncovered twigs, these were placed direct from the bath into the light, and the influence of the warm water upon them was much more distinguishable. It was noticed that not all kinds of plants in the resting stage were influenced by the warm bath; on some, indeed, no influence was observed, on others only to a moderate degree, but still others showed influence of a very marked character. On some of the subjects, twigs, shoots, &c., taken at the stage of most profound rest, no influence was noted, although later the effects were very good. The same degree of top-heat was found not to be suited to the requirements of all kinds of plants, and for the majority a temperature of 86° Fahrenheit gave the best results. Some plants were unaffected by this temperature, and it was necessary to raise it to 95° and 104° Fahrenheit before any forcing effect was observable. Temperatures higher than 104° were generally injurious. Fifteen experiments with warm water were made, and four under conditions of dryness as well as of a saturated atmosphere. In most instances of hardwood plants, the shoots and rooted plants were taken in the resting stage and immersed (the tops only in the case of rooted plants) in water of 86° to 104° Fahrenheit for nine to 12 hours, and afterwards grown on in moderate warmth. In these cases the resting period was shortened and bud expansion accelerated. Applied at the right time, the warm bath yielded excellent results with Lilacs, Forsythia suspensa, Corylus Avellana, Cornus alba, Ribes grossularia, Æsculus, Salix, &c. The success of these experiments depends on the nature of the plant, the time of year, and other circumstances. In general, six to 12 hours immersion suffices, and more than 12 hours cannot be recommended, owing to the high temperature of the water, and to the hindrance offered to the absorption of oxygen by the surrounding water. If 12 hours' immersion be exceeded, the buds are liable to be destroyed, or, at least, injured. Repeated immersion for short periods of time are either of no effect or they are a cause of injury. The same degree of warmth in the water does not suit every kind of plant, nor is the most suitable period to begin forcing identical for all species. For example, Æsculus and Fraxinus twigs cannot be forced in the early

autumn months, but in December and January growth readily takes place. The nearer the resting period approaches its termination the smaller becomes the difference between the bathed and unbathed plants. The warm bath exercises an influence only on the immersed parts, and this influence is to be remarked whether the plant be placed in the open ground or in the forcing-house. From the foregoing it would appear that warm water immersion of the plant should prove of great value in forcing operations. The remarkable appearance produced by a plant which has been half immersed in warm water is very interesting; the immersed part in its flowering offering a picture of spring, whilst the remaining portions offer pictures of mid-winter.

BANANA CULTURE IN NORTH QUEENSLAND.—A correspondent of the *North Queensland Herald* writes as follows concerning Banana culture in North Queensland:—Virgin jungle land of the most fertile character is essential. Such land is obtained on lease for five years on terms which vary in different districts. On the Johnstone River £1 per acre is demanded for the first year, £1 10s. for the second, and up to £2 for the third, fourth and fifth years. In other districts the land is free for the first year, 5s. per acre is charged for the second, 10s. for the third, and 15s. each for the fourth and fifth. The clearing of the land costs not less than £10 per acre, for all the smaller stumps are grubbed, while the surface must be kept as free from weeds as a gravelled path. Two hundred strong suckers, purchasable at a cost of 30s. per hundred, are planted in holes about 18 inches deep, each hole being partly filled with good surface soil. The young plant soon makes roots, and under favourable conditions evinces tropical haste in development. Before it flowers and bears its only bunch of fruit, suckers start from its base, two or three of which are permitted to grow in succession. Each, as its bunch matures, is decapitated, and for five, and even six and seven years there is a series of suckers, and, of course, bunches of fruit. The establishment of a Banana plantation will cost £20 per acre before a bunch of fruit is ready for cutting. At the end of five years ordinary land is deemed to be exhausted for Banana growing, for the plant is a gross feeder, but some jungle soils have grown Bananas continuously for 13 years without the stimulus of an ounce of manure. The grower's profit begins in 18 months from date of planting, and at the termination of his lease he has cut 2,200 bunches per acre. Calculating the wholesale market value at the low rate of 1s. per bunch, his land has earned £110 per acre, but he has worked hard, hoeing the weeds, felling and splitting timber for crates, and carrying the bunches to the tramway or the river bank for shipment.

LE CHRYSANTHÈME.—The November number of this interesting publication, the official organ of the French N.C.S., is just to hand. It contains a preliminary account of the society's conference and show at Tours, the balance-sheet of the society for the past year, list of floral committee meetings and awards, report of the Fontainebleau show, and other matters. Photographic views are given of the hall of the Hotel de Ville at Tours, where the conference was held. A view of Tours Cathedral, and one of the Château de Chenonceaux, which was one of the places of interest visited by the members. Under the heading "Entente Cordiale" is printed Sir ALBERT ROLLIT's response to the telegram addressed from Tours to the English N.C.S. by their French colleagues on the opening day of the Crystal Palace Show.

CHRYSANTHEMUM NUMBER.—Our Parisian contemporary *Le Jardin* does not yet appear to have exhausted the interest in connection with the twenty-fifth annual Chrysanthemum Show in Paris. Its issue of November 5 was a special Chrysanthemum number, and that issued on the 20th of the same month is another of the same nature. Illustrations of the Paris Show and portraits of the writers of articles make up a large portion of the issue. Of these articles M. GÉO. CLEMENT writes one entitled, "The Jubilee of the Paris Chrysanthemum Shows" (with portrait). M. CHARVET contributes one on "Damping." M. ROZAIN BOUCHARLAT writes on the progress of Chrysanthemum culture during the last 25 years (with portrait). Mr. HARMAN PAYNE contributes an essay on French Chrysanthemums in England (with portrait). M. MAX DE LA ROCHEFERIE writes about the work of the French National Chrysanthemum Society.

THE COQUILLA NUT PALM.—Amongst the curiosities of commerce, often so intimately associated with the products of plants, is the remarkable development so frequently seen in what may at one time have been called "minor products," but which have sprung rapidly, and often unnoticed, into general use and favour. Such, for instance, is the Coquilla, or, as it is now mostly spelled, Coquilho Nut, which is the fruit of one of the very many useful Palms known in trade for its several commercial products, and notably as the source of Bahia piassaba, so much used for road-sweeping and stable brooms. This Palm (*Attalea funifera*) is a native of Bahia, and the "nuts" or fruits are borne in large clusters, each fruit being from 2 to 3 inches long, and $1\frac{1}{2}$ inches in diameter, oval in shape, and of a hard, bony texture, and deep chocolate-brown colour. When first introduced to commerce, the source of this fruit was not known, though it was clear that it was the produce of some Palm. The determination, however, was settled at Kew many years ago, and quantities of them soon became utilised by the turner for knobs of drawers, buttons, and small ornamental articles of various kinds. In a recent report by the British Consul at Bahia, it is stated that these Nuts are being exported in yearly increasing quantities, and amounted in 1906 to 47,883 kilos., which was an increase of 6,080 kilos. over the exports of the previous year. The bulk of the exports go from Bahia to France, where it is said they are employed chiefly for making rosaries, and are used throughout the world by both Christians and Mohammedans. The kernels found in these hard, bony fruits contain a large quantity of oil, which at one time was used for soap and candle making, and it is now said to be used locally for delicate machinery and even for watches. The Coquilho Palm grows to a height of from 20 to 30 feet, with a crown of graceful leaves, from the bases of which the piassaba fibre is obtained.

Publications Received.—*The Agricultural Gazette of New South Wales*. (October, 1908.) Price 6d. —*Cotton Wilt*, by W. A. Orton, being Bulletin 333 of the U.S. Department of Agriculture. (Washington: Government Printing Office.) —*Dry Land Agriculture*. This is Bulletin No. 130 of the U.S. Department of Agriculture, and contains papers read at the second annual meeting of the Co-operative Experiment Association of the Great Plains area, held at Manhattan, Kans., June 26-27, 1907. (Washington: Government Printing Office.) —*Guide to Sowerby's Models of British Fungi in the Department of Botany, British Museum (Natural History)*. Second edition, revised, by Worthington George Smith, F.L.S. Price 4d. —*Synopsis of the British Basidiomycetes*, by Worthington George Smith, F.L.S. Price 10s. —*City of Edinburgh Report on Public Parks, Gardens, and Open Spaces, 1907-8*, by John W. M'Hattie. (Edinburgh: Printed by John Baxter & Son, Elder Street.) —*The Methods and Scope of Genetics*, by W. Bateson. (Cambridge University Press.) Price 1s. 6d. net.



FIG. 164.—PRIMULA MALACOIDES, A NEW CHINESE SPECIES: COLOUR OF FLOWERS PALE PINK.

(From a sketch prepared by Mr. Worthington Smith of specimens exhibited by Messrs. Bees Ltd.)

PRIMULA MALACOIDES.

THIS species (see figs. 164 and 165) is a promising introduction which we owe to the enterprise of Mr. Bulley, of Ness, who has raised it from seed sent home from Yunnan by his excellent collector, Mr. George Forrest. The plant is one of restricted distribution in Yunnan, occurring only in the Tali Valley, whence specimens were sent to Paris by Père Delavay and described by Franchet in 1886. Mr. Forrest found the plant abundant around Tali in rather moist, sunny situations, as he states in his account of the Primulaceæ collected by him in Yunnan, published in *Notes from the Royal Botanic Garden, Edinburgh*, xix. (1908), where a figure is given of a plant flowering at Edinburgh.

Primula malacoides belongs to Franchet's section Monocarpicæ of the genus (see Pax's Monograph in Engler's *Pflanzenreich*), a section including three other Chinese species, *P. Forbesii* and *P. androsacea*, which are in cultivation, the latter also through Mr. Forrest, and *P. gemmifera*, not yet in our gardens. Franchet took the name malacoides from *Erodium malacoides*, the foliage of which is simulated by the Primula. In general features *P. malacoides* resembles *P. Forbesii*, but it is altogether a larger plant and infinitely more freely branched. Moreover, it belies its position in a monocarpic group, for so far it has proved quite otherwise in cultivation, and whilst producing seed copiously, it can be easily propagated by division also. For outdoor cultivation—apparently it is quite hardy—it is not likely to be an acquisition, unless its flowering period can be hastened, but for greenhouse work it should prove a valuable decorative species. Its flowering at this period of the year is in its favour, and its long flowering period gives it an advantage. To some, its tint of pink or lavender-pink, in contrast with the grey mealy surface of the flower-stems, will be hardly pronounced enough for effect, but time and cultivation will alter that, and it may be predicted that this Primula is likely to become a general favourite, for amongst the qualities it possesses is that of few preferences, and, moreover, it is easily grown and propagated—as indeed one might expect to be the case with an agrestal plant such as this. *I. B. B.*

NEW INVENTION.

A PLANT STAND.

WE have received specification and photograph of a plant stand invented by Mr. F. Barnacle, gardener at The Poplars, Rowley Fields, Leicester. This stand is for the purpose of holding a plant in the plant house or out-of-doors during the process of cleansing. It consists of a support or socket carrying a small table, which is mounted upon a swivelled stem, so that the table can be raised or lowered to any height and turned freely while the plant is being manipulated. The table is provided with a rim or ledge to prevent the pots falling off, and the support carries a bracket capable of holding a pot or receptacle for insecticide, which is thus kept ready in a convenient position for use on the plants. It is claimed that this stand will enable gardeners to treat their plants for cleansing or other purposes in a more convenient manner than formerly, the height being adjusted to various sizes of plants, and the materials with which the plants are treated being held in a convenient place within reach of the hand. It would seem to us that it would be more valuable if there were an appliance for holding the pot firmly in its position, as the mere act of sponging the leaves has a tendency to draw a plant forward, which the ridge of the table appears to be quite insufficient to overcome.

* A LANCASHIRE WILLOW FARM.

FOR upwards of half a century the village of Mawdesley has been famous for its Willow beds and basket-making industry, and Mawdesley-grown rods have acquired a considerable reputation in the Willow trade for strength and durability. Mawdesley differs from most Willow-growing centres in possessing very little wet or marshy land, and Willows are grown under similar conditions to such farm crops as Potatoes, Cabbages, Corn, &c. It is to this comparatively dry method of culture that the special toughness of the rods grown in the district is attributed.

Mawdesley is situated in south-west Lancashire almost midway between Liverpool and Preston, at the foot of Harrock and Parbold Hills. The nearest station is Rufford, a distance of about 2½ miles, whilst the nearest important town is Wigan, which lies a few miles away in the opposite direction.

Being in the neighbourhood recently, I took

ally required, until he and his sons had about 500 acres under cultivation. Other farmers also planted largely when the trade was at its best, but of late years, owing principally to depression in trade and foreign competition, a considerable amount of land has been reclaimed for ordinary farm crops. According to Mr. Cowley, however, taking good and bad years together, Willows pay at least as well as other farm crops.

When forming a Willow bed, the ground is well worked and cleaned, and good, strong cuttings are inserted 1 foot apart in rows 2 feet apart. The majority form sturdy plants the first year, and are assisted by being kept perfectly free from weeds and by frequent working of the surface soil. In fact, to be successful with a crop of Willows, Mr. Cowley contends that throughout life they must be kept as free from weeds as any other crop. A full crop of rods may be expected from strong-growing varieties the third year after planting, but weak-growing kinds require a year or two longer.



FIG. 165.—PRIMULA MALACOIDES AS PHOTOGRAPHED IN THE ROYAL BOTANIC GARDEN, EDINBURGH.

the opportunity of paying a visit to the farm of Mr. Hugh Cowley, who is the largest grower in the district, for the purpose of obtaining information as to the methods of culture adopted, and Mr. Cowley very kindly furnished me with the particulars embodied in the following notes.

The pioneer of the movement in Mawdesley was Mr. Cowley's father, and his first venture was with a farm of 11 Cheshire acres (= about 23½ English acres). As he had learnt from old growers that Willow beds were only remunerative up to 14 years of age, he obtained a lease for that period. His methods of culture, however, proved so effective, that at the time his lease ran out the beds were more productive than they had ever been, and he was glad to renew his lease at an increased annual rental of £30. For many years the business proved highly satisfactory, and more land was continu-

Harvesting operations are got through as quickly as possible after the fall of the leaves. Usually, the stools are cut over annually, but when specially strong rods are required, they are allowed to remain for two years. When cutting the rods, great care is taken to remove them close to the stool. If this is not done, numerous buds are left, which result in large numbers of weak shoots the following year, instead of a smaller number of more vigorous ones. As soon as possible after the removal of the crop, the ground is well cleaned and worked, and a dressing of manure is given. The manure which finds most favour with Mr. Cowley is a Manchester production prepared principally from night soil. This is sold in bags, and is easily transported. The usual dressing is at the rate of 1 ton to the acre, and this is repeated in spring, an additional dressing being given a month or two later if the ground is poor. When carefully cultivated, a

* A paper contributed to the *Kew Bulletin* (No. 9, 1908) by Mr. W. Dallimore.

Willow plantation will give good results for a very long period. I was shown fields in full vigour which had been down between 20 and 30 years, and still older ones exist. In the event of a bed being neglected and left unworked and unmanured, it is ruined in from three to five years. The destruction of a Willow bed is a simpler operation than would be expected. A strongly-horsed plough is run along a row close to the stools; it is then run along the opposite side, turning the stools over; men follow, and drag the plants out ready for the next furrow. In this way a field is ploughed in very little more time than a clear field would be.

When removed from the ground the rods are made into stacks and are left for use. Many of the finer-growing sorts are peeled for fancy work, and the peeling is done as the rods are harvested. Previous to peeling they are soaked in boiling water. From the boiler they are taken to the stripping room, where the bark is removed by women. The rods are then placed in a heated shed to dry, after which they are graded into sizes ready for use. Although attempts have been made to find a use for the bark, they have so far failed, and it is simply a waste product.

A few years ago baskets of all descriptions were made both for English and foreign markets, but now only those kinds are made for which there is a local demand, and the majority of the rods suitable for fine work are sold ready for use. A brisk trade is carried on in Potato hampers, and there is a good demand for pigeon and fowl baskets.

The majority of the varieties of basket-making Willows grown in the country have been tried at Mawdesley, but most of them have been discarded as unsuitable for the district, and only a few selected forms of two or three species are grown, which are recognised by local names. Specimens were, however, obtained, and in the following descriptions they are allotted to their respective species. The varieties are:—

"Red Buds" or "Old Dicks"; "Long Skeins" or "Light Long Skeins"; "Black Stemmed"; "Mawdesley's Long Skein"; and "Ran Dan." Two others, known respectively as "Tulip Willow" and "Kecks," were at one time widely grown, but have been superseded by "Red Buds."

"Red Buds" or "Old Dicks" is a well-marked form of *Salix purpurea*; the botanical variety *scharfenbergensis* most closely approaches it in general appearance. It is of comparatively weak growth, and is conspicuous by reason of its red stems and buds. It is the most useful of all the Willows grown in the district for neat or fancy work, and usually commands the best price. The rods are always used in a peeled state, and are obtainable in five different sizes, the longest ones being from 4 to 4½ feet in length, the shortest 2 to 2½ feet. The first-mentioned name evidently applies to the prominent red buds, whilst the latter is an abbreviation of "Old Dick Meadow's Willow." Richard Meadows was an employee of the Earl of Lathom, and amongst his other duties he manufactured rough wicker baskets for the distribution of game. On one occasion he noticed some nice Willow rods round a bundle of imported plants. From these he procured cuttings, which resulted in superior rods to anything he had previously worked. He distributed cuttings amongst his friends, and Mr. Cowley obtained a quantity. These became so popular that on one farm alone upwards of 100 tons are frequently produced in a single season. The yield of rods per acre of this variety is from eight to nine tons. *S. purpurea*, the "Purple Osier," is widely distributed through Europe and Central and Northern Asia, and is a variable plant.

The variety called "Kecks" is a form of *S. purpurea* with green bark and larger leaves than the form already mentioned; it is, however, of very inferior merit, and has been discarded.

"Long Skeins," or "Light Long Skeins," is a stronger-growing Willow than the last-mentioned, of very good quality. It is a selected form of the British *Salix viminalis*, and was originally imported to Mawdesley from Knowsley. It is used both plain and peeled, and is suitable for many kinds of work. The longest rods of a single year's growth are from 6 to 8 feet, those of two years' growth being some 3 or 4 feet longer.

"Mawdesley's Long Skein" is another European species, *Salix rubra*. It grows to about the same height as the last-named form, and is used for similar purposes, both peeled and unpeeled; the rods are, however, said to be slightly harder to work.

"Black Stemmed" or "Black Willow" is *Salix daphnoides*, the "Violet Willow" of Europe, &c. This has not been in use many years, but is thought highly of for the larger kinds of work. Rods 12 feet in length are produced in a single season, which are found to be of excellent quality for farm baskets. The peculiar glaucous or bluish colouring seen on growing rods is even more conspicuous after the rods have been dried. My attention was called to a number of Potato baskets where this particular variety had been used in bands with another variety, and in the distance the appearance was exactly that of bands of light blue paint.

"Tulip Willow" is a form of *S. rubra*. It is said to produce rods of good quality, but has been discarded in favour of "Red Buds" on account of its liability to produce side branches, which cause extra expense in preparing for use. A peculiarity of the variety is the habit the rods have of dividing into double growths when about half grown.

"Ran Dan," concludes the varieties grown. It is correctly *Salix Smithiana* var. *acuminata*. The rods are strong, and grow to a good length the first season. They are, however, usually allowed to grow for three or four years, and are then used for splitting to use in the bottoms and sides of strong hampers.

In conclusion, it may be of interest to note that the Willow industry at Mawdesley had its origin through the chance visit of a basket-maker to the neighbourhood. He noticed a patch of Willows growing in an out-of-the-way corner of a field, and offered the farmer a price for them, which seemed more than the land was worth. This led to the first idea for a Willow farm.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

MOULTON PADDOCKS, NEWMARKET.—The Suffolk seat of Sir Ernest Cassel possesses many horticultural attractions. My visit was made in October during that bright period when the sun shone brilliantly on the many hundreds of *Salvia splendens*, which were shortly to be used for the embellishment of the winter garden. They formed one blaze of scarlet bloom, intensified by the sunshine, and not less by the contrast with the dark, sombre green of the leaves which clothed the plants right down to the pots. A batch of *Euphorbia* (*Poinsettia*) *pulcherrima* was just as noticeable for the manner in which the plants had retained their lower leaves. Carnations are a great feature at Moulton Paddocks, and there were some promising plants of *Souvenir de la Malmaison* varieties very neatly and evenly staged. The winter-flowering Carnations were blooming well. The number of plants grown is very large, but the varieties are few. They include Robert Craig, Britannia, Winsor, Mrs. T. W. Lawson, Enchantress, White Perfection, Floriana, and Lady Bountiful. Among them were some very good blooms on long, erect stems. Violets in pots gave every promise of flowering well, and those planted in frames were also in good condition. The Chrysanthemums of the large-flowering type had been timed to flower in October, and were thus

necessarily dwarf, though already there were some creditable blooms of Mrs. A. T. Miller, Mafeking Hero, and Mme. Gustave Henri. Of the decorative kinds there was a large batch of Soleil d'Octobre, destined to follow the *Salvias* in ornamenting the winter garden. I was particularly impressed with a batch of blue *Heliotrope* which filled a whole house. The variety was Lord Roberts. The plants were well furnished with flowers, and the fragrance floating through the house was delightful. Among *Pelargoniums* were many large plants of Ivy-leaved varieties in pots and in baskets for flowering later, but the Zonal-leaved varieties were already in bloom. The double pink variety King of Denmark was largely in evidence, accompanied by Hermione (double white) and Raspail (double scarlet). Plumbago rosea, Begonia Gloire de Lorraine, with its white counterpart "Turford Hall," Begonia Rex, and other plants were looking well. Among Orchids, which are a great feature at Moulton Paddocks, were some nice plants of *Cattleya labiata*, some with three and others with four blooms to each spike. Of these large batches are grown, and the plants present every evidence of good treatment. A cool, shady house is devoted to *Odontoglossums*, with excellent provision for ensuring a moist atmosphere, and the growth of the plants testified to the suitability of the treatment given them. A small house was rendered gay by the free-flowering of that most useful of *Dendrobiums*, *D. Phalaenopsis*. Vandas are also cultivated with success. A house of Black Alicante Grapes with well-shouldered bunches presented a fine picture. Alpine and perpetual-fruited Strawberries are grown in plenty, and fruit trees in pots are well done. The method of training Peach trees across the house so that each side receives equal light is practised with good results. A peep into the fruit-room showed that the crop of hardy fruit was not only fine in quality but a plentiful one also. The out-door garden includes a pretty rocky and water garden. William F. Roulès.

DELPHINIUMS.—Mr. Fyle, page 127, and Mr. Street, p. 172, obviously write from very different standpoints, the former recommending the dividing and replanting of these plants after two years, the latter advocating the discarding of named varieties, apparently in favour of seedlings. Very few gardeners will, I imagine, follow Mr. Street's advice, which amounts to throwing away a certainty for an uncertainty. I am aware that there have been some very fine strains of Delphiniums, also that the plants are easily raised from seeds. These seedling strains are vastly superior to those available in the past, and are especially useful for planting in the foreground of, or in a border adjoining, a shrubbery, the more open spots in the woodland, and similar places. Mr. Street's preference for seedling-raised plants would appear to arise from an erroneous idea that the named sorts quickly deteriorate under cultivation, but this is not the case. The very old *D. formosum*, still a most effective variety, is to-day as vigorous in growth as it was 50 years ago, and the same may be said of other varieties. Indeed, no hardy herbaceous plant can boast of greater perennial vigour than the Larkspur, and, if rightly treated, the taller varieties will grow to a height of 6 or 7 feet. Few plants delight more than Delphiniums in a rich and deep soil, and unless they are to be planted in light and well-drained ground, it is a mistake to attempt their division during the autumn months. Much the best season of the whole year for increasing these plants is in the early springtime, that is, the end of March or thereabouts, just as the new growth is pushing through the soil. In the spring there is a renewed root action, and, carefully treated, the plants grow well and flower during the following June and July. The length of time the plants will remain before being again disturbed will largely depend upon the soil and the amount of space allotted them. I may mention, however, that clumps six years old, growing well apart in a light, well-drained soil, showed no sign of deterioration. A small black slug makes its winter quarters in the top of these plants, often destroying the crown entirely. Occasional applications of fresh soil are helpful in keeping this pest at bay. E. H. Jenkins, Hampton Hill.

KEW HYBRIDS.—We had occasion to look up one of the hardy Hybrid Brooms, *Cytisus Beanii*, and carefully went through the catalogues of hardy plants of the leading English growers without success in finding it quoted. We were surprised to find it offered by two of the Continental houses, and have received plants from one or both of them. Are the hybrid products of our national gardens sent to foreign traders rather than to those of us who make a business of horticulture in this country? Not having any personal acquaintance with the Director of Kew, we write you in the matter, thinking also that the facts are of some importance to the English nursery trade. *Paul & Son*. [We understand that, although *Cytisus Beanii* may not yet have found its way into the catalogues of the leading English growers, several of them have plants of this hybrid in their collections. We have every reason for believing that the plant in question has only been given, in exchange for others received, to one foreign grower, and after it had already been distributed in this country.—E.D.]

NARCISSUS BLOOMS IN NOVEMBER.—It is an easy matter to have Narcissus blooms in November if French-grown bulbs of *Narcissus Trumpet Major* are potted early in August and kept growing in cold frames until the end of September, then placed on shelves in a warm, span-roofed greenhouse, exposing them to as much light and sunshine as possible. Narcissi make a welcome addition to the list of flowers for table decoration at this season. Our bulbs were potted in the first week in August, and the first bloom appeared in the last week of November. *John Bates, Meaford Gardens, Stone.*

SOCIETIES.

ROYAL HORTICULTURAL

Scientific Committee.

NOVEMBER 24.—*Present:* Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Messrs. A. Worsley, G. S. Saunders, W. C. Worsdell, J. T. Bennett-Poë, G. Gordon, W. Hales, J. Fraser, W. Cuthbertson, W. Fawcett, C. T. Drury, and F. J. Chittenden (secretary).

Grease bands.—Mr. Voss showed another grease band taken from the same tree as that shown a fortnight ago which had been placed upon the tree in succession to that. A considerable number of female winter moths had been captured near the base of the band, and a larger number of males. All, with one exception, belonged to *Cheimatobia brumata*, the exception being a male *Hibernia aurantiaria*.

Weevils in seeds.—Mr. SAUNDERS reported that the seeds of *Abrus precatorius* which Mr. BOWLES had shown at the last meeting were attacked by a species of *Bruchus* allied to, though not identical with, *B. pisi*. The weevils were nearly as large as the seeds in which they occurred.

Silver-leaf in Plums.—Mr. WORSLEY showed a portion of the trunk of a Plum tree which had been attacked by "silver-leaf" disease, caused by the fungus *Stereum purpureum*. The discoloration of the wood appeared to start from the graft. Mr. WORSLEY also showed a seedling form of *Chrysanthemum indicum* and *Jotropa podagrasia* attacked by *Botrytis cinerea*.

Marks upon Apple.—Mr. G. S. SAUNDERS showed a drawing of an Apple which had a curious looking brown mark stretching up one side of it about three-sixteenths of an inch in breadth. It was thought that this had probably been caused by the destruction of the epidermis as by a scratch at an early stage of the development of the fruit.

Staphelia grandiflora.—Mr. BENNETT-POË showed a flower of this species measuring about 11 inches in diameter.

Aberations in *Lonicera periclymenum*.—Mr. J. FRASER showed flowers of the common Honeysuckle with the petals green. It was remarked that this condition in Honeysuckle is very frequently associated with the presence of aphid upon the plant, especially near the inflorescence. Mr. FRASER also showed a specimen of the common Honeysuckle with leaves shaped somewhat like those of the Oak—this form he had found

most frequently in plants growing in a shady wood. In *Lonicera japonica* the aberration is very common.

Variation in *Polystichum angulare*.—Mr. DUNN showed a "seedling" from the variety of *P. angulare* (or *aculeatum*?) called pulcherrimum (which was originally found growing wild), named gracillimum. The parent plant had remained sterile for a very long period, but at last two sporangia had been found upon it (without an indusium). The spores from these had been sown, and about 75 per cent. of the resulting plants had come precisely like the parent, and the remainder consisted of about 5 per cent. reversions to the normal type of the species, and 20 per cent. rather varying forms somewhat similar to the plant shown, where the frond was cut up into a number of narrow divisions. The variation had shown itself only after some time, the younger leaves being of the normal form.

Poloria in *Cattleya labiata*.—From Mr. GURNEY WILSON, of Haywards Heath, came a very perfect specimen of a poloric *Cattleya labiata* in which the perianth was perfectly regular, as is not unusual, and in addition there were three properly developed stamens adnate to the column. Mr. WILSON also showed a dimorphic specimen of *Cypripedium insigne* which was not only a very perfect specimen of the rather common aberration, but was interesting on account of the fact that this is the second successive year in which the aberration has occurred in this plant.

Holly retaining berries.—Mr. CHITTENDEN showed a branch of Holly from Wisley which was still carrying the berries produced in 1907. Adjacent trees had been stripped by the birds, but this and two other trees in the garden had retained their berries until now. During the past few days some had fallen, but otherwise the tree was as thickly berried as during the autumn of 1907.

An exotic worm from Wisley.—Mr. CHITTENDEN showed an exotic worm, one of the *Platariæ*, *Bipalium kewense* from the propagating pits at Wisley. The worms are of a dark greyish colour and measure up to about 15 inches in length. They are found living among the crocks at the bottom of the pots. They feed voraciously upon earthworms, and are, no doubt, capable, by reason of their shape and size, of pursuing them into their burrows. The animal is said to occur in hot-houses throughout the world.

COLONIAL EXHIBITION.

NOVEMBER 26-30.—The show of Colonial produce on these dates formed the 12th held under the auspices of the Royal Horticultural Society, and it was a much finer display than any of the preceding ones. The building was well filled with exhibits, and, although there was a great similarity in the displays generally, several fresh things were noticed, and, as especially interesting to gardeners, some vegetables, such as we cultivate, from the Province of Ontario, Canada. The show failed to attract the general public, and on the second day few persons other than attendants were present.

The opening ceremony was performed by Lord Strathcona and Mount Royal, G.C.M.G., who, with Lady Strathcona, was received at the entrance by Right Hon. Lord Balfour of Burleigh, K.T., the members of the Council, and the following representatives of the various Colonial offices: Sir Henry Davison, K.T., Deputy-Chairman of the West India Committee; Sir Daniel Morris, K.C.M.G., C.M.G., late Imperial Commissioner, West Indies Agric. Dept.; the Hon. Forster M. Allevine of Barbados; the Hon. J. H. Turner, Agent-General for British Columbia; J. Howard, Esq., Agent-General for Nova Scotia; and W. Liney Griffith, Esq.

In his opening speech, Lord Strathcona said that eighty years ago there was no possibility of sending delicious fresh fruits from a distant country. Now, with cold storage, fruits are received from British Columbia, the farthest part of the Dominion, from the West Indies, and from Australia and New Zealand. It was only some thirty years ago that in England British Columbia was spoken of as a sea of mountains, fit for nothing but to look at. He regretted there was no exhibit from the Province of Quebec, which might have sent the old Fameuse Apple of Canada, than which there can be nothing more exquisite. The con-

gratulated the West India Society, which has instituted in the different islands permanent local committees, for the purpose of exhibiting and of showing to the mother country, and to the rest of the world what can be done in those islands. Canada, which was foremost in giving preference to the mother country, has also extended a preference to the West Indies. As an example of the good that this has done, millions of pounds of sugar which formerly came from West Germany now come from the West Indies.

Sir Daniel Morris, K.C.M.G., C.M.G., in moving a vote of thanks to Lord Strathcona, stated that he had on several occasions visited Canada, and was acquainted with the Annapolis Valley in Nova Scotia, and also with the fruit belt in Ontario.

With regard to the exhibits, the most imposing group was from BRITISH COLUMBIA, and it consisted almost wholly of Apples, shown, for the most part, in the boxes as shipped for our markets. The quality was exceedingly good, and high colour prevailed in most of the varieties, such as Spire, King of Tompkins County, and Wolf River—names that are becoming very familiar in our greengrocers' shops. The exhibit was really a collection of fruits from growers and institutions in the colony, and medals were awarded the exhibitors very liberally, and in value according to the individual quality. A Gold Medal was given to the collective display.

TRINIDAD showed exhibits from this colony under a canopy of white cloth, with festoons of green and yellow. The principal products were Oranges, Bananas, Limes, Shadocks, Coconuts, Papaws (like a green Marrow and about the same size), Citrons, and one or two Pine-apples, as growing on the plant. The Oranges were the most interesting, especially the seedless fruits.

DOMINICA sent a very similar collection; fruits of the Citrus family predominated, the Lime being especially in evidence, with limejuice, essential oils, and attar of Lime. Some large Shadocks were displayed. They resemble very large Oranges; the flesh is pinkish and is eaten with a spoon, but the rind seems excessively thick in proportion to the edible part.

NEW SOUTH WALES was represented by cases of dried fruits, which had a very appetising appearance. Peaches, Pears, Apricots, and Raisins were shown in this way: in addition were bottled fruits of the same kinds, also Almonds, Olive oil, Citron, and Lemon peel, &c.

ONTARIO showed principally Apples and Pears, generally as packed in the cases for market. There was also a large table filled with Pears, Apples, Grapes, &c., but they were badly staged, and no trouble appeared to have been taken to show them in their best condition.

Two large tables of vegetables were also shown from ONTARIO. After a journey of three weeks it was surprising to find the specimens, on the whole, in such good condition. There were huge Cauliflowers, named "Snowball," over a dozen splendid heads quite 9 inches in diameter. They must have been almost perfect specimens when cut. Onions were very good, some of them being almost up to our best exhibition standard in size and finish. The varieties were Red Globe, Giant Perfection, Danvers, Yellow Globe, and White Globe. The latter were very fine in form, finish, and colour. The Onions were sown out-of-doors at the end of April, and it proves what a remarkably fine summer Ontario must enjoy when specimens such as were on exhibition can be harvested in September and October. Potatoes were largely shown, the tubers being of fine size, though somewhat coarse according to our ideas. Some of the varieties were:—Ontario Beauty, Crown Jewel (like White Elephant), American Wonder, Beauty of Hebron, Late Rose, Gem of Aristock, Pear of Savoy, Rural New Yorker, and Delaware. The latter resembles "Up-to-date," and is one of the best, giving a crop of 300 bushels the acre in Canada. The Potatoes were mostly from a recently-settled district in northern Ontario. Other features of the exhibit were Celery, Carrots, Parsnips, Artichokes, Salsify, Marrows, Egg Plant fruits, and Capsicums.

NOVA SCOTIA filled two long tables with boxes of Apples, and there were miscellaneous exhibits from individual colonists, a very fine display being made by Mr. H. DALMAIN, of Wolfville, including some bottled fruits.

NEW ZEALAND was represented by Apples that had been preserved in cold stores; also jam, jellies, and other comestibles, including a great quantity of honey.

The WEST INDIAN PRODUCE ASSOCIATION staged saucers, pickles, jams, jellies, sugar, tobacco, cigars, and other similar products; and another large display of a similar nature was made by the ARMY AND NAVY STORES, Victoria Street, Westminster.

An interesting exhibit of Nuts was made by Messrs. B. SHEARN & SON, Tottenham Court Road, London. Much table space was occupied by jams and other preserves staged by home exhibitors, some in competition, the results of which are given below.

GOLD MEDALS.—The Province of British Columbia; Nova Scotia Government; the Government of Ontario.

SILVER-GILT HOGG MEDAL.—Mr. F. A. Parker, Berwick, Nova Scotia.

SILVER-GILT KNIGHTIAN MEDALS.—Kamloops District, British Columbia; Kaslo District Horticultural Association, British Columbia; Mr. Thomas G. Earl, Lytton, British Columbia; Mr. W. H. Woodworth, Berwick, N.S.; Mr. H. A. Blanchard, Upper Dyke, Nova Scotia; the Botanic Section, Imp. Dept. of Agric., Dominica; the Hon. H. A. A. Nicholls, C.M.G., St. Arment, Dominica.

SILVER-GILT BANKSIAN MEDAL.—The West Indian Produce Association.

SILVER HOGG MEDAL.—Mr. J. H. Cox, Cambridge, Nova Scotia.

SILVER KNIGHTIAN MEDALS.—Sumnerland District, British Columbia; Mrs. J. A. Smith, Spences Bridge, British Columbia; Mr. H. Dalmain, Wolfville, Nova Scotia; Mr. E. E. Archibald, Wolfville, Nova Scotia; Mr. R. J. Messenger, Tupperville, Nova Scotia; Mr. J. A. Kinsman, Lakeville, Nova Scotia; Mr. F. H. Thomson, Bridgetown, Nova Scotia; the Hon. J. Cox Fillion, Wall House, Dominica; Mr. A. K. C. Lockhart, Castle Comfort, Dominica; the Jamaica Agency, Holborn; Messrs. B. Shearn & Son, Tottenham Court Road; West Indian Produce Association, Ltd., 4, Fenchurch Buildings, E.C.; Norbrook Preserving Co., Jamaica; R. Jackson & Co., 172, Piccadilly, W.

SILVER BANKSIAN MEDALS.—Salmon Arm Farmers' Exchange, British Columbia; Mr. A. L. Morse, Berwick, N.S.; Mr. E. T. Neilly, Middleton, Nova Scotia; Mr. F. Foster, Kingston, Nova Scotia; Agricultural School, Dominica; Elders & Fyffes, Jamaica; the New Zealand Government; S. Kirkpatrick & Co., Nelson, N.Z.; the Dominica Agency, 49, Lime Street, E.C.; Government of New South Wales; W. J. Ansell, I.S.O., Cyprus.

BRONZE BANKSIAN MEDALS.—Victoria District, British Columbia; Salt Spring Island, British Columbia; James Johnstone, Nelson, British Columbia; James Gartrell, Sumnerland, British Columbia; Chilliwack District, British Columbia; Berwick Fruit Co., Berwick, N.S.; Mrs. Wm. Sangster, Falmouth, Nova Scotia; Ralph Eaton, Kentville, Nova Scotia; Clarke Bros., W. Langard, N.Z.; Hokianger Co-operative Preserving Co., Rawerne, N.Z.; N.Z. Government; Monserrat Preserving Co.

COMPETITIVE CLASSES.

Home-bottled British-grown fruits.—1st, Lady ALGERNON GORDON-LENNOX, Broughton Castle; 2nd, W. POUFART, Junr., Twickenham.

Twenty-four bottles of British-grown fruits.—The 1st prize was not awarded; 2nd, Miss CAROLINE JONES, Orpington.

Eighteen bottles of British-grown fruits.—The 1st prize was not awarded; 2nd, Mrs. W. H. PLOWMAN, Westminster.

Twelve bottles of British-grown fruits.—1st, GEO. H. JOLLY, 111, Long Acre, W.C.; 2nd, G. HODDAY, Romford.

Home-bottled vegetables (amateurs).—1st, Mrs. V. BANKS, 102, Park Street, W.; 2nd, Mrs. W. PARLOUR, Croft, Darlington.

Eighteen 1 lb. clear glass jars or bottles of jam.—Equal 1st, Mrs. V. BANKS, 102, Park Street, W., and Miss M. G. THOMPSON, Potter's Bar; 2nd, Mrs. E. J. BECKETT, Aldenham Park.

Twelve 1 lb. clear glass jars or bottles of fruit jellies and fruit cheese.—1st, Mrs. V. BANKS, 102, Park Street, W.; 2nd, Miss M. G. THOMPSON, Potter's Bar.

MISCELLANEOUS EXHIBITS OF PRESERVES.

Miss EDITH BRADLEY, Greenway Court, steriliser (Silver Banksian Medal); GEO. FOWLER, LEE & Co., LTD., Reading, sterilisers (Silver Banksian Medal); W. POUFART, Junr., Twickenham, cider, honey, and bottles (Silver Banksian Medal); Mrs. W. H. PLOWMAN, Westminster (Silver Knightian Medal); Messrs. AUSTIN & Co., Kington, canned fruits in syrup (Silver Knightian Medal); Miss MARTIN, New York (Silver-gilt Knightian Medal); SWANLEY HORTICULTURAL COLLEGE (Silver Banksian Medal).

BRISTOL CHRYSANTHEMUM.

NOVEMBER 18, 19.—This annual show was held in the Drill Hall, Bristol, on these dates. Entries were not quite so numerous as in former years. Orchids are always a feature of this exhibition, several classes being allotted for them.

Plants.—For a group of Chrysanthemums and foliage plants there were only two competitors. Mrs. ST. VINCENT AMES, Bristol (gr. Mr. W. H. Bannister), was awarded the 1st prize, the plants being too crowded. The best stove and greenhouse plants, also Ferns were shown by JOHN BAKER, Esq. (gr. Mr. J. Binfield).

For a group of Orchids arranged on a table space 4 feet by 6 feet, with Ferns or other foliage plants interspersed, A. G. GROVES, Esq., Bristol (gr. Mr. W. Costling), was placed 1st with a bright exhibit; 2nd, Mr. CARY BATTEN. In the class for three Orchids, Sir H. DAVIS, M.P. (gr. Mr. J. F. Antis), was awarded the 1st prize, his best examples being *Cypripedium Harrisonianum* and *Cattleya labiata*.

For two Orchids in bloom, A. G. GROVES, Esq., was 1st with *Odontoglossum grande* and *Cypripedium insigne*. Mr. C. KRIS had the best single specimen in his plant of *Cypripedium Spicerianum*, which had 21 flowers. Mr. A. G. GROVES had the best three plants of *Cypripediums*.

Chrysanthemums.—In the class for 36 Japanese blooms, in not fewer than 24 varieties, there were four competitors. Mr. W. IGGULDEN, Lock's Hill Nurseries, Frome, was distinctly ahead with large and well-staged blooms. The leading varieties were F. S. Vallis, Mme. P. Radaelli, Mrs. W. Iggulden, Magnificent, Bessie Godfrey, Mme. G. Rivoli, Mrs. F. W. Vallis, &c. 2nd, D. E. TAYLOR, Esq., Bristol (gr. T. Godfrey), for 12 Japanese blooms, Mr. F. W. LOCKWOOD was placed 1st, with medium-sized flowers. The best six blooms of a Japanese variety, arranged in two vases, were shown by Mr. W. IGGULDEN, and he had excellent blooms of Mme. P. Radaelli. Mr. LOCKWOOD followed with F. S. Vallis. Mr. IGGULDEN also won the premier prize for six Japanese blooms of a white variety with Katie Palgrave. Mr. WOODWARD followed with Elsie Fulton. The similar class for a yellow variety was also won by Mr. IGGULDEN, the variety being F. S. Vallis. This exhibitor was also successful for six vases of distinct varieties of Chrysanthemums, three blooms of each kind.

Incurved varieties were few in number but of good quality. For 12 distinct varieties, W. J. LONG, Esq., Rood Ashton, Wilts. (gr. Mr. W. Stragnell), easily won the 1st prize with medium-sized, neat examples of Romance, Margery Shield, W. Pascoe, Triomphe de Montbrun, Doris Rayner, Mrs. Judson, Embleme Poitevine, Souvenir de W. Clibran, Mark Tourle, Mrs. J. H. Wynne, and Mrs. B. Hankey; 2nd, Mr. A. SAUNDERS.

Exhibits of single Chrysanthemums were numerous. Eight growers staged in the class for six vases of blooms in distinct varieties, which resulted in W. A. TODD, Esq., winning with a bright exhibit; 2nd, Lord Justice FARWELL (gr. Mr. F. J. Little).

Roses were finely shown. For 12 blooms, in not fewer than six varieties, Mrs. BERNARD (gr. Mr. W. Cox) was 1st with choice examples.

NON-COMPETITIVE EXHIBITS.—Messrs. JAS. CYPHER & SONS, Cheltenham, displayed an exhibit of Orchids, including a choice collection of *Cattleya* hybrids. (Gold Medal.) Messrs. G. WILLIAMS & SON, Cardiff, had a pleasing exhibit of Chrysanthemums, including a sport from Mme. Oberthur named "Helena Williams," of a primrose tint. Messrs. SUTTON & SONS, Reading, showed a collection of vegetables, for which the society's Gold Medal was awarded.

LINEAN SOCIETY.

NOVEMBER 19.—Mr. Harold Wager, F.R.S., gave a lantern demonstration on "The Optical Behaviour of the Epidermal Cells of Leaves." He stated that Professor Haberlandt had suggested that the epidermal cells of certain leaves are functional as ocelli or primitive eyes and are capable of the perception of light. The structure of these cells is such that the rays of light which fall upon them are refracted and brought to a focus, and, in one case, Haberlandt was able to obtain a photograph of a microscope, the image of which was focussed upon the basal walls of the epidermal cells. This image, as figured in his book, is not very clear, and it has since been found possible to obtain much clearer images of a variety of objects through the cells both of the upper and lower epidermis of many leaves, including portraits from life, flowers, houses, and landscapes, reproductions of photographs and pictures, and simple diagrams in colour on the autochrome plates of Messrs. Lumière.

In order to explain this function, Haberlandt has put forward the extremely interesting hypothesis that the convergence of the light rays causes a differential illumination of the protoplasmic layer on the basal walls of the epidermal cells, and sets up a stimulus, which results in the orientation of the leaf into that position in which it can obtain the most suitable illumination.

There is no doubt a good deal of evidence in favour of Haberlandt's view; but there are many facts to be explained before a definite conclusion can be arrived at. For example, convergence takes place in the lower as well as in the upper epidermal cells, as shown by Albrecht for *Viscum*, and by the exhibitor in many other plants. In a species of *Mesembryanthemum* there are special lens-cells equally well developed on the lower surface as on the upper surface. In *Garrya elliptica* also there are special lens-shaped thickenings of the cuticle equally well developed on both surfaces. The papillate cells of many petals show a very clear convergence.

It is not impossible that the convergence may bring about a more efficient illumination of the chlorophyll grains. Haberlandt himself suggested something of this kind many years ago, and the numerous observations which have been made upon *Schistostega*, *Osmondaceae*, some *Selaginellas* and *Hepaticas*, and other plants, and some observations by the exhibitor upon *Botrydium granatum*, all clearly indicate that this hypothesis must be taken into account. It is significant, also, that epidermal cells with long focus appear to be associated with long palisade cells; whilst the cells with short focus are associated with short palisade cells.

Mr. C. T. DRURY exhibited some Ferns growing in a bottle presumably airtight, on silver sand, which, during a period of four years, had nearly filled the jar.

ABERDEEN CHRYSANTHEMUM.

NOVEMBER 27, 28.—The annual exhibition of this society was held on these dates in the Music Hall Buildings, Aberdeen. The entries numbered in all about 500, a slight decrease from the previous year's numbers. The opening ceremony was performed by Mrs. Ogilvie Gordon, D.Sc., Aberdeen. The class for cut blooms formed the leading feature of the exhibition. The most important competition was for 12 vases of Japanese Chrysanthemums, three blooms of one variety in a vase. The Dowager Countess of SEAFIELD, Cullen House (gr. Mr. A. Morton), was placed 1st, no fewer than 20 points separating her 1st and 2nd prize group, shown by Captain H. F. LUMSDEN, of Balmiedie (gr. Mr. W. Paterson).

R. H. MILLAR, Esq., The Links, Montrose (gr. Mr. A. Oliphant), had the best exhibit of 12 Japanese Chrysanthemums in not fewer than nine varieties. Among other growers who took leading places in the cut-flower section were Messrs. GEORGE JAMIESON, Loughborough; J. JENKINS, Junr., Woodside; JOHN PETRIE, Crathes Castle; WILLIAM MILNE, Corsindae House; ALEXANDER DOUGLAS, Kephlestone House; ANDREW REID, Durris House; JAMES JESS, Montrose; JAMES STACHAN, Botanic Gardens, Old Aberdeen; and R. A. GRIGOR, Dalswinton, Dumfries.

Non-competitive displays were made by the GOVERNMENT OF BRITISH COLUMBIA, Messrs. BEN REID & Co., Aberdeen, and Messrs. T. RIVERS & SONS, Sawbridgeworth, Herts.

NATIONAL CHRYSANTHEMUM.

DECEMBER 2, 3.—The winter exhibition of this Society was held on these dates at the Crystal Palace, Sydenham. The weather was dull but fine, and the show may be reckoned as equal to an average display of this National Society in December, although the number of entries was slightly fewer than on some former occasions. Some excellent blooms were seen in the larger classes for Japanese varieties. Fourteen new varieties were presented to the Floral Committee for award, but only two received the Society's Certificate of Merit.

GROUP CLASSES.

There were two entries in a class for a group of Chrysanthemums and miscellaneous flowering and foliage plants occupying a semi-circle measuring 14 feet by 7 feet. Members of the trade were excluded from exhibiting. The 1st prize was won by Lady TATE, Park Hill, Streatham Common (gr. Mr. W. Howe). At the back of the group were Chrysanthemums backed with Palms and Codiaeums (Crotons), the centre having brightly-coloured Euphorbias (Poinsettias) set among ornamental-leaved plants, with single blooms of large Japanese Chrysanthemums, and at either side were banks of a yellow single variety, rising from a base of Begonia Gloire de Lorraine. Cyclamen, Cypripediums, Spiraee, and Paper-white Narcissi, with Ferns, &c., were also included in the group. 2nd, W. H. STONE, Esq., Donnington, Laurie Park, Sydenham (gr. Mr. T. W. Stevens). This group was largely composed of single and decorative varieties of Chrysanthemums, and had an edging formed of Begonias and Cypripediums.

There were two exhibits also in the class for a circular group of flowering and foliage plants, arranged in a circular space of 8 feet. Lady TATE was again successful in obtaining the 1st prize with a conical arrangement of Liliums, Euphorbia (Poinsettia) pulcherrima, Spiraee, Cypripediums, Begonias, &c. 2nd, Mr. H. HEDGES, Nurseryman, Sydenham: this exhibit was mainly composed of Begonia Gloire de Lorraine.

In the class for six plants of flowering Begonias there were four exhibits. The best were adjudged to be those shown by Mrs. NATHAN, Little Heath Wood, Potter's Bar (gr. Mr. W. Newton).

BLOOMS SHOWN ON BOARDS.

OPEN CLASSES.

Japanese varieties.—The principal class for Japanese varieties was for 18 blooms, in not fewer than 12 varieties. Six exhibits were staged, some excellent flowers being presented. The premier prize was awarded to PANTIA RALLI, Esq., Ashted Park, Epsom (gr. Mr. G. Hunt), for an exhibit of much excellence, and one generally regarded as fine as any seen at the November show. This exhibitor met with remarkable success, winning five 1st prizes in important classes. The entries in the exhibit under notice were Miss Miriam Hankey (a bold bloom of pink colour), Mme. R. Cadbury (white), Algernon Davis (deep yellow), John Peed (pink), R. C. Pulling (yellow, suffused with reddish-brown), Mrs. H. Perkins (reddish), Bessie Godfrey (soft yellow), W. M. Moir (white), W. H. Whitehouse, Mrs. J. C. Neill (creamy-yellow), Thos. Stevenson (a fine bloom of this yellow variety), Mme. R. Oberthur (white), Mrs. A. G. Pierce (yellow), and Thos. Stevenson (yellow). 2nd, Rt. Hon. Lord LUDLOW, Lampart, Northampton (gr. Mr. H. Humphrey), with finely-coloured blooms, the example of E. J. Brooks being a magnificent specimen of this rich purple-coloured variety.

In the smaller class for 12 Japanese varieties, distinct, there were seven competitors. The 1st prize was again won by Mr. RALLI with almost perfect specimens, all the varieties being included in the preceding class. 2nd, A. TAYLOR, Esq., Downside, Leatherhead (gr. Mr. W. Mease), with an exhibit not much inferior to that which won the premier prize.

Incurred varieties.—The only class for incurred Chrysanthemums was one for 12 blooms, in not fewer than six varieties. There were four groups, all of good quality for December, the best being shown by Mr. RALLI, Esq. The varieties were W. Wainwright, May Phillips, Middle L. Faure, G. W. Matthews, Mrs.

J. Hygate, Marjorie Shield, Jalene, and The Egyptian. 2nd, Miss WILLMOTT, Warley Place, Brentwood (gr. Mr. J. Pearce), with large but less conical blooms.

CHRYSANTHEMUMS SHOWN IN VASES.

Nine vases of Japanese varieties.—Three blooms of each variety, and not fewer than six sorts, were required. There were only two exhibits, P. RALLI, Esq., winning the 1st prize easily with a collection of bold blooms on strong stems. Especially fine were the varieties John Peed, Mrs. J. C. Neill, and Mme. R. Cadbury. 2nd, T. P. BOYD, Esq., North Frith, Tonbridge (gr. Mr. A. C. Horton).

Six vases of Japanese varieties, distinct.—The better of two exhibits was shown by Mrs. NATHAN, Little Heath Wood, Potter's Bar (gr. Mr. W. Newton). There was an especially fine vase of Mme. Paolo Radaelli in this exhibit. 2nd, W. BEECH, Esq., North Ockenden, Romford (gr. Mr. Rayment).

Single Chrysanthemums.—In the class for 12 vases of single varieties, distinct, there were four entries. Each exhibit was staged on a table by itself, measuring 8 feet by 3 feet. The best collection was shown by P. RALLI, Esq. The bunches were lightly arranged, and the flowers stood well above the vases. The varieties included Annie Farrant (crimson), Princess (pale yellow), Lady Windsor (rosy pink florets with white bases), Edith Pagram (pink), and Gerbera (bronze-yellow). 2nd, Mrs. NATHAN (gr. Mr. W. Newton).

The best six vases of spidery, thread-petalled, or plumed Chrysanthemums were shown by Mr. C. B. GABRIEL, Easdale, Horsell, Surrey, whilst the best exhibit of pompon varieties was shown by J. L. BURGESS, Esq., Maisy Hampton, Gloucestershire (gr. Mr. J. A. Humphries). There were two exhibits in each of these classes.

There were several handsome exhibits in the class for a vase of large Japanese and incurred Chrysanthemums arranged with ornamental foliage. The 1st prize was awarded to J. C. ERS, Esq., Wood Hill, Dulwich (gr. Mr. R. B. Leech). This exhibit contained the best flowers (Algernon Davis and Buttercup), but it was not so artistic in arrangement as some of the other vases. 2nd, W. W. MANN, Esq., Bexley, Kent (gr. Mr. J. Simon).

In the similar classes for thread-petalled and for pompon varieties, Miss COLE, Feltham, was successful in both cases.

AMATEURS' CLASSES.

Generally, the exhibits in this section were much inferior to those seen in the classes for professional growers. The best of five groups staged in the class for 12 Japanese Chrysanthemums of distinct varieties was shown by W. WALTERS, Esq., Alexandra, Burton-on-Trent. The quality of the blooms was mediocre. 2nd, W. P. PRUDEN CLARK, Esq., 4, York Road, Hitchin.

In the smaller class for six Japanese varieties there were six exhibits, the blooms being of better quality than in the preceding class. Six good blooms shown by the Rev. A. COOPER MARSJIN, 60, Wickham Road, Beckenham (gr. Mr. W. Rigby), were placed 1st. The white W. M. Moir variety was especially well shown by Mr. MARSJIN. 2nd, T. GLASS, Esq., Borrowdale, Sydenham (gr. Mr. H. Baker).

The decorative classes were keenly contested, and the following were successful exhibitors in this section—Mr. T. W. STEVENS, Sydenham; Miss C. B. COLE, Feltham; and Mr. W. WEBB, Sydenham.

CERTIFICATES OF MERIT.

Aurora Boreale.—A single variety of more than average size, having bronzy-red florets, shading to gold at the base. The colouring is very pleasing. (Shown by Mr. NORMAN DAVIS, Framfield.)

Kathleen May.—A decorative variety of very deep crimson colour, and with an "Anemone" centre. (Shown by JOHN WOOD, Esq., Crocken Hill, Kent—gr. Mr. F. Pestfield.)

NON-COMPETITIVE EXHIBITS.

Mr. H. J. JONES, Ryecroft Nurseries, Lewisham, put up one of his bold groups of Chry-

santhemums, having a green cloth ground, with Palms, Codiaeums, Pandanus, Ananassa sativa, and similar plants as a setting to large epergnes of Chrysanthemums, especially fine being the varieties Kitty Gullivan (cherry-red), Mrs. Wynne (an incurved variety), Helen Williams (a yellow sport from Mme. R. Oberthur); Snowdrift, True Gold, Mrs. Wakefield (terra-cotta-red), and the old Princess Victoria variety (white). (Gold Medal.) Mr. NORMAN DAVIS, Framfield, Sussex, showed many beautiful single varieties of Chrysanthemums of his raising. Pullux and Juno are two fine yellow varieties. (Gold Medal.) Mr. PHILIP LADDS, Swanley, Kent, staged a circular group of Chrysanthemums that embraced the finest of the market varieties in season. The blooms were of high quality. (Gold Medal.) Messrs. W. WELLS & Co., Merstham, Surrey, had an exhibit of Chrysanthemums of most types. We noticed the new Merstham Jewel, a single variety of fine colour. (Large Silver Medal.) Messrs. H. CANNELL & SONS, Swanley, Kent, showed Zonal Pelargoniums and varieties of Chrysanthemums. (Large Silver Medal.) Exhibits of Apples from British Columbia and Nova Scotia were awarded Silver Medals, and the same award was given to Mr. G. W. KIRBY for an exhibit of garden fruit and greenhouses. A Bronze Medal was awarded to Mr. WILLIAMS, Ealing, for flower displays.

ANNUAL DINNER.

NOVEMBER 26.—The annual dinner of this Society was held on the above date at the Holborn Restaurant, Sir Albert Kaye Rolitt, LL.D., D.C.L., President of the Society, in the chair. At this annual gathering the various prizes and medals awarded at the Society's exhibitions are presented to the winners. The president was unable to be present at the commencement of the dinner, and the chair was taken by C. E. Shea, Esq., pending his arrival. The tables were decorated with flowers and plants by Messrs. R. F. Felton and Sons, and during the evening the company was entertained to a selection of vocal and instrumental music.

Mr. J. McKerchar proposed the toast of "The Donors of Special Prizes," and appealed to those present to show their appreciation of the work being done by the Society by coming forward with a still greater number of special prizes for the forthcoming year. Mr. Shea, in replying for this toast, congratulated the Society in having an excellent president. He was pleased to know that the condition of the finances was improving.

The presentation of prizes was the next feature. The National Challenge Trophy having been again won by the Dulwich Society, it was handed to their representative; the Holmes' Memorial Challenge, for 36 incurred blooms was won for the eleventh time in succession by Mr. W. HIGGS, Fetcham Park, Leatherhead, and that for Japanese by Mr. W. HALL, of Melchet Court. The presentation of these, together with the president's cup, the R. F. Felton Cup, and others, constituted an interesting part of the proceedings.

The toast of the evening, "The National Chrysanthemum Society," was proposed by the chairman, who, on rising, stated that the Mayor of Windsor had expressed his regret at his inability to be present on that occasion, but hoped at some future time to be with them. The National Chrysanthemum Society was formed to venerate a splendid flower, which was esteemed throughout the world, and in Japan, where it constituted the badge of chivalry, the "Order of the Chrysanthemum" was the highest honour. He appealed to the ladies to become recruiting officers in order that the membership of the Society should increase.

Mr. Thos. Bevan thanked the president for the kind expressions he had made in regard to the committee and officers, also for his earnest endeavour to obtain new Fellows for the Society, and for his supporting the Crystal Palace as a suitable place in which to hold the shows. Mr. Bevan said he himself would always advocate holding the shows at Sydenham.

The "Exhibitors and Affiliated Societies" was proposed by Mr. E. F. Hawes, and responded to by Mr. W. Wells.



HILLEBRANDIA SANDWICENSIS ; FLOWERS, WHITE WITH A ROSY TINGE.

THE Gardeners' Chronicle

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HARDY TREES AND SHRUBS SUITABLE FOR FORCING.

FOR many years a few kinds of trees and shrubs have been cultivated for forcing, notably *Deutzia gracilis*, *Rhododendron sinense* (better known in gardens as *Azalea mollis*), and *Lilacs*. A remarkable exception, however, has been given to this practice during the last few years, due to two causes, namely, the magnificent groups of forced plants exhibited by several nurserymen at the fortnightly meetings of the Royal Horticultural Society and to trees and shrubs being extensively used in several well-known public and private gardens. In addition to the three plants mentioned above, many of the most beautiful trees and shrubs which flower out-of-doors from Christmas to June can be successfully forced into flower under glass in advance of their natural season.

In gardens possessing large glass structures the forcing of early-flowering trees and shrubs in pots is necessary to keep the house bright after the gay effects produced by *Chrysanthemums*. During the months of January, February and March the number of tall-growing greenhouse plants in flower is few, especially in gardens around London and other large towns where smoke-laden fogs deplete the plants of flowers and, in some instances, of foliage as well. Fortunately, the flowers of hardy trees and shrubs, with one or two ex-

ceptions, are capable of withstanding fog. *Wistarias*, when in bloom, suffer the most.

Some people object to the use of these forced plants for indoor decoration. They think that it tends to lessen the value of the display that is made a few weeks later outside. This excuse, however, is a very lame one, for the effect of tall *Pyrus*, *Prunus*, *Lilacs*, *Forsythias*, etc., arranged indoors amongst *Palms*, *Tree Ferns*, and *Camellias* is very different to the trees and shrubs growing under natural conditions in the pleasure grounds. Any excuse on the score of expense will scarcely hold good, for they are very reasonable in price, and a goodly number are readily propagated by cuttings or division.

A collection of suitable subjects may be got together in various ways. Several nurserymen have for some years past made a specialty of trees and shrubs for forcing. Their rapidly-increasing popularity has induced others to take up the work, so that thousands of plants are now annually grown especially for the purpose. From the Continent we import many more, and they are largely composed of *Rhododendrons* (especially *Azalea mollis*), *Hydrangea paniculata grandiflora*, and *Prunus triloba flore pleno*. In gardens where plenty of ground is available the most economical practice is to grow most of one's own material, purchasing a few plants each year of the more difficult subjects to grow and prepare for forcing. It seldom pays to grow *Azalea mollis*, for instance, as if hard forced it takes several years for the plants to get back to condition, and even then they seldom force as well as purchased plants. They are, however, amongst the cheapest to buy.

The position selected for growing the plants outside should be an open one, as it is necessary to have well-ripened growths for flowering. A deep loam will suit most of the subjects to be grown, but for *Ericaceae* plants such as *Rhododendron*, peat and leaf-mould must be added. For these the loam should be of a sandy nature. Various methods are necessary to work up a stock: some are propagated by cuttings, others by division, seeds, budding, grafting and layering. On an average it takes from three to four years to obtain plants suitable for forcing. In the first instance this will, of course, seem a long time to wait, but when once a stock is obtained, it will not be much trouble to propagate a few plants each year.

An alternative method to propagating one's own stock consists in purchasing young plants, and growing them on in the nursery. On paper this work may appear to occupy a lot of time, but on the whole the plants do not require so much attention spent on them, as is needed in growing *Chrysanthemums*, for instance. Beyond a little pruning and thinning of the new growths, especially on young plants, keeping the ground free from weeds, watering if the weather is dry, and perhaps mulching, the plants require no particular attention during the summer.

The thinning out or replanting of beds and borders in the pleasure grounds often provides a few extra large specimens. If these have not been too crowded, they will most likely be well set with buds. Evergreen *Rhododendrons*, *Forsythias*, *Prunus triloba flore pleno*, *Spiraea prunifolia flore pleno*, and

Spiraea arguta are subjects we sometimes lift and force in tubs.

The next subject to be dealt with is the potting of the plants in autumn. Those which are intended to be grown for several years in pots should be given rather larger pots than the others, but varying according to the size of the ball. The potting soil should be largely made up of fibrous loam, to which is added a little leaf-mould and well-decayed manure. Coarse sand can be added according to the porosity of the loam. For *Rhododendrons* and other *Ericaceae* plants the compost may consist of two parts light, sandy loam, one part peat, and one part leaf-mould. Previous to potting, the balls should be immersed in water if at all dry, as is often the case with imported plants. Make the soil in the pots moderately firm. Since the wood is now well ripened, the plants may be stood in a fairly-sheltered position where, on the approach of frosts, the pots can be protected with hay, straw, or bracken. If the weather is dry, and especially in the case of the Evergreen *Rhododendrons*, the leaves of which shoot off the water, look over the pots and water those which are dry.

The time to commence forcing depends largely on when the plants are required. The grower, if he commences in December, must exercise more care in the selection of his subjects than would be necessary later in the season. *Lilacs* are forced by a few people during this month, but they are a deal of trouble, and the plants are seldom suitable for the conservatory, the flowers being only fit for cutting. *Rhododendron Nobleanum*, *R. precox*, *R. sinense* (*Azalea mollis*), *Viburnum Tinus*, *Jasminum nudiflorum*, *Daphne Mezereum*, and *Corylopsis pauciflora* can all be obtained in flower at Christmas. Early in January many more subjects become available: of these, the most useful are *Prunus triloba flore pleno*, *P. japonica flore albo pleno*, *Forsythias*, *Deutzias*, and for foliage the many beautiful varieties of coloured Japanese Maples. During February, March, and April, a warm greenhouse will be sufficient to bring most of the trees and shrubs used for forcing into flower. Several plants which do not force readily till the last-named month will be noted when treating of the various genera. One of the best-known examples is *Hydrangea paniculata var. grandiflora*. The subjects which bloom earliest in the open air should be forced first, not only because they force more readily, but when in flower outside it is not desirable to have them also in the conservatory.

In most private gardens, early vineries, early Peach-houses and orchard-houses are being started during the months I have mentioned for forcing trees and shrubs. These houses provide ideal conditions for our purpose. Vineries are started at about 50 degrees, gradually rising in about a fortnight to 60 degrees or more. When forcing trees and shrubs, a moist atmosphere must be maintained in the house by syringing the plants several times daily, also damping the stages and floors. But these are just the conditions maintained in the fruit houses. In public parks and gardens a house is set apart for the purpose when forcing is practised to any considerable extent. A few plants can be started in a stove, and for dwarf-growing subjects a

forcing pit will be suitable. It is better not to maintain too great a heat, especially when the plants are first placed inside. A commendable practice adopted in one garden where I worked, was as soon as the plants from the earliest vinery were moved out, to bring those in from vinery No. 2, place those from the third vinery in the second, and replace these with another batch from out-of-doors. The three principal evils of hard forcing are: (1) the flowers are small, and they open irregularly; (2) flowers do not last so long as when brought on gradually; (3) the plants are weakened, therefore cannot be forced again for a number of years afterwards, if at all. When the blooms are about half expanded, the plants will be better removed to an intermediate house for a day or two previous to being placed in the conservatory. The time it takes to obtain trees and shrubs in flower largely depends upon whether they are placed in heat during December, January, February or March. When placed inside during the first-named month, as a rule, a month to six weeks is required. There are exceptions to this, for *Rhododendron* *Nobleanum* and *R. præcox* often flower in a fortnight. The period of six weeks is gradually reduced till, in March and April, some subjects open bloom after a week in a warm greenhouse. Two further conditions governing the time plants take to force are, first, the season the plants flower naturally outside, and, second, the temperature in which they are forced, including the amount of sun experienced each day; the latter condition varying considerably in different localities.

TREATMENT AFTER FORCING.

This is the period when, unfortunately, owing to lack of house accommodation, many plants are spoiled. It is the spring of the year, a season when in most gardens the greenhouses are crowded with summer bedding plants. The best place for the earliest forced trees and shrubs is a warm greenhouse, where they can make their growth. For those forced in February and March a cool house will be suitable, after this a sheltered position under a hedge or wall will be sufficient for most of them. In the case of some plants, *Prunus triloba flore pleno*, for instance, hard pruning is necessary after flowering. For others the cutting out of old, and the thinning of young shoots, together with the shaping of the plants, is all that is necessary. All the flowers must be removed as soon as convenient. When nicely started after flowering, growth may be considerably improved by frequent syringing, and liquid manure water should be given.

In May all the plants may be placed in a sheltered position out-of-doors. Towards the end of the month they can be overhauled. Those suitable for forcing again next year should have the pots plunged to the rim in a bed of ashes provided for the purpose. The remainder must be planted in the nursery, unless amongst them are some which appear quite worn out, when the rubbish heap will be the best place for them. As far as possible, however, this weeding out should be done immediately after flowering, for no good purpose is served by housing the plants for two months and then throwing them away. *Rhododendron sinense* (*Azalea mollis*) are not worth keeping if they were forced into flower as early as January. The plants plunged in ashes will require plenty of water during the summer, and in most cases liberal feeding till growth is completed. Before forcing them again next year, the surface soil should be removed, replacing it with some rich soil prepared for the purpose. The drainage in the bottom of the pots must also be carefully examined.

So far, in these notes, no mention has been made of the forcing of hardy trees and shrubs for the supply of cut flowers. In both commercial and private gardens, but more especially in the former, thousands of plants are grown to supply cut flowers. Roses, Lilacs, and *Rhododendron sinense* (*Azalea mollis*) are the three

principal plants grown for this purpose. In private gardens also the smaller plants are used for house decoration. The chief subject sold in shops for this purpose is *Rhododendron sinense*, the flowers of which last well on the plants when grafted.

Several plants are grown for their beautiful



FIG. 166.—LILAC SHOOT AFFECTED BY *PSEUDOMONAS SYRINGÆ*.

foliage alone, which, brought on in heat, is often prettier than when it is allowed to develop naturally. The best known subjects for this purpose are *Acer Negundo* variegatum, *Prunus cerasifera* var. *atropurpurea* (P. Pissardii), and the many beautiful forms of Japanese Maples.

ACER.—The Japanese Maples, varieties of *Acer japonicum* and *A. palmatum*, are especially suitable for cultivation in pots for intermixing with flowering plants in the conservatory early in the year. Being for the most part of dwarf



FIG. 167.—*PSEUDOMONAS SYRINGÆ*.
(Very highly magnified.)

habit, and comparatively slow in growth, they may be cultivated in pots and forced for several years. By no means less valuable when forced are the sorts exhibiting various shades of green. In addition to bush plants, standards and half standards of most of the varieties are sold by nurserymen making a speciality of them. The majority of the Japa-

nese Maples are forms of *A. palmatum*. A few of the best and most distinct are: *A. atropurpurea* (purple-red), *A. dissectum* (elegant dissected green foliage), *A. dissectum purpureum* (red foliage finely cut), *A. roseo marginatum* (rose-coloured variegation), *A. septemlobum*, *A. elegans purpureum* (deep purple, beautifully serrated), and *A. dissectum ornatum* (bronze-purple). Of the several varieties of *A. palmatum* the variety *aureum*, with golden foliage, is by far the most valuable for cultivation in pots.

The beautiful variegated Maple, *Acer Negundo* variegata, often used so effectively in the pleasure grounds, becomes more highly coloured when forced, the variegation being a beautiful milk-white. They are grown in four forms for forcing, namely, standards, half standards, pyramids and bushes. *A. Osborn*.

(To be continued.)

NEW LILAC LEAF DISEASE IN ENGLAND. (*PSEUDOMONAS SYRINGÆ*.)

LILAC leaves and young shoots have been sent to me from time to time showing pronounced spotting. The spots were generally covered by a dense olive-green fungus growth, which proved to be *Cladosporium herbarum*. The dead tissues were filled with the spawn of this fungus, which followed probably scorching by sun, or injury by smoke or fumes. My material for examination was generally unsatisfactory, which rendered an investigation extremely difficult. However, the disease was brought again and again to my notice, the spots being generally covered by the same fungus.

In May this year I received plenty of fresh material, with no fungus growth visible. The leaves showed in some cases a remarkable blotchiness (see fig. 166), and seemed altogether badly scorched. But Lilac, being a very hardy plant, and healthy plants being in bloom at the time, my suspicions were aroused when I ascertained that the injury appeared suddenly and seemed rapidly spreading. Some of the diseased shoots were placed in a bottle with water in a greenhouse, and were covered with a glass globe. No fungi appeared, although the spots increased in size. They travelled along the midrib and extended down the side ribs, but also appeared quite disconnected with either. Soon the leaves were greatly disfigured. Some shoots I wanted to grow under shaded globes; a blue globe, and one covered with black paper, were selected for the purpose. Strangely and inexplicably the spots present on the leaves covered by the blue globe did not increase, but dried up; while those under the papered globe increased rather more rapidly than under that of clear glass.

This observation led to the microscopical examination of the diseased tissues. Immediately a large number of bacteria oozed from the sections, but no fungus mycelium could be traced. Bacteria had been noticed in the previous specimens, but were regarded as secondary to the *Cladosporium*. I examined at the same time some other plants which showed this fungus growing on them, and I was struck by the totally different appearance of the spots, microscopically and otherwise. They seemed of more superficial nature, and generally one epidermis was found intact. Now, in the Lilac leaf spot both surfaces were destroyed. The spots seemed exactly like those produced by fire or scorplings of young and tender leaves by the sun. They were parched without being brittle and dry.

The bacteria, which I isolated from the leaves, were rod-shaped. Sometimes they appeared to be moving and sometimes they were stationary. They measured from 1.3 to 3.0 micromillimetres in length. Some of the diseased tissues were placed into a test tube with water, to which a little cane sugar and sulphate of magnesia was added. The tube was well shaken, and a little of the liquid contents was spread over the surface of a petri dish filled

with nutrient agar. This dish was placed into an incubator, and in 36 hours some colonies of bacteria had appeared. Unfortunately there were six different kinds, which rendered the discovery of the responsible organism difficult. However, a pure culture was made of each on gelatine and agar, to which a decoction of Lilac leaves was added. Some bacteria seemed to thrive better than others, and they were used to inoculate healthy Lilac leaves. At first none seemed to "take." The small needle punctures, made for the purpose of infection, healed up again, and the leaves remained apparently uninjured. Two months later, however, one branch inoculated with the bacterium from culture 4 showed spotted leaves, streaky, yellowish-brown at first, confluent and darker as they increased in size. Diseased tissues were fixed and sectioned. These showed bacteria in the tissues, small rods, frequently in rapid motion. On comparison with those in a slide preserved from the first (and original) specimens, they agreed in size, shape, and habit.

I now carefully cleaned a spotted leaf, and immersed it for a few seconds in a weak solution of perchloride of mercury to kill all surface bacteria, hoping that the bacteria in the tissues would not be touched. But on placing the browned tissues on sterile agar tubes, no development took place, proving that they also had been killed. I again had to resort to isolation methods, and, after a series of failures, a bacterium was isolated and grown in pure culture, which showed strong resemblance to those found in the original tissues. All diseased shoots were now cut off the Lilac bush, used in the experiment, and placed in water under globes the same as the others. They behaved in the manner already described.

Continuing the inoculation experiment, new shoots were infected with bacteria from the pure culture. Towards the end of August characteristic blotches covered the leaves. I am satisfied that this bacterium is the responsible cause of the Lilac disease, for the same bacteria were isolated from the artificially-infected leaves as from the specimens previously dealt with. Bacteria from fresh cultures showed a distinct motility. They were consequently stained for flagella or lashes with which these organisms move, and one or two polar lashes were found. Thus they seemed related to the Hyacinth germ of Wakker, but they were longer, and often in chains of two and more.

In order to classify the germ, I looked up the literature on the subject, and discovered the identical injury described as caused by *Pseudomonas Syringæ* Beijerinck (see fig. 167). The disease has appeared amongst Lilacs in a nursery in a north-western province of Germany, and, later on, in Holland, where the injury was described firstly by Professor Ritzema Bos, who pointed out the infective nature of the disease. Latterly, Dr. Beijerinck took up the investigation, and named the bacterium. (See C. I. van Hall, *Bijsdragen tot de kennis der bacteriële Plantenziekten*, 1902.) He proved the parasitic nature of the bacterium by infecting *Pyrus Malus*, *P. communis*, *Prunus Mahaleb*, *Polygonum Fagopyrum*, *Atriplex hortensis*, and *Populus nigra*, on the leaves of which plant I have quite recently observed a disease which I now regard as identical with that of the Lilac.

The disease appears to be established in this country. It has been sent to me from various parts. It must be pointed out that the disease is generally more prevalent in trees growing on wet situations. Solitary shrubs and those growing on well-drained land I have never seen attacked. A careful look-out should be kept for the spots, and all diseased shoots should be cut off and burnt. Spraying is of no use. Should any other plants, mentioned in this note, be found attacked, they should be treated similarly to prevent the spread of this pest, which may be controlled if all will join in its destruction. *H. T. GRIFFITH.*

CHRYSANTHEMUM NOTES.

TABLE DECORATIONS AT THE AUTUMN SHOWS.

ALMOST every society with which I am acquainted provides a class for table decorations, but it cannot be said that the results are satisfactory, and very often this portion of the show is the least interesting. In many instances the prizes offered are inadequate, especially as the necessary flowers and greenery have generally to be purchased by the exhibitor, because these competitors are not, as a rule, themselves growers. When 20s. is offered as the first prize, small wonder if the result is of a mediocre character. There is no reason why committees should not make this a popular section of their show, in the same manner that it is at the summer displays. In many instances the classes are badly worded in the schedules, for those responsible do not appear to understand what should be the conditions or arrangements for such classes.

Sometimes prizes are offered for a decorated vase or epergne suitable for a dinner-table centre. All manner of receptacles are employed, and the space provided for their display is quite insufficient. In many instances where tables are to be decorated, they are too small; a suitable size is 3 feet long by 2 feet wide. Exhibitors, judges, and the public alike do not know whether such exhibits are intended to be taken as representing the whole of the decorations for a dinner-table or merely the centre of such. What wonder, then, if there is a diversity of opinion expressed as to the awarding of the prizes!

In some instances the tables are much too large. In nine cases out of ten the same two errors are to be found on the part of exhibitors, viz., the employment of unsuitable receptacles, and the overcrowding of the flowers and greenery.

The employment of rustic stands is far too common, and, as a rule, these receptacles are too tall to be effective. Exhibitors seem to forget that flowers are not placed upon a table to be an obstruction, but for a pleasure, and, no matter how attractive they are as flowers, if they obtrude they lose much of their interest. It was a pleasure at the November show of the National Chrysanthemum Society to see Mr. Felton break away from the stereotyped form of rustic stand. His first-prize table was an object-lesson in originality and simplicity. In another class, even though this exhibitor did not obtain a prize, the receptacles used—a silver bowl in the centre and small silver vases at the corners—were quite different to those ordinarily employed.

Many competitors overload their stands with flowers and greenery until all the beauty of the exhibit is lost.

JAPANESE VARIETIES FOR DECORATION.

AT some Chrysanthemum exhibitions, and with excellent results, one or more classes are provided for a vase of disbudded blooms arranged with any kind of foliage. They serve to demonstrate the value of large exhibition blooms for decorative purposes in the dwelling house. At Edinburgh and Windsor Chrysanthemum shows, such a class is made a distinct feature, and, as competition is keen, the display is very effective in appearance. Sometimes tall vases, as much as 4 feet in height, are employed. When such are arranged on an ordinary table they do not produce the best effect, for vases of this type should have a position on the ground, where the upper surface of the blooms can be seen to advantage. At Edinburgh, as many as 30 large blooms are employed in a single vase; while at Windsor, the number is limited to 12: for the best effect the larger number is to be recommended.

Committees are sometimes at a loss to know how to provide a change in their classes.

Here, then, is an opportunity for a pleasing change, and a substantial prize will nearly always produce a desirable exhibit. Too often one hears the remark, "These huge Japanese blooms are of no use for decorative purposes." But such a class as I have described proves the utility of this type of flower for use in the decoration of dwelling rooms.

In arranging blossoms in such vases, a colour scheme should be aimed at, such as is given by arranging together J. H. Silsbury (terra-cotta-crimson), F. S. Vallis (pale yellow), Lady Talbot (primrose), Mrs. A. H. Lee (rich crimson), or the rich terra-cotta-red of Mrs. F. W. Vallis. Tall vases are enhanced in beauty when draped with *Asparagus Sprengeri*, trails of *Ampelopsis Veitchii*, or other similar material. Trails of coloured vines, *Fronus Pissardi*, *Guelder Roses*, *Dogwood*, *Spiraea Thunbergii*, *Green Box*, and *Golden Privet* can be interspersed with the blooms. *E. Molyneux.*

ORCHID NOTES AND GLEANINGS.

ORCHIDS IN FLOWER AT KEW.

MANY interesting Orchids are in flower in the Royal Gardens, Kew, at the present time, one of the rarest and most stately in appearance being *Lissocylus giganteus*, with its large plate leaves and tall inflorescence of large rose-pink flowers. The genus *Catastemon* also has a goodly number in bloom, well representing the wide range in variation in the members of the genus, the species including *C. tabulare*, with its elongated labellum bearing a thickened table-like plate up the middle; the showy *C. splendens*, the prettily-marked *C. quadridens*, and others; the allied genus *Mormodes* having *M. Buccinator* and *M. badia*, with its bright claret-red flowers in bloom.

The genus *Bulbophyllum*, including *Cirrhopetalum*, are finely represented at all seasons. At present B. *Pechei*, B. *Careyanum*, B. *cupreum*, and others of that section are most in evidence, together with B. *blepharites*, B. *recurvum* and others. The species of *Spathoglottis* thrive well at Kew, and flower for a long time, those now out including *S. kewensis*, *S. aurea*, *S. pilcata*, and its bright-rose variety *Micholitzii*; *Habenaria carnea* is still well in bloom, also the little-known *Mormolyce lineolata*, a Mexican species with curious red-brown blooms; *Cologyne Rossiana*, *C. flexuosa* and other *Cologynes*; *Cymbidium giganteum*, *C. longiflorum*, and *C. gammieana*; *Maxillaria setigera*, *M. madida*, and various *Ornithidiums*, and *Camaridiums* were noted.

In the warmer houses a good selection of *Angraecums* are in bloom, chiefly of the section *Listrostachys*, which are represented by *L. Chailliana*; several *L. Montezumae* and *L. pellucida*, *Mystacidium augustum*, *Phalaenopsis rosea*, *P. denticulata*, *P. Sanderiana*, *Acampe papillosa*, and the pretty *Sarcopharyx ornithorhynchus*; the showy section being represented by *Dendrobium Phalaenopsis*.

In the cool houses are many species of *Masdevallia*, *Pleurothallis* and *Octomeria* in bloom; *Oncidium ornithorhynchum*, and its pure white form; the dwarf *O. uniflorum*, *O. unicorn*, *O. cheiroporum*; the pretty *Sophronitis cernua*, and *S. grandiflora*; a number of bright-rose-coloured *Pinguicula caudata*, which, although not an Orchid, is usually grown in the Orchid house; *Epidendrum variegatum*, *E. latilabre*, *E. cochleatum*, and other *Epidendrums*. *Neobenthamia gracilis*, an almost perpetual flowerer; *Oncidium Kramerianum*, *Polystachya pubescens*, with pretty spikes of yellow fragrant flowers; *P. Buchananii*, *P. laxiflora*, *Eria longispicata*, *Enliphia guineensis*, *Sobralia decora*, various *Calanthes*, including the *Veitchian C. Domini* of the early days of Orchid hybridising; *Dendrobium criniflorum*; some *Cattleya labiata*, and a selection of showy hybrid *Cattleyas* and *Lælio-Cattleyas*, which are found to be very useful for decorative purposes. *E.*

BAWDSEY, FELIXSTOWE, SUFFOLK.

THE residence of Sir Cuthbert Quilter, Bart., at Felixstowe, Suffolk, is remarkable for the site upon which the house has been built and the gardens formed. Twenty-five years ago the place was a mere sandbank, and it would be difficult to find a more windswept spot even on the East Coast than that which was selected for this residence. Considering the natural disadvantages of the environment, it is astonishing what a fine place has been laid out around the mansion, of which an illustration is given at fig. 168. Modern engineers appear capable of building handsome houses under almost any conditions, and they can make their base what they wish it to be, but it is another matter altogether when attempts are made to carry out first-class gardening under conditions absolutely opposed to the growth of all but the very hardiest species of plants. Every gardener knows the value of shelter in the cultivation of plants, and has to take measures to provide shelter in one portion or another of his garden. But at Bawdsey Manor the matter

arranged that its artificial formation is not wholly apparent. When we visited the gardens, at midsummer, there were not many species in flower, but it was evident that the selection had been made with a view to including plants most likely to thrive under the unusual conditions to which the rockery is exposed, rather than of risking a number of choice Alpine species with little hope of their ever getting satisfactorily established. We noticed species of *Thymus*, *Iberis*, *Centranthus*, *Gypsophila*, *Lupinus arboreus*, *Eryngium*, *Hydrangea*, *Calendula*, *Veronica Hendersonii* "Purple Queen", *Aubretia*, *Mesembryanthemum acinaciforme*, *Coronilla glauca*, and *Fuchsia Riccartonii*, but these do not represent a tenth of the species that are planted or that have the appearance of making the best of the environment that is possible.

At fig. 169 there is shown a sunken garden, and this feature also is one to which much interest is attached, for Sir Cuthbert Quilter has formed it on the exact site of an old coastguard station, which he first had to blow up with explosives. It will be seen from the illustration that there are underground passages or tunnels

nished with such plants as Honeysuckle, Clematis, *Ficus*, species of *Rubus*, *Periploca*, and other suitable genera.

One of the most interesting plants at Bawdsey is *Cupressus macrocarpa*, for it succeeds in the most exposed situations, and the hedge formed of this species is a surprising testimony to its value for similar situations on the East Coast. We ought to add that the rockery and a considerable part of the garden faces the sea on the south or south-east and not direct east as might otherwise be supposed. Mr. Nimmo, whose maintenance of these gardens fully deserved the appreciation already given, informed us that the land winds from the north-west were even worse than those from the sea, and consequently protection of some sort or another is necessary all round.

There are fruit and plant houses for the cultivation of indoor products for supplying the residence; 800 *Chrysanthemums* are cultivated in pots, and in addition to the flower garden around the private residence, there are four acres of land devoted to the cultivation of fruit trees and vegetable crops.



FIG. 168.—BAWDSEY MANOR, FELIXSTOWE, THE RESIDENCE OF SIR CUTHBERT QUILTER, BART.

[Photograph by J. Gregory.]

assumes a supreme degree of importance; the uncurbed winds are often sufficient to blow a plant out of the earth altogether, and it is only behind some sort of shelter that it is worth trying to cultivate ordinary species. However, Alpine and rock plants are extraordinary in their habits and powers of withstanding exposure, and many of them are quite capable of thriving upon a rockery that rises to a great height on the seashore, and is exposed to all the winds that blow from the sea. This rockery wall may be seen from the garden side, in the illustration at fig. 169, and a smaller portion of it as photographed from the water side is shown in fig. 170. The rockery fulfils the uses of a sea wall, thus protecting the gardens to some extent from sea winds. It has a height of 150 feet, and extends along the shore for a distance of 400 yards. The rockery is built of burrs embedded in cement, and Suffolk crag thrown on its surface, but the structure is so artistically and skilfully

leading from the sunken garden to the shore side of the rockery. The photograph was taken in spring, before the bedding plants were put out, but when we saw the garden it presented a very gay picture indeed, and a low brick wall, which partially encloses it, was of delightful interest, being covered with Roses and other shrubs in full flower, whilst on the top of the wall were tubs containing *Hydrangeas* and stone vases filled with *Carnations* flowering abundantly.

We have seldom seen more gorgeous bedding than was noticed at Bawdsey. There are broad borders of herbaceous plants that last season appeared so thoroughly well ordered and cultivated that our admiration was unqualified. The aim was evidently to secure the best colour effects, and in one instance a border was planted in groups or beds, representing respectively yellow, red, blue, white, and lavender.

A massive-looking pergola with stone pillars and wooden top is now almost completely finished

FRUIT REGISTER.**RED AND GRIZZLY GRAPES.**

It would be difficult to discover a reason why table Grapes other than the dark purple and white and yellow varieties are commonly so little esteemed. We grow some black (dark purple) Grapes extremely lacking in good flavour; as, for example, *Gros Colmar* and *West's St. Peter's*, the former on account of its showy bunches and large berries, and the latter because the fruit will keep in good condition for a long period of time, whether on the vine, or if cut with 6 inches of the shoot attached and stuck into a bottle partly filled with water—a process unfavourable to good flavour in any variety. It is sweet and juicy, pleasant eating but not rich in flavour. *Royal Ascot* is another purplish-black Grape of second-rate quality, the bunches being of small size. It is a variety cultivated by some persons for fruiting early. The skin is very thick, with a dense bloom. *Barron*, in his

Vines and Vine Culture, describes it as being a "second early," that is, that under hothouse culture the fruit ripens later than Royal Muscadine, Foster's Seedling, or Black Hamburgh, but before Madresfield Court. Cambridge Botanic Garden is an early sweetwater of fine appearance, but second-rate in regard to flavour. The berries are of an oval shape, and the bunches 18 to 24 inches in length. As an open-air Grape it may be recommended for growing on a south wall. My purpose is to call attention to a class of Grapes not regarded with much favour at the present day by ourselves, but which are greatly liked for their fine flavour and handsome appearance, in France, Southern Germany, Spain and Italy. I refer to the rosy-red, pale red, light purple, and grizzly varieties, some of which the painter delights to paint, as is to be noted in the pictures of still

Matabon and Malvoise de Tours. I assume that the first name given above should have been written Ziment, a white and rose-coloured variety from Hungary or Austria. Of varieties not found in the collection from France, the following varieties of this class of Grapes, suitable for vinery cultivation or against warm aspects in this country may be mentioned, viz., Red Muscat having large berries, Merches having a medium-sized bunch and berry of a red and white colour; Assyrian, red in tint and of a fairly large size; and Auvernaise, large berries, of a bright red colour, and Muscat of Bianco is also red; De Genes has a large red berry, as is Rouge de St. Antoine; and Veltliner, a medium-sized berry of red or rose colouring.

The following are the names of a few varieties cultivated in this country, viz., Chasselas

much employed in wine manufacture on the Continent, owing to the lack of colour, the Germans calling the wine made from them "Schleier" or squinting; but as table Grapes they are deserving of more attention than is accorded them in this country. Most of them may be grown under the conditions necessary for sweetwater Grapes, that is, in cool vineries and against south walls in the warmer parts and in "ground vineries," such as the late Thomas Rivers advocated for cheap Grape culture. F. M.

SOME AUTUMN PEARS.

Michaëmas Nelis.—The first of the Pears to which I would call attention is the new Michaëmas Nelis, a variety Messrs Bunyard sent out a few years ago, and its splendid quality should commend it. Grown on the Quince stock, it may



FIG. 169.—VIEW OF SUNKEN GARDEN AT BAWDSEY MANOR WITH THE SEA AT THE BACK.

(For text see p. 406.)

life of the French and Dutch schools under sunlight and artificial light. The recent show at the Franco-British Exhibition afforded the public a sight seldom before witnessed in this country of the red, grizzly, pink and light purple-coloured Grapes commonly consumed in France. The following names were attached to the various bunches, viz., Piment Large Corinth (not the Currant of commerce), Grec Rouge, Coristano Rouge, Admirable de Courtille, Boal Barbon (a Portuguese variety), Muscat Rouge de Madière (Madeira Frontignan of English lists), a grizzly or red Grape, of fine quality, and ripening early. The bunch is of medium size, the berry round, with a thick skin, flesh firm, rich in flavour and juicy. Duke de Magenta, Hinab Turki, Droukane (an Egyptian variety), Chasselas Tramonliner (violet coloured), Chasselas Gris, Poite

Violet, a red sweetwater, ripening at an early period of the summer; Chasselas Rose, with pretty red or rose-coloured fruits. The bunches are small, and they are well set with berries, and the fruit makes a good contrast with black, yellow or white Grapes. It has a resemblance to Roval Muscadine, excepting in colour. Muscat Champion or Champion Hamburgh Muscat has large berries of a dark red or grizzly colour, thin in the skin, melting and juicy. It has the fault of setting its fruits badly, and many of the berries in a bunch are destitute of seeds. This fault might be averted by pollination from the flowers of some other variety. The flame-coloured Tokay Grape syn. Lombardy has bunches 20 inches in length sometimes, and broadly shouldered. It sets well and is a very handsome Grape. The varieties named are not

be classed as a free grower and a good bearer. Some cordon trees fruited very freely for their size the second year after planting, and, cultivated as bushes or pyramids, it is excellent. In quality it is one of the best Pears ripening at the end of September. Although not large, it is quite sufficiently so for dessert, being below medium size, very juicy, melting, and richly flavoured, having a fine aroma, and in this respect it is not unlike the well-known Doyenné du Comice.

Dr. Jules Guyot.—This Pear is a little earlier than Michaëmas Nelis. It is a very handsome fruit of good flavour, and it is such a compact grower on the Quince stock that it is admirably suited for cordon growth and gardens where room is none too plentiful. In some respects this variety resembles Williams' Bon Chrétien,

but it is of brighter colour, and when eaten almost direct from the tree, is well flavoured, and the fruits have a crimson flush on the exposed side. The flesh is tender, melting, juicy, and quite free from the musky flavour present in Williams' Bon Chrétien. It is a great bearer and a profitable market Pear.

Belle Julie.—A small fruit, but very productive if grown as a bush or pyramid on the Quince stock, and the fruits well thinned. The fruits are yellowish in colour, juicy, and highly perfumed. The variety makes an excellent cordon, and may be relied upon to fruit when others fail. It ripens in October and November.

Charles Ernest.—An October Pear of great merit, but in the north on a heavy soil I have had this variety good till December. It is excellent in October and much liked for its shape and size, being a handsome fruit, large, and not unlike the Pitmasot Duchess, but of better quality. The fruits have a yellowish colour, with crimson markings on the exposed side, with minute russeted dots. The flesh is juicy and melting. The tree is erect, and makes a handsome pyramid; on the Quince stock it is suitable for espaliers or cordons. The variety received a First-Class Certificate from the Royal Horticultural Society a few seasons ago.

Marguerite Marillat.—This Pear should not be overlooked, on account of its handsome appearance, the fruits being large and beautifully coloured. As regards its flavour, it is one of the best of the early Pears. It has a distinct flavour, is very sweet, with a pleasant aroma, and the tree is a strong grower and fine bearer. It makes a fine pyramid or espalier, but in good land the trees sometimes require to be root-pruned.

Beurré d'Avalon.—This Pear is not unlike a large specimen of Brown Beurré, but it is a finer fruit, and, grown on the Pear stock, it is melting and juicy, with a peculiarly pleasing aroma. It succeeds well in a heavy soil, is a free bearer, and is in season in October and November.

Conference.—A Pear that has become a great favourite on account of its free growth, its fruitfulness and good quality. The fruits are large and pyriform, the skin is a dark green with much russet. The flesh is salmon-tinted, melting, rich, and juicy. It is a most valuable Pear in October and November, and a variety that rarely fails to crop. It succeeds best grown on the Quince stock, and is one of the best varieties for pot culture. G. Wythes.

AMERICAN NOTES.

THE CHICAGO SHOW.

THE National Flower Show held in Chicago from November 6 to 14, proved a great success, financially and from a horticultural point of view. The eastern plant growers came out handsomely, bringing large Palms and other plants from New Jersey in bitterly cold weather, which were of great assistance in making the show attractive. In a large hall like the Coliseum at Chicago something has to be done to break the flatness of a flower show as usually held, and in this case the management had a double series of pergolas erected, and the floor of the hall laid with turf, giving it the appearance of an Italian garden. Opinions differed as to the effect produced. From the floor of the hall it was good, but the tops of the pergolas detracted somewhat the view from the balconies—usually the finest.

An interesting exhibit was that of Elmer D. Smith & Co., consisting of 438 varieties of Chrysanthemums, old and new, ranging up from the original C. indicum to the firm's latest big white flower President Taft.

In the purely exhibition classes C. H. Totty, newly returned from England, made a fine show-

ing with his British and American varieties, and in plants the reputation of Chicago was well kept up. Ferns were a decided feature of the show, the Pierson Co., of New York State, showing many of its well-known sports of Nephrolepis. Mr. Dreer, of Philadelphia, also had a new sport, Scholzei, an improved Scottii, while many other new Ferns, more or less distinct, were shown. Polypodium Macdaneum, shown by the well-known nurseryman whose name it bears, is like an immense form of Philodendron aureum, but deep green instead of glaucous, and very beautifully pinnatifid, the cutting up of the fronds giving it a very soft and elegant appearance. Some splendid work was put up by the retail florists, and so gratifying all around was the success of this initial show of the Society of American Florists, that already there is a talk of repeating it in one of the large eastern cities in 1910. H. R. R.

USE OF SUPERPHOSPHATE.

THE use of superphosphate is increasing rapidly in the United States. Many farmers use the superphosphate alone. They are beginning to regard the so-called complete fertilisers with disfavour. They argue that there is not enough nitrogen and potash in the complete fertiliser to do much towards growing the crop. That if the soil needs potash and nitrogen there is not enough of these elements to pay extra cost of the goods. Some use superphosphate alone, others use it with potash and depend upon growing legumes to supply the nitrogen. Prof. Massey tells us that the farmers in Maryland have brought their land, which grew 15 bushels per acre a few years ago, into such a condition that it now produces 40 bushels per acre, by using superphosphate alone and by growing Cow Peas. This shows what can be accomplished by a good rotation and the use of a cheap fertiliser. A. J. Legg, Albion, Nicholas Co., W.V.A., U.S.A.

TREES AND SHRUBS.

ESCALONIAS.

THE members of the genus Escallonia are all natives of South America, most of them hailing from the uplands of Chili. It follows, therefore, that they are amongst the more tender subjects in this country, though nearly all of them can be grown outdoors if given the protection of a wall. Notwithstanding that they are all of a branching, shrubby habit in the open, yet they can be grown against a wall with advantage, and the cutting-back and training necessary to keep them within bounds renders them, if anything, more floriferous than when they are grown in the open. Where Escallonias are grown in the shrubbery in conjunction with other vegetation care must be taken they are so placed that they get the benefit of every scrap of sunshine, as they are essentially sun-loving plants, and do not mind a certain amount of dryness at the root. The soil should be a rather poor one, as a rich medium promotes a sappy growth to be cut off by the first frost of winter. By giving them plenty of sunshine and a poor soil, short-jointed well-ripened wood is produced which will be covered with flowers during the greater part of the summer. Propagation is effected by means of cuttings of half-ripened wood taken in August, and inserted in pots of sandy soil. During the winter they require to be kept in a cold house or frame protected from frost and excess of moisture. About the middle of the following May they will be found sufficiently rooted to be planted out.

E. exoniensis x.—This is a hybrid of garden origin, raised in Messrs. Robert Veitch and Son's nursery at Exeter. It forms a branch-

ing, free-growing shrub four feet or so high, clothed with small, ovate, deep-green leaves, and bearing semi-pendant pink-and-white flowers during the greater part of the summer.

E. illinita is a native of Chili, and forms a spreading shrub 6 feet or so high with stout, resinous branches. The leaves are borne on comparatively long petioles, obovate to oblong in shape, crenulate on the edges, and covered on the upper surface with glandular dots. The white flowers are borne in terminal, branching panicles more or less all the summer. It is comparatively tender.

E. langleyensis x.—This is a hybrid between *E. Philippiana* and *E. macrantha*, and is a vigorous and fairly hardy plant, reaching a height of 4 feet to 6 feet. The leaves are small and very dark green, and the flowers are rose-pink and freely produced.

E. macrantha.—This is a native of the island of Chiloe, and is one of the hardiest of the genus. It forms a large branching shrub 6 feet or more in height, clothed with dark-green, ovate leaves, shining as if varnished above, and marked with tiny dots beneath. The edges are rather coarsely serrated. The flowers are borne in terminal, racemose peduncles, and are individually comparatively large. In colour they are a bright crimson-red, and are open more or less from June to October. Even without flowers the glossy foliage of this plant would deserve a prominent place as an evergreen.

E. montevidensis.—This is a strong-growing species from Montevideo, reaching a height of 10 feet under favourable circumstances, but it is unfortunately somewhat tender. The branches are stout and sticky, and the leaves are oblong, obtuse, and nearly, or quite, entire on the margins. The white flowers are borne in large, branching, terminal corymbs, and open from June to August. It is a rare plant, though it was introduced as long ago as 1837.

E. Philippiana.—This forms an upright, branching bush 4 feet to 6 feet in height, with a more slender and twiggy growth than the majority of the genus. The small, white flowers are borne in densely-crowded terminal and lateral panicles. The leaves are small, spatulate in shape, of a rich green hue, and finely serrated on the edges. It is a native of Valdivia, and is one of the hardiest of the Escallonias.

E. punctata is a Chilean species, which forms a spreading shrub 6 feet or more in height. The deep-red flowers appear during July and August, and are borne in small, terminal clusters of from two to six flowers. The sessile, ovate leaves are dark-green and glossy on the upper surface, and paler and dotted with tiny glands beneath. It is only moderately hardy.

E. rubra.—This somewhat resembles *E. punctata*, differing chiefly in its having paler-coloured flowers, which last more or less from June to October. The leaves are obovate, serrated, and dotted beneath. It is a native of Chili.

E. revoluta.—This is a comparatively tender species, introduced to this country from Chili in 1887, and is a strong, vigorous plant, reaching 10 feet in height under favourable conditions. The flowers are white, and borne in spreading, terminal panicles in August and September. The leaves are about an inch long, obovate in shape, serrated, and more or less pubescent.

The above-mentioned species are the best of the genus, and some of them are unfortunately too tender to be generally recommended, but full exposure to the sun and a poor, fairly dry soil will enable some of them to withstand much more severe weather than they otherwise would. J. Clark, Bagshot, Surrey.

JUGLANS REGIA FERTILIS.

No good-sized garden should be without this dwarf-growing Walnut, where the Walnut succeeds at all. The variety differs from the common Walnut in its early fruiting and the small size to which the tree attains. It is a heavy cropper, and fruits regularly. The nut is of middle size, tender in the shell, which is well filled. *F.M.*

THE PYRAMIDAL ACACIA.

ROBINIA PYRAMIDALIS (*R. PSEUD-ACACIA*) is a tree which reaches about two-thirds the height attained by the Italian pyramidal Poplar, but it is much the finer tree. The flowers are white like those of the common Acacia, and the tree grows where other trees refuse to grow at all—only wet conditions are inimical to it. In Southern Russia there exist very peculiar soils. In parts the earth is good, in others very bad. The park in Garvrilowka is situated on the worst kind of soil, and costs much money and labour to maintain it. In this estate the pyramidal Acacia grows grandly, without any artificial application of water, whereas all other sorts of trees and shrubs must be watered throughout the summer or they die. The climate in this part of Russia is unfavourable to vegetation—in the summer the temperature ranging from 30° to 34° Reaumur, = 100° to 108° Fahr., with no rain for two or three months; and in the winter the frosts reach so low a degree as 20° Reaumur = 13° below zero Fahr. and more. But this Acacia is uninjured. *H. Klier in Mäller's Deutsche-Gärtner-Zeitung.*

NOTICES OF BOOKS.

* GENETICS.

ANYTHING that Professor Bateson writes on the subject of heredity must necessarily command the attention of those who are at all versed in such matters. In the inaugural lecture which he recently delivered as Professor of Biology at Cambridge, he expounds in a very suggestive manner, and in a way not too difficult to appeal even to the lay reader, the methods and scope of genetics. The general results of the application of Mendelian principles in the elucidation of puzzles of heredity are familiar to our readers, but all may well add to their store of information, and what is of far greater importance, may widen their mental horizon, by the perusal of Prof. Bateson's lecture. Possibly, however, some may reflect that although permutation and combination may be held to be jointly responsible for many of the remarkable products of cross-breeding, this by no means exhausts the subject. What is the nature of the individual variations themselves, which, when they have once appeared in an individual, can be dealt, like so many cards out of a pack, to the members of its offspring? The answer to this question has not been found as yet—perhaps we may have to wait long for it. But in the meanwhile the accumulation of knowledge which is based on the sure ground of experiment is leading to practical results of great economic importance. Applications of knowledge always grow, sooner or later, out of discoveries which have often been made with little or no thought of their ultimate practical results. Indeed, the history of industrial and technical progress during the last hundred years or so is full of examples which show that where Pure Science takes the lead, Applied Science very soon follows to exploit the newly-acquired territory. For the saying that "knowledge is power" was never more true than it is to-day.

* *The Methods and Scope of Genetics*, an inaugural lecture delivered October 29, 1908, by W. Bateson, M.A., F.R.S., Cambridge: at the University Press, 1908.

* ALPINES AND BOG-PLANTS.

THOSE who are acquainted with Mr. Farrer's work, *My Rock Garden*, will not need to be told that there is much that is valuable, as well as something that is whimsical in his new and admirably illustrated book on Alpines and Bog plants. The reader must not expect to find an encyclopædic treatise; but if he wants to discover what has been the actual experience of the writer with various plants he will get it; and the story is told after the fashion of one who loves the subject, and to whom the plants themselves are real friends—or foes. The re-

massaced the shoots that have appeared above, you haven't nearly accounted for all the dreadful energies that are still lurking underneath."

Those who are thinking of laying out rock or bog gardens will do well to ponder over Mr. Farrer's advice, based, as he tells us, on his own painful experience. "Neglect initial precautions, save a few sixpences in the matter of drainage, concrete or what not, when you are making your garden, and you will certainly have to spend many sad laborious years and make unprofitable pounds in trying vainly to make good your deficiencies . . ." Such counsel,

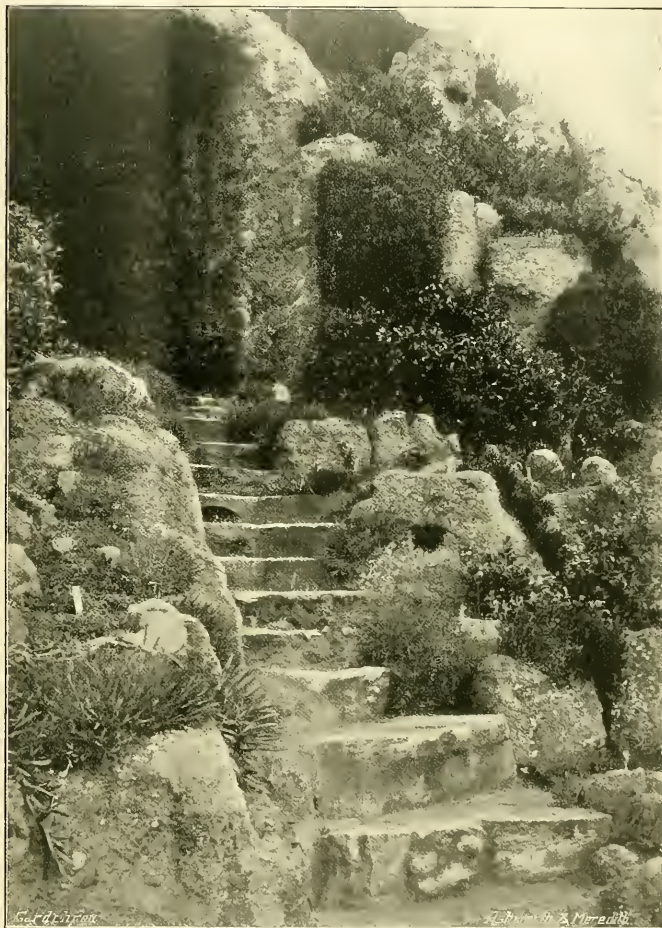


FIG. 170.—STEPS IN THE ROCKERY FACING TO THE SEA AT BAWDSEY MANOR.

(For text see p. 406.)

marks on our native *Epilobiums* as possible introductions to the garden will perhaps bring comfort to some unwary gardeners who have hopefully introduced wild pests into their "wild" gardens. "Once, many years ago, in my innocence, I admitted *E. hirsutum* to the old garden. No decent words can express the torments that I have suffered from that horrible plant ever since. Its great white root-stems go looping along underground, and when you have

often given, is nearly as often neglected, and most of us have seen examples of the result.

A considerable part of the work is devoted to sketchily dealing with the idiosyncrasies of many different plants as they have made themselves known in the author's garden. The whole book is permeated with first-hand observation on the plants themselves, and with reflections based thereon. With the latter we do not always agree, but this in no wise interferes with our own enjoyment of the volume or with our intention to recommend its perusal to others.

* *Alpines and Bog-Plants*, by Reginald Farrer. With illustrations. (London: Edward Arnold, 1908.) Price 7s. 6d.

THE ROSARY.

CULTURAL NOTES FOR DECEMBER.

It is now time to make provision for safeguarding and protecting all tender varieties of Roses by soiling up the dwarfs and the heads of standards with Fern and straw, and mulching the roots. An effort should be made to complete the planting of Roses, Stocks, and cuttings, before Christmas.

The early planted Roses and various cuttings in the ground are likely to become loosened by the shrinking of the soil. Examine these carefully, especially the freshly-planted Standard Briars, tread them well in, and apply a fresh mulch on the surface of the ground if this is required. I have already given lists of suitable climbing varieties for covering arches, pergolas and Wichuraiana Roses suitable for creeping over sloping banks.

All established pot Roses should now be brought under glass, either under a cold frame or in a light house. This is done, not so much for protection from frost as to keep them dried and the roots in the best condition for gentle forcing when required later on to follow those that were put into heat during October and November.

I may here remark that the temperature during the dull season should be kept at about the same as last month. Admit air on all favourable occasions during the middle of the day and close the house early. Damp down frequently to maintain a humid atmosphere. The Tea-scented section will stand more forcing than the Hybrid Perpetuals, and the plants may, therefore, be kept at the warmer end of the house. Fumigate the house immediately the least sign of aphids is seen.

Dwarf plants which were potted up during the autumn may be allowed to remain plunged out-of-doors until after Christmas, when they can be placed under glass for succession. When the first of the grafted Roses are taken out of the frames into the house—at the middle or end of the month—other potted-up stocks can be brought in from outside to take their place. Vaporise the house occasionally when the plants are dry. I may here note that the Tea Scented and Hybrid Tea varieties do not take kindly to the Manetti stock, so that in all cases where propagation is effected by grafting, Briar stocks of either cuttings or seedlings only should be used, and the Manetti for Hybrid Perpetuals and most other Roses. I have found De la Griffera the best stock for all strong growing Roses.

Roses placed out under glass can now be finally pruned. Teas and Hybrid Teas should be pruned sparingly, only cutting out the weak wood and shortening the best ripened growths four to eight eyes down, the more severe treatment being best for the weakly shoots. When gentle forcing is in operation, admit air in the daytime, and at night-time slightly open the top ventilators only. On sunny or bright mornings ply the hose, or thoroughly syringe the plants so as to clean the foliage and prevent insects.

J. D. G.

VEGETABLES.

PEA THE GLADSTONE.

GARDENERS who experience a difficulty in maintaining a supply of culinary Peas late in the season should give this variety a trial. During seasons of drought, even when planted in light, shallow, or gravelly soils, it has proved one of the most reliable varieties. The plant is remarkably strong in constitution, and the foliage resists attacks of mildew when many other varieties are infested with the fungus. A long succession of pods is maintained, whilst another desirable point is that the shoots seldom exceed 4 feet in height, although they furnish as many pods as tiller-growing varieties. Being comparatively dwarf, they do not require tall sticks, and can be easily protected from the depredations of birds which in many gardens are troublesome amongst late Peas. In addition to the good qualities mentioned may be added the size of pod (often a pod contains 10 Peas) and excellence of flavour. This Pea is often seen in the prize collections of vegetables at many of the leading exhibitions throughout the country. Although the Gladstone is a late

Pea and is generally one of the latest sown, it does well as a mid-season variety. Although this variety is longer in coming into bearing than many others, the crop is of such excellence that it is well worthy of a place in all gardens where Peas of good quality are valued, more especially in those where mid-season and late varieties have proved difficult to cultivate with success. C. R.

The Week's Work.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LANGATTOCK, The Hendre, Monmouthshire.

The earliest Figs.—If trees in pots were started early last month, as was suggested in a former Calendar, doubtless the pots are already plunged in a hot-bed having a heat of 60°. Should the heat decline further, then add some fermenting leaves and stable litter that have been specially prepared for the purpose. As soon as the buds have broken freely into growth, the atmospheric temperature at night may be raised to 55°, allowing a corresponding increase during the day. It will then be unnecessary to syringe the trees quite so frequently as before, nor need the ground surfaces of the house be so often damped. But it must be remembered that the pots are already filled with roots; therefore strict attention must be given to watering. The general treatment of Fig trees planted in borders and that have already been started into growth is similar to that I have recommended for pot trees, but it may be added that any water given to the borders should be used in a tepid state, as in the case of pot trees.

Second early Figs.—A house containing trees that were forced early last season should be prepared for forcing to provide a successful crop to that furnished by the pot trees. Upon closing the house a night temperature of 50° will be sufficient and from 55° to 60° by day. Syringe the trees several times each day with tepid water.

Later Figs.—If these trees were properly thinned in the summer, little pruning will now be necessary, but the unripened pods may now be removed. Take every care to properly cleanse the trees and the interior of the house; this being done, the trees should be trained. Until it is necessary to close the house, let the atmosphere and borders be kept moderately dry, and as cool as possible, instead of letting the trees become frozen.

The orchard house.—Houses of this kind that were emptied of their trees to accommodate Chrysanthemums should now have their wood-work thoroughly cleaned or painted and the walls limewashed in readiness for the fruit trees. It will be remembered that directions were given for repotting or top-dressing these trees just before they lost their leaves, after which the pots were to be plunged out-of-doors. The present time is a convenient one to again examine them for the purpose of cleansing them of pests, using, if necessary, an insecticide for this purpose. Such hardy kinds as Plums, Pears and Apples will be benefited if sprayed with the caustic alkali spray-fluid commonly used upon outdoor trees. When this has been done, the trees may be placed indoors, and the house kept perfectly cold for the present. Permanently-planted trees should be cleansed in the same way as pot trees, and they should be pruned, taking care to keep the branches and spurs properly thinned out. The surface soil should be removed from the borders, and in its place a top-dressing applied of suitable compost containing amongst its ingredients bonemeal, wood ashes and fine lime rubble.

Cucumbers.—At this dull season of the year of all others it is necessary to avoid overcropping the plants, and it is almost equally important not to allow decayed leaves to remain upon them. It being necessary to use considerable fire heat, such pests as aphids, thrips and red spider are apt to spread; therefore, constant war must be waged against them by the syringe and by the use of the X.L.-All vapourising compound. Give careful attention to watering, and apply an occasional top-dressing to the roots. The surroundings may also be occasionally top-dressed with fresh horse manure.

Tomatoes.—Sow seeds at the present time for raising plants to supply a successional crop to

those now bearing fruit. Plant these seeds 1 inch apart, either in pots or pans, and plunge the receptacles in bottom heat until germination has taken place, when they must be removed to a position near the glass in a light house, having an atmospheric temperature of 60° to 65°. As soon as the plants are fit for repotting, pot them into 3-inch pots and keep them in a light position, affording each specimen sufficient space for the air to circulate about.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

Plants under shelter.—Late plants which were lifted as previously advised and placed in frames, cool houses, or other temporary shelters should receive all the air possible when the weather is favourable, and the plants should be kept scrupulously clean, and all decaying leaves removed as soon as observed.

Cauliflowers.—Though Cauliflowers are always much appreciated, there is no season of the year when they are more valuable than in mid-winter, and under proper treatment they produce small white heads of the choicest quality. Veitch's Autumn Giant is best adapted for this mode of treatment. Frequent small sowings of suitable varieties should be made from now onwards so as to maintain a constant supply during the greater part of the year. Such varieties as Early Forcing, Snowball, and Magnum Bonum should be sown in gentle heat in shallow seed boxes. Do not allow the young seedlings to become drawn, but elevate them on shelves near the glass where there is a temperature of about 50°, and before the second leaf is made prick the seedlings out into other boxes 3 inches apart all ways. Use a compost containing half its bulk of light loam, with some well-decayed leaf-mould and a little road sand, taking care to provide good drainage. Autumn-sown plants of the same varieties as mentioned above may now be shifted into 7 and 8-inch pots, arranging them in cool houses or pits. If brought along gently these plants will provide excellent Cauliflowers very early in the year. The compost used should consist of three parts good, fibrous loam and one part well-decayed horse or cow manure. Pot them very firmly, filling the pots about three parts full, leaving the remaining space for a good top-dressing at a later period.

French Beans.—However well one may be provided with means for maintaining a supply of these Beans, some difficulty will be experienced owing to insufficient sun and daylight. Extreme temperatures either way must be guarded against. Too much fire heat is even worse than allowing the temperature to become somewhat low, as the plants become seriously weakened and red spider is almost certain to cause trouble. Endeavour to keep the temperature of the houses at about 55°, allowing the maximum to be 60° and the minimum 50°, according to the temperature out-of-doors. The atmospheric conditions of the house must be kept moist and the foliage of the plants thoroughly syringed with tepid water about 9 o'clock a.m. on fine days, applying weak liquid manure at every other watering. The pods should be picked immediately they are of sufficient size for use. These can be preserved for several days by placing the ends in a little water and keeping the vessel in the same temperature as that in which the Beans were grown, but the water must be changed every day. Make fresh sowings in 7-inch pots once a fortnight, but apply very little water until the seed has germinated. The best method of starting them into growth is to place them on warm pipes. For forcing during the winter I prefer Ne Plus Ultra and Canadian Wonder. These may be longer coming into bearing than some other varieties, but their robust constitution enables them to grow and produce good crops under artificial conditions.

Asparagus.—There is certain to be a great demand for Asparagus during the approaching festive season, and little difficulty will be experienced in providing a supply if good crowns are placed on a mild hot-bed and a suitable temperature is maintained either in a forcing house, pits, or frames. Lift and plant the clumps immediately, burying the roots about 3 inches deep with finely-prepared soil. Afford a thorough soaking with water and syringe daily with tepid water.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to the Downland Lady NUBURGHOLME, Warton Priory, Yorkshire.

The treatment of orchards.—If any of the trees are too aged to again become profitable, do not hesitate to grub them up and make a fresh start, but in the case of younger trees that have merely become unproductive through neglect, the present time is a suitable one to prune them with a view to increasing their fruitfulness. It is essential, however, that the pruning should be done by an intelligent and skilled workman. He must cut away branches that cross each other and thin out bunches of spray which at present prevent light and air reaching the centre of the tree. All this can be done in such a manner as will not cause a severe check to the trees, but one frequently sees cases in which unskilled workmen, by the removal of large branches, have reduced parts of the trees to mere skeletons. The stems of large branches may afterwards be coated with creosote, and the trees generally syringed with the caustic alkali wash, which will serve to cleanse them of moss, lichen, and other rubbish. Lime is an excellent agency for destroying various pests, and whether used upon the bark of old trees or applied to the soil its effect is alike beneficial. If root pruning is necessary, the operation may now be carried out as recommended in previous notes. In many instances of orchard cultivation it is extremely necessary to break up the hard surface of the ground which has become so caked by previous neglect that warmth and air can scarcely enter. When this has been done the application of a rich top-dressing will be attended with excellent results. Any kind of decomposed farmyard manure may be applied to exhausted trees, or, failing this, bonemeal, soot, wood ashes, and fresh soil such as road-scraps and charred vegetable refuse are all valuable fertilisers, and many of the above are occasionally procurable in considerable quantities. Better results are obtained from treatment of this nature applied to trees 10 or 12 years old than from the labour expended in trenching and manuring land before such trees were planted, for in many cases the land is already too light and rich for the cultivation of young trees.

Fig trees.—If it be considered necessary to protect these trees from severe frosts, the branches should be untied, loosened from the wall and tied into small bundles, wrapping each bundle with straw or bracken and again securely fastening them to wall to prevent them suffering damage from strong winds. The strongest growing trees are those most likely to suffer, for trees growing in soil of a calcareous nature, or that are frequently lifted and root pruned, produce hard and short-jointed wood usually capable of withstanding ordinary frosts.

Nuts.—March is the best time to prune Nut bushes, provided that pruning is done every year, but if any bushes have been neglected for some years, they should be given attention at once, clearing away all the suckers and freely thinning out the growths. Let the ground be cleared of all weeds and as much of the loose surface soil as possible, then apply a good dressing of manure or some suitable compost. Such a dressing may be applied with advantage to all Nut bushes at this season of the year.

PLANTS UNDER GLASS.

By THOMAS LUT, Gardener to A. STIRLING, Esq., Keir, Perthshire, N.B.

Lachenalia.—Bulbs that were repotted in the autumn are now starting into growth, and they should be carefully attended to for water, but very little will be required during the winter if they are grown in pots or pans. A better plan is to grow these useful greenhouse bulbs in hanging wire baskets, which afford ample drainage, for the plants are exceedingly liable to receive injury if water at any time hangs about in the receptacle. They should be potted in a compost consisting of loam two parts, leaf-mould one part, and sand one part, adding a good sprinkling of manure obtained from a spent Mushroom bed. This porous compost should be thoroughly well mixed together before use. After the potting operation the bulbs need only a temperature above freezing point, and the pots should be placed in a position close to the glass, and ventilation should be given on all favourable occasions, at the same time preventing

draughts of cold air reaching the developing growths. When the flower-spikes commence to show, a little artificial manure, if applied to the roots, will be beneficial.

Gladioli Colobii "The Bride."—Corms which were potted up in autumn are now growing freely, and they require frequent applications of weak liquid manure, for I find that the manure water is much more beneficial to this particular plant than artificial manures of any description. The plants should be placed close to the glass in a light, well-ventilated structure with an aspect to the south. The atmospheric temperature should be from 50° to 55°. On no account attempt to force this *Gladioli* into flower earlier than the first week in April.

Freesia.—The earliest batch is now showing the flower-spikes, therefore apply liquid manure frequently. The inflorescences should be neatly staked before the flowers commence to open, and until that stage is reached the plants should be kept close to the glass. Successional batches may be brought forward in the same manner.

The greenhouse and conservatory.—Take care always to arrange the plants in these houses so that the best colour effects will be obtained. Remove every day any that have ceased to be effective; substitute for them fresh plants from the forcing houses. If flowering plants are found to be rather scarce at this season, a few Ferns may be grouped together amongst the flowers, and their appearance will be appreciated. Maintain a little warmth in the water-pipes each day, and open the ventilators sufficiently to cause the atmosphere to circulate freely.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to L.L.-Col. G. L. HOLMES, V.C., C.B., ESTON, Gloucestershire.

The approach of winter.—The present month is the most sunless of the year, for the days are the shortest. During this dull season one of the principal difficulties in Orchid cultivation is caused by the fickleness of the climate. It is very necessary, therefore, for the cultivator to be on the watch for changes in the wind, cold rains and snowfalls, which lower the atmospheric temperature in glasshouses more rapidly than sudden, sharp frosts. If the winter conditions of this season are similar to those of recent years, the worst weather may be expected after the New Year.

Artificial heat in winter.—In the first calendar of this year I pointed out how harmful excessive artificial heat is to Orchids, and emphasised the necessity of having sufficient boiler power with a good radiating surface in all the houses, in order to avoid the serious evil of overheating the pipes during severe weather. I wish again to draw attention to this, for the well-being of the plants during winter will depend largely on the heating apparatus and its management. The person in charge of the fires should exercise care and good judgment at all times, and especially in determining what the night is likely to be, for he must bank up his fires accordingly. This is not always an easy matter to decide, as sharp frosts often follow days of heavy rains, the change coming so suddenly that there is scarcely time to prepare for it.

Protection of houses with canvas and other coverings.—By a judicious use of these materials during spells of severe weather, and especially in the case of houses situated in exposed positions, much may be done to lessen the amount of artificial heat employed. Archangel mats, or specially-prepared canvas, of which there are many qualities on the market, form the best protective material. These should be rolled along the lower portions of the roof, covering the sides and ends of the house also, if these consist chiefly of glass. The coverings must be made secure against wind, and those used on the roof should be removed in the morning immediately the temperature commences to rise. This system of protecting plant houses from cold is a good one, and the saving in the fuel bill will pay the cost of the protecting material many times over, whilst the occupants of the houses will benefit because a lower amount of fire heat is necessary.

Temperatures.—Early in October I advised the lowering of the temperatures a few degrees, in

order to prepare the plants for winter. As the maintenance of the desired degree of warmth in the various houses will depend almost entirely on the heating apparatus, the following minimum winter figures will now suffice:—East Indian or warmest divisions, day temperature 68° to 73°, night 60° to 65°; Cattleya house, day temperature 60° to 65°, night 55° to 60°; intermediate house, day temperature 58° to 62°, night temperature 53° to 56°; cool and Odontoglossum house, day temperature 54° to 58°, night temperature 50° to 54°. A few degrees less in very severe weather will do no harm. These temperatures may be allowed to vary slightly according to the outside weather conditions.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Berkshire.

Construction of garden paths.—The width of paths will in a great measure depend upon the extent of the pleasure ground, but the main walk should not be less than from 10 to 18 feet in width. The smaller walks should range from 5 to 7 feet, according as to whether they will be used for pedestrian traffic alone or sometimes also for vehicles. Walks that will be used only by foot passengers need not have so great a depth of material at the bottom as those intended for vehicular traffic. A depth of 9 to 18 inches is ample for ordinary garden paths, but much will depend upon the nature of the soil, whether shallow and resting upon gravel, stone or chalk, for in these cases all that is necessary is to remove the top soil and utilise it for levelling purposes on either side of the path. In all paths and roadways the centres should be made higher than the sides, and these sides will then form channels for the conveyance of the surface water into drains which should be connected with outlets at convenient spots leading into catchpits or drains. If the path is a broad and important one, the soil should be excavated to a depth of 18 inches, and 1 foot deep of rough, hard material should be placed in the bottom. On the top of this place some coarse gravel to a depth of 3 inches, and finish with an equal layer of fine gravel on the top. Paths of less importance should be constructed of similar materials in proportionate thickness. After the materials for the path have been properly laid they should be well consolidated with a heavy roller.

Lily-of-the-Valley.—The present is a suitable time for replanting the crowns, and if it is done carefully the flowering will not be much affected. If the beds are allowed to remain undisturbed for many years together the quality of the flowers is inferior, and few flower-spikes are produced. The soil for the reception of the plants should be well prepared by double digging and have a good dressing of manure. The old beds should be dug over with a fork, and the crowns graded into three sizes, selecting the finest either for planting by themselves or for forcing purposes. Those of smaller size should be planted in quarters having different aspects, as this will enable a succession of flowers to be had. When the crowns are planted they should be covered with about 2 inches of rich soil.

Bulbs.—Recently-planted beds should be examined to ascertain whether mice or rats have destroyed any of the bulbs, and any that are missing should be made good. All spring-flowering bulbs should, if not already planted, be inserted in the ground as soon as possible. The May-flowering Tulips are very useful for furnishing flowers for cutting, and if no other place can be found for them a batch should be planted in the reserve garden to supply cut flowers. The quaint florists' Tulips, with their long stems and beautiful colouring, are also useful for furnishing cut blooms; if these are planted sufficiently deep they can be allowed to remain in the same spot for several years.

Wallflowers are very valuable for planting stone vases, but they need to be kept well supplied with water at all times. We have just finished planting about 30,000 of these plants, and, provided the snails and slugs are prevented from injuring them, we shall undoubtedly have a good show of their pleasing and fragrant flowers early in spring.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens or plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but is not bound to be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, DECEMBER 14—
United Ben. and Prov. Soc. Com. meet.
THURSDAY, DECEMBER 17—Linnean Soc. meet.
SATURDAY, DECEMBER 19—German Gard. Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—40° F.

ACTUAL TEMPERATURES:—
LONDON.—Wednesday, December 9 (6 P.M.): Max. 48°; Min. 40°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, December 10 (10 A.M.): Bar. 29.9; Temp. 44°; Weather—Rainy.

PROVINCES.—Wednesday, December 9 (6 P.M.): Max. 48° Cornwall; Min. 39° Hull.

SALES FOR THE ENSUING WEEK.

MONDAY.—
Dutch Bulbs, Herbaceous Plants, &c., at 11; 1,000 Roses at 1.30, at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

WEDNESDAY.—
Dutch Bulbs and Herbaceous Plants at 11; miscellaneous Plants and Bulbs at 11.30; 2,426 cases Japanese Liliums at 1; 4,500 Roses, also Fruit trees at 1.30; Azaleas, Fuchsias, Plants, &c., at 5, at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

FRIDAY.—
Dutch Bulbs, Herbaceous Plants, &c., at 11.30; 1,000 Roses at 1.30, at 67 & 68, Cheapside, by Protheroe & Morris.

The new edition of one of the classic "Floras" will be welcomed not only in America but by all who are interested in the systematic study of the distribution of plants. Asa Gray's *Manual* was a model of concise and critical treatment of the plants that occur in the area under consideration, and the authors of the present edition have done well in bringing the book into line with modern views on classification and nomenclature. It is no depreciation of the value of one of the greatest classics of systematic botany—Bentham and Hooker's *Genera Plantarum*, which represents the elaboration of the French system promulgated by the Jussieus and developed by de Candolle—to say that the development of Eichler's system, which is coming into general use in Europe and America, is more nearly in accord with present-day ideas of the relationships of the Orders and Families of plants. It is this system which, with a few deviations of minor importance, has been followed by Professors Robinson and Fernald. The book opens with the Ferns, which are followed by the Gymnosperms with two families, the Taxaceae, represented by one species

only, *Taxus canadensis*, and the Pinaceae. The Monocotyledons precede the Dicotyledons, and in the latter class the families characterised by flowers with no perianth, or with a simple perianth, or free petals—the Archichlamydeae, precede those characterised by united petals—the Gamopetalae or Metachlamydeae. In conformity with the recommendation of the International Botanical Congress at Vienna (1903) the term "order" is no longer used as synonymous with "family," but as denoting those groups of superior rank which are sometimes known as cohorts. As regards nomenclature generally, the authors have scrupulously followed the Vienna code "in order that American botanical nomenclature may be freed as speedily as possible from peculiarity or provincialism and assume the form which has received international sanction." As a result, we have an American flora which is in substantial agreement, as regards the names adopted for the plants, with recently-published European lists and floras, a fact which should add much to its value from the point of view of the working botanist.

In addition to changes in arrangement and nomenclature, some alterations have been made in the geographical scope of the book. In order to obtain a more natural botanical area, some British territory has been included, namely, Nova Scotia, Prince Edward Island, New Brunswick, and the greater part of the provinces of Quebec and Ontario. On the other hand, the western region between the 96th and 100th meridians has been excluded, as it contains a considerable percentage of plants characteristic of the Great Plains and not found in the rest of the area.

With regard to the vexed question of aliens, the authors have taken a wise course in omitting waifs, ballast-weeds and plants persisting locally after cultivation, and including only those which have given evidence of self-dissemination and shown some tendency to become permanent members of the flora. A further difficulty has presented itself in recording the results of what is described as "an unprecedented activity in the characterisation of new species and varieties within our range." This difficulty is becoming a pressing one also in dealing with old-world botany, and the study of an increasing number of genera is being made impossible, except for the extreme specialist, by the fine discrimination of species and varieties which is adopted in some monographs. In not a few cases these are the work of young botanists with little experience, and, while anxious not to discourage a praiseworthy zeal, one cannot but regret the publication of work which a riper experience will not uphold. In the present case the editors have given recognition in all cases where the merit of the forms considered appeared to be demonstrated.

A useful innovation, and one which adds to the attractiveness of the book, consists in the insertion of small inset figures in the text. In such a difficult genus as *Carex*, where, with 185 species, there are no fewer than 220 figures, these form an invaluable addition. The Grasses, which have been elaborated by Professor A. S. Hitchcock, are also well illustrated; and numerous small but helpful figures of the flowers are given in the Orchidaceae, which family has been revised by Mr. Oakes Ames.

The number of species included in the Flora is 4,079, of which 666 are regarded as introduced; these represent 1,001 genera contained in 157 families.

A judicious selection of type renders the text generally clear, though somewhat closely printed; but the keys accompanying each genus are rather trying from the smallness of the type. We are glad to note that the authors have appreciated the advantage of having only one index in which both Latin and common names are included.

OUR SUPPLEMENTARY ILLUSTRATION.—
Hillebrandia sandwicensis, which forms the subject of our Supplementary Illustration, is the only known species of this genus of Begoniaceae. In many respects it resembles, in general habit, a rather coarse Begonia, but differs from that genus in the character of the ovary, which is only partly inferior in our plant, instead of entirely so as in a Begonia. The plant is of considerable interest from a systematic point of view, inasmuch as it serves to indicate possible lines of affinity between the Begoniaceae and some other Orders, such as Datisacae, Cucurbitaceae, and possibly also Saxifragaceae. The flowers, which are unisexual, are borne in the axils of white bracts and are grouped in cymose inflorescences. The youngest flowers are usually staminate, but often the arrangement is somewhat irregular. The sepals, usually five in number, are white or pale rose colour, and alternating with them are the very small petals. In the male flowers some of the latter may be replaced by stamens, whilst in other flowers some of the stamens are more or less barren, and tend to assume a petaloid character. The petals in the female flower may also be represented in part by structures which strongly suggest barren stamens. The carpels in the female flowers not infrequently exhibit irregularities in their number. Although typically five, as shown in the figure (B, on the left-hand side), they may be reduced to three, and the stigmas are also extremely variable, both in size and number. As a teratological feature, it is worthy of note that one or more of the styles may be transformed into white petal-like structures, and one instance was seen in which the stigma was replaced by a malformed anther-lobe which contained pollen. The plant is scarcely known in cultivation, and several botanic gardens owe their specimens, directly or indirectly, to Mr. FRANCIS FOX, of Wimbeldon, who kindly presented to the Chelsea Physic Garden the example from which our illustration was drawn.

BRITISH GARDENERS' ASSOCIATION.—The annual general meeting of the Richmond (Surrey) branch will be held at Pitt's Restaurant, Kew Green, on Tuesday, December 15, at 8 p.m. All professional gardeners are invited to attend.

LINNEAN SOCIETY.—A meeting will be held on Thursday, December 17, at 8 p.m., when the following papers will be read:—1, Mr. W. RIDDELL, "The Anomura of the Sudanese Red Sea"; 2, Mr. R. P. GREGORY, "Forms of Flowers in *Valeriana dioica*"; 3, Prof. A. GRUEVEL, "Études sur les Cirripèdes du Musée de Cambridge"; 4, Mr. W. L. DISTRANT, "Rhynchota from the 'Sealark' Expedition." Exhibitions: 1, Mr. RUPERT VALLENTIN, F.L.S., "Lepas fascicularis and *Dendrophyllia cornigera*, from Cornwall"; 2, Mr. W. C. WORSDELL, F.L.S., "Selaginella with Rhizopores changed into Leafy Shoots"; 3, Mr. G. MASSEE, "The Fungus Causing Black-scab in Potatoes"; 4, Messrs. H. and G. GROVES, "British Specimens of *Luzula pallens*."

* Gray's *Manual of Botany*. 7th edition. A handbook of the flowering plants and ferns of the Central and North-Eastern United States and adjacent Canada. Rearranged and extensively revised by Benjamin Lincoln Robinson and Merrill Lynde Fernald. 8vo., pp. 925, with 1,006 text figures. (American Book Co.) Price \$2.50.

PLANTS IN FLOWER OUT-OF-DOORS AT MOUNT EGGUMBE ON DECEMBER 1.—I send a list of 82 varieties of shrubs and other plants in bloom out-of-doors in these gardens. Looking at the Roses, one would think it was the month of June instead of December 1:—*Abelia rupestris*, *Acacia affinis*, *decurrens*, and *grandiflora*, *Arbutus Andrachne* and *A. Unedo*, *Aralia Sieboldii*, *Abutilon*, *Berberis*, *Brachylena Dromoidii*, *Choisy ternata*, *Calceolaria Burbridgei*, *C. Pavonii*, and *C. amplexicaulis*; *Correa cardinalis*, *C. bicolor*, *C. alba*, *Cornellia glauca*, *Cistus*, *Cassia corymbosa*, *Citrus medica*, *Cytisus racemosus*, *Cestrum Newellii*, *Convolvulus Cneium*, *Diosma*, *Datura sanguinea*, *Eccremocarpus*, *Ericas*, *Eupatorium Morrisii*, *Fuchsias*, *Grevillea alpina*, *G. rosmarinifolia*, and *G. sulphurea*, *Hydrangea hortensis*, *Helianthemum*, *Jasminum*, *Lapageria alba* and *rosea*, *Lavatera assurgentifolia*, *Lasiandra elegans*, *Lavender*, *Olearia stellulata*, *Pyrus japonica*, *Pittosporum Tobira*, *Polygaia myrtifolia*, *Pernettya*, *Rhododendrons*, *Raphiolepis ovata*, *Rosemary*, *Roses*, *Solanum jasminoides*, *Skimmia Fortunei*, *Spiraea Thunbergii* and *Van Houttei*, *Veronicas* (six sorts), *Viburnum Tinus*, *Antirrhinum*, *Agatha*, *Arctostaphylos*, *Ageratum*, *Antirrhinum*, *Anemone*, *Chrysanthemum*, *Daisy*, *Diapens*, *Canaris*, *Godetia*, *Pelargoniums*, *Gazania*, *Heliotropes*, *Hypericum*, *Lobelia*, *Lithospermum*, *Leptosyne gigantea*, *Marguerites*, *Mesembryanthemum*, *Mignone*, *Narcissus*, *Nasturtium*, *Pentstemon*, *Pinks*, *Primroses*, *Phlox*, *Schizostylis*, *Stocks*, *Salvias*, *Sweet Williams*, *Tritonia*, *Tradescantia virginica*, *Violets*, *Violas*, *Verbenas*, and *Valerian*. S. J. Richards, Mount Eggumbe Gardens, Plymouth.

FORCING SHRUBS BY MEANS OF HOT WATER (see p. 395).—I have used this method for some little time, and happen to have a small Lilac (variety Charles X.) at the present moment which has only partly been immersed. It bears out the truth of your statement remarkably well, that the part which has had the hot bath will start growing while the rest remains dormant. I am sending it to you, as it will interest some of our readers. C. Engelmann, Honeybrook Nursery, Saffron Walden. [The specimen is a branched shoot; one branch is in bloom, and the other has not expanded the winter buds.—Ed.]

STOKING OF GARDEN FURNACES.—The writer on p. 379, when he stated that "it is wrong, when supplying fresh fuel, to spread it over the entire surface of the fire," had but one type of boiler in mind, and that the horizontally-disposed one. This fact is the more clearly indicated a few lines lower down, where it is recommended that the fresh fuel be "spread over the glowing embers or partly-consumed fuel in such a manner as to leave the hinder part free." But there are many boilers in existence to-day that are either of the upright or the conical pattern, and, being fed from the top, or, in the case of certain types of upright independent boilers, from the front, above the fire, such a procedure as advised would be impossible. In some instances known to the writer these upright boilers have replaced others of the saddle and horizontal-tubular pattern, and have effected a considerable saving in fuel with more efficient heating. E. H. Jenkins.

BENTHAMIA FRAGIFERA FRUITING.—In reading the note by S. J. Richards in the issue for November 14, p. 346, on *Benthamia fragifera* failing to produce fruit, I thought it would be of interest if I furnished a few details of a tree growing in these gardens, that are situated 16 miles from the south coast. The plant has fruited this year for the first time. It stands on a lawn, and is sheltered on the east by a belt of shrubs, and on the south and west by two fine Cedars, but is exposed to the north winds; it is growing in a cold clayey soil. Previous to last year the plant made indifferent growth, and had never shown signs of fruiting, but it has since developed into a fine specimen measuring 12 feet through and about the same in height. This year it developed a fine crop of fruits, and is also plentifully furnished with flower-buds that promise a fine crop next year. Seeing that nothing has been done to either root or branch to bring about this fruitfulness, the fructification may depend upon the age of the tree rather than upon the soil in which it is growing. The

tree under notice was planted nine years ago, and, judging by the description given of its size when planted, I think its age would be about 18 years. S. J. Richards, must therefore exercise patience for a season or two, when he may have the pleasure of seeing his trees bearing fruit. I regret I cannot state whether it was raised from a seed or grafted on *Cornus sanguinea*, which is suggested by London, as a possible means of rendering the tree hardier, whilst it might also make some difference as to its fruitfulness. I am forwarding a branch with fruit attached. William Evans, Lyndhurst Gardens, Haywards Heath. [The fruits resemble small, pale-coloured Strawberries; the stalk is about 8 inches long.—Ed.]

HOME-BOTTLED FRUITS AT THE LATE R.H.S. SHOW.—With a view to the encouragement of home-bottled fruits, the R.H.S. has offered some substantial prizes during the last few years, and at the exhibition held on November 26 in connection with the Colonial-grown fruit and vegetables, there were several classes provided for home-bottled and preserved fruits and vegetables. On no previous occasion has there been so much competition, and probably these were never so finely shown. But in Classes 26 and 27, the first prizes were both withheld. In the latter class one, perhaps, can understand this being so; but in the case for 24 bottles it was most puzzling to the observer, as well as to experts, and especially as the exhibit placed second was generally considered to be far inferior to other exhibits in the same class, as well as containing 25 instead of 24 bottles as required. It would be interesting as well as educational, both to the exhibitors and the public generally, to know why the judge or judges withheld the prizes! Enquirer.

SOCIETIES.

ROYAL HORTICULTURAL.

DECEMBER 8.—The fortnightly meeting, held on Tuesday last, was small, and the exhibits included some Carnations that remained over for the Carnation Show on the following day. There were, however, many fine exhibits of Orchids, including several novelties of merit. The ORCHID COMMITTEE recommended one First-class Certificate and three Awards of Merit. Apart from an Award of Merit in favour of an incurved *Chrysanthemum* by the FLORAL COMMITTEE, no other award was made at the meeting.

At the afternoon meeting of Fellows, Mr. D. B. Crane read a paper on "Chrysanthemums."

Floral Committee.

Present: W. Marshall, Esq. (chairman), and Messrs. Chas. T. Drury, Henry B. May, Jas. Walker, R. C. Notcutt, Jas. Douglas, T. W. Turner, W. Howe, C. R. Fielder, J. F. McLeod, G. Keuthe, J. Jennings, R. W. Wallace, Walter T. Ware, H. J. Jones, H. J. Cutbush, Chas. Dixon, Chas. E. Pearson, W. C. H. Jenkins, W. H. Thomson, E. A. Bowles, E. H. Jenkins, W. A. Bilney, Chas. E. Shea, Ed. Mawley, Geo. Paul, R. C. Reginald Nevill, James Hudson, and H. Hooper Pearson.

A beautiful display of Carnations of the winter-flowering type was made by LEOPOLD DE ROETHSCHILD, Esq., Leighton Buzzard (gr. Mr. J. Jennings). Such varieties as Beacon (scarlet), Lady Bountiful (white), Enchantress (blush), Jessica (white flaked with scarlet), Eclipse (salmon-pink), My Maryland (white), and Winsor (cerise) were shown in the best condition. This exhibit gained the Veitch Memorial Medal and £5, which were offered for the best exhibit of Carnations on this date. Messrs. HUGH LOW & CO., Bush Hill Park, Enfield, arranged an exhibit of Carnations that was quite different in its method of staging to that ordinarily adopted at these exhibitions. It consisted of a circular platform, on which was placed a bed of Ferns, Palms, and Grasses, and in these were arranged vases of Carnations. The centre supported a tall column crowned with Phoenix Robellini and decorated with Pink Carnations that showed well against the greenery of Fern fronds. Four baskets were suspended from iron arches, and these were

filled with white and pink Carnations respectively. There were also four pedestals rising from the main platform, and these were crowned with vases filled with Carnations. Messrs. Low also showed Cyclamen in variety on a table near by. (Silver-gilt Flora Medal.) Messrs. WM. CURBISH & SONS, Highgate, London, N., filled a large table with a display of Carnations, effectively staged in tall vases, with shorter receptacles below and, at the back, a group of pot plants. The varieties represented all the best kinds in commerce. Messrs. CURBISH also showed ornamental-leaved plants of stove and greenhouse species similar to those they exhibited at the last meeting. (Silver Flora Medal.)

Many beautiful vases of Carnations were displayed by Mr. L. LANGE, nurseryman, Hampton (Silver Flora Medal), and opposite to this exhibit was another display of these flowers, made by Mr. A. F. DUTTON, Iver, Bucks.

Messrs. JOHN PEEB & SONS, West Norwood, London, S.E., exhibited Carnations in most of the best varieties, including the beautiful scarlet Britannia variety and the delicate-coloured variety named after Mrs. H. Burnett. (Silver Banksian Medal.)

Messrs. BELL & SHIELDON, Castle Nursery, Guernsey, also displayed vases of winter-blooming Carnations in variety, the blooms being exceptionally fine and with very intense colours. (Silver Flora Medal.)

Messrs. JAMES VEITCH & SONS, Chelsea, showed pot plants of Carnations, all well grown and freely flowered. Adjoining these were Begonias of the winter-blooming type, the varieties being all of Mrs. Veitch's raising, Winter Cheer, Ensign, Success, and Julius being displayed with large inflorescences in shades of rose and pink. *Rhododendron* hybrids, beautiful little specimens in small pots, and *Luculia gratissima* were also included in this exhibit. (Silver Flora Medal.)

Messrs. THOS. S. WARE, LTD., Feltham, Middlesex, showed a small group of Carnations, and adjoining these an exhibit of rock-garden plants suitably arranged in rockwork. (Silver Banksian Medal.)

Another exhibit of Carnations was displayed by Mr. H. BURNETT, Guernsey, who had exceptionally fine blooms of all the popular varieties, in addition to many novelties of his raising. (Silver-gilt Banksian Medal.)

Messrs. H. B. MAY & SONS, The Nurseries, Upper Edmonton, showed *Codiaeums* (Crotons) in variety, all well coloured, the plants being clothed with leaves to the very petiole, also Solanums finely in berry; *Veronicas* of the Andersonii section, *Euphorbia* (Poinsettia) pulcherrima, with very broad bracts, *Euphorbia Jacquiniaeflora*, *Statice profusa*, *Begonia* Mrs. Leopold de Rothschild, and many handsome Ferns as relief. (Silver Flora Medal.)

Messrs. H. CANNELL & SONS, Swanley, Kent, staged a brilliant group of Zonal *Pelargoniums*, having many fine varieties of recent introduction, in addition to the best of the older kinds. (Silver-gilt Banksian Medal.)

Messrs. W. WELLS & CO., Merstham, Surrey, showed a few *Chrysanthemums*, including the new R. F. Felton, a fine yellow decorative variety; Captain Julian, a small Japanese variety of sulphur-yellow colour; Merstham Jewel, Dorothy Fortescue, a large white single *Chrysanthemum* with very loose florets, and others.

Chrysanthemums were also shown by Messrs. J. and F. CHARTWELL, Southwick, Sussex. They were all medium-sized blooms of Japanese varieties of the type cultivated for market purposes. The blooms were remarkably fresh and bright in colour.

The Misses HOPKINS, Mere Gardens, Shepperton-on-Thames, staged a small rock-garden exhibit planted with Primroses, Cyclamen Coum, Daisies, &c.

Messrs. BARR & SONS, King Street, Covent Garden, displayed half-a-dozen plants of Iris histrioides in flower.

AWARD OF MERIT.

Chrysanthemum Ball of Gold.—This is a rich yellow sport from the well-known market variety, Snowdrift, and has globular flowers with incurved florets, similar to that variety. An Award of Merit was recommended for its adaptability for market culture. Shown by Messrs. R. II. BATH, LTD.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, de B. Crawshaw, J. Wilson Potter, H. Little, Stuart Low, W. Boxall, J. Forster Alcock, Chas. H. Curtis, R. G. Thwaites, F. M. Ogilvie, R. Brooman White, C. J. Lucas, A. A. McBean, W. Cobb, J. Charlesworth, J. Cypher, A. Dye, W. P. Bound, F. J. Thorne, W. H. White, H. A. Tracy, H. Ballantine, Gurney Wilson, and W. Bolton.

Messrs. CHARLESWORTH & Co., Haywards Heath, staged a select group, for which a Silver Flora Medal was awarded. The central figure was the handsome *Brasso-Cattleya Cliftonii*, which secured a First-class Certificate (see Awards). Among the hybrid *Odontoglossums* were a fine form of *O. Lambeanum*, with a clear white ground colour spotted with claret; *O. Eleanor* and *O. crispa-Harryanum*. Others noted were the claret-red *Odontodia Bohnhoffia*, the fine white *Laelia anceps Waddoniensis*, *L. Gouldiana*, the fragrant *Gomezia planifolia*, and *Trichopilia suavis*, *Cypripedium insigne citrinum*, *C. Leeanaum magnificum*, and other *Cypripediums*, and *Laelio-Cattleya Lusitana*.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Flora Medal for an excellent group, in which the best were *Cypripedium Troilus* variety *Lord Nelson* (see Awards), *C. Charlesworthii* Tremaire, a very remarkable variety with large, broadly-cordate dorsal sepal, the upper part of which was elongated, and quite different in shape to the ordinary form; white, beautifully veined with lilac-rose; petals and lip greenish primrose-yellow with purple tinge and lines on the petals. Also *C. acteus nivalis*. Among the *Odontoglossums* were the richly-colored home-raised *O. crispum*, *Bellerophon*, the reverse of the flowers being deep reddish-purple with a white margin, the surface white at the base, the greater part of each segment being covered with dark-reddish blotches, and the margins of the lip fringed and white. In the centre of the group were a batch of good *Oncidium varicosum*, and others remarked were an effectively-coloured *Pleurothallis Scaphia*, *Bulbophyllum crassipes*, and a peculiar *Laelia*, probably a natural hybrid between *L. furcata* and *L. alba*.

Mr. Col. C. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent his massive *Cypripedium insigne*, Holford's variety, raised at Westonbirt between *C. insigne* purpureum and *C. insigne* Herefield Hall. The seedling approaches the variety Herefield Hall, but is of dwarfier habit, has rounder flowers of very firm substance, and a very peculiar broad and short lip. The dorsal sepal is white on the upper half and pale yellow below the white, bearing violet blotches, and the basal part probably the largest dark-chocolate blotches of any variety of *C. insigne*. Also a new *Laelio-Cattleya* between *L.-C. Massangeana* and *C. Dowiana aurea*, with canary-yellow sepals and petals and dark rose lip veined with gold.

FRANCIS WELLESLEY, Esq., Westfield, Woking (gr. Mr. Hopkins), sent *Cypripedium The Premier* (Mons. de Curte x Mrs. Wm. Mostyn), a very fine hybrid formed somewhat like *C. Beckmannii*, but with the dark violet-purple blotching derived from Mrs. Wm. Mostyn well shown. The upper sepal is light emerald green, with a yellow tint below the veins; the base having blackish-chocolate blotches, changing to violet-purple towards the white margin. The broad petals and lip are yellow, tinged and marked with purplish brown. Mr. WELLESLEY also showed *Cypripedium acteus* "Golden Gem" (insigne *Chantinii Lindenii* x *Leeanaum virgale*), a clear greenish-yellow flower, with the margin and upper part of the dorsal sepal pure white.

His Grace the Duke of MARLBOROUGH, Blenheim Palace, Woodstock (gr. Mr. G. Hunter), sent a fine plant of *Vanda cœrulea* with four spikes, for which Mr. HUNTER was voted a Cultural Commendation. Also *Cattleya Fabia* Blenheim variety, a pretty, light form, and *C. Trianae blenheimensis*.

H. J. BROMLOW, Esq., Rann Lea, Rainhill, Lancashire (gr. Mr. W. J. Morgan), was awarded a Silver Flora Medal for a select group of finely-grown rare *Cypripediums*, among which were the original form of *Cypripedium* Lord Ossulton, *C. acteus Marjorie*, *C. Leeanaum Corona*, the superb *C. Thalia* Mrs. Francis Wellesley,

and *C. Thalia*, Rann Lea variety, a smaller but very pretty form; *C. Germaine Opoix* var. *Queen Alexandra*, a very finely-formed hybrid; *C. Priam*, *C. Fulshawense*, and *C. Minos*, Young's variety.

Messrs. JAS. CYPHER & SONS, Cheltenham, were awarded a Silver Flora Medal for an effective group, the middle of which was composed of variously-tinted *Dendrobium Phalaenopsis*, good varieties of *Laelia anceps*, *Oncidium Papilio*, *Vanda cœrulea*, *Brasso-Cattleya Digbyana-Schröderae*, *B.-C. Pluto*, and *Cypripedium insigne Sanderae*. On each side were a fine set of varieties of *Cypripedium Leeanaum*, *C. insigne*, and other *Cypripediums* and *Calanthes*.

Messrs. J. & A. A. McBEAN, Cooksbridge, secured a Silver Flora Medal for a good selection of *Odontoglossums*, *Cypripediums*, &c., and which was the best-arranged group in the Hall. The *Odontoglossum crispum* were represented in Messrs. McBEAN's well-known specimen form. In the centre were a good number of the yellow *Cypripedium insigne Sanderae*, the finely-coloured *C. Thompsonii magnificum*, and *C. Parkianum*; *C. nitens magnificum*, Ball's variety, one of the best, and perhaps never seen so well flowered.

R. G. THWAITES, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. J. M. Black), sent *Cattleya Maggie Raphael* var. *Streatham* (*Triana alba* x *Dowiana aurea*), a pretty, white flower with rose lip having gold veining.

Baron Sir H. SCHROEDER, The Dell, Egham (gr. Mr. J. Davis), sent a fine specimen of *Cypripedium insigne Sanderaum* with 10 flowers, and for which a Cultural Commendation was given. Also two very fine spikes of the best form of *Cymbidium Tracayanum*.

J. GURNEY FOWLER, Esq., Clebelands, South Woodford (gr. Mr. J. Davis), showed *Cypripedium acteus*, Fowler's variety, a good flower, with the greater part of the dorsal sepal white.

Messrs. HUGH LOW & Co., Bush Hill Park, were awarded a Silver Banksian Medal for a group in which were fine examples of *Oncidium varicosum*, the Bush Hill Park variety having a chestnut-brown patch at the base of its bright yellow lip. Also noted were *Cypripedium Tracayanum*, resembling a good dark *C. aureum*; the handsome *C. Thalia giganteum*, varieties of *C. Leeanaum* and *C. insigne*, *Cycnoches maculatum*, and *C. chlorochilon*.

Messrs. ARMSTRONG & BROWN, Tunbridge Wells, secured a Silver Flora Medal for an extensive group containing a large number of good varieties of *Cypripedium insigne*, including the handsome *C. insigne Monarch*, *C. Leeanaum*, &c. In the middle of the group was a very remarkable *Cypripedium*, probably a natural hybrid, with a close affinity to *C. Spicerianum*, but of a larger scale. It was named *C. Armstrongii* (see Awards).

Messrs. MOORE, LTD., Rawdon, Leeds, were awarded a Silver Banksian Medal for a group of good *Cypripediums*, including some rare hybrids. The middle was of showy hybrid *Odontoglossums*, including *O. Vuylstekei*, *O. Wilckeanaum*, and *O. excellens*.

G. P. WALKER, Esq., Heatherwood, Putney Heath (gr. Mr. McGregor), showed *Odontoglossum Laudum Walkerianum* (Wilckeanaum x *ardentissimum*), a showy hybrid with bright ground colour to the flowers, which are heavily blotched with bright chestnut-red over two-thirds of their surface.

JAMES H. HILL, Esq., Burgess Hill, Sussex, staged an effective group of *Odontoglossum crispum*, *O. Phoebe*, *Cypripediums*, and a fine white *Lycaste Skinneri*.

Messrs. HEATH & SONS, Cheltenham, staged a group of *Cypripediums*, *Oncidium varicosum*, *Vanda cœrulea*, *Dendrobium Phalaenopsis*, &c.

AWARDS.

FIRST-CLASS CERTIFICATE.

Brasso-Cattleya Cliftonii (B.-C. Digbyana-Mossia x *C. Triana Uplands variety*), from Messrs. CHARLESWORTH & Co., Haywards Heath. This hybrid has the beautiful shape of B.-C. Digbyana-Mossia, but is of very much larger proportions and more delicate colouring. It forms a most desirable novelty. The sepals and broad petals are silvery-white with a delicate lavender tint. The broad, circular, fringed lip is white, with some purple markings from the base to the chrome yellow disc.

AWARD OF MERIT.

Cypripedium Troilus "Lord Nelson" (insigne *Herefield Hall* x *nitens*, *Sander's variety*), from Messrs. SANDER & SONS, St. Albans. A massive flower of fine proportions, well showing the influence of its parentage. The broad dorsal sepal is pale yellow with a slight green shade and veining, the upper part and margin being white. The lower half bears large purplish-brown blotches, and the petals and lip are yellow, tinged with purple-brown.

Cypripedium Armstrongii (3 natural hybrid), from Messrs. ARMSTRONG & BROWN, Tunbridge Wells. A very singular and pretty *Cypripedium*, said to have been imported with *C. Spicerianum*, and showing all the characteristics of that species, but developed in a remarkable degree. The large upper sepal is white, with a purple band up the middle, but has a small green base. Petals decurved, wavy on the upper margin and coloured yellow, with densely-arranged purple hairs and spotting. Lip yellowish, faced with reddish-brown.

Dendrobium Calogyne striatum, from Mr. H. A. TRACY, Twickenham. A singular and finely-coloured form with yellow sepals and petals striped with chocolate-purple. Lip blackish-purple.

Fruit and Vegetable Committee.

Present: G. Bunyard, Esq. (chairman), and Messrs. J. Cheal, W. Bates, E. Beckett, A. Dean, J. Davis, C. Foster, J. Jaques, G. Kelt, J. McIndoe, H. Parr, W. Pope, W. Poupard, G. Reynolds, O. Thomas, D. P. Tuckett, J. Vert, and G. Wythes.

A few Apples, including one from Hounslow that had been seen growing by two members of the Committee and one sent as new, which was really Golden Noble, were presented, but called for no further notice.

The chief interest attached to the consideration of the white Grape presented at the last meeting for identification by Mr. J. VERT, of Audley End Gardens, Sadron Walden, and which was then regarded as distinct from *Muscata* of Alexandria. On this occasion Mr. VERT presented a fresh bunch from the same variety, but the berries in this case were more oval, more yellow, and richer-flavoured. There were also presented bunches of the true *Muscata* of Alexandria from Mr. E. BECKETT, Aldenham House Gardens, and from Mr. J. BURY, Petersham Vineeries, Byfleet, Surrey. After tasting berries from the bunch and comparing the foliage, the Committee agreed that Mr. VERT's Grape was the true *Muscata* of Alexandria. Mr. J. MCINDOE referred to *Muscata* sent out as the Archerfield and Tynningham *Muscata* some years ago, but which experience has proved to be identical with the well-known variety. Mr. BUNYARD mentioned that some years since at Chiswick, in the late Mr. Barron's time, a severe test in growth and fruiting was applied to all those distinctly-named *Muscata*, and, with the exception of Canon Hall, were all found to be the same.

An exhibit of Onions was made by W. R. KING, Esq., The Braes, Berkhamstead (gr. Mr. Bedford). The produce consisted of good, solid bulbs of the varieties *Cocoon*, *Excelsior*, A.I., and Ailsa Craig. (Silver Banksian Medal.)

Apple Star of Devon, which was granted an Award of Merit on November 21, 1905, was shown by the raiser, Mr. JOHN GARLAND, Broadcyst, near Exeter. The variety has a sweet and agreeable flavour, and forms a good late dessert Apple. It was illustrated in our issue for June 9, 1906, fig. 146.

LEEDS PROFESSIONAL GARDENERS.

DECEMBER 1.—The annual meeting of this society was held at the Green Dragon Hotel, Leeds, on this date. The officers for the coming year were elected as follows:—Chairman, Mr. H. Clapham; vice-chairman, Mr. T. Preece; treasurer, Mr. F. Franklin; secretary, Mr. George Carver, who was thanked for his past services to the society.

The annual dinner will take place early in the new year. Persons desirous of joining the society can obtain full particulars from Mr. G. Carver, Secretary, Chapellallerton, Leeds. J. D.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

NOVEMBER 19.—There was a capital display of plants at the meeting held on this date.

S. GRATRIX, Esq., Whalley Range (gr. Mr. Shill), exhibited a collection of *Cypripedium* of choice varieties. *Cypripedium* × *Queen Alexandra* (the parentage of which was not recorded) received a First-class Certificate. *C. × Beryl*, West Point var., received a similar award; while an Award of Merit was voted to *Cypripedium* insigne var. F. W. Ashton. Most of the other plants in the group had previously received awards from the society, and the display was one of the best the society has had before it. (Silver-gilt Medal.)

Z. A. WARD, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver-gilt Medal for a collection consisting principally of *Cypripedium*. There were several fine plants of *Cypripedium* insigne var. Sanderae, each having from six to eight flowers.

A. WARBURTON, Esq., Haslingden (gr. Mr. Dalgleish), was awarded a Silver-gilt Medal for a group of plants which included many well-known varieties and hybrids. Awards of Merit were voted to *Cypripedium* × *Rosetti* Warburton's variety, *C. × Euraydes* var. Ruby, *C. insigne* var. Robert Scott, *C. × Bianca*, and *C. × Sunset*.

J. H. CRAVEN, Esq., Keighley, was awarded a First-class Certificate for *Cypripedium* × *Corneum*.

MESSRS. KEELING & SONS, Westgate Hill, Bradford, exhibited a small group in which was noticed *Cirrhopetalum Medusae* and *Calanthe Maudslayi*.

G. H. PEACE, Esq., Monton, exhibited a pretty variety of *Oncidium ornithorhynchum* labelled Monton Grange var. The plant was awarded a Botanical Certificate.

E. ASHWORTH, Esq., Wimslow (gr. Mr. Holbrook), exhibited *Zygopetalum Ballii*, which has previously been certificated.

MESSRS. SANDER & SONS, St. Albans, obtained an Award of Merit for *Cypripedium* × *Little Gem* var. pulcherrimum.

H. J. BROULOW, Esq., Rainhill (gr. Mr. Morgan), was awarded a Silver Medal for an interesting display of *Cypripedium*. *Cypripedium* × *Elmireum* var. splendens was voted an Award of Merit.

MESSRS. HUGH LOW & CO., Enfield, exhibited *Cypripedium* × *Mme. Jules Hye*, and *Calliopsis labiata* var. Schofieldiana.

Mr. W. BOLTON, Warrington, staged some interesting plants, among which was noted *Cypripedium Ville de Paris*.

MESSRS. JAS. CYPHER & SONS, Cheltenham, were awarded a Silver Medal for a display of well-grown Orchids, principally varieties of *Cypripedium*.

R. ASHWORTH, Esq., Newchurch (gr. Mr. Fletcher), was awarded a Silver Medal for a group of well-grown plants, amongst which were some good *Odontoglossum*. *Cypripedium* *Arthurianum* var. pulchellum × *C. insigne* var. Sanderae was voted an Award of Merit.

E. ROGERSON, Esq., Didsbury (gr. Mr. Price) staged several good Orchids. *Cypripedium* × *St. Alban* received an Award of Merit, and a similar Award was given to *Cypripedium* × *Thalia Oakdene* var. P. W.

SCOTTISH HORTICULTURAL.

DECEMBER 1.—The monthly meeting of this association was held at 3, St. Andrew Square, Edinburgh, on this date, when Mr. Whytock, the president, presided over a very large attendance of the members. A paper entitled "To Prune, or Not to Prune?" by Mr. R. P. Brotherton, Tynningham, was read by the secretary. Mr. Brotherton said that pruning was sometimes carried out with but little intelligence, but that in no way lessens the reasonableness or in any way deprecates the value of pruning. A Grape vine left alone in ainery would very soon cover every part of the house with shoots and leaves, but to obtain Grapes this growth must be restricted. In open-air fruit culture it was the same, and in this the gardener more or less adapts his pruning to that which experience had demonstrated to best meet his ends under glass. Mr. Brotherton also dealt with root pruning and with many practical details connected with pruning in general, and

the subject of the paper gave rise to a spirited discussion.

Amongst the exhibits before the meeting were plants of *Lilium Harrisii*, which had been grown under the influence of electric light at night to show how it stimulates the opening of the flowers. In the 21 days to which the plants were so exposed to the light, there was a distinct gain of seven days over those grown under ordinary conditions.

It was intimated that the Association's next Chrysanthemum exhibition would be held in the Waverley Market, Edinburgh, on November 18, 19, and 20, 1909.

EDINBURGH SEED TRADE.

DECEMBER 5.—The fourteenth annual dinner of the Edinburgh seed trade assistants was held on the above date in Messrs. Ferguson & Forrester's Restaurant, Princes Street, when Mr. D. Sykes Webster presided over a large company. Mr. K. Laird, in proposing the toast of "The Seed Trade Assistants," said very much of the success of businesses lay in the hands of the assistants. A great point in the seed trade was to have reliable men, men who had brains and who could think, for he knew of no trade that required more intelligence.

Mr. William Newton, in proposing "The Nursery and Seed Trade," said that Edinburgh was famed for sending out good seeds and nursery plants all over the country, and the young men who received their training in the city had an excellent chance of obtaining first-class situations in England and Ireland.

BRITISH GARDENERS' ASSOCIATION.

LEEDS BRANCH.

DECEMBER 5.—A well-attended meeting of members of the above association was held at the Grand Central Hotel on the above date. Mr. Campbell presided. Mr. W. Hague, of Meadow Towers, gave a lecture on the cultivation of the Celery fly. Mr. Hague recommended regular sprinklings or dewings with the syringe, and afterwards dusting the plants with soot. J. D.

COMMONS AND FOOTPATHS PRESERVATION SOCIETY.

LORD EVERLEY presided over the monthly meeting of this society held recently at 25, Victoria Street, Westminster. It was stated by Sir Robert Hunter that the scheme for the acquisition of Ludshott Common had now been completed, the sum raised by the society and the local Acquisition Committee amounting to £1,810. The common, which was situated in the Hindhead district, had been vested in the National Trust, and was 550 acres in extent; the purchase also included a strip of woodland lying between the common and Waggoners Wells. It was reported that Mr. John Burns, in consequence of the opposition of the Open Space Societies, had deleted the clauses from the Housing, Town Planning, etc., Bill, which would have enabled local authorities to build upon common land and other open spaces, and that amendments to the Port of London and Housing of the Working Classes (Ireland) Bill supported by the society had been accepted by the Government.

The secretary presented a preliminary report upon the private Bills to be introduced into Parliament in 1909, from which it appeared that 20 Bills would interfere with common lands and 13 would lead to the closing of numerous footpaths. Amongst the schemes are the Great Western Railway Bill, under which 93 acres of open space would be taken at Hammersmith and Acton; the North-Eastern Railway Bill, which would absorb 177 acres of common land at Preston, Yorks.; the Exmouth Water Bill, which affected 22 acres of common land at East Budleigh; and the Pontypool Gas and Water Bill, which deals with 80 acres of common land in Monmouthshire.

It was reported that the Rochford Rural District Council, the Hadeleigh Parish Council, and the Salvation Army had now agreed to the society's suggestion that the dispute with regard to three alleged public footpaths crossing the Farm Colony of the Salvation Army should be referred to arbitration.

SMITHFIELD CLUB.

DECEMBER 7-11.—For more than one hundred years the Cattle Show of this Society has been a forcible reminder of the approach of Christmas, and, following the usual course of events, the exhibition was opened on the 7th inst. This year the absence of his Majesty the King on the opening day, owing to indisposition, was regretted, and it was the opinion of many habitual visitors to the show that the attendance suffered accordingly. There was much of interest at the exhibition, for not only is it a show of fat stock, but also of the thousand-and-one things that are required by the stock-breeder and farmer. The rows of cattle were as interesting as ever, and whenever they stood erect so that their good and bad points could be discussed they were the objects of admiring critics. The fat beast, however, is naturally tired—we had almost said lazy—but some excuse must be permitted, owing to the unusual weight the four legs have to support. The champion beast was a perfect specimen of the Aberdeen Angus breed, a horsemess type of cattle with a silky black coat. It was bred by the Dowager Countess of Seaford. So many awards and decorations hung over the pen of the animal that it seemed as though there were few left for any other beast in the show. The official record of weight was 14 cwt. 2 qrs. 1 lb., but its neighbour of the same breed scaled nearly 2 cwt. heavier. Thus, size in cattle, as in most other things, is not everything. Thus, although some of the huge Mangels shown by prominent seedsmen weighed 5½ lbs. each, they perhaps did not contain so large a proportion of food to their bulk as some of the less huge but more serviceable roots.

Many of the important seedsmen showed what fine roots could be produced from their seeds, and one of the largest exhibitors was the well-known Reading firm of Messrs. SUTTON & SONS. They made a kind of rock-garden with Mangels, Swedes, and other Turnips, arranging the bays and shelving with examples of Carrots, Parsnips, Onions, Potatoes, all of gargantuan dimensions; some of the roots of Matchless White Carrots weighed as much as 6 lbs. or 7 lbs. each. Magnum Bonum Swede is a desirable type, and roots weighing as much as 29½ lbs. were exhibited. Of Potatoes they showed their new White City variety that promises to supplant the Up-to-Date variety, which it somewhat resembles. It was raised from Abundance × Langworthy.

Another similar exhibit of roots and grains was made by Messrs. JOHN KING & SONS, Coggeshall, Essex, and their huge roots built up in wall fashion looked dangerous should they fall, for they were of huge proportions. Parsnips, Marrow, Potatoes, Beet and other vegetables were displayed on the front of the stand.

MESSRS. J. CARTER & CO., High Holborn, London, showed what fine produce had been obtained from their seeds, building a similar wall-like exhibit of roots, with pedigree Corn; also vegetables of all kinds, and Fern Grasses interspersed at the base of the stand.

MESSRS. GARTON, LTD., Warrington, showed their Globe Mangels, Swedes, including the useful Keppwell variety, purple-top Scotch Turnips, Oats—their new "The Yelder" Oat is said to furnish 100 bushels of grain per acre—and other kinds of root.

MESSRS. WEBB & SONS, Wordsley, Staffordshire, had some roots weighing as much as 50 lbs. each. They were built up in the orthodox castellated wall form, and at the base of the wall were rows of large, solid grain, with Kehl Red, Potatoes, Onions, Carrots, &c., at the foot. The samples of Swedes, Mangels, and Turnips were exceptionally fine.

MESSRS. E. W. KING & CO., Coggeshall, Essex, showed Mangels, Swedes, Beans, Peas, Corn; also Brussels Sprouts and other vegetables. Some of their Anglican Mangels were of very large size, and they informed us 50 to 60 tons per acre is produced on their Essex land.

MESSRS. DICKSON'S, Chester, showed Apples; also Potatoes, Grass seeds, Corn, and other agricultural seeds.

A similar exhibit was made by Messrs. TOOCOOP & SONS, Southampton, who had a very pleasing exhibit; the front was arranged with Tomatoes, Potatoes, Onions, Carrots, and other vegetables.

No farm can be considered complete without

its complement of fruit trees, thus Messrs. HUGH LOW & CO. showed trained fruit trees, and as a guide in the selection of varieties showed about 50 kinds of Apples. A very similar display was made by Messrs. W. & J. BROWN, Peterborough, and another by Mr. W. HORNE, Rochester, Kent. The KING'S ACRES NURSERY CO., Hereford, showed 45 varieties of Apples, and some trained fruit trees, the display being brightened by plants of *Cupressus macrocarpa lutea*.

Messrs. HARRISON & SONS, Leicester, showed roots and Corn, and another exhibit of a similar character was made by Messrs. CANNELL & SONS, Loddon.

There were many stands of Potatoes, including exhibits from Mr. ARTHUR J. SOLE, Lincoln, A. FINDLAY, Markinch, W. DENNIS, Kilton, Messrs. ISAAC POAD & SONS, York, the DALMENY HOME FARM, Messrs. FIDLER & SONS, Reading, Mr. GREEN, Wisbech, Mr. JAS. GARDNER, Perth, and Mr. JOSEPH BETTINGTON, Outwell.

Amongst the general exhibits was an interesting one from Irish contributors, one of the most important being a stand of Irish-grown Tobacco in the manufactured state. Amongst many other objects of interest to gardeners was one of unclimbable fencing, exhibited by the FENNER FENCING COMPANY. The palings are of split Chestnut, and they are linked together by twisted strands of wire. The price—2s. per yard—appeared to us as very cheap for so serviceable a material.

PERPETUAL FLOWERING CARNATION

DECEMBER 9.—The fifth exhibition of this society was held on the foregoing date in the Royal Horticultural Hall, Westminster. The building was gay with bright displays of Carnations, nearly all of the large exhibits of this flower staged at the previous day's exhibition (see p. 417) remaining, also several of the other large groups of plants and flowers. There were several new varieties brought to the notice of the committee, but only one received the society's First-class Certificate. This was exceptional merit, and secured no fewer than 97 points out of a possible 100.

The best collection of cut blooms of Carnations occupying an area of 10 feet by 3 feet was shown by Mr. W. E. WALLACE, Eaton Bray, Bedfordshire. The group was awarded a Gold Medal. Mr. C. F. WATERS, Balcombe, Sussex, won the 2nd prize, which included a Silver Medal.

Many of the classes were for varieties of special colours, and in the section for 36 blooms the following were the premier prize winners:—*White*: White Perfection, shown by Mr. W. E. WALLACE. *Blush*: Enchantress, shown by the NEWPORT CARNATION NURSERIES, Essex. *Light pink or salmon*: Mrs. H. BURNETT. *Deep pink or rose*: Mrs. LAWSON. *Crimson*: President. *Scarlet*: Robert Craig. The 1st-prize winner in these last four classes was Mr. W. H. LANCASHIRE, Guernsey.

The best new Carnation not in commerce was adjudged to be the variety *Carola*, of crimson colour. The exhibitor was Mr. C. ENGLEMAN, Nurseryman, Saffron Walden.

In the colour classes, from which growers in the Channel Islands were excluded, the principal prize-winners were Mr. W. H. PAGE, Hampton, Middlesex; Mr. A. F. DUTTON, Iver, Bucks; and the NEWPORT CARNATION NURSERIES, Essex.

Messrs. BELL & SHELDON, Castel Nursery, Guernsey, showed the best vase of 18 blooms of the variety *Afterglow*, the best vase of *Winona*, and also of *Winsor*.

In the amateurs' section the 1st prize for a group of Carnations occupying 20 square feet was awarded to C. F. RAPHAEL, Esq., Shenley (gr. Mr. H. Grubb); 2nd, Lord HOWARD DE WALDEN, Saffron Walden (gr. Mr. J. Vert). Mr. RAPHAEL and Sir RANDOLPH BAKER, Blandford (gr. Mr. A. Usher), between them won all the other 1st prizes in this section for pot plants of Carnations. There were several classes open to amateurs for varieties of special colours, and a special prize was offered for the best vase in these classes. This was won by H. J. KING, Esq., Eastwell, Kent (gr. Mr. J. G. Weston).

The following awards were made for honorary exhibits:—

Gold Medals.—LEOPOLD DE ROTHSCHILD, Esq. (gr. Mr. J. Jennings); Messrs. HUGH LOW & CO., Enfield; and Messrs. BELL & SHELDON, Guernsey.

Large Silver Medals.—Mr. H. BURNETT, Guernsey; Messrs. CUTBUSH & SON, Highgate; Mr. C. ENGLEMAN, Saffron Walden; and Mr. G. LANGE, Hampton.

Silver Medals.—Messrs. HOBBS, LTD., Dereham; Messrs. JOHN PEED & SONS, West Norwood; and the AMERICAN CARNATION CO., Sawbridgeworth.

FIRST-CLASS CERTIFICATE.

Carnation Rose Dori.—A variety of the same shade of colouring as the well-known border *Carnation Sappho*, and best described as rose-salmon. The blooms are large, very full in petals, and developed on stout, tall stalks. The strong foliage indicates a variety of robust habit. The calyces possess the desirable quality of not splitting, and it does not appear to be necessary to enclose them with the usual rubber band. Shown by Mr. W. H. LANCASHIRE, Guernsey.

Obituary.

WILLIAM WHALLEY.—We regret to record the death, on November 27, of this gardener, for many years steward at Addington Palace in the services of Archbishops Tait, Penson, and Temple. He was born at Foresters' Hall, Dumfriesshire,



THE LATE WILLIAM WHALLEY.

nearly 72 years ago, and at the age of 14 entered Dalswinton Gardens as an apprentice under Mr. McIntyre. After being four years in these gardens he served with the agent on the same estate for two years, gaining experience which in after life was useful in the management of land and stock. He left Dalswinton and engaged as journeyman in Treggles Gardens under Mr. Johnstone. Treggles was at that time one of the stoniest places in the south of Scotland. He remained at Treggles for three years, when he was engaged as plant foreman at Blytheswood. Two years later he left Blytheswood to take the position of foreman in Drumlanrig Gardens, Thornhill, under Mr. McIntosh, where he remained until appointed gardener and bailiff at Fulham Palace, the seat of the Bishop of London. When Bishop Tait was elevated to the Archbishopric of Canterbury two years later, Whalley went with him to take charge of the Addington estate, where he remained 38 years, and had the distinction of serving under three Archbishops. His many duties at Addington included that of guardian of the poor and overseer of the district. The deceased leaves two sons—one of whom is employed in the seed department of Messrs. James Veitch & Sons' nursery—and three daughters. The remains were laid to rest in Addington Churchyard on Thursday, December 3, in the presence of 300 mourners.

CHARLES BALTET.—Our readers at home and abroad will share with us the feelings of regret with which we record the death of this great French horticulturist. Full of years and full of honours, after a busy lifetime devoted to the highest branches of his craft, Charles Baltet has passed away. Born on January 14, 1850, he had long since passed the allotted span, but that was no reason for relaxation from work, and the grand old man of French horticulture was an ardent worker to the last. His numerous literary productions in the Press, pamphlets, and other works of horticulture would need a considerable amount of space even to enumerate them. One of the best known to English readers, *L'Art de Greffer*, ran into eight editions and was translated into English many years ago under the title *The Art of Grafting and Budding*. *Culture Fruitière Commerciale et Bourgeoise*, *L'Horticulture dans les cinq parties du Monde*, and many others dealing with fruit culture issued from the Press in rapid succession, and only recently Baltet wrote an historical and literary study entitled *Cyranthème et Dahlia, leur entrée en France, &c.*, showing how wide was the scope of his horticultural interest. Charles Baltet came from a family of gardeners, and his sympathies and active interest went out towards all the young men who followed the horticultural career. To him French horticulture owes much, for, if we are not mistaken, he was one of the founders of the Versailles School of Horticulture, an institution of the greatest possible value to young men who intend to adopt gardening as a profession, and of which, only during the past week, we have been asked for particulars by a young English gardener. For half a century Charles Baltet's genial features have been familiar at all the leading horticultural shows in Europe, either as exhibitor or judge, and his valuable services have often been retained as member of the committees at most of the great international gatherings. It is the writer's privilege to have known Charles Baltet for many years, and to have associated with him on the last occasion as a member of the jury at the International Horticultural Show in Paris in November three years ago. We know the high esteem in which he was held by his fellow-countrymen for his genial manner and extensive knowledge on horticultural matters. But this was not all; Charles Baltet was a good citizen and a generous worker in the interests of his fellow-townsmen at Troyes, his native place, where his nurseries were situated and where he passed the many years of his active life. Outside France there are few names more honoured than his, and for his services he had received numerous decorations from foreign Governments. He was a member of most of the leading horticultural societies on the Continent. He was also a corresponding member of the Royal Horticultural Society and of the Massachusetts Horticultural Society, and Officer of the Legion of Honour. The interment was largely attended by many of his friends, and at the graveside funeral orations were pronounced by some of those who knew him best.

JOHN CARDER.—We regret to have to record the death of Mr. John Carder, which took place suddenly at his residence early on Monday, December 7. Mr. Carder was in the City among his friends on Friday, December 4, apparently in his usual health and good spirits; his death, therefore, came as a great surprise to his many Orchidist associates. Mr. Carder held a leading position for some years in the establishment of Mr. William Bull, of Chelsea, for whom he made several successful Orchid-collecting expeditions, and many rare *Masevallias* and other Orchids were through him and his fellow-traveller, Shuttleworth, introduced to gardens. But his greatest success was with *Odontoglossum crispum*, and the fine type of this species that he collected became famous. On leaving Mr. Bull, Mr. Carder and Mr. Shuttleworth went into business as Orchid nurserymen, Mr. Carder continuing to collect Orchids. Later the business was abandoned, and Mr. Carder, on his own account, continued to import *Odontoglossum crispum*. Of uniformly kind disposition, John Carder was liked and respected by all who knew him, both at home and abroad.

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending December 5, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The weather—Over the greater part of the Kingdom the conditions were mostly dry, rain being slight and infrequent. Much fog and mist was, however, experienced over England, especially on the east coast and over the Midlands.

The temperature was above the average generally, the excess being greatest in the north and east of Scotland, the north of Ireland, and the south-west of England. In Scotland N., the departure from the normal was rather more than 6°. In England N.E. and N.W. the temperature was below the average. The highest of the maxima were recorded on variable dates, but mostly very early or late in the period. They ranged from 57° in England S.W. and Ireland S. to 53° in England N.W. and Scotland N. The maxima about the middle of the week were no higher than 40° in some minima, which also occurred on various dates, ranged from 22° in the Midland Counties (at Bawtry on November 30 and at Euxton on December 2) and 23° in England N.W. to 33° in England S.E. and to 40° in the English Channel. The lowest grass temperatures reported were 19° at Birmingham, Newton Klags, and Meriden, 30° at Euxton, Buxton, Dublin, and Cockle Park (Morpet), and 21° at Cratles and West Linton.

The mean temperature of the sea.—On almost all parts of the coast the temperature of the water was higher than during the corresponding week of last year, the greatest difference being 4.3° at Kirkwall and 5° at Ballantrae. The mean figures for the week ranged from about 53° at Plymouth and 54° at Lamlash to 43.9° at Scarborough and Aberdeen.

The rainfall amounted to considerably less than the average in all districts; at Spurn Head, Bawtry, and Hastings the week was rainless.

The bright sunshine was very slight in many parts of England, and entirely wanting at Greenwich, Westminster, and most of the stations in England E. as well as at some stations in other parts of England. In Scotland E. and England N.E. there was a slight excess, and in England N.W., Ireland N.W. and the English Channel a more decided excess. The percentage of the possible duration ranged from 39 in the English Channel and 26 in Ireland N. to 5 in the Midland Counties, 3 in Scotland N., and 0 in England E.

THE WEATHER IN WEST HERTS.

Week ending December 9.

Still another warm week.—Temperatures were rather variable, but on the whole this proved a warm week for the time of year. On the warmest day the temperature in the thermometer screen rose to 50°, and on the coldest night the exposed thermometer registered only 4° of frost. The ground is still unusually warm for December, the temperature both at 1 and 2 feet deep being 3° warmer than is reasonable. Pain fell on four days, but to the aggregate depth of only three-tenths of an inch. The sun, though, on the whole, remains moist, so that there is each day some small percolation through both the soil gages. The sun shone on an average for 28 minutes a day, or very nearly an hour a day short of the full amount of this season. On the six days ending the 4th inst., no sunshine at all was recorded. Calms and light airs almost exclusively prevailed during the week. The mean amount of moisture in the air at 6 a.m. exceeded a reasonable quantity for that hour by as much as 9 per cent. E. M., Berkhamstead, December 9, 1908.

GARDENING APPOINTMENTS.

(Correspondents are requested to write the names of persons and places as legibly as possible. No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting box for the *Gardeners' Chronicle Fund*, will be thankfully received, and an acknowledgment made in these columns.)

Mr. W. J. SIMS, late of Betteshanger Gardens, as Gardener to H. G. FENWICK, Esq., Temple Dinsley, Hitchin, Herts.

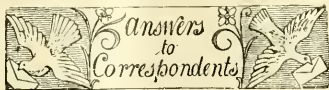
Mr. J. T. MARKS, Assistant at the BOURNEVILLE VILLAGE TRUST, Birmingham, as Garden Superintendent under the HAMPSHIRE GARDEN SUBURBAN TRUST, LTD.

Mr. J. C. BROCKTHORPE, for the last 6 years Gardener to Sir THOMAS WRIGHTSON, Bart., Neatham Hall, Darlington, as Gardener to Sir WILLIAM EARLE, Bart., Windlesstone Hall, Ferry Hill, Durham.

Mr. A. BAENFIELD, for nearly 8 years Gardener at Husbands Bosworth House, Rugby, as Gardener to Mrs. STUART-RICKMAN, Abberford Grange, Reading, Berks.

ENQUIRIES AND REPLIES.

BOOK OF CURIOUS PLANTS.—Does C. C., who has enquired for a book under the above name, mean Dr. M. C. Cooke's *Freaks and Marvels in Plant Life*, published by the Society for the Promotion of Christian Knowledge? It certainly deals largely and in a very interesting way with curiosities in plant structure and life. My copy, purchased at an old book-stall several years since, bears a gift date of 1883, hence, unless other editions have been issued, the work is possibly out of print. A. D.



BOOKS: E. H. C. Hogg's *Fruit Manual* being out of print, the copies may become of greater value than their published price. You should ask a secondhand bookseller what he is prepared to offer you for a copy.

BORDEAUX MIXTURE: W. W. V. Pot 25 gallons of water in a barrel or other wooden or earthenware vessel in which there is no metal, and wrap 84 lbs. of copper sulphate in coarse sacking, suspending this just below the surface of the water. In another vessel slake 4 lbs. of lime, bringing it into a smooth paste by adding only a little water from time to time during the crumbling of the lime. When the lime is properly slaked add sufficient water to bring the whole up to 25 gallons. When the copper sulphate is entirely dissolved and the lime is cool, pour the lime and milk and the copper sulphate solution slowly together into a barrel holding 50 gallons, stirring the whole together for a few minutes after mixing. Air-slaked lime should not be used in making this mixture, as its employment would result in causing injury to the foliage. The mixture described above can be diluted further according to the requirements of the case, and it is always better to use it rather than over the strength that is safe.

CELESTY: Regular Reader. The Celery may have decayed owing to water getting into the crown and to the leaves not having been properly tied before earthing-up was commenced, or it may be that the decay is due to the presence of some disease. We cannot give a definite opinion unless specimens are sent us for examination.

CYPRIPEDIUM: G. H. S. Cypridium is certainly a true Orchid, and belongs to the Natural Order Orchidaceae. In Cypridium the leaves are rolled (convolute), the sepals are valvate, i.e., do not overlap in the bud, and if you cut across the fruit or young seed vessels you will find there is but one cavity, and the ovules or young seeds are attached to the walls of the ovary. In Paphiopedilum the leaves are folded, not rolled, the sepals overlap in the bud, and the seed-vessel is mostly one-celled, or partially three-celled, owing to the infolding of the placentas bearing the ovules. Selenipedium is also maintained as a separate genus.

MANURING LAND: A. W. P. We do not advise you to spread the manure over the land and let it lie for a month before digging it in, this being a very extravagant method of applying farmyard manure. On the contrary, let it remain in a heap until you are ready to dig the ground, then spread it over the surface and dig it in at once. Under certain conditions, air-slaked lime is as useful as an application of manure, it being an agency by which plant food already in the soil is rendered available for the plants, but these conditions obtain only in gardens that have been somewhat liberally manured for a number of years, and you will know yourself whether the garden you refer to is one of this description.

MUSHROOM PEST: Mushrooms. The insects attacking the Mushrooms are two of the many species of Poduridae or "Spring Tails." Heavily spraying the beds with a solution of paraffin emulsion, so that the pests would be sure to be wetted, would no doubt kill them, but such a remedy might have an injurious effect on the Mushrooms. Strewing the beds with "Vaporite" or "Apterte" would probably be efficacious. Any insecticide compounded with soft soap should be useful, as the soap would form a coating over the insects and stifle them. Hydrocyanic gas would be effectual, but it might be difficult to render the air in the caves wholesome again, as this gas is a deadly poison to human beings. Try the various insecticides on portions of the beds, and note the result.

NURSERIES IN SCOTLAND: W. H. A list of the Scottish nurseries will be found in the *Horticultural Directory and Year Book*, copies of

which may be obtained from our publishing department, price 1s. 3d. post free.

NAMES OF PLANTS: R. T. H. 1, *Trichosma spaxii*; 2, *Dendrobium longicornu*; 3, *D. heterocarpum* (aureum).—J. P. 1, *Cypripedium Dibdin* (Argus × Boxallii), not of any special value; 2, *C. insignis*.—W. J. F. 1, *Cupressus*, sp., specimen insufficient to identify; 2, *C. pisifera squarrosa* (*Retinospora squarrosa*); 3, *C. pisifera plumosa*; 4, *Veronica Traversii*; 5, *Taxus baccata aurea*.—S. G. 1, *Codiaeum* (*Croton*) *angustifolium maculatum*; 2, *C. variegatum*; 3, *C. elegantissimum*; 4, *C. trilobum*; 5, *C. irregulare*; 6, *C. spirale*.—W. D. N. 1, *Cologynae flaccida*; 2, *Liparis longipes*; 3, *Calanthe rosea*; 4, *Odontoglossum constrictum*; 5, *Oncidium candidum*; 6, *Coelochloa rosea*.—H. S. *Salvia leucantha*—*Bids*. *Lastrea leucophaea*.—*Ilvores*. 1, *Ruellia Portiella*; 2, *Arauja sericifera* (syn. *Physianthus albens*). The weed is *Oxalis crenata*.—E. B. Helixia Solerieri, used for carpeting rockeries and pots in greenhouses and for other similar purposes.—W. G. 1, *Cypripedium Dibdin* (Argus × Boxallii), but an indifferent variety of it; 2, *Oncidium varicosum*.—S. G. *Peristrophe speciosa*.

PLANTS FOR AN UNHEATED CONSERVATORY: Z. S. L. *Anything*. The following are a few suitable plants for the house you describe, presuming that the plants will be exposed to an average amount of light. In early spring there are many bulbs you can grow, such as *Narcissus* (including *Bulbocodium*), *Hyacinths*, *Tulips*, *Scillas*, *Iris reticulata*, and *Frutillaria*. *Meleagris*. Various species of *Alium* would flower from May till October, notably *L. tenuifolium*, *L. speciosum* varieties, and *L. longifolium*. Other bulbs are small, early-flowering varieties of *Gladioli*, *Ornithogalum arabicum*, and the newer varieties of *Montbretia*. *Fuchsias* would succeed well in summer, provided you protected them from frost in winter. Some of the *Primulas* should do well in such a house, notably *P. denticulata*, *P. japonica*, *P. Forstii*, and the beautiful Alpine and showy *Alpenveilchen*. *Carnations* are another class of plants which thrive without sun. Three of the best are *C. Vidalii*, *C. pyramidalis*, and *C. isophylla*, including varieties. Other plants worthy of your consideration are *Dicentra* (*Dielytra*) *spectabilis*, *Spiraea japonica*, *Saxifraga Fortunei*, *Funkia tardifolia*, *Agapanthus umbellatus*, *Arthropodium cirratum*, *Liberia grandifolia*, *Hydrangeas*, and *Francoa ramosa*. Ferns would be useful to associate with the foregoing plants, more especially the bulbs, the following are a few of the best: *Adiantum Capillus-veneris*, *A. pedatum*, *Aspidium falcatum*, *Davallia bullata*, *Lomaria procer*, *Woodwardia radicans*, and many of the choice forms of the hardy varieties, notably the beautiful crested forms of *Scolopendrium vulgare*. A few suitable climbers for the roof are *Lapageria rosea* and var. *alba*, *Berberidopsis corallina*, *Trachelospermum jasminoides*, and *Clematis indivisa*.

Salvia splendens: D. C. You might very well use the plants of *Salvia splendens* for bedding out next season. In favourable localities this scarlet-flowered *Salvia* is the amongst the most vivid border plants obtainable. The type, however, is apt to grow rather tall, and it sometimes commences to flower late in the season. Therefore your efforts should be directed towards getting the plants into bloom as early as you can. A note appeared in the *Gardeners' Chronicle* for November 3, 1906, calling attention to the magnificent effect *Salvia splendens* was then producing in Cobham Park Gardens, Surrey. There are several varieties of this species that differ in habit and earlier in flowering than the type, one of these being known as *Zurich*.

SEEDING CARNATIONS: Dr. A. R. Florence. The lighter-coloured flower is a form of what is termed *The Dainty* or *Painted Lady*. The darker flower is a fancy variety with white ground. We do not think that either flower is remarkable for rarity or value.

COMMUNICATIONS RECEIVED.—G. H. S. (thanks for your contribution to the R.G.O.F. box; the disease is under investigation).—H. J. C.—F. W. K.—F. J.—T. C.—J. O. B.—A. D.—W. K.—D. E.—H. J.—W. J. B.—Rev. D. K. W.—W. K.—A. G.—A. S.—F. R.—W. B.—C.—J.—Alban L.—T. J.—F.—Q. R.—J. C. D.—J. M. M.—S. W. F.—Capt. D. S.—E. M.—O. F. M. W.—W. W. F.—T. H.—R. C. L.—Jas. J. O.—T. C.—J. P. W. K. E., Ceylon.—Rev. C. B.



TWO NEW HYBRID TEA ROSES, MRS. EDWARD J. HOLLAND (ROSE PINK)
AND MRS. ALFRED TATE (YELLOW, SUFFUSED WITH REDDISH-PINK).



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WATER AND WATERING.

WATER is the medium by which the soluble matters of the soil are conveyed through the roots into the interior of plants.

An important fact in the relation of vegetation to moisture is seen in the effect exerted by the humidity of the atmosphere upon its temperature. Without more or less vapour in the atmosphere, radiation would cool the surface of the earth so rapidly as to destroy the life of all tender plants. The principal part of the rays of the sun pass through the air, even when it is saturated with moisture, without appreciably heating it; but the heat radiated from the earth and every object upon it is intercepted and absorbed by the humidity in the air; the atmospheric warmth is, therefore, clearly related not only to the heat of the sun's rays but also to the moisture of the air. Like the covering of a cold frame, the moist air admits the light rays by day and prevents the exit of the heat to which they give rise at night. Hence the clearest, driest nights are the coldest. Also the driest regions, like the

desert of Sahara, have the coldest nights, and the cold of high elevations is due to the same cause.

Professor Tyndall says:—"The removal, for a single summer night, of the aqueous vapour from the atmosphere that covers England would be attended by the destruction of every plant which a freezing temperature would kill." Humidity and temperature are, therefore, intimately connected.

Although the heat of the sun causes evaporation from plants, its amount is governed by the humidity of the air and the velocity of the wind.

If the gardener could regulate the moisture of the atmosphere surrounding his crops, maintaining the precise conditions for keeping up the proper evaporation by applying water artificially and only in circumscribed limits to their roots, he could be assured of success. While he may do so in his greenhouse, there are no means of regulating the heat and moisture of the open air and also of the soil. It is for these reasons that watering outdoor crops in very hot weather is more often productive of harm than of benefit.

When the earth is naturally moistened by rain, the whole air is saturated with moisture, preventing both a too rapid transpiration from the leaves and an undue evaporation from, and consequent chilling of, the soil. If watering is done at all, it should be in cloudy weather; but it is most frequently injudiciously practised in dry, hot weather, and so circumscribed in extent, that it can have little or no effect upon the atmosphere. The roots are temporarily excited, and the dry, hot air robs the plants of the moisture through the leaves as rapidly as it can be supplied by the roots.

As soon as the temporary supply is exhausted, the plant not only returns to its former state of suffering, but is left more susceptible to injury than before. If the watering is repeated, the emission of rootlets near the surface is encouraged, and these grow merely to perish again unless the water is continued. Another injury may occur, as already indicated, through the decrease of temperature caused by the rapid evaporation.

In very hot weather, during periods of drought, vegetation is greatly sustained by the moisture which is returned to the earth in the form of dews; and, in order that these may be most beneficial, the soil should be deeply stirred and continue in a mellow condition upon the surface. When the soil is puddled and compacted around a plant by local watering, the amount of dew will be less owing to the decrease in the number of points of radiation presented by the compact ball of soil; besides, the diminished quantity is evaporated from the impenetrable crust without being able to reach the roots. If watered, the earth should, therefore, be stirred subsequently, or the watered surface be covered with fresh, loose soil.

If practised at all, the watering should in hot weather be applied to the roots, and not to the foliage. Evening is the proper time of day, unless in the exceptional case of watering cold frames when frost is apprehended. It is then advisable to water in the morning. The water should not be much colder than the surrounding atmosphere.

When there are facilities for moistening

the whole mass of soil by irrigation, that should not be neglected, for its great benefits are undoubted. But even then, unless the surface be so densely covered with the growing crop as to prevent it from being baked by the sun, it would be best to allow the moisture to reach the roots through percolation from open channels or drain pipes near enough to each other and kept full than to cover the soil with water.

A crop supplied with a sufficiency of soluble manure will suffer less during drought than one inadequately fertilised, and the latter will require an abundance of water.

Mulching the soil prevents a too rapid evaporation, and is, therefore, to be recommended with or without watering. J. J. Willis, Harpenden.

NOTES FROM A "FRENCH" GARDEN.

WITH Christmas the French garden enters upon a new phase of activity. The French gardener has his programme made out for the next season, and everything is arranged for working the whole of his soil and manure to the best advantage, as this must not be left idle at any time during the next six months. Gardeners who desire to grow very early Melons for planting out at the end of March should reserve frames and lights for this purpose. The cultivators around Paris generally prefer to wait until the first fortnight in April, when they can make use of the frames and lights which have sheltered the first batch of the "Passion" Cabbage Lettuce.

The ground for planting Passion Lettuce in the open is now dug, and fine decayed manure for spreading on the beds when they have been raked and made level, has been brought close to hand. On the ground allotted to the culture without hot-beds, which had been previously heavily manured and dug, we have set the frames and lights, and for every light we have put two barrow-loads of well-decayed manure where it is intended to grow the "Little Black Gott" and one barrow-load per light where the "Passion" Lettuce will be planted. The reasons for doing this work so early are, first, to have the soil in good condition for planting out the Lettuces at the end of January, and secondly, so as not to be hindered in the work when the time arrives for making the hot manure beds. These will be commenced soon after Christmas, as our Lettuce plants have grown faster than we expected; but we should have preferred to have delayed it until the middle of January. Our Lettuce plants have done very well, and we have had to ventilate them more than usual on account of the mild weather. The Cos Lettuces are growing vigorously, and should we be able to spare a few hours after commencing to plant the Little Black Gott, we shall transplant them for the third time, inserting five under each cloche. This is very profitable work, as it gives the plants a better opportunity of becoming more sturdy. We have seen several cases of mildew among Lettuces this winter. The late Professor Maxime Cornu made a careful study of this disease, and some twenty years ago presented a report of its growth and habit to the Académie des Sciences. There is no practical remedy for it, but it can be checked by spraying the plants with sulphate of copper 1-1,000, or with sulphur, keeping the cloches and lights closed. A point to be remembered is, that when the diseased plants are placed in the open air or cold frames the pest disappears, but if placed on the hot-beds the plants quickly die owing to the rapid growth of the fungus.

As the Cauliflowers are growing too fast we have had to lift and transplant them in the same place to retard them. Ample ventilation is afforded them day and night when the weather is genial. P. Aquatias.

BELGROVE, CO. CORK.

The garden of Mr. W. E. Gumbleton is well known to many persons, at least by repute. It is situated at Belgrove, some four or five miles from Queenstown, and overlooks an arm of Queenstown Harbour, a position of much beauty, and an almost ideal spot for a garden. The mansion is convenient and commodious, and contains one of the best private horticultural libraries in the Kingdom.

On my visit, in early August, I first inspected the conservatory. A number of pot-plants of *Disa grandiflora* were in flower, and although Mr. Gumbleton informed me they were not doing so well as usual, they were much better specimens than one usually sees in gardens. My attention was next directed to a collection of newer varieties of *Fuchsia*, principally hybrids of *F. triphylla*. These included such noted varieties as *Eros*, *Coral*, *Gottingen Perle*, and *Count Wernigerode*, all desirable kinds and of a class that is likely to grow in favour.

The scarce *Fallugia paradoxa*, from New Mexico, a handsome shrub with large and showy white flowers in corymbs, was observed; also several pots of an interesting bulb received by Mr. Gumbleton as a "Burmese Tuberose." When these flowered they turned out to be the ordinary type of *Pollanthes tuberosa*, as figured in *Botanical Magazine*, tab. 1817.

Cactus-flowered *Pelargoniums* have also engaged the notice of Mr. Gumbleton: *Fire Dragon* still remains one of the best double varieties, but the original variety was double-flowered. Another plant not often seen, but which I had met with before, is *Malvastrum grossulariaefolium*, now known as *M. hypomardum*. This species has neat leaves and pretty Mallow-like flowers.

A new *Dimorphotheca*, a genus in which Mr. Gumbleton has taken especial interest for years, was in bloom. It is a variety of *D. Barberie*, named *rosea*, and has pretty rose-coloured flowers, with bronze shading on the underside of petals.

A collection of Messrs. Cannell's newest Zonal *Pelargoniums*, including *Cynric* and *Celtic*, were on view; most of these are very fine, and it seems a difficult matter to make much further advance with these plants. Mr. Gumbleton has also a fine collection of *Pelargoniums* from other sources.

Hibiscus Manihot was in bloom, and a good collection of the new hybrid *Nerines* was doing well. The handsome form of *Cinnum Moorei*, named *platypetulum*, much superior to the type, was in bloom in the conservatory. Another good plant, but, unfortunately, not in flower, is *Helichrysum rupestre*; this has yellow blooms. Mr. Gumbleton has also the pink perfection variety of *Rehmannia angulata*. *Arcotis aureola*, with the two hybrids between it and *A. grandis*, namely, *vomerosis* and *regalis*, and a number of other good things were seen in the conservatory, which was extremely bright with bloom.

The flower garden proper is not large, and is principally occupied with small beds and borders. Here Mr. Gumbleton tests many of the newer annuals, as well as shrubs and herbaceous plants.

Quite a bright effect was made by the orange-yellow-coloured *Dimorphotheca aurantiaca*, probably an annual plant and one half-hardy, while among the other flowers seen were *Clematis recta* fl. pl., which, although not new, is an extremely fine subject for the flower garden.

I also noticed a fine, new, deep-coloured variety of *Aconitum Napellus*, several fine *Asters*, such as *Gloire de Cronstadt*, *Zwerg Königin*, *Madame Gouchault*, and *Madame Cacheux*, and Messrs. R. Veitch & Sons' new hybrid hardy *Calceolaria*, named *Golden Glory*, which is here, as elsewhere, proving itself a great acquisition. Among other subjects planted outside is *Calceolaria alba*, a species not unfrequently seen, but not yet surpassed by any of its colour. *Erigeron hybridum* promises to prove a useful plant, but

the name is not distinctive, as there are already several hybrids in cultivation; another labelled *E. "species No. 10"* (of Perry) also promised well. Mr. Gumbleton tests the new *Chrysanthemum maximum* varieties, and among those on trial were Mrs. Lothian Bell, a variety of proved merit; *Snowdon*, a new one of Mr. Angus's raising; *Robinsonii*, together with *Margaret Marwood* and a few others.

Three beautiful *Nemesias*, including Carter's *grandiflora*, are lovely annuals, and a highly pleasing *Nigella* introduced in 1885 as *diversifolia* or *integrifolia* and subsequently lost, is well worthy of attention by persons fond of *Nigellas*. A plant of the hardy *Geranium Loweii*, figured in the monographs of both Andrews and Sweet as *G. anemonae-folium*, was also in bloom. *Freylinia cestroidea*, a beautiful flowering shrub on the French Riviera, cannot be got to flower in this country.

Among several *Verbascoms* one of bold habit, but a biennial, attracted our notice. This was named by Mr. Gumbleton *V. rubro-nervium*, the variety being unknown at Kew. It is distinguished by its having the mid-rib of the leaf red—a feature quite uncommon among these *Mulleins*.

Dahlias are not neglected in this Irish garden, and several of the "Colletete" section are cultivated. There is also the sweet-scented *Dahlia*, which was obtained from M. Bruant, of Poitiers; it should prove acceptable to lovers of the *Dahlia* who also appreciate fragrance in flowers. A good display was made by the bedding *Begonia Lafayette*, while among a few *Godebias* grown for trial one named *Sunset* was most attractive, it being both dwarf in habit and having flowers of a desirable colour. A collection of new *Montbretias* was also observed, but singularly lacking, *Prometheus*, which is generally tall and robust, is the dwarfest and weakest of the set at Belgrove.

Salvia dichroa, as grown here, is handsome indeed with its long spikes of purple-blue and white flowers, and there were also plants, not in bloom, of a *Cashmere* species as yet undetermined.

Among other plants noted in this garden were *Lavatera maritima bicolor*; *Argemone grandiflora*; *Alyssum spinosum roseum*; *Lilium Henryi*; a bed of Early *Cosmos*—quite good here; the handsome annual *Impatiens amphorata*, with rose-coloured and white flowers (figured in the *Botanical Magazine*, tab. 6550); and a bed of new sorts of *Trollius* on trial. Of these, *Orange Globe* and *Fire Globe* are the best; *T. ranunculoides* is a plant of much beauty. *Achillea*, *Rose Queen*, not quite new, is a good variety of *A. filipendula rubra*, whilst *Myosotis Royal Blue* is a pleasing *Forget-me-not*. *Verbascoms densiflora* and others of Mr. T. Smith's distribution are very fine. A set of *Echinaceas* also proved worthy of note, among them being *rosea superba*, *purpurea*, and others. *Brachycome iberidifolia atro-violeta* made a splendid bed, and some very fine hybrid *Dianthus*, apparently largely of the *Hedewigii* type from a German raiser, were extremely good and varied. *Gladiolus princeps*, with a blue-flowered one called "Evolution," were also good, and some pillar *Roses* were very pleasing. The blue *Anchusa petiolata*, although only an annual, sows itself, and is pleasing with its good blue flowers. The old, but rare *Montanoa mollissima*, a Mexican shrub with white composite flowers, was also in bloom, and the two yellow *Pæonias*, one the Chinese tree *Pæony P. Delavayi*, and the other an herbaceous variety, *P. Mickowitschii*, from the Caucasus (see Supplementary Illustration in *Gard. Chron.*, July 25, 1908), in which Mr. Gumbleton takes deep interest and of which he has a fine collection, were not in bloom.

A specially fine plant of the rare *Olearia insignis* in bud, and the finest in cultivation, was among the many other things to be seen in this famous trial garden.

Outside the garden proper is a magnificent collection of *Cortaderias* or *Pampas Grasses*, commonly, but erroneously, known as *Glyceriums*, one of the most complete in existence in any British garden. Here, also, are the fine *Budleia variabilis magnifica*, the finest of its class, with others of the genus, and a splendid collection of upwards of 30 *Kniphofias*, including the newest hybrid varieties, is planted in clumps, among these being the really good variety named in honour of W. E. Gumbleton, *Philadelphus Hypericum Van Fleetii*, a fine specimen of *Veronica Kirkii*, and many more plants occupied considerable time in their examination, *Beschornia Decosteriana*; *Agapanthus caulescens*; and a collection of hybrid *Yuccas* which are of Mr. Sprenger's raising.

I also noticed fine specimens of *Daphniphyllum glaucescens*; *Abelia triflora*; *Cladrastis lutea*, and *Magnolia Campbellii*, which had 60 blooms on it before the frost in May. The gardens also contain one of Luther Burbank's new *Walnuts*. Amongst other plants there were also seen *Nuttallia cerasiformis*, the deciduous *Holly Ilex montana*, *Stephanandra Tanakae*, *Berberis bullata* and *Wilsonii*, *Olearia virgata* the Korean *Viburnum Carlesii*, *Diervilla rivularis*, *Castanopsis chrysophyllus*, *Cotoneasters Franchetii*, *angustifolia*, *Fontanesii*, and others, together with several very pretty *Leptospermums*.

Azara microphylla belgroviae is a beautifully variegated form of this favourite shrub, and the specimen of the type itself at Belgrove is exceedingly large and well developed. There is also a notable specimen of *Juglans alnathifolia*. *Lonicera pileata* is a species of considerable beauty. Among the *Olearias*, in addition to *O. insignis* already mentioned, Mr. Gumbleton cultivates *O. stellulata*, *O. nitida*, *O. angustifolia*, *O. moschata*, and *O. nummulariaefolia*. The garden also contains a collection of 21 species of American *Crataegus*, besides others of earlier introduction.

In addition to *Magnolia Campbellii*, already mentioned, there is a good collection of these fine trees and shrubs, among the others being *M. Watsonii* and *M. Lennei*.

Cestrum (syn. *Ilabrothamus*) is represented by C. *Newellii*, C. *fasciculatum*, and C. *corymbosum*. On walls were *Plagianthus Lyallii* (now known as *Gayia*), *Xanthoceras sorbifolia*, and several *Wistarias*, one plant of *W. multi-juga*, the best of all, covering a space of about 14 feet in height by 70 feet in length.

The kitchen garden is extensive, and contains a number of interesting features. There is a collection of 100 varieties of Gooseberries, and an extensive number of Strawberries on trial. As is to be expected in an establishment owned by Mr. Gumbleton, all the plants are well cultivated, and the garden is maintained in an excellent condition. Apart from the fruits and vegetables numbers of flowering plants are seen in this garden, including a collection of *Hemerocallis*, many of them novelties from Continental firms. *Nymphæas* are grown in tanks elevated above the ground level. The best varieties only are retained, and for a critical inspection these tanks of new varieties are of much value.

Two plants seldom seen in bloom were flowering against a wall. These were *Feijoa elio-viana* and *Mutisia decurrens*, and both were doing extremely well, the latter growing with *Fremonia grandiflora*. *Micromeria lineare*, from the Cape, and the rare *Crossocoma californica*, which Mr. Gumbleton re-introduced to cultivation, were also viewed with interest.

One of the plant-houses contained a choice collection of plants of double-flowered tuberous-rooting *Begonias*, in which Mr. Gumbleton takes much interest.

These notes are by no means complete, but they may furnish some knowledge of the wealth and interest of Mr. Gumbleton's collections of rare plants, and the best varieties of some of the more popular flowers. S. Arnott.

HARDY TREES AND SHRUBS SUITABLE FOR FORCING.

(Continued from page 404.)

AMELANCHIER.—The June-Berry of North America, *A. canadensis*, is the best species for forcing. Bushy plants in pots 3 to 5 feet high are highly decorative when clothed with short racemes of flowers. These are snow-white, and are produced in advance of the foliage. There are several forms which have been given varietal names, differing in the shape of the leaves and size of the blossoms. The *Amelanchiers* belong to the Natural Order Rosaceæ.

CEANOTHUS.—Most of the species are rather tender, and if cultivated in the open air require the protection of a wall except in the mild parts of the south and west. Cultivated in pots, in rich loamy soil, several of the species, which naturally flower early, respond readily to gentle forcing. The best are *C. papillosus*, *C. rigidus* and *C. Veitchianus*. All have blue flowers. The plants must be placed inside in the late autumn, not being sufficiently hardy to remain out in the plunge-bed till required.

CHIMONANTHUS FRAGRANS.—The Winter-Sweet ordinarily flowers outside in January and February. The plants are, however, chiefly owing to their delightful fragrance, useful in large structures, where the flowers will not be spoilt as often happens outside, even when grown against a wall. The blossoms are pale yellow in colour. A form with rather larger flowers is named *grandiflora*.

CHOISYA TERNATA.—This evergreen bush may easily be secured in flower by Christmas. The blossoms are white and very fragrant, reminding one of Orange blossom, for which it is sometimes substituted by florists when the true flower is scarce. The plants are readily propagated from cuttings, and may be grown in pots entirely; hard forcing not being necessary to obtain the plants in flower early.

CLEMATIS.—Numerous garden varieties of the *florida* and *patens* types may be grown successfully in pots, and obtained in flower from February onwards. Several nurserymen make a speciality of *Clematis* in 5-inch and 6-inch pots. These are young grafted plants, trained round small balloons or three stakes. They make very useful material, carrying from 6 to 12 flowers, for the conservatory. A few of the varieties most suitable to this treatment are *Aureliana* (porcelain-blue centre, lavender stripe), *Edward Desfoise* (deeply shaded mauve, dark anthers), *Fair Rosamond* (blush-white, red bars), *Lord Lonsborough* (silvery grey, pale bars), *Lord Napier* (mauve), *Miss Bateman* (white, chocolate anthers), *Mrs. Hewett* (tinted white), *Mrs. S. C. Baker* (French white, claret bars), *Nelly Moser* (silvery white, shaded mauve, rosy carmine bars), *Sir Garnet Wolseley* (slate-blue, plum-red bars), *Standishii* (deep lavender), *Stella* (light violet, deep plum bars), and *The Queen* (lavender).

Large specimen plants of the above varieties, grown in 12-inch or larger pots, and trained round wire balloons, are amongst the most beautiful subjects it is possible to obtain for flowering in the conservatory during May and June. For this purpose they are treated as cool greenhouse plants. After flowering it will be advisable to place the plants out-of-doors for a couple or three months.

CORYLOPSIS.—The hazel-like inflorescences are produced early in the spring in advance of the leaves. It cannot be claimed for these shrubs that the flowers are brilliant; they are, however, very interesting and particularly easy to obtain in flower under glass in January. Two species, both natives of Japan, should find a place in collections of trees and shrubs used to decorate large structures early in the year. *C. pauciflora* has two to four primrose-yellow coloured flowers in a raceme, and is of a dwarf, bushy habit. *C. spicata* is pale yellow in colour; 8 or 10 flowers are produced in a raceme,

and the plant is taller than of *C. pauciflora*. Both species have a cowslip-like fragrance.

CRATÆGUS.—Several varieties of the common Hawthorn respond readily to a little heat, but should not be forced too early. The pyramid, standard, and half-standard shapes are the most suitable. They may be grown in pots for several years in succession, and should then be planted in the nursery for a couple of years. Hawthorns are best kept in shape by pinching the young shoots during the summer; this also induces the production of flowering spurs. Good varieties for conservatory decoration are: *C.*

The blossoms of the variety *C. superba* are deeper in colour.

CYTISUS.—Several of the hardy *Cytisus* or Brooms well merit cultivation in pots, being free flowering and distinct in appearance. Standard specimens are obtained by grafting them on the *Laburnum*. Some attention in the way of pruning *Cytisus* is necessary after flowering, or they soon become leggy. It is, however, better to frequently discard the older plants and replace them with young ones. The undermentioned species are the best for forcing. *C. albus* (the White Spanish Broom), *C. biflorus*



FIG. 174.—ROBINIA KELSEYI, A NEW SPECIES FLOWERING IN THE ROYAL GARDENS, KEW, IN JUNE LAST. (For text see p. 426.)

multiflora (double white), *C. punicea* (single scarlet), *C. p. plena* (double scarlet), *C. rosea* (single rose), *C. rubra plena* (double rose), and *William Paul* (double red).

CYDONIA.—Two species of *Cydonia* or Quince can be effectively grown in pots for greenhouse decoration. *C. japonica* has deep red flowers, and forms a large bush, there is also a white variety *C. alba*. The other species, *C. Maulei*, is dwarfer and more compact in habit, the bright red flowers are 1 inch in diameter.

(pale yellow), and *C. scoparius* var. *Andreanus* (rich yellow and reddish-brown flowers).

DAPHNE.—The common *Mezereum*, or *Daphne Mezereum* naturally flowers during the winter and early spring, so that the plants need no forcing, but may be placed directly in the show house when the buds commence to expand. These appear in advance of the leaves. Its greatest value is perhaps the strong fragrance of the blossoms, a plant dotted here and there round the house will pervade the whole

(Photograph by C. F. Raffill.)

structure with its delicious perfume. There are several varieties with white, rose and red flowers. The variety *D. grandiflora* has larger flowers, and is the earliest to bloom. As no forcing is necessary they may be grown in pots, using a loamy compost, with which should be mixed some lime rubble. Very slow in growth, the plants require no pruning, seldom exceeding 30 inches to 3 feet in height.

DEUTZIA.—The best known species for forcing at present is *D. gracilis*. During the last few years many beautiful hybrids have been raised and distributed by Mons. Lemoine, of Nancy, which, as they become better known, appear likely to displace *D. gracilis* in popular favour. In the open air the plants flower so early that they are often spoilt by late spring frosts. In one garden I had charge of a large batch of these plants grown entirely in pots. The potting soil used was loam and leaf-mould, the plants being liberally fed with manure water when making their growth after flowering. As soon as the blooms were over, the old shoots were cut out down to the base to encourage the production of vigorous young growths. The earliest forced plants flower in advance of the leaves, those blooming later opening with the foliage. After being grown for several years in pots, the clumps can be split up and planted outside for a year or two. In addition to *D. gracilis*, two varieties deserve special mention, namely, *D. marmorata* and *D. campanulata*. Two stronger-growing species may also be readily forced, the Himalayan *D. corymbosa* and the Japanese species *D. crenata*, which is rather later in flowering. The racemes of white flowers are often 6 inches in length. *D. lemoinei*, a hybrid between *D. gracilis* and *D. parviflora*, has upright panicles of white flowers. Of the newer Lemoine hybrids, the following are great acquisitions: varieties of *D. gracilis*, *D. campanulata*, *D. candelabrum*, *D. multiflora* and *D. venusta*; varieties of *D. lemoinei*, *D. avalanche* and *D. boule de neige*; varieties of *D. discolor*, *D. floribunda* and *D. grandiflora*.

ERICA.—Several of the hardy Heaths may be successfully lifted with good balls of soil from the open border, and potted up for greenhouse decoration. This is best done in September. For about two months they should be stood in the open air behind a north wall or fence. Early in December the plants may be brought into the greenhouse. The dwarf-growing variety, *E. mediterranea* hybrid, is already in flower. Taller growing Heaths to put up in this way are *E. Veitchii* (white), *E. lusitanica* (codonoides) (white) and *E. australis* (rosy-purple). Any heat beyond that of an ordinary greenhouse will cause the buds to turn brown. We find it better to lift a few fresh plants each year rather than grow lifted plants a second season in pots. Young plants rooted from cuttings and grown entirely in pots may, however, be successfully used for several years if treated similar to *E. gracilis* and *E. hymenalis*.

FORSYTHIA.—Ordinarily flowering outside in March and April, this yellow-blossomed shrub may be had in bloom under glass from January onwards. The tallest-growing species is *F. suspensa*, also known as *F. Fortunei*. The long, graceful shoots, thickly clothed with yellow flowers, are very valuable for associating with Palms in a conservatory. Large specimens 6 to 10 feet high may be successfully lifted from the open border and placed in tubs. The species *F. viridissima* is more upright in habit. *F. intermedia*, a hybrid of the two species named, is also erect in habit. Specimens in 7-inch pots of this species are very serviceable. Forsythias are readily propagated from cuttings, and they grow freely in loamy soil.

HAMAMELIS.—The Witch Hazels naturally flower during winter, when, unfortunately, the blossoms are often damaged. This does not happen if they are lifted and placed in pots or tubs under glass in a cool house. *H. arborea*,

H. japonica and the variety *Zuccatiniana* deserve special mention.

HYDRANGEA.—The two species used for forcing are *H. hortensis* and *H. paniculata* var. *grandiflora*. The former is usually treated in gardens as a pot plant, so that it hardly comes within the scope of my subject. The plants readily respond to a little extra warmth, provided they get plenty of light. *H. paniculata* var. *grandiflora* is largely grown for forcing. Previous to placing the plants in heat, the strong young shoots must be cut back to within two pairs of eyes of the old wood. A beautiful plant when in flower, this *Hydrangea* will not stand early forcing or great heat. When growth commences the shoots should be restricted to one on each branch. About the period when buds ought to form in the points of the young shoots the plants should be allowed to flag for a few hours each day. This check causes the formation of a flower head in practically every shoot. After flowering in this manner, the plants should be not subjected to heat again for two years.

HYPERICUM.—The species *H. Moserianum* and *H. patulum* will be found useful for flowering in April and May, but will not stand hard forcing.

JASMINUM NUDIFLORUM.—The yellow flowers of this species, which are produced all the winter, are highly appreciated at Christmas.

KALMIA.—Three species, *K. angustifolia*, *K. glauca* and *K. latifolia*, flower outside in May and June. Under glass they may be obtained in flower a month earlier. These plants like a peaty soil.

KERRIA.—The single species, *K. japonica*, may be forced, but the double variety, *flore pleno*, is far more valuable for the purpose. It readily forces into flower during February, while, with ordinary greenhouse treatment, the blossoms appear in March. Provided the old wood is cut out after flowering, the plants may be grown in pots several years. *Kerrias* are readily increased by division.

LABURNUM.—There is no prettier sight in the conservatory in spring than a few tall standards of the common *Laburnum* (*L. vulgare*). The yellow racemes of flowers hanging amongst the tender, light-green foliage can be readily obtained in February and March.

MAGNOLIA.—Several species and varieties of *Magnolia* are admirably adapted for flowering under glass. Naturally, blooming early outdoors, they are frequently damaged by late, spring frosts, unless in very sheltered positions. The plants are usually trained as pyramids. They require a compost of peat, loam and leaf-mould. As the propagation of *Magnolias* by grafting or layering is slow, it is advisable to purchase a few plants. When once obtained, they may be forced in alternate years for a lengthy period. *M. Alexandrina* (white, tinted pink), *M. conspicua*, the *Yulan* (white), *M. Lennei* (rich, reddish-purple), *M. Soulangeana* (white, flushed rosy-purple) and *M. stellata* (syn. *Halleana*) (white) are all suitable.

NEVEUSIA ALABAMENSIS.—This plant is much better when forced than when grown in the shrubby border. Under glass the blossoms come white, outside they are greenish-white. Reference to the supplementary illustration of this plant in the *Gardener's Chronicle* for January 19, 1907, shows what an excellent bush it makes for adorning large structures.

PEONIA.—The tree Peonies (varieties of *P. Moutan*) are excellent for forcing, flowering readily from February onwards. They should be cultivated entirely in pots, and manured liberally after flowering. There are both single and double varieties, the former, to my mind, being the more pleasing. As the blooms drop rather quickly, it is advisable to apply a drop of gum at the base of the petals, in order to prolong them for a few days. The large, bold flowers are very rich and varied in colour, ranging from white through pink, rose and red to deep purple.

PHILADELPHUS.—The best "Mock Orange" for forcing is *P. Lemoinei* var. *erectus*. The white flowers are very fragrant, but must not be forced very early. After flowering, all the old wood should be cut out. Several hybrids raised by Mons. Lemoine of Nancy promise to be valuable.

PERIS.—Two species of these evergreen Ericaceous plants are useful in late spring. *P. floribunda* has erect, waxy-white flowers, and *P. japonica* drooping white clusters.

PRUNUS.—To this genus belong several of the most beautiful subjects for forcing. The plants are easily managed, similar treatment to that accorded orchard-house fruit trees in pots suiting them when not subjected to too high a temperature. If, after two or three years pot cultivation, they deteriorate, the plants should be grown in the nursery for a couple of years. They can, however, with careful management during the summer and a judicious application of manure water, be grown for a much longer period in pots. The following varieties require hard pruning after forcing, as they flower on the current year's growth:—*Prunus triloba* fl. pl. (double pink) makes growths 2 feet or more in length, which, if well ripened, will be covered with flowers the following season. *P. japonica flore albo pleno* and *flore roseo pleno*.

Three semi-double varieties of the *Peach*, *Prunus Persica* (*Amygdalus Persica*) force well, namely, *Clara Meyer*, *flore roseo pleno* and *magnifica*. Beautiful semi-double varieties of *Prunus Pseudo-cerasus* are *James H. Veitch* and *Watereri*. *P. cerasus Rhexii flore pleno*, *P. cerasifera* var. *atropurpurea* (syn. *P. Pissardii*), valuable alike for the rich purple foliage and early flowers, and *P. subhirtella*, a single, white-flowered species from Japan.

In addition to being grown in bush or pyramid form, a number of *Prunus*, notably, *P. triloba flore pleno* and varieties of *P. Persica*, are excellent subjects for standards or half-standards.

PRUNUS.—The number of members of the *Pear* family are not numerous, but they are amongst the most beautiful hardy trees for forcing. They require the same treatment as that recommended for *Prunus*. No hard pruning is necessary, shortening of the shoots to shape the trees, and thinning of the shoots if too thick being all that is required. The best-known for forcing is *P. floribunda*, which has white flowers tinted with rose; the variety *atrosanguinea* has deeper rose-coloured blossoms. *P. Scheideckeri*, a hybrid between the last-named species and *P. prunifolia*, is a very desirable plant for forcing. *P. spectabilis flore pleno* has large, double flowers, which last for some time.

RHODODENDRONS.—In this genus most botanists now include the *Azaleas*, so that, from the point of view at present being discussed, it is, perhaps, the most important of all shrubs. Varieties of *Rhododendron sinense*, or, as it is better known in gardens, *Azalea mollis*, are imported in great numbers from the Continent. So much crossing and inter-crossing has been done with this species and *R. flavum*, also, in a lesser degree, with *R. calendulaceum* and *R. nudiflorum*, that it is difficult to say exactly what are the parents of many varieties. Continental nurserymen claim to have crossed two species, *Azalea mollis* and *Azalea sinensis*. As these two plants, according to the *Kew Hand-List of Trees and Shrubs*, are synonymous, they have used selected forms of the one species and crossed them. Of this section there are many named varieties, the flowers large and the colours remarkably brilliant. No good service will be rendered here by giving a list of names which can be readily obtained from a catalogue. To my mind, the best of all in this section is the variety *Anthony Koster*, with very rich, golden-yellow flowers. Several other sections closely allied to this one, but kept distinct in many catalogues, are *Azalea mollis*, *A. mollis* hybrids and *A. mollis* seedlings. Many of the varieties can be obtained grown as standards

in addition to bushes. The price of the plants varies according to the number of buds on a plant, ranging from 15 to as many as 50 on a plant.

Another set which are even more delightfully fragrant than the foregoing next claim attention. These are the Ghent Azaleas, hybrids of *Rhododendron flavum* (syn. *Azalea pontica*). The flowers are smaller than in *A. sinensis*, but the delightful tints of the flowers are even more varied, and many of them are prettily spotted. The species itself, with rich yellow, highly fragrant flowers, must be regarded as one of the best for forcing. The best double varieties of deciduous *Rhododendrons* for this purpose are the set known as *R. (Azalea) rustica* fl. pl., said to be hybrids of *Azalea mollis*. An exceedingly pretty variety, with large clusters of orange-coloured flowers, is *R. (Azalea) altaclerense*. This name, however, must not be confounded with that of the evergreen variety of *R. arboreum* var. *altaclerense* figured in the *Botanical Magazine*, tab. 3,423. *R. (Azalea) Daviesii* has creamy-white, fragrant flowers, and is also desirable for forcing.

Most of these deciduous *Rhododendrons* force very easily. The *sinensis* (mollis) section can be had in flower by Christmas, or soon after, by plunging the plants in the propagating house and keeping the shoots well syringed. Very few of the plants can be forced with satisfactory results two years in succession, but if put in the nursery they will bud up well again in three or four years. This, however, necessitates a lot of space and trouble, which is scarcely worth while when the plants especially grown for forcing are so cheap. Home-grown plants also do not force so well as imported plants, especially early in the year. Those which are forced later we find useful for planting in the pleasure grounds.

A. O'Brien.

(To be concluded.)

LIRIODENDRON CHINENSE.

(THE CHINESE TULIP TREE.)

ONE of the most stately and interesting trees introduced to this country from North America is the Tulip-tree (*Liriodendron tulipifera*). It is said to be the sole remnant on that continent of a genus which at an earlier epoch was abundantly represented not only in North America, but Europe as well. That another Tulip-tree occurred in China had long been known to botanists, but it was not until the enterprise of Messrs. Veitch brought about its introduction that we have been able to see it alive in Great Britain. The accompanying illustration represents a specimen probably as fine as any to be seen in Europe. It is growing in the collection of *Magnoliaceae* at Kew. At first thought to be merely a geographical form of the North American species the Chinese tree has since, by both Sargent and Hemsley, been considered distinct enough to rank as a species. The flowers are not so large, the petals are narrower, and the fruit is more elongated. According to *Hortus Veitchii*, the tree in its native habitat is usually from 15 to 20 feet high. The tree illustrated at fig. 175 gives every indication of greatly exceeding those dimensions. At eight years old it is 10 feet high, and the leading growth made during the past summer was 4 feet in length. The most striking characteristic of the tree at its present stage is its magnificent foliage. A few weeks ago I measured a leaf, the blade of which was 13 inches long and 10 inches broad. It is probable, however, that as the tree grows older the foliage will be reduced in size, and approximate to that of the American species. Although this Chinese tree is not likely in any way to displace the older *Liriodendron* in the esteem of English arboriculturists, it will make an interesting addition to a group of trees of singular charm and distinction—the arborescent *Magnoliaceae*. *W. J. Bean.*

GARDENS NEAR CHEPSTOW.

THE middle of October is one of the worst seasons to inspect gardens, but plants may be observed even if they are flowerless. At Matherne Palace Mr. H. Avray Tipping has a very interesting garden. Here *Pyrus japonica* was covered with fruit, some being fully 3 inches in diameter and bright yellow in colour. On the same wall the Pomegranate, *Punica*

were sufficiently near to clash with the hue of the *Astilbe* bloom. *Campanula Raineri* grows with extraordinary vigour here, and is to be seen in great masses among the rocks. Mr. Tipping has a charming wild garden at Moun-ton, a mile or two away. Here *Abutilon vitifolium* is found in quantity, examples put out from 4-inch pots when a foot high attaining a height of 12 feet in 18 months. All are in the most robust health, and even the largest show



[Photograph by E. J. Wallis.]

FIG. 175.—LIRIODENDRON CHINENSE, A NEW SPECIES.

Granatum, was also fruiting well—a rather rare occurrence, I fancy, in this country, the fruits being large and brightly tinted. *Tricyrtis hirta* was exceptionally strong, the growths being fully 3 feet in height, but the buds were, as yet, unexpanded. A long row of *Buddle Davidii* by the water must have presented a charming sight when in flower, especially as no other colours

no sign of dying off as they so often do in the south-west. The lower portion of the grounds is intersected by streamlets, whose banks are clothed with water-loving vegetation. Enormous clumps of *Saxifraga peltata* were showing their handsome foliage, and the bronzed leaves of *Rodgersia podophylla* were in evidence. Above a rock the branches of *Cotoneaster horizontalis*,

bright with scarlet berries, spread out above the water, creating an extremely pretty effect. Many of the Primulas flourish by the waterside, *P. rosea* having increased prodigiously by self-sown seedlings. Two plants were first procured, but now there must be several hundreds, which have formed large clumps around the stream bed and are in the most vigorous condition. *Cotoneaster adpressa* is a very attractive little shrub of prostrate growth. When once established it can easily be increased to any extent, as the branchlets root into the ground as they spread, and, if cut off, can be readily lifted with good roots and transplanted. It is intended, eventually, to cover portions of the higher levels with this *Cotoneaster*. *Polygala Chamæbuxus purpurea* was doing well and spreading rapidly, and *Oxalis enneaphylla* was evidently at home, a number of plants having been obtained from the one originally procured. On a steeply-sloping bank, studded with rocks, many Saxifragas were luxuriating. Large masses of *S. Burseriana*, *S. apiculata*, *S. sancta*, and others formed mats of green between the stones, and were clearly in the best of health. *Lilium speciosum* thrives amazingly in this garden, one of a group of the variety *cybrum* measuring 8 feet in height and bearing 45 flowers. Peat-moss litter manure was incorporated with the soil when they were planted. *Coriaria terminalis* was a handsome sight, with its shoots studded with amber-yellow berries, and there was a fine colony of *Kniphofia Northii*. *Hoheria populnea* had flowered well this summer. The foliage of this tree is very curious, that at the base of the branches being very small, and not unlike that of *Azara microphylla*, while at the extremity of the shoots the leaves are large, two forms being absolutely dissimilar and appearing to belong to different trees. *Plagianthus Lysalii* had also flowered during the past summer, and *Romneya Coulteri* and *Carpenteria californica* were doing well, though 17 degrees of frost were registered last winter. Mr. Tipping intends building a house on the high ground above this garden, whence a fine view of the Severn and the neighbouring wooded heights is obtained. *S. W. Fitzherbert*.

THE ROSARY.

NOTES ON THE NEWER VARIETIES.

(Continued from page 388.)

PERLE DES JAUNES (*Tca*, *Reymond*, 1904).—This Rose has beautiful, deep, orange-yellow coloured flowers, tinted with salmon and carmine. It is a very beautiful garden Rose, and has been perpetually free this summer.

MISS MILLY CREAN (*H.T.*, *Pierre Guillot*, 1906).—A variety having large double flowers of globular shape, and they are silvery-pink in colour.

ROSALIND ORR ENGLISH (*H.T.*, *E. G. Hill & Co.*, 1905) has charmed us very much this summer, and given great quantities of lovely blooms. Its colour is a vivid rose-pink, with almost a scarlet centre.

MRS E. G. HILL (*H.T.*, *Souperet & Notting*, 1906) is a good sort for cutting, as the fragrant flowers are produced on long, erect stalks. The variety has flowered very freely this year; the blooms are distinct and attractive, the inside of the petals being a pinkish-white, and the outside deep coral-red. They are also large and full.

MME. ALFRED SABATIER (*H.T.*, *Bernaix*, 1904).—I am very fond of this Rose. It is a splendid garden Rose, and has succeeded as well this year as last. Its colour is a bright satiny peach, red in the bud, but paling as the flowers expand. A very free bloomer.

WILLIAM SHEAN (*H.T.*, *Alex. Dickson & Sons*, 1906).—This is a magnificent Rose of immense size. It is a pure pink flower. Both this summer and last I was very much struck with it when seeing it growing in quantity at Ledbury. I have not succeeded as well as we hoped to do with it this year during the hot months, but we got two or three wonderful blooms in September. Our plants (we only have three) are not over good; they have not made much growth. Its beautiful shell-shaped petals are an enormous size and of beautiful form. No doubt this will get well up the list as an exhibition sort, for it is a glorious Rose when well grown.

LADY ASHTOWN (*H.T.*, *Alex. Dickson & Sons*, 1904).—This variety has been beautiful through-

out the summer, though perhaps last year we got more perfect blooms, thereby indicating that it is rather a cool-weather Rose. Still, it is anything but thin, and any year stands out as one of the very best, with its exquisite Rose du Barri colour, shading to yellow at the base of the petals, and the reflex of petals a beautiful silvery-pink, and a yellow shape, and is one of the most exquisite Roses ever introduced.

FRAU LILIA KAUTENSTRAUCH (*H.T.*, *P. Lambert*, 1903) has been far better this year than last. It revels in hot, dry weather. It was quite nice last year; but this year seemed not to hang down its head so badly, a fault due to its stems not being stout enough to carry the very heavy, full, high-centred, perfectly-shaped flowers. The colour is a lovely silvery-white, tinted with most delicate rose.

QUEEN OF SPAIN (*H.T.*, *Bide & Son*, 1907).—This summer has suited this Rose, and I think my one plant of it has done its best. Perhaps I expected too much. It is a pale flesh, darker in the centre, very full, yet holds its head up well. Its form is good, but it strikes me as being somewhat stiff and heavy. Certainly the flower is more useful for exhibition than a garden Rose. I must try it another year before passing final judgment.

MME. MAURICE DE LUZE (*H.T.*, *Pernet Ducher*, 1907) and **RENÉE WILMART URBAN** (*H.T.*, *Pernet Ducher*, 1907).—These varieties are promising, but I cannot speak definitely, only having had one very weakly plant of each.

LAURENT CARLE (*H.T.*, *Pernet Ducher*, 1907).—My one plant has given large flowers of beautiful form. It is a brilliant carmine colour, and the blooms are on nice long stems. Seems to be a good grower, and the variety is a promising one.

MIE. J. W. BUDDE (*H.T.*, *Souperet & Notting*, 1906), **SOUVENIR DE F. VERCELLONE** (*H.T.*, *Schwartz*, 1906), **JEANNE BARIOZ** (*H.T.*, *Guillot*, 1906), and **MIE. MARIA CAPELET** (*H.T.*, *Schwartz*, 1905).—I do not admire these Roses at all. They have been very poor here.

PEGGY (*H.T.*, *Alex. Dickson & Sons*, 1905).—The individual blooms are not first rate; but as a decorative garden Rose it is a pretty thing, blooming in trusses continuously; small, pale, thin, primrose-coloured flowers. It makes a fine bush, and has most beautiful dark foliage, which is a pretty set-off to the crowd of flowers.

WILLISLEY (*H.T.*, *Montgomery*, 1905).—I cannot recommend this Rose, as so far I have not succeeded in getting anything worth cutting from it, although I have a fine healthy plant. Some may grow it all right and get nice blooms, but I have failed.

FLORENCE TRON (*Tca*, *Nabonnand*, 1905) is a beautiful garden Rose. Everyone admires it. It is always a mass of bloom, wet or fine, hot or cold. Its flowers are a very pretty carmine red, tinted madder, and they become a lighter colour on expanding. *Leonard Petrie*, *Gayton*, *Cheltenham*.

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to the Duke of Devon and Cornwall, Westbury, Wiltshire.

Planting.—This work should be pushed forward without loss of time during the mild weather. Carefully examine the roots of purchased trees, trim the ends of broken and bruised roots with a sharp knife, and, if found to be dry, soak them in water. Plant the roots as near to the surface as can safely be done, and spread them out at various depths, working some fresh compost amongst them. Gently shake the tree to and fro as the work proceeds, and tread the soil firmly and evenly over the roots. Place a stake to each young tree to prevent its being loosened by strong winds, and afterwards apply a mulch of light litter or half-decayed manure over the roots to protect them from severe frosts. Permanent labels should be affixed to each tree after planting is completed. All trees should be examined at this season of the year to see that their labels are intact, and, if required, fresh ones should be affixed for future reference.

Pruning.—What remains to be done in the way of root pruning and pruning must be hastened forward on every favourable opportunity,

although a little delay in this work is preferable to treading the ground into a pasty mass, unless planks can be used for stepping upon. The same remarks also apply to the nailing and training of wall trees. In this case planks can always be used with advantage. Apricots should be nailed or tied as early as possible, so that the trees can be protected should severe weather set in, for the buds of these trees are liable to injury very early in the year. In nailing and tying, especially in the case of young trees, care must be taken to leave sufficient space for the young shoots to swell, and, where shreds are still used, they should be narrow, so as not to harbour insects. Nails and ties are preferable and cleaner in all cases. If cuttings of any bush fruits are required, medium-sized, well-ripened shoots should be selected for this purpose during the pruning. Tie them into bundles, label them, and heel them in; later, in wet or severe weather, they can be properly prepared for planting.

Covering materials.—The materials generally used for protecting fruit blossom from frost during the time the trees are in bloom should be got ready for use. *Frigo Domo* is generally considered the best, and with proper care will last for several years. The old stock should be repaired if this is necessary. Mere temporary appliances are also used for making wooden copings. These should be examined to ascertain if they are sound, so that all may be in readiness for use if wanted.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STIRLING, Esq., Kew, Middlesex.

Begonia Gloire de Lorraine.—For the purpose of raising fresh stock of this *Begonia*, a batch of leaves should now be inserted either in boxes or pans. In either case the receptacles must be provided with ample drainage, and the soil should consist of leaf-mould and fine sand in equal parts. In removing the leaves from the plants, care must be taken not to bruise them, or they will decay before making any growth. The boxes should be placed over a brisk bottom heat, and the leaves must be kept moist by occasional syringing. Plants raised by this mode of propagation have not the tendency to flower unduly early, and they are capable of making finer specimens by a more free growth than those raised by any other means. It will be seen that as soon as roots have commenced to form tiny growths will appear on the leaf. These will need to be very carefully handled and potted into 3-inch pots, using as a compost leaf-mould two parts, and peat and light fibrous loam of one part each, with a plentiful addition of silver sand. Every pot used should be perfectly clean inside, and it should contain plenty of drainage material, remembering that *Begonias* require considerable moisture during their season of growth.

Daffodils.—The earliest-flowering varieties, such as *Trumpet Major*, *Golden Spur*, and *Sir Watkin*, may now be placed in a gentle heat, and be given an abundance of tepid water. *Narcissus poeticus ornatus* may also be placed in the forcing-house.

Richardias.—Plants of *Richardia africana*, or *Callas*, as they are termed, that were lifted in the autumn and kept in a cold frame, may now be placed in heat, or a batch of them may be placed in heat, reserving the others for succession. These plants require an abundance of liquid manure, and should be kept in a position near to the glass. They are very subject to green fly, which is apt to spread quickly after the plants are placed in heat, therefore a sharp look-out must be kept for its appearance.

Dicentra (*Dielytra*) *spectabilis*.—This plant is exceedingly useful for decorating the dwelling-room or conservatory. Plants to be forced for this purpose are best grown in 6-inch pots, and they should always be kept with the same side towards the light, this species having a very much better appearance if all the flowers and growth point in one direction. If it is required for single pedestal vases, two plants can easily be placed together for the purpose, arranging them so that one will point one way and the other the other. It is possible to do this without causing the plant to flag in the least. After their removal from the forcing-house, the plants should be kept in a cooler temperature for a few days before they are employed for decorative purposes.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady VANTAGE, Lockinge Park, Berkshire.

Box edgings.—The best time to transplant Box edging is the period extending from October to April. If the Box has become unsightly, it will be necessary to take the plants out of the ground and replant them, for if the gaps are merely filled up the result is not usually satisfactory. If much Box has to be replanted, entirely remove the gravel from small paths and put it in the middle of wider paths. The ground where the Box will be replanted should be dug deeply, levelled, and made firm, keeping the gradient the same as the paths, and taking care to maintain each side on a level with the other and also with the centre of the paths. Straight lines of Box may be planted against a tightly-strained garden line if the cord is kept in position by the use of pegs. Any curves will require to be very carefully planned, or the effect will be unsightly. In making the trench, this should have an upright face for planting against. The old plants, when pulled to pieces and the long roots cut off, are generally suitable for replanting. It will not be prudent at this season to cut the plants very severely at the top with the object of levelling them, as, when this is done, severe frost is liable to cause considerable injury to them. If it is difficult to obtain a sufficient quantity of rooted plants, use may be made of cuttings about 8 inches in lengths, inserting them 4 inches deep. In this case, however, it will be necessary to supply water during spring and early in the summer until the plants are established.

Roses.—If the plants have occupied the same ground for several seasons, apply a top-dressing of rotted farmyard manure over the surface of the ground to a depth of 4 inches; such a mulch should not be applied during the time that frost is present in the soil. After applying the manure, insert plenty of Yew branches among the plants as a means of protection from frost.

Calceolarias.—We are now potting up into 3-inch pots rooted cuttings of *Calceolaria amplexicaulis* and *C. Burbidgei*, to be grown as standards for next year's bedding. These plants, if used as single specimens over a groundwork of *Salvia splendens* var. *Zurich*, or if thinly dotted with dwarf plants of the same species of *Calceolaria*, invariably meet with admiration. *C. Burbidgei* is adapted for forming standards, being a strong grower; the flowers are of much the same shade as those of *C. amplexicaulis*.

Propagation.—Insert cuttings of Sweet Bay, Laurel, Ribes, Viburnum (Guelder Rose), and similar subjects, with a heel of the old wood attached, in a suitable situation out-of-doors. Success is better obtained with such cuttings if a perpendicular notch is made in the ground with a spade, and the cuttings placed against the face of this notch, because the soil remains in a firmer condition than would be the case if a dibber were used. *Arctostaphylos* will form roots satisfactorily if the cuttings are inserted under a glass frame, having a moderate degree of heat.

FRUITS UNDER GLASS.

By T. COOMBER, Gardener to LORD LLANGATOCK, The Hendre, Monmouthshire.

The early viney.—Vines that have commenced to grow should now have a temperature of 55° to 56° and by the time the first leaves have properly developed it should have been gradually increased to 60°. The day temperatures should be correspondingly higher, and in mild weather, when 70° is reached, a little air should be admitted. These temperatures, however, must be allowed to fluctuate more or less in agreement with outdoor conditions. Commence abscinding upon the weakest shoots as soon as these can be determined, and complete when it is seen which of the shoots are likely to produce the finest bunches. Only the best bunch should be left on each lateral, and these must be thinned after the fruit has set. Each lateral should be stopped at two or more leaves beyond the bunch, according to the space upon the trellis, and the sub-laterals at one leaf. Every lateral must be allowed ample space in order that the leaves may not become crowded, keep the leaves clear of the glass, but do not be in too great a hurry to tie them quite down to the trellis. After the vines have made considerable growth they will require more moisture at the roots, especially in

the case of old vines which have their roots confined to inside borders. These must be given a liberal supply of tepid water, enriched with liquid manure.

Early Peaches.—Trees planted in borders or in pots, and now freely swelling their buds, have passed through the critical stage when bud dropping has to be feared. As soon as the flower buds show colour a little warmer temperature may be allowed. The house should be thoroughly fumigated on two evenings in succession, in order that the flowering season may be passed without attacks from aphids. During the flowering stage syringing of the trees should be gradually lessened, and, during the blooming period, entirely discontinued, although in fine weather the floors should be damped daily. Extra care should be taken to keep the glass clean whilst the trees are in blossom, during which period, in accordance with the weather conditions outside, a greater or less circulation of air should be maintained during the day, but sudden changes of temperature must be carefully prevented. The temperature at night should be from 50° to 55°, and correspondingly higher during the day. In damp weather fire heat is especially necessary to cause a circulation in the atmosphere, and also to keep the pollen dry. The flowers must be pollinated each day.

Second early Peach-house.—To afford a second early supply of fruit, or a first supply where very early forcing is not practised, a house should be built close to the first. For the first merely close the house, after which, until the buds swell freely, only sufficient fire heat should be used to slightly warm the pipes. A night temperature of 40° to 45° and a day temperature of 50° before ventilation is employed, but the thermometer may be allowed to register from 60° to 65° from sun heat with the ventilators open. Spray the trees and their surroundings with tepid water in the morning and early afternoon of fine, sunny days. The borders must not be allowed to remain either too wet or too dry, and, in cases where, like ours, the borders are entirely inside, extra care in their management will be necessary, and the use of Kirk's soil tester indispensable.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VISCOUNT GIBBS, Aldington, Hants. (Hort. Soc. Herford).

Management of tools.—It is often truly said that one can tell a good workman by his tools. For carrying out the various kinds of work in a garden, sufficient tools of the best quality should be allowed. To my mind there is nothing more distasteful than an untidy and badly-kept tool-shed. Each man should be allowed his own tools, for which he should be held responsible. Every tool should be numbered, and each man allowed sufficient time for cleaning and replacing them before "leaving-off" time. Once a year these should be thoroughly overhauled, repairs carried out, and, if necessary, new tools provided. The short, winter days, or during inclement weather, is the best time to give this work proper attention.

Root stores.—Examine all roots, whether stored in properly-constructed rooms or in suitable sheds. Sort them out for their various uses, and remove all which show signs of decay. Onions, whether stored on shelves or suspended in ropes, should be kept in a cool place that is merely frostproof. Even a few degrees of frost would not injure them so much as subjecting them to a warm temperature.

Parsnips.—These are always superior in flavour if left in the ground until they are required for use, but, as at this season of the year a continuous frost may set in at any time, which would entail a considerable amount of labour in digging them up, it is advisable to lift sufficient for the necessary supply.

Artichokes (Jerusalem).—Many people prefer to leave Artichokes in the ground until they are required for use, but, although on many soils the best flavour is probably maintained, I do not think this is the case to the same extent as in Parsnips, and I advise that sufficient be lifted and kept in readiness in case of frost.

General work.—It should be the aim of all kitchen gardeners to have the ground walks and all appertaining to this department cleaned up and the refuse disposed of in some way or

other by Christmas Eve. There is no better method of getting rid of the rubbish than that of burning or charring it on the smother fire. A well-kept vegetable garden should be always interesting, and at no season of the year may the ability and forethought of the kitchen gardener be better judged by the condition of his garden than in mid-winter. The plots of winter vegetables, many of them snugly protected from excessive frosts; the manured Asparagus beds, surfaced over with the soil taken from the alleys; the clean paths and general neatness are all matters of importance to the enthusiastic cultivator.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. HOLFORD, C.V.O., C.I.E., Westonbirt, Gloucestershire.

Pleione.—These plants usually flower late in autumn or early in winter, and the flowers are produced simultaneously with the new growths. The blooms generally last three or four weeks in good condition, provided the materials about the roots are kept dry. Repotting should be carried out immediately the plants have ceased to flower, but it is not imperative to disturb the plants every year. Therefore, if the rooting material remains sweet and in good condition, it will be sufficient to repot the plants every alternate year. Before repotting, all the old soil should be shaken from the roots of the pseudo-bulbs, shortening the roots at the same time, but retaining sufficient to hold the pseudo-bulbs firmly in the new compost. Dwarf pans are the most suitable receptacles for these plants, especially if it is intended to suspend them from the roof rafters. The pans should be drained with clean crocks and lumps of charcoal, filling them two-thirds of their depth with these materials. Over the drainage place a layer of clean Sphagnum-moss, and above this employ a rooting medium consisting of fibrous peat, loam and Sphagnum-moss in equal parts, adding a good sprinkling of coarse silver sand and crushed crocks, first mixing these ingredients thoroughly together. The compost should be made up in a conical fashion in the pans, a commencement being made in the centre, taking every care to make the pseudo-bulbs secure in their position by pressing the potting compost moderately firm. Insert the pseudo-bulbs evenly over the surface, allowing sufficient space between each for the proper development of growth.

Lateral treatment.—*P. maculata* should be placed in the intermediate house, but *P. lagaria*, *P. praecox*, and *P. Reichembachiana* will succeed better where the atmospheric temperature is a few degrees cooler. *Pleione* should be kept near to the roof glass at all seasons. If the potting compost be used in a moderately moist condition, no further water need be applied until a month or six weeks have elapsed, and even then watering must be done sparingly until the roots are extending freely in the compost and growth has become vigorous. *P. humilis* also succeeds best in the cool intermediate house. This species flowers about mid-winter, and until then potting cannot be carried out.

Miltonia vexillaria.—This species needs very careful treatment during winter. If the plants are kept in too warm or too humid an atmosphere they will make soft, delicate growth that is sure to bring disappointment to the grower. A cool, intermediate temperature will suit this plant best, and it should be kept well up to the light. In the present stage, watering must be very carefully carried out, as only sufficient is necessary to keep the pseudo-bulbs and foliage in a healthy condition. Examine the young growths occasionally, and if the edges of the inner leaves adhere to each other, they must be released with the aid of the thin part of a budding knife handle, or something that will serve the purpose equally well.

Insect pests.—During winter insect pests do not spread so rapidly as in warmer seasons, provided the temperatures and atmospheric conditions are what are needed. At the same time, it is absolutely necessary to keep those plants most liable to attack under close observation. Slugs, snails, and woodlice are voracious pests which should be persistently hunted down whenever their presence is suspected. A few slices of Carrots or Potatoes, if placed along the front of the stage, will provide good traps; they should be examined every night and morning in order to destroy any pests that may be under them.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens or plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, and as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, DECEMBER 22—

Roy. Hort. Soc. Cons. meet.

FRIDAY, DECEMBER 25—Christmas Day.

SATURDAY, DECEMBER 26—Bank Holiday.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich—38° 5'.

ACTUAL TEMPERATURES—
LONDON.—Wednesday, December 16 (6 P.M.): Max. 51°; Min. 44°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Thursday, December 17 (10 A.M.): Bar. 29.3; Temp. 51°; Weather—Raining.

PROVINCES.—11 Wednesday, December 16 (6 P.M.): Max. 50° England, south coast; Min. 41° Scotland N.

SALES FOR THE ENSUING WEEK.

TUESDAY—

Dutch Bulbs, Herbaceous Plants, &c., at 11; Roses and Fruit Trees at 1.30; Azaleas, Palms, and Plants at 5, at 7 & 98, Cheapside, E.C., by Protheroe & Morris.

WEDNESDAY—

Orchids in variety at 67 & 63, Cheapside, E.C., by Protheroe & Morris, at 12.45.

Part II. of the Annual Report of the Intelligence Division of the Board of Agriculture for 1907 has recently been issued. It is embodied in a booklet of 41 pages, of which 18 are devoted to lists—one arranged according to counties, the other alphabetically—of the names and addresses of the honorary agricultural correspondents appointed by the Board.

The remaining 23 pages contain an account of the proceedings of the Board under the Destructive Insects and Pests Acts, 1877 and 1907, and Section 2 (Subsection 3) of the Board of Agriculture Act, 1889.

Among the matters of horticultural interest dealt with in the Report, the American Gooseberry-mildew occupies the first place. Although uncertain as to the centre of distribution of the disease—that is, as to what place the diseased Gooseberry bushes were first introduced—the Board has satisfied itself that the mildew has existed in the Evesham district, also in Wisbech and Huntingdon, for three or four years, and that it is at present spreading rapidly.

As soon as it was discovered that the disease was so widespread, the Board found it advisable to modify the order dealing with the American Gooseberry-mildew requiring the destruction of all diseased bushes. Indeed, when it came to their knowledge, subsequently to the issue of the order, that only the young wood of the bushes was capable of infection, it became apparent to the Board that drastic pruning, with destruction by burning of the prunings, would be as efficacious in prevent-

ing the spread of the disease as total destruction of diseased bushes.

We shall await with interest the publication in later Reports of the results which have attended this policy.

We cannot feel confident that all that might have been done has been done in the direction of obtaining a complete knowledge of the life-history of the fungus of this Gooseberry-mildew or of its vulnerability to fungicides. In saying this we must not be understood to be casting reflections on the Board of Agriculture, but rather on the lack of system which enables diseases of this kind, whose approach has been heralded for years, to effect the invasion of the country unresisted. If the Intelligence Department of the Board of Agriculture can so systematise and guide the work which is being done, or at any rate ought to be done, at the agricultural colleges and similar institutions in this country, so that the attacks of these plant enemies may be met by organised and ready counter-attacks, it will not only have justified its existence but will also have earned the gratitude of the horticultural community.

The formation of the Intelligence Department was in itself a wise step; but it is only a first step. Horticulturists have a right to look to the Board of Agriculture for more help than they have received in the past. We believe that more money is likely to be forthcoming in the near future for the purposes of agricultural instruction and investigation. If so, then some of these extra funds should be devoted specially to horticulture. In issuing the American Mildew Order, the Board has had its eye severely on the horticulturist; in issuing the revised grants for education and research it is only fair that the Board should remember his claim to a share. It is time, for instance, that something more should be done for the benefit of the fruit-grower. What he wants is advice, based not, as it often is at present, on mere opinion, but on certainty. Certainty in these matters is not an impossibility, but it can only come when the problems like those of disease have been studied one by one patiently and thoroughly in the laboratory and when the solutions arrived at there have been properly tested in the open.

For this to be done effectively, the laboratories and experimental stations must be adequately staffed and equipped. With a more liberal endowment, ability now wearing itself out in routine teaching would be set at liberty for the purpose of investigating the many matters on which now we are in ignorance. Then, no doubt, the Reports of the Board would grow in volume and usefulness.

The new Universities have their Faculties of Commerce, their Departments of Agriculture; why should some of them not have also Faculties or Departments of Horticulture? Departments staffed by practical men of ripe experience as well as by men trained in the art and practice of scientific investigation?

OUR ALMANAC.—According to our usual practice, we shall shortly issue a *Gardeners' Chronicle* Almanac for the year 1909. In order to make it as useful as possible for reference, we shall be obliged if Secretaries of Horticultural, Botanical and Allied Societies, or any of our correspondents, will send us IMMEDIATE INTIMATION of all fixtures for the coming year.

OUR SUPPLEMENTARY ILLUSTRATION portrays two new Roses raised by Messrs. S. MACGREDY & SONS, Portadown, Ireland. They were exhibited at the meeting of the Royal Horticultural Society on October 13 last, and both received Awards of Merit from the Floral Committee on that occasion. The variety shown in the upper part of the picture—Mrs. Edward J. Holland—is a deep rose-pink in colour, and quite distinct from the reddish-yellow of the bottom flowers that are named after Mrs. ALFRED TATE. The varieties belong to the Hybrid Tea section, a class that has furnished some of the finest Roses in recent years. The variety Mrs. Edward J. Holland develops large leaves, which show to advantage the beautiful deep rose colour of the blooms, that in the older petals is of a lighter tone. The variety Mrs. Alfred Tate does not possess a large number of petals, so that a full-blown flower is like a large single Rose. The colouring in the buds is extremely beautiful, being of that beautiful coppery-red tone that is so much admired in Roses. This coppery tone loses itself in a base of yellow suffused with reddish-pink.

ROYAL HORTICULTURAL SOCIETY.—The last meeting of the Committees in 1908 will take place on Tuesday, December 22, in the Hall, Vincent Square, Westminster.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We are informed by the secretary that Messrs. GEO. MONRO, LTD., Covent Garden, have forwarded to the funds of the Institution the sum of £5, being the amount of nominal damages received by them for the improper use of their baskets and infringement of their trade mark, "GEO. MONRO."

NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—This society, which holds such fine horticultural shows in Paris every May and November, was founded in 1855. Every 10 years the shows are international. A monthly journal is supplied free to members. There is a fine library of over 15,000 volumes, housed at the headquarters of the society, 84, Rue de Grenelle. Twelve committees carry on the work of the society, which now numbers 4,023 members. The annual subscription is 20 francs.

DUBLIN SEED TRADE ASSISTANTS.—The Dublin Seed and Nursery Employees' Association held their annual dinner in the Gresham Hotel on the 12th inst., when members and guests to the number of 145 assembled. Among the speakers were Mr. JAMES ROBERTSON, of Messrs. HOGG & ROBERTSON, LTD., who occupied the chair; Mr. F. W. MOORE, of the Botanic Gardens, and Mr. J. HALLISSEY, of the recently-formed department for Soil Analysis on the Geological Survey. Vocal and instrumental music was rendered during the evening.

INDELIBLE INK FOR GARDENERS' LABELS.—We have received from Mr. G. S. NEWTH some zinc labels bearing names written with a special ink which he has invented. The ink may be used also upon galvanised iron, but not upon paper or wood. The writing is said to be absolutely permanent, being entirely unaffected by weather, and it can only be erased by mechanical means, such as rubbing with a file or sand-paper. The preparation is known as the "Gardener's Labelink." There are already various inks upon the market for the same purpose, and their value, of course, depends upon their indelibility and permanence. We have had no opportunity to test this latest preparation by ordinary wear, but doubtless our readers will soon have an opportunity of testing it for themselves.

GERBERA JAMESONII.—At the recent Paris show, M. ADNET, of Cap d'Antibes, showed a group of varieties of *Gerbera Jamesonii*. It was a prettily-arranged group, set out with Ferns, &c., and the flowers were light and dainty in form. We understand M. ADNET has obtained a large number of varieties which are valuable for floral decorations. The following were awarded First-class Certificates:—President Gravereau (straw-yellow), M. S. Mottet (orange-yellow), M. Le. Ruan (pure white), Mme. de Vilmorin (salmon-rose), Mr. Irwin Lynch (violet-rose), and Mme. Bosch (orange-rose).

BRITISH COLUMBIA FRUIT.—During the last few years it has been demonstrated to the British public that British Columbia can produce excellent fruit and that this fruit can be transported to this country and hold its own in the open market in competition with the produce of other and, as yet, better known fruit-growing countries. The first occasion, we believe, at which British Columbia fruit was prominently brought to public notice here was in 1904, when an exhibit sent by the Department of Agriculture gained a gold medal and diploma of the Royal Horticultural Society. It also caused the Agent-General of British Columbia to be "deluged with letters from prominent fruit-dealers anxious to do business with British Columbia fruit-growers." Further successful exhibits have been made in succeeding years, including that on the occasion of the recent Colonial Fruit Show at Vincent Square. On Wednesday this week, Lord STRATHCOX and MOUNT ROYAL, the High Commissioner for Canada, opened at the Imperial Institute, South Kensington, an exhibition of British Columbia Apples. Some 28 varieties were exhibited, and they were in the main of very attractive appearance, having that richness of colouring which is so well marked a feature in the picked fruit from this region. British Columbia fruit, it must be remembered, has to make a long journey—some 6,000 miles—by rail and sea before it reaches this country, and the appearance of the fruit is a tribute to the care bestowed in handling and packing and to modern scientific developments in the matter of cold storage. It seems probable that the length of journey on land, in addition to the voyage and the consequent expense, will not allow the fruit ever to become cheap in the United Kingdom, but high-grade fruit attractive for dessert purposes can, it has already been shown, be sent over and sold at remunerative prices. However, British Columbia is not dependent on this market, having close at hand a demand for fruit which will no doubt keep her growers employed for some time to come and allow of great development of the industry. Although so recent a development, the cultivation of fruit is already affecting a quiet revolution in some respects in British Columbia. Former huge ranching estates of 1,000 to 30,000 acres are being cut up and parcelled out into small, often quite small, areas on which more intensive cultivation is practised. Much of the fruit is grown on what are known as "dry lands," rich loamy deposits in certain favoured valleys, which, when irrigated, yield abundant crops. The fruit is grown by the aid of irrigation in a normally dry climate. The water has sometimes to be brought from some distance, and co-operation is obviously necessary to allow the small grower to take up his work. In some cases companies have bought up large areas formerly used as cattle ranches, which, after irrigating, they are selling in lots of 10 acres or so to industrious settlers who are taking up fruit growing or mixed farming. The rapidly-developing fruit industry is an excellent illustration of commercial enterprise and applied scientific knowledge working hand in hand.

FLOWERS AND FLORISTS AT RIO JANEIRO.—The land of Brazil has many wonders of the vegetable kingdom to exhibit to the traveller; as, for example, the gigantic trees of the primaval forests, the magnificent groves of Palms on the coasts of the South Atlantic Ocean, and the wonderful Lianes, those destroyers of trees. In one point the traveller will be greatly disenchanted. Where is that rich floral beauty that he expected to find, and which he found in Madeira in endless abundance? Where are the Roses, as we have them in temperate climates, the Cannas, the Asters, the Chrysanthemums, Hortensias, and the expensive Carnations, which formed the entire riches of the floral world at Rio? With a solitary exception, that of the Bazar Rosenbaum, in the Arenides Central, no well-made bouquet of natural flowers was there to be discovered, and yet there are many strangers at Rio who are accustomed to European fashions in the bouquetist's art, and see no beauty in the "creations" of the native florists. It is by no means easy to obtain fresh flowers at all seasons; for one reason, the plants are difficult to grow, owing to the lack of a rest period. Still, what there are to be found there could be employed to better purpose than is now the case. What is required are some Europeans with a good knowledge of plants and flowers suitable for the climate; and the best manner of employing them. Persons with the necessary knowledge and equipment would be able to do a lucrative business.

"THE COUNTRY HOME."—We have received a bound volume containing the six first numbers of this monthly magazine. The articles deal with all the features and characteristics of country homes, including the furnishing, working and other matters concerning the indoor department, as well as outdoor pursuits such as gardening, beekeeping, cider making, the cultivation of small holdings, intensive culture of garden crops, rearing of poultry, pigs and goat-keeping. The somewhat difficult servant problem is dealt with under the title of "How to live without servants," but we fear that this is only possible in certain circumstances, and the advice is, therefore, of too negative a character to be generally helpful. Each number contains articles on current work in the garden, and in addition there are separate articles on the making of lawns and the cultivation of Roses. The volume is abundantly illustrated with excellent half-tone reproductions from photographs, and may be recommended as a suitable presentation book for the present season. The monthly numbers are published at sixpence.

ITALIAN FENNEL OR FINOCHIO.—Italian Fennel is but little known in this country, but in gardens where blanched Celery is grown we ought to find Fennel, the uses being identical. The plant requires a deeply-trenched, porous, well-manured soil and a sheltered situation. Sowings should be made early in the month of May, and preferably in the open ground. Some gardeners sow Fennel seeds to the number of three in groups, distant about 1 foot apart where the plants are to grow and mature. When the seedlings have grown strong, the weaker plants should be thinned out and the strongest left to complete their growth. About the first week in September preparation should be made for blanching the stems, as is done with Celery, or the plants may be transplanted into furrows or trenches, which must be filled up by degrees. The blanched tubers are usually eaten with salt in the manner of Celery, or cut into thin slices and made into a salad,

with oil, vinegar, and ground pepper. Those persons who cannot eat raw salad should have the tubers cooked till tender. The preparation of the tubers after cooking is the same as when they are eaten raw. The flavour resembles that of Celery, but is more pleasant. Further, the Fennel, when cooked, should have salt added to the water, and it may then be eaten warm, cutting it into thin slices and serving with melted butter.

IRRIGATION FIELDS AT HAMBURG.—In a lecture given recently before the Horticultural Society of Hamburg, Altona, and district, by Prof. Dr. KOLKOWITZ, of Berlin, concerning irrigated land, he stated, among other things, that on an area of one morgen of Spinach a sum of 200 marks was received in the months of March and April, in May and June 100 marks, and in July, August, and September 150 marks. Against this sum of 550 marks there accrued expenses 60 marks; but the nett profits were considerably reduced by the cost of carriage to market, insufficiency of the sales, and waste.

VEGETABLE IMPORTATION INTO GERMANY FROM HOLLAND.—It is stated by a Dortmund correspondent of *Die Gartenwelt* that the imports of vegetables from Holland increase from year to year. In the present year these have reached considerable dimensions. The greater proportion of the fresh vegetables on sale at the weekly markets of such large towns as Essen, Bochum and Gelsenkirchen, come from Holland. The cultivation of vegetables in the Rhine provinces and Westphalia suffers from great competition, which makes itself severely felt in the vicinity of Düsseldorf. The heavy importation has its reason, not in the better quality of the produce or the low prices at which it is sold, as that the cultivation of vegetables in the Rhenish-Westphalian provinces is very much below the increasing requirements of the inhabitants. It would seem that the cultivation of vegetables in both of the western provinces has not reached the dimensions which it should have reached, in view of the large local demand. This is certainly the case in the fertile district of Hellwegs, in which Corn crops are still considered of great importance, in spite of the ever-lessening prices obtained for the produce.

Publications Received.—*Anateur Gardening* (Christmas number). Price 6d.—*Live Stock Journal Almanac, 1909.* (London: Vinton & Co., Ltd., 8, Bream's Buildings, Chancery Lane, E.C.3.) Price 1s.—*Flora Alpina.* Par H. Correvon et Ph. Robert. (Geneva: Edition Atar, Corvaterie, 12.)—*The Gloucester Diary and Directors' Calendar for 1909.* (Gloucester Railway Carriage and Wagon Co., Ltd.)—*Wax Craft.* by T. W. Cowan. (London: Sampson Low, Marston & Co., Ltd., Tudor House, 32, Warwick Lane.)—*The Estate Magazine* (December). Price 6d.—*The Journal of the Royal Horticultural Society.* (November, 1908). Vol. XXXIV, Part II. (London: R.H.S. Office, Vincent Square, S.W.) Price 5s.—*Garden Cities and Town Planning.* (December.) (London: Garden City Association, 602-3, Birkbeck Bank Chambers, Holborn, W.C.1.) Price 1d.—*The Agricultural Journal.* (November.) (Cape Town: Cape Times, Ltd.) Price 6d.—*Kew Bulletin of Miscellaneous Information.* Appendix IV. 1908. Containing list of staffs in the botanical departments at home, and in India and the colonies. (London: Wm. & Sons, Fetter Lane, E.C.3.) Price 1d.—*The Edinburgh Field Naturalists' and Microscopical Society's Transactions.* Session 1907-8. (Edinburgh: William Blackwood & Son.) Price 4s.—*Missouri Botanical Garden. Nineteenth Report.* 1908. Containing contributions on "The Florida Strangling Figs," by Ernst A. Bessy; "Cratogeomys in Missouri," by Professor Charles Sprague Sargent; "An Ecological Cross Section of the Mississippi River in the region of St. Louis, Missouri," by Henri Hu; "Illustrated Studies in the Genus *Oenothera*,"—I., by David Agave rigida; "Furcraea rigida—Agave angustifolia," by William Release. (Mo.: The Board of Trustees, St. Louis.)—*Vinton's Agricultural Almanac and Diary, 1909.* (London: Office of the Agricultural Gazette, 8, Bream's Buildings, Chancery Lane, E.C.3.) Price 1s.—*Webster's Foresters' Diary for 1909.* (Seventh edition.) (London: William Rider & Son, Ltd., 164, Aldersgate Street, E.C.1.) Price 2s. 6d. net.

* *The Country Home*, Vol. I, May to October, 1908. (Archibald Constable & Co., Ltd. Price 5s. net.)

* PRONUNCIATION OF PLANT NAMES.

PRONUNCIATION.—In the first word in each line the accent (') is short; (') is long.

In the second word vowels are to be pronounced as—

arise, ät, äge, ärt, äir, äll
end, ägg, äat, ärr, äwe
in, it, iie, sir
on, ötter, öwe, ör, dö, öwl, öll
us, ötter, öse, ärr
"ch," as in chin; "th," as in thin
"s," as in soft; "f," as in far
"g," as in go.

All other letters are unmistakable.

S

(Concluded from page 415.)

Senäcia, sē-nā'-si-a
Senebiera, sen-ē-bi-ē'-ra
Senecio, sen-ē-si'-lis
Senecio, sen-ē-si'-lis
Sengreen, sen-ē'-green
Sēptas, sep'-tas
Sequoia, sē-quo'-i-a
Serapias, sēr-ā'-pi-as
Serränia, sēr-rä'-n-i-a
Serraria, sēr-rä'-i-a
Sersalisia, sēr-sä'-li-si-a
Sesänum, ses-ä'-num
Sesbania, ses-bā'-ni-a
Seseli, ses'-ē-li
Sesüvium, ses-ü'-vi-um
Setäria, sēt-ä'-ri-a
Séthia, sēth'-i-a
Severinia, sev-er-in'-i-a
Seymeria, sē-mēr'-i-a
Sherardia, shēr-herd'-i-a
Sherardia, shēr-ard'-i-a
Shortia, shor-ti-a
Shuteria, shū-ter'-i-a
Sibbaldia, sib-bäl'-di-a
Sibthorpia, sib-thorp'-i-a
Sicyos, sik'-i-os
Sida, si'-da
Sidalcia, si-däl'-si-a
Sideritis, si-der'-i-tis
Siderodendron, si-der-ō-den'-dron
Sideroxylon, si-der-ox'-il-on
Siegesbeckia, sē-gez-ēk'-i-a
Sieversia, si-ver'-si-a
Siläus, si-lä'-us
Silene, si-lē'-ne
Silybium, si-l'i-um
Silybium, si-l'i-um
Simäba, si-mä'-ba
Simarüba, sim-ä'-rū-ba
Simethis, si-mē'-this
Simsia, sim'-si-a
Sinäpis, si-nä'-pis
Singäna, sin-gä'-na
Sinningia, sin-ning'-i-a
Sipania, si-pä'-ni-a
Siphocampy, si-f-ō-kam'-pus
Siphonia, si-f-ō'-ni-a
Sison, si'-son
Sisymbrium, si-sim'-bri-um
Sisyinchium, si-si-think'-i-um
Sitolobium, si-tō-lō'-bi-um
Slum, si'-um
Skimmia, skim'-mi-a

Skinnëria, skin-nēr'-i-a
Sloanea, slō-nä'-e-a
Smœthmannia, smœth-man'-ni-a
Smilacina, smil-ä'-si-na
Smilax, smil'-ax
Smithia, smith'-i-a
Smýrnum, smür'-ni-um
Sobolewska, so-bō-ēf'-ki-a
Sobralia, so-brä'-li-a
Soja, sö'-ja, ör sö-ya
Solandra, sol-an'-dra
Solänum, sol-ä'-num
Soldanella, sol-dä-nel'-la
Soldewilla, sol-dē-vil'-la
Sölea, sö'-l-ä-a
Solenandra, sö-len-an'-thus
Solenidum, sö-len-id'-i-um
Solidägo, sol-i-dä'-go
Soliva, sö-li'-va
Söllya, sol'-li-a
Sönchus, sön'-kus
Sonerilla, sö-nēr-il'-la
Sonneratia, sö-nēr-ä'-ti-a
Söphora, söf'-ō-ra
Sophrontis, söf-rön'-ti-tis
Sörghum, sörg'-dum
Sorindeia, sö-rin-dē-i-a
Sorocephalus, sir-ō-sef'-al-us
Soromäues, sö-r-ō-mä'-nēz
Soulangia, söu-lan'-ji-a
Sowerbaea, söw-er-bē'-a
Spadostyles, spä-dös-ti'-lis
Spanäthe, spä-nän'-thē
Sparaxis, spä-räx'-is
Sparanium, spä-rä'-ni-um
Sparagänophorus, spä-r-gä-nöf'-ōr-us
Sparmannia, spä-man'-ni-a
Spartina, spä-rin'-i-a
Spartium, spä-r'-ti-um
Spartothämus, spä-r-tō-tham'-us
Spatalanthus, spä-tal-an'-thus
Spatilla, spä-täl'-la
Spathella, spä-thē'-li-a
Spathodea, spä-thō'-de-a
Spathoglottis, späth-ō-glōt'-tis
Spatholea, spä-thū'-le-a
Specklinia, spek-lin'-i-a
Specularia, spek-u-lär'-i-a
Spünera, spēn'-ner-a
Spergula, spēr'-gü-la
Spergularium, spēr-gü-las'-trum
Spermacoce, spēr-mä'-kö-se
Spermäxium, spēr-mäx'-i-um
Sphaecle, sfa-sē'-le
Sphaeralcea, sfē-räl'-sē-a
Sphaeroteria, sfēr-op'-ter-is
Sphaerostema, sfēr-ō-stem'-a
Sphaerostigma, sfēr-ō-stig'-ma
Sphaerotele, sfēr-ōt'-ē-lē
Sphagnum, sfäg'-num
Sphenodesme, sfen-ō-dez'-mē
Sphenogyne, sfen-ōg-in'-ē
Sphenotoma, sfen-ōt'-ō-ma
Spielmännia, spēl-man'-ni-a
Spigelia, spi-gē'-li-a
Splanthes, spi-lan'-thēz
Spinacia, spi-nä'-si-a
Spiraea, spi-rē'-ä-a
Spiralëpis, spi-rä-lēp'-is
Spiranthera, spi-ran-thē'-ra
Spiranthes, spi-ran-thēz
Spiroëma, spi-rō-nē'-ma
Spondias, spon'-di-as
Spouia, spon'-i-a
Spraguea, spräg'-ē-a
Sprekella, spēk-ē'-li-a
Sprengelia, spēn-gē'-li-a
Stävia, stä'-vi-a

Stächys, stäk'-is
Stachytarpheta, stak-i-tär-fē'-ta
Stackhousia, stak-hōu'-zi-a
Stadmannia, städ-man'-ni-a
Stachelia, stē-hē'-li-a
Stalagmitis, stäl-ag-mit'-is
Stanboëa, stän-hō'-pe-a
Stanleya, stän-lē'-a
Staphylea, staf-i-lē'-a
Stärkea, stä-rk'-ē-a
Stärice, stät'-i-sē
Stauntonia, stäun-tō'-ni-a
Stauracanthus, stäur-ō-kan'-thus
Stegänotropis, steg-ān-ōt'-rōp-is
Stella, stē'-lis
Stellaria, stēl-lär'-i-a
Stellera, stēl-lēr'-a
Stemodia, ste-mō'-di-a
Stemouacanthus, ste-mön-ä-kän'-thus
Stenactis, sten-ä-k'-tis
Stenantha, sten-an-thē'-ra
Stenanthium, sten-an-thi-um
Stenia, stē'-ni-a
Stenocarpus, sten-ō-kär'-pus
Stenochilus, sten-ō-kil'-us
Stenochlæna, sten-ō-kil'-na
Stenocoryne, sten-ō-kör'-i-nē
Stenogaster, sten-ō-gas'-ter
Stenomismus, sten-ō-mis'-son
Stenorrhynchus, sten-ō-rhin'-kus
Stenosmia, sten-ō-sim'-i-a
Stenostomum, sten-ōs'-to-mum
Stenotaphrum, sten-ō-täf'-rum
Stephania, stē-fä'-ni-a
Stephanophyllum, stē-fān-ō-fil'-lum
Stephanotis, stē-fān-ō-tis
Sterculia, stēr-kül'-i-a
Sterigma, stēr-ig'-ma
Sternbergia, stern-bēr'-gi-a
Stevnia, stē-vē'-ni-a
Stevensonia, stē-ven-sō'-ni-a
Stēvia, stē'-vi-a
Stewartia, stēw-ärt'-i-a
Stiffia, stit'-ti-a
Stigmaphyllon, stig-mä-fil'-lon
Stigonema, stig-on-ē'-ma
Stilago, stil-ä'-go
Stillingia, stil-lin'-gi-a
Stipa, sti'-pa
Stobaea, stō-bē'-a
Stöbe, stē'-be
Stökësia, stō-kē'-zi-a
Stranvësia, stran-vē'-zi-a
Stratiotes, strat-i-ō'-tez
Stravädiom, stra-vä'-di-um
Strelitzia, strē-lit'-i-a
Streptanthera, strept-an-thē'-ra
Streptanthus, strept-an-thēz
Streptium, strep'-ti-um
Streptocarpus, strep-tō-kär'-pus
Streptopus, strep-tō'-pus
Streptosolen, strep-tō-sō'-len
Strobilanthus, strob-i-lan'-thēz
Strobilorrhachis, strob-il-ōr'-kis
Strophanthus, strof-an'-thus
Strumaria, strō-mär'-i-a
Struthiola, strü-thi-ō'-li-a
Struthiopteris, strü-thi-op'-ter-is
Strynchos, strik'-nos
Stuarua, stü-är'-i-a
Styländra, stül-än'-dra
Styidium, sti-lid'-i-um
Stylolepis, sti-lō-lēp'-is
Stylôphorum, sti-lōf'-ōr-um
Stylosanthus, sti-lō-san'-thus
Stypandra, stip-an'-dra
Styphelia, sti-fē'-li-a
Styrax, sti'-rax
Snæda, swē'-da
Subuläria, sub-ül-lär'-i-a

Succisa, suk-sis'-a
Succovia, suk-kō'-i-a
Sutherlandia, suth-ēr-lan'-di-a
Swainsonia, swän-sō'-ni-a
Swammerdamia, swam-mēr-däm'-i-a
Swartzia, swärtz'-i-a
Swertia, swē'-ti-a
Swertia, swēr'-ti-a
Swietenia, swē-tē'-ni-a
Syagrus, si'-ag-rus
Symphiandra, sim-fi-an'-dra
Symphytum, sim-fit-um
Symphoricarpos, sim-for-i-kär'-pus
Sympleza, sim-pi-ē'-za
Symlocarpus, sim-plō-kär'-pus
Symplocos, sim-plo-kos
Synämmia, si-näm'-mi-a
Synandra, sin-an'-dra
Synanthium, sin-a-fē'-bi-um
Synedrella, sin-ē-drēl'-la
Synnotia, sin-nōt'-i-a
Syringa, si-ring'-ga
Syzgium, si-zig'-i-um
Sovitsia, zo-vit'-si-a

T

Tabebuia, täb-ē-bēw'-i-a
Tabernemontana, tä-bēr-nē-mon-tä'-na
Tacca, tak'-ka
Tachia, täsh'-i-a
Tachigala, täsh-i-gä'-li-a
Taccônia, tak-sō'-ni-a
Teniopsis, tē-ni-op'-sis
Tenitis, tē-ni'-tis
Tagetes, tä-jēt'-tes
Talauma, tä-läu'-ma
Taliëra, tal-lēr'-a
Taliuum, tä-l'i'-um
Talisia, tä-lis'-i-a
Tamarindus, tam-är-in'-dus
Tamarisk, tam-är-i-risk
Tamarix, tam-ä-r-ix
Tamonëa, tä-mō-nē'-a
Tamus, tä'-mus
Tanacetum, tan-ä-sē'-tum
Tanacium, tan-ä-si-um
Tanghinia, tan-gin'-i-a
Tapiänotis, tap-i-ōf'-tez
Taraxacum, tar-äx'-ku-m
Tarchonanthus, tär-kō-nan'-thus
Tasmannia, taz-man'-ni-a
Tauschëria, täush-ēr'-i-a
Taverniera, täv-ēr-ni-ä'-ra
Taxodium, tax-ō'-di-um
Taxus, tax'-us
Teasel, tē'-zel
Tecoma, tē-kō'-ma
Tecophila, tē-kōf-i-lē'-a
Tecuöia, tek-ō'-ni-a
Teëdia, tē'-di-a
Teësdälia, tēz-dä'-li-a
Teleänthera, tel-i-anth-ē'-ra
Telëkia, tel-ē'-ki-a
Telëphium, tē-lēf'-i-um
Telipogon, tel-i-pō'-gon
Tëllima, tēf'-li-ma
Telöpea, tē-öp'-e-a
Templetönia, tem-pel-tō'-ni-a
Tephrosia, tēf-rōz'-i-a
Tephrothamnus, tēf-rō-tham'-nus
Terädmus, tēr-än'-nus
Terminälia, tēr-min-ä'-li-a

Ternstrœmia, tern-strēm-i-a
 Testudinaria, tes-tū-din-ar-i-a
 Tetracera, tet-ras'-e-ra
 Tetradenia, tet-ra-dē'-ni-a
 Tetradium, tet-rād'-i-um
 Tetragonia, tet-ra-gō'-ni-a
 Tetragonolobus, tet-ra-gon-ol'-o-bus
 Tetragonotheca, tet-ra-gon-ō-thē'-ka
 Tetranema, tet-ra-nē'-ma
 Tetranthera, tet-ran-thē'-ra
 Tetranthus, tet-ran'-thus
 Tetrapelis, tet-ra-pel'-tis
 Tetrapogon, tet-ra-pō'-gon
 Tetrapteris, tet-rap'-ter-is
 Tetratheca, tet-ra-thē'-ka
 Tetrazygia, tet-ra-zig'-i-a
 Thalia, thā'-li-a
 Thalictrum, tha-lik'-trum
 Thamea, tham'-ne-a
 Thamnochortus, tham-no-kōr'-tus
 Thapsia, { thap'-si-a (-um)
 Thapsium, }
 Thēa, thē'-a
 Thelymitra, thi-mel'-i-a
 Thénardia, then-ār'-di-a
 Theobroma, thē-ō-brō'-ma
 Theophrasta, thē-ō-fras'-ta
 Thermopsis, therm-op'-sis
 Thesium, thē-si-um
 Thespesia, thēs-pē'-zia
 Thibaudia, thi-bau'-di-a
 Thomasia, tom-as'-i-a
 Thomsania, tom-sō'-ni-a
 Thoinia, thōu-in'-i-a
 Thrinax, thrī'-nax
 Thrinacia, thrin'-si-a
 Thūja, thū'-ja, or thū-ya
 Thuopsis, thū-jop'-sis, or thū-op'-sis
 Thuabergia, thū-ber'-gi-a
 Thūnia, thū-ni-a
 Thymbra, thim'-bra
 Thymus, thū-mus
 Thysacanthus, thir-sa-kan'-thus
 Thysanocarpus, thir-san-ō-kar'-pus
 Thysanotus, thir-san-ō'-tus
 Tiarella, ti-a-rel'-la
 Tiariidium, ti-a-rid'-i-um
 Tibouchina, ti-bōu-shi'-na
 Ticorea, ti-kōr'-e-a
 Tigridia, ti-grid'-i-a
 Tilia, til'-i-a
 Tillacora, til-la-kōr'-a
 Tillaea, til-lē'-a
 Tillandsia, til-land'-si-a
 Tinospora, ti-nōs-pōr'-a
 Tithonia, ti-thō'-ni-a
 Tobaca, tō-kō'-ka
 Tocoyena, tō-kōi-ē'-na
 Toddalia, tod-dā'-li-a
 Todea, tō-dē'-a
 Todechia, tō-dē'-di-a
 Tolmia, tōl'-ni-a
 Tölpis, töl'-pis
 Tordylium, tōr-dil'-i-um
 Torenia, tō-rē'-ni-a
 Tōrilis, tōr'-il-is
 Tormentilla, tōr-men-til'-la
 Torreyia, tōr-rē'-a
 Tortula, tōr-tū'-la
 Tournefortia, tōur-a-for'-ti-a
 Tournefortia, tōur-rē'-ti-a
 Toxicophila, tōx-i-cō-fil'-a
 Trachelium, tra-kē'-li-um
 Trachylodium, tra-ki-lō-b'-um
 Trachyspermum, trā-ki-lō-spēr'-mum
 Trachymene, trā-ki-mē'-nē
 Trachyspermum, trā-ki-spēr'-mum
 Trachytella, trā-ki-tē'-la
 Tradescantia, trad-es-kan'-ti-a
 Tragia, trag'-i-a
 Tragopogon, trag-ō-pō'-gon
 Tragopyrum, trag-ō-pi'-rum
 Trapa, trā'-pa
 Tréfoil, trē-fōil
 Tremandra, trē-man'-dra
 Tremella, trē-mēl'-la
 Trevirania, trev-i-rā'-ni-a
 Trevoa, trē-vō'-a
 Trewia, trē'-i-a
 Trianthema, tri-an'-the-ma
 Trias, trī'-as
 Tribulus, trib'-u-lus
 Trichæta, tri-kē'-ta
 Trichantha, tri-kan'-tha
 Trichilia, tri-ki-lī'-a
 Trichium, tri-kin'-i-um
 Trichocentron, tri-kō-sen'-tron

Trichocéphalus, tri-kō-sef'-alus
 Trichochloa, tri-kōk'-lō-a
 Trichochloa, tri-kōk'-lō-a
 Trichodesma, tri-kō-dez'-ma
 Trichodium, tri-kōd'-i-um
 Trichoglottis, tri-kō-glot'-tis
 Tricholena, tri-kō-lē'-na
 Trichomanes, tri-kom'-a-nēs
 Trichonema, tri-kō-nē'-ma
 Trichopetalum, tri-kō-pet'-al-um
 Trichophorum, tri-kōf'-or-um
 Trichoplia, tri-kō-pil'-i-a
 Trichoschme, tri-kō-sak'-mē
 Trichosanthus, tri-kō-san'-thēs
 Trichosma, tri-kōz'-ma
 Trichostema, tri-kō-stē'-ma
 Trichothalmus, tri-kō-thal'-mus
 Tricoryne, tri-kōr'-i-nē
 Tricritys, tri-sir'-tis
 Tridax, tri-dax
 Tridaxia, tri-dent'-a
 Trientalis, tri-en-tā'-lis
 Trifolium, tri-fōl'-i-um
 Triglochin, tri-gō'-kin
 Trigonella, tri-gō-nel'-la
 Trigonia, tri-gō'-ni-a
 Trigonidium, tri-gō-nid'-i-um
 Triguera, tri-gū'-e-ra
 Trillium, tril'-li-um
 Trimezia, tri-mē'-zi-a
 Trinia, trin'-i-a
 Triopteris, tri-op'-ter-is
 Triosteum, tri-ōs'-tē-um
 Triphasia, tri-fāz'-i-a
 Triphysaria, trif-i-sār'-i-a
 Triplaris, trip'-lar-is
 Tripasacum, trip-sā-kum
 Triptilion, trip-til'-i-on
 Trisetum, tri-sē'-tum
 Tristantia, tris-tā'-ni-a
 Tristegia, tris-tē'-gis
 Triteila, tri-tē'-la
 Trithirax, tri-thir'-ax
 Triticum, tri-tē'-um
 Tritoma, tri-tō'-ma
 Tritonia, tri-tō'-ni-a
 Triumfetta, tri-um-fet'-ta
 Trixis, trix'-is
 Trochæta, tōr-kē'-ta
 Trochiscanthus, trōk-is-kan'-thēs
 Trochocarpa, trōk-ō-kar'-pa
 Troilus, trōi'-lus
 Tromotriche, trō-mot'-ri-kē
 Tropæolum, trō-pē'-l-um
 Tropis, trōf'-is
 Troximom, trox'-i-mon
 Trymalium, tri-mā'-li-um
 Tuberose, tū-bēr-ōz
 Tulbaghia, tū-bā'-gi-a
 Tulipa, tū-lī'-pa
 Tūnica, tū-nī'-ka
 Tūpa, tū'-pa
 Tupistra, tū-pis'-tra
 Turæa, tür-nēr-a
 Turpinia, tür-pin'-i-a
 Turæa, tür-rē'-a
 Turritus, tür-rē'-tis
 Tussilago, tūs-si-lā'-go
 Tutsan, tūt'-san
 Tweedia, twē'-dia
 Tydea, ti-dē'-a
 Tylophora, ti-lōf'-ōr-a
 Typha, ti'-fa
 Typhonium, ti-fōn'-i-um
 Tytonia, ti-tōn'-i-a

U

Ulex, ū'-lex
 Ulloa, ūl'-ō-a
 Ulmus, ūl'-mūs
 Umbilicus, um-bil'-i-kus
 Uvacaria, ual-ik'-i-a
 Uvacaria, um-sē'-ma
 Uvacaria, uuc-nā'-di-a
 Uniola, ūn-iō'-l-a
 Unonæ, ūn-ō'-n-a
 Uraria, ū-rā'-i-a
 Uraria, ū-rā'-i-a

V

Urceolina, ūr-sē-ō-lī'-na
 Urena, ū-rē'-na
 Uropedium, ū-rō-pēd'-i-um
 Uroptalon, ū-rō-pēd'-al-on
 Urospatha, ū-rō-spā'-tha
 Urosperrum, ū-rō-spēr'-mum
 Urtica, ūr-tī'-ka
 Urvillea, ūr-vil'-le-a
 Utricularia, ū-trik-u-lār'-i-a
 Uvária, ū-vār'-i-a
 Uvularia, ū-vul-lār'-i-a

Vaccinium, vak-sin'-i-um
 Vaillantia, vāl-lan'-ti-a
 Valeriana, val-ē-rī-a
 Valerianella, val-ē-rī-a-nel'-la
 Vallaris, val'-lar-is
 Valleria, val-ē-zī-a
 Vallisneria, val-lis-nēr'-i-a
 Vallota, val-lō'-ta
 Valoradia, val-ōr-ā'-di-a
 Vancouveria, van-kōu-vēr'-i-a
 Vanda, van'-da
 Vandellia, van-del'-li-a
 Vangueria, van-gū-ēr'-i-a
 Vanilla, val-nīl'-la
 Vascōa, vas-kō'-a

Vellia, vel-lē'-ja
 Vellozia, vel-lō'-zi-a
 Veltheimia, vel-tim'-i-a
 Venidium, vē-nid'-i-um
 Ventilago, ven-tī-lā'-go
 Vēpris, vē'-pr-is
 Veratrum, vē-rā'-trum
 Verbascum, vēr-bas'-kum
 Verbena, vēr-bē'-na
 Verbesina, vēr-bē-sī'-na
 Veronina, vēr-nō'-ni-a
 Verónica, vēr-ōn'-i-ka
 Verschaffelia, vēr-shaf-fel'-i-a
 Verticordia, vērt-i-kōr'-di-a
 Vervain, vēr-vān
 Vesicaria, vēs-i-kār'-i-a
 Vēstia, vēs'-ti-a
 Viborgia, vi-bōr'-gi-a
 Viburnum, vi-būr'-num
 Vicia, vis'-i-a
 Viennensis, vū-sūz'-i-a
 Vigna, vig'-na
 Viguera, vi-gū-ēr'-a
 Villarsia, vil-lār'-si-a
 Vilmerina, vil-mo-rin'-i-a
 Vinca, vin'-ka
 Viola, vī'-ō-la
 Virgilia, vir-jil'-i-a
 Viscaria, vis-kār'-i-a
 Viscum, vis'-kum
 Vismia, viz'-mi-a
 Visnea, viz'-ne-a
 Vitex, vit'-tex
 Vitmännia, vit-man'-ni-a
 Vittaria, vit-tār'-i-a
 Vivania, vi-vā'-ni-a
 Voandzeia, vō-and-zē'-a
 Vochysia, vō-kiz'-i-a
 Volkameria, volk-ā-mēr'-i-a
 Vouapa, vōu-ā'-pa
 Vōyra, vōr'-ra
 Vriesia, vrē'-zī-a

W

Wachendorfia, wā-ken-dōrf'-i-a
 Wahlenbergia, wāh-len-ber'-gi-a
 Wallesia, wā-lē'-si-a
 Waldsteinia, vāld-stī'-ni-a
 Walkeria, wal-kēr'-i-a
 Wallichia, wal-ik'-i-a
 Wallrothia, vāl-rōt'-i-a
 Wallshra, wāl-sū'-ra
 Waltheria, wāl-tēr'-i-a
 Wæra, wār'-re-a
 Warsceviczella, wārs-ke-vik-zel'-i-a
 Watsōnia, wāt-sō'-ni-a

Wedelia, vē-dē'-li-a
 Weigela, wē (or wī)-gē-l-a
 Weinmannia, vīn-mān'-i-a
 Welfia, wēl'-i-a
 Wenlandia, wen-lan'-di-a
 Werneria, vēr-nēr'-i-a
 Westringia, west-ring'-i-a
 Whitefieldia, whī-fēld'-i-a
 Whitlavia, whīt-lā'-vi-a
 Widringtonia, wīd-ring-to'-ni-a
 Wigandia, vī-gan'-di-a
 Willdenovia, vil-den-ō'-vi-a
 Willemetia, wīl-le-mē'-ti-a
 Willughbeia, wīl-lū-bē'-i-a
 Wistaria, wis-tār'-i-a
 Withania, wī-thā'-ni-a
 Witheringia, wīth-er-ing'-i-a
 Witsenia, wīt-sē'-ni-a
 Woodsia, wōd'-si-a
 Woodwardia, wōd-wār'-di-a
 Woolstonia, wōol-as-tō'-ni-a
 Wormia, wōr'-mī-a
 Wrightia, wright'-i-a
 Wulfenia, wūl-fē'-ni-a
 Wulfia, wūl'-fī-a
 Würmea, wūrm'-bi-a

X

Xanthium, xan'-thi-um
 Xanthoceras, xan-thōs-ēr'-as
 Xanthorrhæa, xan-thor-rhē'-a
 Xanthorrhiza, xan-thor-rhē'-za
 Xanthosia, xan-thō'-zi-a
 Xanthosoma, xan-thō-sō'-ma
 Xanthoxylum, xan-thox'-i-um
 Xeranthemum, xēr-an'-the-mum
 Xerophyllum, xēr-ōf'-l-um
 Xerotes, xē-rō'-ēs
 Ximenesia, xim-en-ē'-si-a
 Ximénia, xim-ē'-ni-a
 Xiphidium, xī-fid'-i-um
 Xiphopteris, xīf-op'-ter-is
 Xylodium, xī-lōb'-i-um
 Xylophylla, xīl-ōf'-il-la
 Xylöpia, xī-lōp'-i-a
 Xyris, xī'-ris
 Xysmalobium, xis-ma-lōb'-i-um

Y

Yucca, yūk'-ka

Z

Zacintha, zā-kin'-tha
 Zamia, zā'-mi-a
 Zannichellia, zan-nī-kel'-li-a
 Zanthoxylum, zan-thox'-i-um
 Zappania, zap-pā'-ni-a
 Zauschneria, zāush-nēr'-i-a
 Zea, zē'-a
 Zebrina, zē-brī'-na
 Zenobia, zē-nō'-bi-a
 Zephyranthes, zēf-ir-an'-thēs
 Zexmenia, zex-mē'-ni-a
 Zichya, zīk'-ya
 Zieria, zī-ēr'-i-a
 Zigadenus, zig-ā-dē'-nus
 Zilla, zil'-la
 Zingiber, zin'-gi-bēr
 Zinnia, zin'-ni-a
 Zizania, zī-zā'-ni-a
 Zizia, zīz'-i-a
 Ziziphora, zī-zīf'-ōr-a
 Zizyphus, zīz'-i-fus
 Zonia, zō'-ni-a
 Zostera, zōs-tē'-ra
 Zosteranthus, zos-ter-ōs'-til-is
 Zygopetalum, zī-gō-pet'-al-um
 Zygophyllum, zī-gō-fil'-l-um

PUBLIC PARKS AND GARDENS.

CHRYSANTHEMUMS IN VICTORIA PARK, LONDON.

FOR many years an exhibition of Chrysanthemums has been held in this park during the months of October and November, and in fig. 176 is reproduced a view of one of the principal glasshouses during "Chrysanthemum time." This house is 100 feet long and 25 feet wide, and, as may be seen on reference to the illustration, the plants are arranged on either side of a central path. Each end is pleasingly draped with tall, naturally-grown plants, right up to the apex of the roof. Mary Richardson, an attractive single Chrysanthemum of bronze colour, was employed at one end of the building, and the variety Margot at the other, while the sides of the building were arranged with masses of such varieties as Source d'Or, La Triumphant (both the pink and the yellow varieties), white and yellow Mlle. Lecroix, crimson and white Quintus,

care of Mr. W. J. Moorman, who is to be congratulated on the excellent effect obtained from the Chrysanthemums this season.

WATERLOW PARK.

A SUGGESTION was made some two years ago to the London County Council to convert a few of their "Old English Gardens" into "Shakespeare" gardens. This was adopted, and four parks, Ravenscourt, Golder's Hill, Brockwell and Waterlow Parks, were supplied with those plants the names of which were mentioned by Shakespeare which were not included in their collection of herbaceous plants.

For the guidance of visitors, the name given by Shakespeare is put on the labels, in addition to the English and botanical names, they are also marked "Shakespeare." The arrangement has not, however, brought about any great change in the arrangement of the borders. Large clumps of Rudbeckias, Helianthus,

THE WHEAT CROP OF 1908.

It has been remarked that so far as climate is concerned, the British Isles are outside the zone favourable to the growth of Wheat, and that its successful cultivation is due to the skill of the farmer in contending against adverse meteorological conditions.

It is true that the area under Wheat is rapidly diminishing, and that its continued growth appears to gravitate towards those districts where the climate or the soil, or the combination of the two, is the most favourable.

But the great decline in area cannot be attributed to any general change for the worse in the characters of the climate. Indeed, the records at the Rothamsted Experimental Station in Hertfordshire show that the season of 1908 was, upon the whole, extremely favourable for growth of the Wheat crop.

The harvest year, September 1, 1907, to August 31, 1908, shows that the total rainfall amounted to just over 30 inches, or 2 inches in



FIG. 176.—CHRYSANTHEMUM HOUSE IN THE VICTORIA PARK, LONDON.

and other decorative and well-known free-blooming varieties.

The main banks on each side of the pathway are undulating, the arrangement displaying to the very best advantage the large-flowering and leading varieties in the Japanese, incurved, and Anemone sections. In the centre of the group were several of the best single varieties, including the Pink and Bronze Pagram, Miss Mary Anderson, Annie Holden, and Mary Richardson. A group of the white Money-maker—the long-keeping qualities of the blooms found a host of admirers—was also employed. The whole was edged with well-grown and profusely-bloomed plants of Ladysmith, a useful single variety, that well withstands the effects of the constant rubbing caused by visitors. At certain times, and especially on Sundays, visitors may be seen waiting in a row extending for 100 yards outside the entrance, for their turn to enter. Victoria Park has for many years been under the

Asters, Liliums, Kniphofias, backed up with Dahlias of varied sorts, can be seen. Batches of Sweet Peas also run the length of the border.

Waterlow Park probably possesses more fruit trees than any other London park. With its orchard of Pears, Apples and Plums, the park also has its historical associations. Lauderdale House, the lower portion of which is used as a refreshment room, was bought by Charles II. for Nell Gwynne. The marble bath used by Nell Gwynne is still to be seen in the oak-pillared hall. Andrew Marvell also lived within the precincts in 1657. A brass tablet now marks the site of the cottage. Near by is the estate of the late Baroness Burdett Coutts. On the terrace of Lauderdale House there is a sundial with a brass plate bearing the words: "This plate is on a level with the dome of St. Paul's Cathedral," a statement which will suffice to indicate the elevation at which the park is situated.

excess of the average of 55 years at Rothamsted.

The bright sunshine showed a total of 1,641 hours, being 39 hours in excess; while the mean temperature for the year was about 4° above the average record.

It may be stated, therefore, without fear of contradiction, that it is to the greatly increased production of Wheat in other countries at a lower cost than in our own, and to the low rates of transport by which it is brought into our markets in quantity, at a price which lowers the value of the home produce, that the reduced area under Wheat is chiefly to be attributed.

From the Board of Trade returns we find that the total area under Wheat in the British Isles for the present year was 1,626,733 acres, against 1,625,445 acres in 1907, being an increase of 1,288 acres.

Fifty years ago the total area under Wheat in the United Kingdom was over four millions of acres, 30 years ago it had declined to about

3½ millions of acres, while now only about one-half that number of acres is sown with Wheat.

Wheat is still described as an average crop for 1908, and the yield on the whole has been but little affected by the ungenial weather of August, although complaints are numerous as to delay in harvesting and deterioration of quality.

ROTHAMSTED EXPERIMENTS.

The world-renowned experimental Wheat field at Rothamsted, which has this year grown its 65th crop of Wheat in succession on the same land, was most satisfactory both as to quantity and quality.

For the first eight years the manuring was of a varied description, so that only three of the 20 plots have received the same treatment during the whole period of 65 years.

The plots as seen to-day began in 1832, since which time the few changes in manuring have been matters of detail and not of principle.

The produce of Wheat for this year has been somewhat variable, about one-half the number of plots have given above the average yield, while the remaining half have produced a slightly lower than average quantity; but the quality, as indicated by the weight per standard bushel, is considerably above the average record, and ranges from 63 to 65 lbs. per bushel.

The quantity of Straw per acre is mostly a little under average, three plots only giving an excess. The proportion of Corn to Straw is generally satisfactory.

THE UNMANURED PLOT.

Probably the greatest agricultural interest is attached to Plot 3, where Wheat has been grown without manure of any kind every year since 1843, and for four years previously no manure had been applied to the field, so that the present crop of 1908 is the 68th without manure.

After a drop in production during the first few years, the yield of Wheat has been practically constant for the last 40 years, fluctuating only with the season, and showing no immediate prospect of declining. The produce of the present year is 12½ bushels per acre, of the weight of 63½ lbs. per bushel, and 7½ cwt. of Straw per acre.

In fact, this remarkable area of land, which possesses only moderate fertility of soil, gives more Wheat per acre, after this long period of exhaustive cropping than the average Wheat crop of the world, and more per acre than the average of all the rich prairie lands of America.

THE FARMYARD MANURE PLOT.

If the unmanured, Plot 3, is slightly declining in fertility and yield, there can be no doubt that the farmyard manure, Plot 2, is increasing in fertility. Analysis at different periods shows that the surface soil has become more than twice as rich in nitrogen as the unmanured land. In fact, a large amount of the constituents of dung accumulates within the soil, and they are taken up very slowly by the Wheat crop.

It is remarkable that, notwithstanding this great accumulation of plant-food within the soil, the crops on the dunged plot never show excessive luxuriance. The crop of the present year was 30½ bushels of 64.8 lbs. weight, and 34½ cwt. of Straw per acre.

EFFECT OF NITROGENOUS MANURES.

The yield of Wheat is found to increase with each addition of nitrogen. Comparing Plots 7 and 8, with 400 lbs. and 600 lbs. of ammonia salts respectively, the increase is from 33½ bushels to 47½ bushels per acre, although the weight per bushel is 1½ lb. less with the larger quantity of ammonia salts. The Straw is even more affected by a free supply of nitrogen, rising from 30½ cwt. to 44 cwt. per acre.

The proportion of Corn to Straw being, on Plot 7, with 400 lbs. ammonia salts, 65.7 per cent., while on Plot 8, with 600 lbs. of ammonia salts, it is but 62.9 per cent.

Comparing Plots 7 and 8 with Plots 9 and 16, the results show that nitrate of soda is a more

effective source of nitrogen than the ammonia salts on the moderately stiff Rothamsted soils.

With 275 lbs. of nitrate of soda per acre, combined with superphosphate and sulphate of potash, the yield is 51½ bushels of Wheat of 65 lbs. weight, the highest in the series, with 26½ cwt. of Straw; while Plot 16, receiving 550 lbs. of nitrate of soda, which corresponds in quantity of nitrogen to 400 lbs. of ammonia salts, gives 38½ bushels of Wheat of 64 lbs. weight, against 33½ bushels of 64.7 lbs. weight on Plot 7. The quantity of Straw on the two plots being 30½ cwt. and 35½ cwt. per acre respectively.

PRICE OF WHEAT.

As regards the price of Wheat, there has been a general tendency towards decline during the last 30 years. The proportion of total Wheat consumed in the United Kingdom which is derived from foreign sources is rapidly increasing, and the drier foreign Wheats will undoubtedly yield a larger percentage of flour, and flour of better quality than much of the home-grown grain, even when produced in such a favourable season for quality as the present. *J. J. Willis, Harpenden.*

LAW NOTE.

FARMER'S ACTION AGAINST SEED MERCHANTS.

At the Birmingham Assizes held on December 10, Mr. Robert Tunnicliffe Pooler, farmer, of Sutton House Farm, near Newport, Salop, brought an action against Messrs. White Brothers, Limited, seed potato merchants, Evesham, claiming £335 10s. 11d. damages for certain alleged breaches of warranty on the sale of seed Potatoes.

Counsel for the plaintiff explained that the defendants admitted that they contracted to supply the Potatoes, but they denied that they gave any warranty. On the contrary they said it was part of the expressed term of the agreement that they would give no warranty, and they stated that the Potatoes corresponded to the description given. They denied all damage, and set up a counterclaim for the price of the Potatoes. An invoice was forwarded to plaintiff on April 23, and attached to it was a pink slip stating that the defendants gave no warranty express or implied, and, while taking every care, accepted no responsibility in regard to the crop.

Plaintiff, giving evidence, said that, relying on the statement that the grower said the seed was all right, he carried the Potatoes from the station to his farm, and they were planted almost immediately. They came up very irregularly, some being ready for sowing when others were just coming through the surface, this indicating different varieties of seed. He had not sold any of the crop, but had given his workmen about five acres of the Potatoes to get them up and clear the land. The men would get about 5 tons, but an average good crop was 12 tons to the acre, representing 10 tons for the market and two tons for seed. There were not 2 per cent. of the Potatoes of the "Up-to-Date" variety, the others being every mixture imaginable. He estimated his loss at £25 2s. 6d. per acre.

Cross-examined by Mr. Vachell, plaintiff said he had not received any letters with a pink slip similar to that attached to the invoice.

Mr. Vachell, for the defendants, contended that the contract was entered into with the most distinct notice to the plaintiff that the defendants could not hold themselves responsible for seed coming up according to the name under which it was sold.

Richard White, managing director of White Brothers, Evesham, said the "Up-to-Date" seed was purchased from William Holmes, Cambridgehire, according to sample, and he was satisfied that it was all "Up-to-Date" seed. The pink slip setting forth the non-warranty clause was attached to all quotations and invoices. On March 14 he wrote to plaintiff quoting various prices, and to that letter a pink slip was attached. There were also slips attached to letters dated April 3 and April 4.

The Judge said the main question for the jury was whether or not the non-warranty clause on the pink slip was part of the contract between

the parties. That depended first upon the question whether the letters of March 14, April 3 and 4 were in fact written. If the jury found that the slip containing the non-warranty clause was no part of the contract, then everything was fairly plain sailing.

Mr. Vachell argued that Mr. White did all he could to ensure obtaining good seed. He went to a well-known grower in Cambridgehire, but he was bound to protect himself, because he could not guarantee a good crop, and therefore was obliged to attach a non-warranty clause to the contract. All he said was that if customers were willing to buy seed on those terms he was willing to sell at such prices. Plaintiff had distinct notice of the terms upon which the defendants traded, because there was evidence that the letters which the plaintiff said he did not receive were written and posted, and that they contained the non-warranty clause. He contended that the plaintiff did not act reasonably in the matter. If the Potatoes were bad he should have returned them to the defendants and purchased others in the market. Then he could have claimed the difference in the cost, if there was an increase, from the defendants.

Graham reminded the jury that the plaintiff contracted to buy a certain quantity of "Up-to-Date" Potatoes, and did not get them. He planted them, and got a miserable and mixed crop. Plaintiff did not get what he bought, and had consequently suffered loss. Surely he was more entitled to sympathy than the defendants. The seed was not what it was represented to be.

On the question of warranty, he argued that no farmer would be bound by any such condition as that which it was alleged was imposed by the defendants. Was it reasonable to suppose that the plaintiff would accept Potatoes from the defendants who said, "These are 'Up-to-Date' Potatoes, but whether they are 'Up-to-Dates' or not you will have to pay the full price for them." Plaintiff had no knowledge that the defendants only contracted on the terms specified on the pink slip. He never received a letter with a pink slip attached to it until he received the invoice. He would not have contracted with them had he known the terms contained on the pink slip.

His Lordship, in summing up, invited the jury to say, first of all, whether the contract between the parties included the non-warranty clause.

The jury retired, and on returning into Court, said they were of opinion the plaintiff was unaware of the non-warranty clause when the contract was made.

This was a verdict for the plaintiff, and the only question remaining was one of damages. The Judge addressed the jury on that point, and said there was a counterclaim for £31 13s. 6d., the price of the seed Potatoes, which had not been paid for, and the jury might if they liked deduct that sum from the damage they awarded.

The jury assessed the damages at £242 less the amount of the counterclaim. Judgment was consequently given for £210 6s. 6d. Execution was stayed on the usual terms.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

GARDENERS AND MUSIC.—I was much interested in reading the paragraph about Kubelik on p. 413, and to learn that he was the son of a gardener. I have often thought that there was nothing in life so beautiful as music, children and gardening. If any young gardener has a desire for a hobby, let me advise him to take up the study of some musical instrument such as the violin, flute, piccolo or concertina, or if anyone is gifted with a musical voice let him cultivate it. I know of nothing, apart from my gardening practice, that has given me so much pleasure as music. I shall never forget a holiday I spent with my musical friend, H. Markham, at Wrotham Park, when, night after night, until midnight, we made merry with such concerts as were probably never heard before in the same room in which the celebrated Grandpierre grew, the late W. Thompson, wrote his book on vine culture. Nothing will be lost by encouraging musical opinion amongst young gardeners. *Victor H. Lucas, Gardener to the Borough Council Barrow-in-Furness.*

WHITETHORN IN BLOOM.—A small tree of the ordinary Whitethorn or May (Crataegus Oxyantha) has several trusses of flowers open and in bud at the present date [December 12]. We have many other trees and shrubs flowering out of their usual season, but I have never before the ordinary May to do this in December before; the tree is growing in a moist, shady position, surrounded by other trees and shrubs, and it flowered as usual last spring. There are no leaves on it, neither young nor old. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

ESCALLONIAS.—In Mr. Clark's published list on p. 408, he omitted two varieties which succeed here better than all others. E. Ingramii is the hardiest of all, and grows here freely on north walls, where it very seldom gets injured by frost; even the severe frost of February, 1890, did not kill it. I do not know the origin of this variety, it resembles E. punctata more than other that I know, and I have previously referred to it in these pages under that name—it now proves to be distinct. The *Kew Hand-List* includes it under E. macrantha, but it has not much resemblance to that variety, and it is very much hardier. Probably it was raised at Windsor and sent here afterwards, as in the case of several seedling fruits. It flowers very freely, and soon makes a bush measuring 10 feet across. The other variety omitted is E. sanguinea, this is entered under E. punctata in the *Kew Hand-List*. The flowers are a very dark red, the darkest of all the Escallonias. It grows rather thinly, with long shoots, after the style of E. punctata, and is certainly one of the most desirable in the whole genus. I noticed it some years ago growing remarkably well near Waterford, Ireland; probably all the forms would do better in that warm, moist climate than they do in this country, but we can grow most of them here on warm walls. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

RED AND GRIZZLY GRAPES.—If *F. M.* would teach cultivators who are not proficient in knowledge how to grow the desirable black and white Grapes, such as Muscat of Alexandria on the one hand and Madresfield Court, Black Hamburg and Mrs. Pince on the other hand, he would render more assistance than in attempting to resuscitate such sorts as West's St. Peter's Royal Ascot, and many other sorts named by him on p. 406. With regard to flavour, Gros Colmar is not highly enriched with that quality, but this Grape is prized by invalids because it is juicy, soft in the flesh, refreshing, and, what is also of much value, it is not sweet. *E.*

GRAPE MUSCAT OF ALEXANDRIA.—This Grape has been the cause of more discussion as to nomenclature than almost all the vines in commerce, but surely the recent incident at the R.H.S. Hall was the most novel and astounding of all! The facts appear to be these. Mr. Vert entered (at a local show) two bunches of Grapes in a class for Muscat of Alexandria cut from a vine which he had grown for some time as that variety. The judges agreed that for colour and finish this exhibit was distinctly superior to any other, but deciding that the Grape was not Muscat of Alexandria, they awarded Mr. Vert the second prize. The class was distinctly confined to a particular variety. This particular exhibit was not regarded as true to name, yet they awarded it the second prize. If the Grape was true to name, it should have been disqualified and no prize awarded. One of the judges is reported to have said at the committee meeting that the berries from the bottom of the bunch were tested were of better flavour than those from the top of the same bunch. I do not think such an opinion as that will carry any weight with experienced Grape growers; it would be difficult to understand why there should be any distinction in the flavour of one part of the bunch to another, especially the bottom in preference to the top. I tasted the berries cut from the bunch in both places, and failed to detect the slightest difference. I have no hesitation in saying that the Grape is true to name. I know that soil, treatment and contact with other Grapes—that is, contact when inarched on another variety—do influence the flavour of this Muscat; especially will different culture make a slight variation in flavour. I am an adherent of the opinion so

freely expressed that there are but two varieties of white Muscat—Alexandria and Canon Hall, the latter a seedling raised from the former variety at Canon Hall, near Barnsley. The late Dr. Hogg, in his *Fruit Manual* gives no fewer than 15 synonymous names for Muscat of Alexandria. Such so-called varieties as Bowwood Muscat are simply seedlings from the original Spanish Grape, but they do not differ sufficiently to warrant separate names. *F.R.H.S.*

SOCIETIES.

ROYAL HORTICULTURAL

Scientific Committee.

DECEMBER 8.—*Present:* E. A. Bowles, M.A., F.L.S. (in the chair), Messrs. G. S. Saunders, W. C. Worsdell, W. Fawcett, J. T. Bennett-Poë, A. Worsley, J. Douglas, W. Hales, J. Odell, G. Masee, J. Fraser, and F. J. Chittenden (secretary).

Eggs of earthworm.—Mr. G. S. SAUNDERS showed some of the egg capsules of the earthworm—small, roundish or ovoid sacs of a yellowish-white colour, each containing a few fertile eggs.

Grease bands.—Mr. VOSS again showed a grease band taken from the same tree as that shown at the last meeting. A few male and female specimens of *Cheimatobia brumata* had been captured during the past fortnight.

Proliferation in Pear.—Mr. W. C. WORSDELL showed a Pear having a second Pear developed from the apex just within the calyx.

Rhizophores of Selaginella.—Mr. WORSDELL also showed specimens of *Selaginella inaequalifolia* having rhizophores developed into leafy shoots. In this species the rhizophores are dark brown, and are borne normally at the fork of the stem, one on the upper and one on the under surface. In several instances in the specimens shown the rhizophores had become changed into leafy shoots, sometimes partially, sometimes entirely. Mr. WORSDELL said this could be induced in the two branches of the forked stem are cut off just above their place of origin in their young state. In some plants of *S. Martensii* at Kew growing in a pan, those parts which were moist bore rhizophores in the normal manner, while in the upper part where the atmosphere was drier, instead of rhizophores, leafy shoots had developed.

Stamens of Orchids variable in number.—Mr. W. FAWCETT showed drawings of the Orchid *Epidendrum Ottonis* made from plants occurring wild in Jamaica. The flowers always there have three stamens, while in Trinidad five stamens are developed in the same species, and in Venezuela the structure, according to Reichenbach, is normal.

Raisins.—Mr. BENNETT-POË showed a portion of a bunch of excellent Raisins. Last year (1907) two bunches of Black Muscat of Pince had been placed in bottles in a dark cupboard. They had been forgotten, but were found in November of this year, when it was seen that each of the stems had sent out roots, which had died, owing to the subsequent drying up of the water. The Grapes had dried up and become converted into Raisins of excellent appearance and flavour.

Nerine hybrids.—Mr. WORSLEY showed inflorescences of two *Nerines* to illustrate the fact that *Nerine tardiflora* is a hybrid, having *N. flexuosa* var. *pulchella* as one of its parents. He also showed part of the scape of a *Marica*, on which numerous small plants had developed, and stated that plants raised from these buds took longer to arrive at a flowering stage than those of the same species raised from seed. In some species of *Marica*, however, there is no retardation of flowering following vegetative reproduction.

Interesting Orchids.—Mr. F. W. MOORE, of Glasnevin, sent two very interesting Orchids, *Arachnanthe Lowii* and *Angraecum caudatum*. In the former the first three or four flowers of the very long inflorescence are somewhat smaller and of a quite different colour from those of the rest, from which they are separated by a considerable length of stem. No satisfactory suggestion as to the cause of this difference was given. The

flowers of *Angraecum caudatum* are remarkable for the extraordinary length of their spurs—quite 12 inches in one of the flowers, and nearly as much in the others on the same inflorescence.

Leaf-cutting of Anthurium.—Mr. CHITTENDEN showed a specimen illustrating a method of reproduction in *Anthurium* Dechardii. Mr. Blakey, at Wisley, had inserted a leaf taken off the plant with its base intact, but without any part of the stem, in a propagating pit. Four buds had been produced on the inner surface of the basal part of the leaf, and numerous roots had developed. Two of the shoots had grown out into rhizomes 10 inches to 12 inches in length, bearing at their tips well-developed plants, and the other two shoots had grown out for a short distance.

Poinciana regia.—Mr. E. H. JENKINS sent a specimen of this plant. It was raised from seeds received from the Gold Coast, where it is known as the Pride of Barbados (it is also called Barbados Fence Flower and Peacock Flower). The seed was sown in March, 1907, and was raised by Mr. Edward Baer, The Gardens, Brentor, Surbiton. The yellow-flowered P. Gilliesii, raised from seeds by the late Rev. H. Ewbank, Ryde, took 12 years to reach the flowering stage. It is interesting to note the sensitiveness of the plant, the leaves folding in a downward direction when exposed to cold, and remaining so when placed in warmth till the stem was split at the base. When this was done the plant showed signs of reviving within an hour or so.

EVESHAM MARKET GARDENERS'.

NOVEMBER 30.—The annual meeting of the Evesham and District Market Gardeners' and Fruit Growers' Association was held at the Town Hall on the above date. The president (Mr. W. A. Fisher) was in the chair.

It had been arranged that Mr. Martin Stainforth should attend the meeting and open a discussion on the protection of fruit crops from spring frosts, with special reference to the stove he has invented for the purpose, but the Chairman said Mr. Stainforth would not be present that evening, as he had decided to give a demonstration with his stove in some of the gardens on December 17, to be followed by a meeting in the evening, when Mr. Stainforth would read a paper.

The Treasurer (Mr. E. T. Field) read his financial statement. He said the amalgamation of the Evesham Fruit Pests Committee and the Evesham Market Gardeners' Association took place in the early part of the year, and this had very much added to the funds of the association, if not to the number of members. There was a balance in hand of £48 18s. 9d. The accounts were adopted.

Mr. Fisher was re-elected as president of the association. The committee and other officials were also appointed.

Mr. White said he thought one thing the committee could do was to see that growers were not imposed upon in the purchase of spray fluids. Several gardeners sprayed last year at a loss. The Chairman: We all did. I sustained £10 loss. Mr. White said the wash was guaranteed to kill eggs, but it did not kill a single one. If gardeners were going to spray, the committee should see that they were not imposed upon. The wash was warranted to kill every egg and every insect on the tree, but it did not, and he thought the committee should do what they could to prevent this kind of thing. The Chairman said he knew a gentleman who used £40 worth of spray fluid, and he did not think it had done him £1 worth of good. He was endeavouring to get compensation.

LINNEAN SOCIETY.

DECEMBER 3.—At a meeting held on this date a paper by Mr. Bunzō Hayata, and communicated by Mr. W. Botting Hemslay, F.R.S., was briefly explained by Dr. O. Stapf, Sec.L.S. It was entitled "Note on *Juniperus taxifolia*, Hook. and Arn." This species had been described from specimens from the Bonin Islands, but had also been recorded from the province of Hupeh, China; further examination shows that the Chinese plant is specifically distinct from that occurring in the Bonin Islands.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

DECEMBER 3.—Committee present: E. Ashworth, Esq. (chairman), and Messrs. R. Ashworth, Ashton, Cowan, Cypher, Holmes, Keeling, Parker, Shill, Sander, Thorp, Ward, Warburton, and Weathers (hon. sec.)

Although cold and foggy weather prevailed, there was an excellent display of plants, no fewer than 16 groups being staged.

Messrs. HEATH & SONS, Cheltenham, were awarded a Bronze Medal for a group of *Cypripediums*, consisting principally of good forms of *C. insigne*.

Mr. C. PARKER, Ashton-on-Ribble, was awarded a Silver Medal for a collection of *Cypripediums*, amongst which were *C. insigne* var. *Luciani*, *C. insigne* *Harefield* Hall var., and *C. x Milo* var. *Westonia*.

Z. A. WARD, Esq., Northenden (gr. Mr. Weatherly), staged a splendid group of *Odontoglossums*, including a number of hybrids of exceptional beauty. (Silver-gilt Medal.)

Mr. W. OWEN, Northwich, was awarded a Bronze Medal for a group of *Cypripediums*.

A. WARBURTON, Esq., Haslingden (gr. Mr. Dalgleish), staged a group of choice *Cypripediums*. *Cypripedium x Dorman-Hart*, a hybrid between *C. insigne* var. *Dorman* x *C. insigne*, *Harefield* Hall var., gained an Award of Merit. *C. x Floradora* and *C. x Ossultonii* var. *Grace Osborne* received similar awards. *C. x Lceanum* var. *Lavertonianum* received a First-class Certificate.

Messrs. CYPER & SONS, Cheltenham, were awarded a Silver-gilt Medal for a well-grown and beautifully-arranged group of miscellaneous plants, consisting principally of *Cypripediums*.

H. CRAVEN, Esq., Keighley (gr. Mr. Corney), exhibited a small collection of choice plants.

J. McCARTNEY, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a group of *Cattleyas* and *Lælio-Cattleyas*.

E. ROGERSON, Esq., Didsbury (gr. Mr. Price), obtained Awards of Merit for *Odontoglossum crispum* var. *Lord Lansdowne*, *O. c.* var. *Arkwicken*, and *Cypripedium x Actæus* var. *Sagaree*.

Mr. H. ROBSON, Altrincham, exhibited *Cypripedium x Parkerianum* and *C. x Minos* var. *Youngii*.

Mr. A. J. KEELING, Westgate Hill, Bradford, was awarded a Silver Medal for a display of plants, in which were some interesting botanical specimens. An unnamed species of *Catasetum* was awarded a Certificate.

H. J. BROMLOW, Esq. (gr. Mr. Morgan), was awarded a Silver Medal for a group of *Cypripediums* of good quality.

Messrs. MOORE & CO., Bradford, staged a good group of plants (various), for which a Silver Medal was awarded.

Mr. J. STOTT, Radcliffe, and Mr. W. SHACKLETON, Bradford, were awarded Bronze Medals for exhibits of *Cypripediums*. P. IV.

NATIONAL ROSE.

(ANNUAL MEETING.)

DECEMBER 10.—The annual general meeting of the above Society was held on this date at the Westminster Palace Hotel, when a large number of the members assembled under the chairmanship of the retiring president, E. B. Lindsell, Esq., who was supported by Sir Alfred Tate, the Rev. Page-Roberts (president-elect), and many other prominent rosarians.

After the formal business of reading the notice convening the present meeting and the minutes of the last annual general meeting had been disposed of, and Messrs. John Green and H. R. Darlington nominated as scrutineers of the ballot, the President called upon the hon. secretary, Mr. Edward Mawley, V.M.H., to read the annual report, from which we extract the following:—

EXTRACTS FROM ANNUAL REPORT.

The report is the most favourable that has yet been placed before the members, and more particularly as regards the increase in membership. In 1901 the number of members for the first time reached one thousand, in 1906, three years later, two thousand, and now, two years later, they have to record a membership of over three thousand.

The Metropolitan Show was noteworthy as being the largest which the Society has yet held, 8,500 blooms of "exhibition" Roses being staged, in addition to the

numerous stands of decorative Roses and other interesting exhibits.

The Provincial Show was held at the White City, Manchester, on the site of the Gardens of the Royal Botanical and Horticultural Society at Old Trafford. This exhibition was of less than average extent, but the quality of the blooms was good, and they retained their freshness very much better than at the Metropolitan Show, which unfortunately was held on a wet day, proved to be the hottest day of the whole year.

The Autumn Show was not quite so large as that of the year, but the general quality of the blooms was surprisingly good, considering the trying character of the season. Now that this exhibition is becoming regular, it is hoped it will be attended by the members in largely increasing numbers.

The twelve Five Guinea Silver Cups, so generously presented last year to the Society by Mr. W. E. Nickerson, of Cambridge, Massachusetts, U.S.A., for the raisers of respectively the best white, the best pink, the best crimson, and the best yellow dwarf and climbing Roses for general culture—those which came out first in the ballot instituted by the committee—have been duly awarded. Also, as far as possible, the twenty-four handsome diplomas, likewise the gift of Mr. Nickerson, for the raisers of the Roses which obtained the second and third positions in the ballot. The official report of the ballot will appear in the "Rose Annual" for 1909.

The Society's new handbook, entitled "The Enemies of the Rose," is of interest as being the first publication issued by this Society since its re-formation. It is with much regret the committee have to announce that Mr. H. E. Molyneux has found himself reluctantly compelled to resign the trusteeship, a position which he has so ably filled for the last four years.

During the past year seven rose and other horticultural societies affiliated, bringing up the total number of societies in affiliation with the National Rose Society to 59.

The amount received in gate-money from the general public for the Society's Exhibition in the Royal Botanic Gardens was somewhat larger than in any year since the exhibition has been held in those gardens. The receipts from all sources during the past year, including a balance from the previous year of £391 9s. 4d., amounted to £2,666 9s. 9d., and the expenditure to £2,235 7s. 7d., leaving a balance at the close of the year of £431 2s. 2d. The reserve fund now stands at £450.

During the past year 795 new members joined the Society, or 200 more than in any previous year. Allowing for the losses by death and resignation, the total number of members is now 3,350. Taking the year as a whole, the new members have, on an average, been added to the list of membership.

INCREASE IN MEMBERSHIP SINCE 1903.

	1903.	1904.	1905.	1906.	1907.	1908.
Number of members...	1,904	1,368	1,637	2,034	2,484	3,150
Net increase since previous year ...	—	114	304	359	397	450

The arrangements for 1909 include the Metropolitan Exhibition, which will again be held in the Royal Botanic Gardens, Regent's Park, the date fixed for the Exhibition being Friday, June 2nd.

The Provincial Show will take place at Luton, in conjunction with the Luton Sweet Pea and Rose Society's Exhibition in July.

Arrangements have again been made with the Royal Horticultural Society to hold the Autumn Show in the Royal Horticultural Hall, Vincent Square, Westminster, on Thursday, September 10th. In February next year members will receive a new and enlarged edition of the "Handbook on Pruning Roses." This has been thoroughly revised and will contain several new features and also directions for pruning about 200 more varieties than were included in the previous edition. At the same time will be issued the Society's "Rose Annual for 1909," containing many articles and illustrations of interest to all classes of rosarians.

In the course of his financial statement the treasurer stated that at the present rate of progress the subscriptions alone would next year exceed £2,000.

The President moved the adoption of the report and a balance-sheet. All interested were glad to hear of the continued prosperity of the National Rose Society, but this increase of membership meant increase of work for the officers and the committee, and he was sure that every member of the Society would regret the retirement of the hon. treasurer, Mr. H. E. Molyneux, after holding office for four years.

Mr. C. E. Shea, in seconding the adoption of the report, stated that, although the Society is growing rapidly, the management must not cease to be careful or to relax its efforts to extend its influence on all possible occasions. The work of the officers was now very great, and, as might be observed in the suggested alterations of the by-laws, a Finance Committee is being formed.

The hon. treasurer was optimistic in his anticipated income from subscriptions next year, but he (Mr. Shea) preferred to deal only with the actual position as it stood to-day. Mr. Molyneux, in reply, stated that his forecast, instead of being imaginary, was a real one, as there are at the present time 3,150 members,

whose subscriptions alone would exceed the sum of £2,000 he had mentioned. The Rev. J. H. Pemberton wished to know why the place of meeting had been changed from the Hotel Windsor, which had come to be regarded as the social centre of horticulture, and he moved: "That it be an instruction to the committee to arrange to again hold the annual dinner and meetings at the Hotel Windsor as early as possible." After debate, the motion was put and lost. The meetings will, therefore, be held at the Westminster Palace Hotel. Mr. G. W. Cook, one of the Society's auditors, called the attention of the meeting to the necessity of appointing a chartered accountant to audit the accounts annually. The suggestion was agreed to by the General Committee, and the opinion of the meeting was in support of the proposal.

Mr. A. W. Butler called attention to the catering at the Metropolitan Show, held at the Botanic Gardens, and stated that the provision made was inadequate. The President said there was generally a difficulty in regard to the catering; it might, in fact, be termed a "hardy annual." A long discussion on the subject ensued, and it was eventually decided to write to the caterer and express strong disapproval of the manner in which the catering was carried out.

The report was then put to the meeting and adopted.

The President stated that it was considered some recognition should be given to the vast amount of work done for the Society by Mr. Edward Mawley.

The sub-committee appointed to consider the question suggested that the sum of £100 be presented to Mr. Mawley, and this the meeting cordially agreed to.

Mr. Mawley, who was loudly applauded on rising, tendered his warmest thanks to the meeting for their generous and thoughtful gift.

The proposed alterations of Rules 5 and 10 (see p. 402 in the issue for December 5) were next adopted with unimportant alterations.

Mr. G. W. Cook was nominated to fill the post of hon. treasurer rendered vacant through the retirement of Mr. Molyneux, who was warmly thanked for his services. Mr. Edward Mawley hon. secretary, and the committee and other officers were also appointed. The Rev. F. Page-Roberts was elected president.

ANNUAL DINNER.

The thirty-second annual dinner was held on the same evening as the annual general meeting and in the same building. The president, the Rev. F. Page-Roberts, occupied the chair, and he was supported by Sir Daniel Morris, K.C.M.G., V.M.H., Sir George Watt, C.I.E., Sir A. A. Tate, M.S., W. J. Grant, O. G. Orpen, John Green, George Paul, H. R. Darlington, and others.

Sir Daniel Morris, in reply to the toast of "Our Guests," congratulated the Society on its progress. He referred to the excellent manner in which many of our Roses thrive in the West Indies.

Mr. R. F. Felton decorated the tables, and a musical programme added much to the pleasure of the evening.

BIRMINGHAM & MIDLAND COUNTIES CHRYSANTHEMUM, FRUIT, AND FLORICULTURAL.

DECEMBER 10.—The members of this society assembled at the annual dinner on this date under the chairmanship of Mr. W. Jones. In proposing the toast of "The Society and Officers," Mr. W. H. Dyer remarked that the society was now one of the largest, if not the largest, of the societies of its kind in England, and its exhibitions were of an all-round excellence. It was a matter for regret that their receipts this year were not so good as they could wish them to be. This placed the committee in a rather serious position.

Mr. T. Humphreys, the treasurer of this society, responded. The society was started 45 years ago, with the object of improving the cultivation of the Chrysanthemum, and popularising truly honest practices in showing. That their efforts had been successful was beyond question. But out of Birmingham's population they had fewer than 350 subscribers, and their total subscriptions amounted to

something like £112. That amount was sufficient only to pay for the lighting and use of Bingley Hall, whilst the exhibitions cost the society from £750 to £900. This year a sum of £387 was received at the gates, which was £52 less than last year. They must get more annual subscribers, and be more independent of the gate money, which was always more or less influenced by bad trade and the weather. The committee had economised as much as possible, and would continue that policy, but not at the expense of anything necessary to the well-being of the society.

Acting on the suggestion made during the evening that a reserve fund should be formed, the following gentlemen guaranteed £5 each: Messrs. Yates & Son, W. Jones, J. Goodacre, I. Humphreys, J. Randall, A. Noakes, and W. I. Dyer.

NATIONAL SWEET PEAS. (ANNUAL MEETING.)

DECEMBER 11.—The annual meeting of the members on this date was the largest since the formation of the Society, there being about 60 persons present. The president, Mr. W. Cuthbertson, occupied the chair. Mr. W. Cuthbertson announced the receipt of several letters, including one from a member expressing dissatisfaction with the conduct of the Society's trials at Reading, and other matters. It was agreed that no notice be taken of the communication beyond a formal acknowledgment of its receipt by the secretary. Several of the members testified to the very impartial and efficient conduct of the trials by Mr. Foster. The report and balance-sheet were next submitted, and of these we extract the following:—

EXTRACTS FROM THE ANNUAL REPORT.

"The London exhibition on July 24 was the prettiest yet held by the Society. The flowers were of good quality, the competition was keen. The attendance was good, and £20 was taken at the doors. The Dublin show was a great success so far as the flowers and competition were concerned, and Mr. F. W. Moore, Mr. Knowlton, Mr. Biggs, and other friends did all in their power to make the function a financial success; but the committee regrets to learn that the Royal Horticultural Society of Ireland experienced a considerable loss on the undertaking, notwithstanding the double attraction of their own and the Sweet Pea classes.

"The trials of Sweet Peas conducted by Mr. Chas. Foster in the gardens of the University College, Reading, proved very interesting and instructive. In future the committee proposes to receive new varieties only from the raiser or introducer for the purpose of these trials, but it is arranged that a further set of trials will be held at Reading next year, under the committee's direction, for the sole purpose of testing the correctness and purity of stocks of Sweet Peas that may be sent by seedsmen.

"One of the most pleasing events of the year was the presentation of some substantial tokens of recognition of their valued services to our worthy hon. secretary and his wife at the dinner following the great annual show.

"The annual meeting of 1907, allowing for losses by death and other causes, and including 17 new members who had joined for 1908, there were 602 members. Since then no fewer than 279 new members have joined the society, 22 of these joining for 1909. There have been numerous losses through death and removals, and a rather larger number have lapsed through non-payment of subscription. At present there are 779 members, and 51 societies in affiliation.

"Although the return from the sale of *Annals* was rather less in 1908 than in 1907, it must be remembered that new members and new societies in affiliation took well over 300 copies, and in scores of instances the *Annals* has been the direct means of securing new members.

"The London exhibition has been fixed for Friday, July 29, at the Royal Horticultural Hall, Westminster, and the committee regrets that it is likely impossible to obtain the hall for a rather earlier date. On July 13 the provincial show will be held at Saltaire, Yorks., in connection with the enterprising and successful Saltaire Rose and Horticultural Society."

The balance-sheet showed a total income of £573 14s. 6d., including £363 8s. 7d. subscriptions for 1908. The expenditure was £559 10s. 6d., leaving a balance in hand of £14 6s. 11d., but £11 1s. 2d. being due for outstanding cheques, there remained a final balance of £3 8s. 11d.

The president moved the adoption of the report, which was a record of good work and good results. The chief interest of the Society centres in the Floral Committee, for with them rests the future of the Sweet Pea, in selecting what varieties and types are placed before the public. The report needed a little amending, for it stated that the testimonial to the hon. secretary was £60, but since the report was printed he had received a further sum of £10 5s. 6d. from Mr. Sherwood, and he had pleasure in handing the cheque to Mr. Curtis. Mr. Alex. Dean, who seconded the adoption of the report, stated that the Society

was a wonderful one in its rate of progress, and he anticipated a membership next year of one thousand. He eulogised the hon. secretary, and referred to the vast amount of work the Society entailed. The conduct of the Reading trials was all that could be desired, and he was certain that any variety sent to Mr. Foster for trial would receive impartial and fair treatment. The adoption of the report was carried without dissent.

Votes of thanks were next proposed to the president and other officers, also to Mr. Foster for his trouble in conducting the Society's trials and other work.

Mr. Cuthbertson, the retiring president, proposed that Sir Randolph Baker, Bart., Blandford, be elected president for 1909. This was carried unanimously. Mr. Horace J. Wright was elected Chairman of Committee. The hon. secretary, Mr. C. H. Curtis, was re-elected with acclamation, and he was presented with an honorarium of 25 guineas for his past year's services. The election of the General Committee was next proceeded with. The chairman announced, in connection with this business, that the Executive Committee think it desirable "that any member who had not attended a committee meeting during the year should be ineligible to serve another year." After much discussion, it was decided that the committee's recommendation be withdrawn until another year. Some members who were unable to attend the meetings of the committee owing to living at a distance, were rendering good service to the Society in their immediate districts, and it was thought desirable to retain their names on the list of committeemen. The committee was therefore re-elected *en bloc*, with the addition of those following: Messrs. H. G. Bartlett, W. J. Stevens, W. Lumley, E. H. Christy, R. F. Felton, Wm. Deal, H. C. Till, H. D. Tigwell, W. Cuthbertson, H. Shane, and Silas Cole.

The alteration of Rule 8, to the effect that subscriptions become due on the 1st of January in each year instead of February, was adopted.

ROYAL SCOTTISH ARBORICULTURAL. (ABERDEEN BRANCH.)

DECEMBER 12.—The annual general meeting of the Aberdeen branch of this society was held in the Aberdeen University Buildings on this date. Mr. Sidney J. Gammell occupied the chair, and there was a large attendance of the members. Mr. Robert Scott, hon. secretary of the society, submitted his annual report, which showed that interest in the society's work was well sustained, that the membership had been considerably increased, and that financially the balance was greater than that of last year. The report was unanimously adopted. Office bearers for the ensuing year were elected, Mr. Gammell retaining the presidency. The committee were also elected, Mr. Irvine, of Drum, and Mr. J. Maxtone, forester to the Duke of Fife, being appointed in place of deceased members.

Mr. Robson, Aberdeen, submitted a recommendation from the committee that instruction should be given in forestry, and that steps be taken to this end. The motion was approved. Mr. Dawson, lecturer in forestry in the Aberdeen and North of Scotland College of Agriculture, expressing his great pleasure at the desire of the branch to give co-operation in this work, and stating that he was arranging a course of lectures on forestry to commence shortly after the New Year holidays.

At this stage, Mr. Gammell left the chair to read a paper entitled "An estimate of the possible cubic production of average woodland from portions of Aberdeenshire and Kincardineshire." The lecturer stated that the methods of measurement in this country differed considerably from those in use on the Continent, and it was highly desirable that a standard should be fixed and adhered to. His plan had been to take a portion of a wood where the crop seemed heaviest, measure the area of a square chain, count the stems, take the average cubic contents, and from that deduce what might have been grown on the acre. He had found that the annual yield of Larch was 48 cubic feet per imperial acre, and that at 16d. per cubic foot (which was not an excessive price for good, clean Larch) would realise £2. With the Scots Fir at 6d. per cubic foot, they would get an annual return for

the 59 cubic feet per imperial acre of £1 9s. 6d. For Spruce, at 8d. cubic feet per imperial acre, the price at 4d. per cubic foot would be £1 8s. Those, of course, were gross returns, but they seemed to him to indicate that, making a full allowance for costs of formation, management and rent of ground, the returns were sufficient to leave a substantial margin of profit to the grower.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

DECEMBER 14.—The monthly committee meeting of this society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on this date, Mr. Chas. H. Curtis in the chair. Four new members were elected, making a total of 75 for the year. The death of a member who joined the society four years ago was reported. Although only £5 has been paid by him to the Benefit Fund, he has received £31 sick pay, and the balance to be received by his nominee is £2 6s. 1d. The committee are using their influence in endeavouring to elect two children of deceased members on the Royal Gardeners' Orphan Fund. Any votes sent to the secretary, Mr. W. Collins, 9, Martindale Road, Balham, will be utilised on their behalf.

NATIONAL DAHLIA SOCIETY AND LONDON DAHLIA UNION.

DECEMBER 15.—The annual meeting of these societies took place on Tuesday last. The proposed amalgamation was adopted, and Mr. H. H. Thomas and Mr. E. Hawes, the respective secretaries, were appointed joint secretaries of the combination. We are compelled to hold over a report of the proceedings until our next issue.

Obituary.

LORD ANSLEY.—We regret to announce the death of Earl of Annesley, on the 15th inst., at Castlewella, his Irish seat, at the age of 77 years. Castlewella is situated in County Down, and the local climate being favourable to the growth of half-hardy trees and shrubs, Lord Annesley has for many years past taken the greatest interest in their culture, his collection of exotic species being amongst the most celebrated in these islands. Our readers have been indebted to his late lordship for many notes and photographs, published in these pages, of interesting plants at Castlewella, and we have at present an unpublished note on *Vilidenovia teres*, otherwise known as *Restio subverticillatus*. This South African species has proved hardy at Castlewella, and it is described as worthy of cultivation on account of its distinct habit of growth. It will be remembered that in 1903 Lord Annesley published an exceedingly interesting book, *Beautiful and Rare Trees and Shrubs*, which was illustrated with 70 reproductions of photographs taken by himself.

JAMES WHEELANS.—Mr. James Wheelans, formerly for 17 years gardener at Hassendenbank, Hawick, died suddenly at Oxford while in the service of Miss Jessie Watson. The funeral took place on Friday, November 27, at Hawick. Mr. Wheelans leaves a widow and grown-up family, three of his sons being resident in Hawick. The late Mr. Wheelans only removed to Oxford from Hawick in May last, when he was presented with a gold watch, together with a marble timepiece for Mrs. Wheelans, as parting gifts. The presentation was made, in the name of the subscribers, by Mr. Forbes, of the Royal Nurseries, who paid a high tribute to the many excellent qualities of the recipients.

TRADE NOTICE.

MR. JOHN R. BOX, Croydon, has retired from the West Wickham Nurseries, and will continue to carry on business under his own name at the East Surrey Seed Warehouse, Croydon. Mr. Box has also undertaken a partnership in the firm of William Knight, of the Floral Nurseries, Balham, with Mr. Albert Hillman. Mr. Henry Hillman has retired.

MARKETS.

Fruit: Average Wholesale Prices.

Potatoes.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week ending on the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and may vary materially, not only from day to day, but also occasionally several times in one day.—E.D.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d.	s.d.
Acacia (Mimosas),	10-12-0	
p.d. bunches	4-0-5-0	
Azalea, p.d. bchs.	6-0-8-0	
Bouvardia, per doz.	3-0-5-0	
" bunches	1-0-2-0	
Calla althipha, per	2-6-3-6	
dozen	1-0-2-0	
Camellias, per doz.	8-0-10-0	
Carnations, per	10-12-0	
dozen blooms,	1-0-2-0	
best American	9-0-12-0	
various	1-0-2-0	
second size, per	1-0-2-0	
smaller, per	1-0-2-0	
bunches	1-0-2-0	
Cattleyas, per doz.	1-0-2-0	
blooms	1-0-2-0	
Chrysanthemums,	1-0-2-0	
per doz. blooms	1-0-2-0	
specimens	1-0-2-0	
blooms p.d. doz.	1-0-2-0	
smaller, per	1-0-2-0	
doz. bunches	1-0-2-0	
Cynipidiums, per	1-0-2-0	
dozen blooms,	1-0-2-0	
Eucalyptus grandis	1-0-2-0	
dora, per doz.	1-0-2-0	
blooms	1-0-2-0	
Gardenias, per doz.	1-0-2-0	
blooms	1-0-2-0	
Hyacinths (Roman)	1-0-2-0	
doz. bunches	1-0-2-0	
Lilac (French) per	1-0-2-0	
bunch	1-0-2-0	
Laurel, p.d. doz.	1-0-2-0	
Lilium auratum,	1-0-2-0	
per bunch	1-0-2-0	
Longiflorum	1-0-2-0	
" latifolium,	1-0-2-0	
rubrum	1-0-2-0	
album	1-0-2-0	
Lily of the Valley,	1-0-2-0	
p.d. bunches	1-0-2-0	
extra quality	1-0-2-0	

Cut Foliage, &c.: Average Wholesale Prices.

	s.d.	s.d.
Adiantum emmaum,	10-12-0	
doz. bchs.	4-0-6-0	
Asparagus plumosus,	10-12-0	
long trails,	8-0-12-0	
medium,	1-0-2-0	
bunch	9-0-12-0	
Sprengerii	9-0-12-0	
Uelberis, per doz.	2-6-3-6	
bunches	1-0-2-0	
Crocus leaves, per	1-0-2-0	
bunch	1-0-2-0	
Cycas leaves, each	1-0-2-0	
Ferns, per doz.	1-0-2-0	
bunches (Engl.)	1-0-2-0	
" (French)	1-0-2-0	
Holly, per crate	4-0-6-0	

Plants in Pots, &c.: Average Wholesale Prices.

	s.d.	s.d.
Annelopsis Veitchii,	10-12-0	
per dozen	8-0-12-0	
Arabis Sieboldii,	10-12-0	
dozen	4-0-6-0	
larger speci-	9-0-12-0	
mens	4-0-6-0	
Moseri	10-12-0	
Araucaria excelsa,	10-12-0	
per dozen	12-0-30-0	
Aspidistra, p.d.	10-12-0	
green	15-0-24-0	
variegated	30-0-42-0	
Asparagus plumosus	10-12-0	
nansus, per	12-0-30-0	
dozen	6-0-12-0	
Sprengerii	9-0-12-0	
tennisium	9-0-12-0	
Azalea (Indian),	30-0-42-0	
Begonia Gloire de	12-0-30-0	
Lorraine, per	12-0-30-0	
dozen	6-0-12-0	
Bouvardia, per	12-0-30-0	
dozen	6-0-12-0	
Chrysanthemum	10-12-0	
per dozen, best	10-12-0	
disbudded	10-12-0	
Clematis, per doz.	10-12-0	
Crocus Weddellii,	10-12-0	
per dozen	10-12-0	
Crocus, per dozen	10-12-0	
Cyclamen, per doz.	10-12-0	
Cyperus alternifolius	10-12-0	
dozen	4-0-5-0	
Cyperus laxus, per	4-0-5-0	
dozen	4-0-5-0	
Draconis, per doz.	4-0-5-0	
Erica hyemalis, per	12-0-30-0	
dozen	12-0-30-0	
glaucis nivalis,	15-0-18-0	
per dozen	15-0-18-0	

	s.d.	s.d.
Apples, Foreign		
California		
Newtown	10-12-0	
Pippin, per case, 4	6-0-8-0	
tiers	6-0-8-0	
45 tiers	6-0-8-0	
New York		
Newtown, per	20-0-25-0	
barrel	14-0-16-0	
(New Zealand)	13-0-17-0	
Spys	10-12-0	
King of Tompkins	10-12-0	
County	10-12-0	
Blenheim Pippin	14-0-18-0	
York Imperial	18-0-20-0	
Baldwin	13-0-15-0	
English, per	10-12-0	
bushel	10-12-0	
Blenheim Pippin	3-0-4-6	
Narcissus, Paper-	2-6-4-0	
white, per doz.	3-0-4-6	
bunches	3-0-4-6	
Claria	3-0-4-6	
Soleil d'Or	3-0-4-6	
Odontoglossum	3-0-4-6	
various	3-0-4-6	
second size, per	3-0-4-6	
smaller, per	3-0-4-6	
bunches	3-0-4-6	
Cattleyas, per doz.	3-0-4-6	
blooms	3-0-4-6	
Chrysanthemums,	3-0-4-6	
per doz. blooms	3-0-4-6	
specimens	3-0-4-6	
blooms p.d. doz.	3-0-4-6	
smaller, per	3-0-4-6	
doz. bunches	3-0-4-6	
Cynipidiums, per	3-0-4-6	
dozen blooms,	3-0-4-6	
Eucalyptus grandis	3-0-4-6	
dora, per doz.	3-0-4-6	
blooms	3-0-4-6	
Gardenias, per doz.	3-0-4-6	
blooms	3-0-4-6	
Hyacinths (Roman)	3-0-4-6	
doz. bunches	3-0-4-6	
Lilac (French) per	3-0-4-6	
bunch	3-0-4-6	
Laurel, p.d. doz.	3-0-4-6	
Lilium auratum,	3-0-4-6	
per bunch	3-0-4-6	
Longiflorum	3-0-4-6	
" latifolium,	3-0-4-6	
rubrum	3-0-4-6	
album	3-0-4-6	
Lily of the Valley,	3-0-4-6	
p.d. bunches	3-0-4-6	
extra quality	3-0-4-6	

Vegetables: Average Wholesale Prices.

	s.d.	s.d.
Artichokes (Globe),	10-12-0	
per dozen	10-12-0	
white, p. bushel	10-12-0	
Asparagus, per	10-12-0	
bunch	10-12-0	
bundle:	10-12-0	
short green,	10-12-0	
per doz. bunches	10-12-0	
Mistletoe, per doz.	10-12-0	
Myrtle, doz. bchs.	10-12-0	
small-leaved,	10-12-0	
French	10-12-0	
Suit, per dozen	10-12-0	
trunk	10-12-0	

REMARKS.—Nova Scotia and Canadian Apples are in good demand, but arrivals are comparatively small. Large consignments of Pines are on sale this week, and, as usual at this period of the year, they are selling readily and making high prices. Trade in Oranges remains good and with little alteration in prices, except that Jamaican produce is slightly cheaper on account of increased quantities. English Grapes are plentiful and are a good trade. English Tomatoes are practically finished, but foreign-grown Tomatoes are arriving in an export quantity and are selling freely. The vegetable trade all round is very quiet. Holly and Mistletoe are in large quantities; the latter is of good quality, but the Holly is mostly without berries, consequently there is a poor trade in this evergreen with the exception of the berried branches which are making high prices. The fruit trade generally is quiet, but a good market is expected at the latter end of this week and the beginning of Christmas week. Fruits and vegetables in general are plentiful. E. H. R., Covent Garden, 11, Wednesday, December 16, 1908.

	s.d.	s.d.
Kents	10-12-0	
Snowdrop	10-12-0	
Sharpe's Express	10-12-0	
Epure	10-12-0	
Up-to-Date	10-12-0	
Lincolns	10-12-0	
British Queen	10-12-0	
Up-to-Date	10-12-0	
Maincrop	10-12-0	
Shirley's Express	10-12-0	

COVENT GARDEN FLOWER MARKET.

Although the supplies are abundant the salesmen always endeavour to raise the prices of flowers at Christmas time. Lily of the Valley, for example, was offered in the streets after the close of the market this morning at a very low price, and certainly much cheaper than a regular buyer could obtain it early in the morning. When supplies are in excess of demand the surplus flowers are kept in a close place to keep them, but they deteriorate very quickly when exposed again. Last week I bought inflorescences of Euphorbia (Poinsettia) pulcherrima and they did not last two days, yet when I have cut them in the nursery they have kept well for a fortnight.

Chrysanthemums are still remarkably good and plentiful, and the best quality are making good prices; but there is much difference in the quality and size of these plants. Taking those of medium quality, at prices given in the list above, the market is very quiet. Marguerites are well about the average, but some specimens are worth 30s. per dozen. Euphorbia (Poinsettia) has been selling very well. Azalea indica, in several colours, are very good. Erics are making rather better prices. Marguerites are well flowered. Lily of the Valley, in pots and in boxes, is of the best quality. Lilium longiflorum is also good. Plants of Spiraea are well flowered. Ferns in all sizes are plentiful, but they do not sell readily. Palms are making rather better prices. Aralias, Ficus, Aspidistras and other foliage plants are in excess of all demands.

CUT FLOWERS.

It is difficult to say what the supplies for Christmas may be, but if the weather continues to cut blooms will be abundant. Chrysanthemums are later than usual and the supplies are not likely to be short for some weeks to come. Lincolns are a little uncertain, but from what I have seen at the nurseries I think supplies will be equal to all demands. Carnations may advance in price a little, but unless the weather is very dull supplies will not be short. Roses are more uncertain, for those intended for the Christmas trade developed earlier. Callas, Tulips, in all colours, Narcissus from English growers, and Violets are all plentiful. Farnia Violets have been cheaper this week than the usual. A. F. V., Covent Garden, Wednesday, December 16, 1908.

GARDENING APPOINTMENTS.

[Correspondents are requested to write the names of persons and places as legibly as possible. No charge is made for their advertisement, but the names of contributors is sent, to be placed in our collecting box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]

Mr. HUGH JONES, late Gardener to A. EARLE HUNT, Esq., Treasury Lodge, as Gardener to Thomas Moore, Esq., Billingham, Co. Durham, is about to leave.

Mr. C. HARVEY, for the past 16 months Gardener to D. A. BEVAN, Esq., Burles, Royston, Herts, as Gardener to H. G. FELDEN, Esq., Cokerhoe Park, Witney, Oxon. (Thanks for 2s. per R.G.O.F. box.)

Mr. GEORGE CONLEY, for the past 11 years and 8 months as Gardener to A. Cox, Esq., Mill Hill, Derby, as Gardener to the same gentleman at Spondon Hall, near Derby.

Mr. F. A. EDWARDS, for over 12 months Gardener to the late Lady LICHFIELD, Arlington Court, Barnstable, as Gardener to Miss CHICHESTER at the same place.

Mr. A. ARCHER, for the past 4 years Foreman at Mandydown Park, Basingstoke, Hants, as Gardener to Mrs. DAVIS, Smeaton Manor, Northallerton, Yorkshire.

Mr. W. SKEET, for the past 43 years Gardener to RICHARD BAKER, Esq., The Hollies, Baxted, Sussex, as Gardener to F. MOSLEY LONGER, Esq., Cressinghall Park, Reading. (Thanks for 2s. per R.G.O.F. box.)

Mr. P. G. WASHFORTH, for nearly 3 years Gardener to the late HENRY ADAMS, Esq., Cannon Hill, Braywick, Maidenhead, Enfield, as Gardener to A. DODD, Esq., Eglington Hall, Derby. (Thanks for 1s. per R.G.O.F. box.)

Mr. W. WILLIAMS, for the past 2 years in the Garden, at the Bourneville Village Trust, Birmingham.

Mr. THOS. PARRY, for the past 3 years and 9 months Gardener to A. HUGHES, Esq., Packwood Grange, Knowle, near Birmingham, as Gardener to T. S. CHAPPEL, Esq., Bellebourn Hall, near Warwick.

Mr. J. W. LEVINE, for 2 years Assistant Instructor at Swanley College, and previously at Falkland Park and Lathom Gardens, as Gardener to Lord DELLES, Setton Park, Slough.



GROUP OF TROPICAL FRUITS FROM CEYLON.

1. *ARTOCARPUS INCISA* (BREAD FRUIT); 2. *CARICA PAPAYA* (PAPAW); 3. *MYRISTICA FRAGRANS* (NUTMEG); 4. *PASSIFLORA QUADRANGULARIS* (GRANADILLA); 5. *MANGIFERA INDICA* (MANGO).



THE Gardeners' Chronicle

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TROPICAL FRUITS IN COVENT GARDEN.

ACCORDING to a leading fruit salesman in Covent Garden, "the demand for rare tropical fruits is increasing." Not many years ago the Banana, for instance, was a rare fruit in England. To-day the fruits are within the reach of all classes, being retailed in every greengrocer's shop, as well as in the costermonger's barrow. Moreover, Bananas are now imported not only in the fresh, but also in the preserved state, as well as in the form of flour. The imports of this fruit in the fresh state have in a few years increased by millions of bunches; at certain seasons special express trains are provided for the speedy and safe conveyance to London of West Indian Bananas arriving at Bristol. A similar story could be told of Pineapples, which are now becoming a popular fruit in England, being imported from the Canary Islands, Straits Settlements, West Indies, and Natal. The culture of Pineapples in English hot-houses is no longer necessary, although it affords an interesting pursuit to those who can afford it as a luxury.

The principal hindrance to the increased importation of tropical fruits lies in the fact that they decay so readily after reaching a certain stage of ripeness. This difficulty is, however, being overcome to some extent by means of effective cold storage on board

ship, and by rapid sea transit. It is to these circumstances that we chiefly owe such recent introductions from tropical climes as the Mango (*Mangifera indica*), Avocado-pear (*Persea gratissima*), Grape-fruit, Cherimoyer (called Custard Apple in Covent Garden), and Passion fruit (*Passiflora*). So far, the demand for these "fancy fruits," as they are called in the trade, is limited, and the prices charged for them are high. As the fruits, however, become better known and the means of transport more perfect, it is reasonable to suppose that they will become popular, and with a greater demand they could be sold at lower prices. It is often said that the chief recommendation of most tropical fruits lies in their novelty. Although this may be admitted in some cases, there are striking exceptions. It is true that the taste for certain tropical fruits has to be acquired, but in the case of the Tomato, an acquired taste has been followed by the immense popularity of this fruit. It has been said by travellers that the three most delicious fruits in the world are the Pineapple, Cherimoyer, and Mangosteen (*Garcinia Mangostana*). The Mangosteen is as yet practically unknown in Europe, but its good qualities may be judged from the opinion of Dr. Abel, who said that "of eastern fruits the celebrated Mangosteen is first in beauty and flavour." Another authority declared that "the flavour of the Mangosteen partakes of the combined taste of the Pineapple and Peach, and other equally good but inexpressible qualities." A peculiarity of this fruit is that a large number may be eaten at once. Therefore one can understand why these are always charged for as extras on hotel menus in Ceylon.

Covent Garden, the great horticultural market of England, affords a special opportunity of forming an acquaintance with tropical fruits which are seldom seen elsewhere in this country. Rare tropical nuts and fruits may also be seen and tasted at Shearn's Fruitarian Restaurant in Tottenham Court Road, where numerous dainty dishes are made entirely of fruits.

The following sorts have recently been noted in Covent Garden, and it may be of interest to give a few of the particulars concerning these, as well as descriptive notes from my own experience in the tropics:—

MANGO (*Mangifera indica*) (see Supplementary Illustration).—This is a medium-sized or large tree; the fruit varies from the size of a plum to that of a large goose's egg; very juicy and often of a delicious flavour; it is very popular in the Eastern tropics for dessert and for making chutneys. The fruits seen in Covent Garden are usually brought from the Canary Islands, and they are small. They are sold wholesale at from 4s. to 6s. per dozen, good specimens being retailed occasionally at 2s. to 3s. each.

AVOCADO-PEAR (*Persea gratissima*) (see fig. 177).—A small evergreen tree, having fruits similar to large green Pears, sometimes streaked with red. It is a salad fruit rather than dessert; the pulp is of the consistency of firm butter, and is scooped out with a spoon, being flavoured with vinegar, pepper, and salt. This fruit has recently become popular in America. It is regularly imported to London from the Canary Islands, and finds ready

buyers in Covent Garden at 4s. to 6s. a dozen, but good fruits are sometimes retailed at the price of 2s. to 2s. 6d. each.

GRAPE-FRUIT (*Citrus decumana* var.).—A globular fruit resembling a large Orange, to which it is allied. It is imported in cases of 50 to 100 or more fruits, according to their size, and the fruits are retailed at 6d. to 10d. each. This fruit comes chiefly from Florida, where it is very popular. Americans resident in London are the principal buyers. "Grape-fruit" is an American name, the fruit being a variety of the Pomelo or Shaddock.

POMEGRANATE (*Punica granatum*).—A shrub or small tree, with showy scarlet flowers. The fruits are large and globular, about 3 inches or more in diameter, sometimes of a bright red or orange-yellow in colour. The interior consists of numerous, closely-packed, large seeds, which are coated with an acid, juicy, and rather astringent pulp. Pomegranates are imported from South Europe and the Mediterranean, and occasionally retailed in London at about 6d. to 10d. each or cheaper.

PERSIMMON (*Diospyros Kaki*).—A small bushy tree of the Ebony family. The fruit is of the form of a moderately-sized Apple, bright orange-yellow in colour, with a shiny rind. The pulp, yellowish in colour, is of a peculiar astringent flavour, for which a taste has to be acquired before it can be enjoyed. The fruit has an attractive appearance, and it travels well. Persimmons are sent to Covent Garden from South Europe, neatly packed in tissue paper and shavings, in boxes containing about two dozen fruits in each. The fruit sells at about 8d. to 10d. each.

CHERIMOYER OR CUSTARD APPLE (*Annona Cherimolia*).—A large, heart-shaped, dull-green fruit, the rind of which has the appearance of being formed of scales. The interior contains white granular sweet pulp, somewhat resembling custard. Weekly consignments arrive in Covent Garden from Madeira during the winter months. The fruits are retailed at about 1s. or more each, being sometimes sold in West End shops at double or treble this price. Cherimoyers do not travel well, and a large proportion of every consignment arrives in London in an unsaleable condition.

PASSION-FRUIT (*Passiflora edulis*).—The fruit of a pretty climber, of the size of a large Plum, purple when ripe; the interior consists of sweet acid pulp intermixed with the seed; this, beaten up with a pinch of bicarbonate of soda, forms a delicious drink. When ripe, the rind soon shrivels, giving the fruit an unfavourable appearance; hence it is not suited to the English market. Trial shipments have been made from Australia which stood transport well, but the shrivelled appearance of the rind is usually against its sale. In Covent Garden the name "Passion-fruit" is given to another species of *Passiflora*, which seems to be the Sweet Cup.

SWEET CUP OR WATER LEMON OF JAMAICA (*Passiflora laurifolia*).—The fruit of this is of the size of a duck's egg, the rind being smooth and of a pale amber colour. It is imported regularly from Madeira, where it is known by the name "Maracugia." The fruits are retailed in London at 6d. to 8d. each. Both this and the preceding species are sometimes known in Covent Garden by the name

"Granadilla," a term which is more correctly applied to *Passiflora quadrangularis* (see Supplementary Illustration).

MONSTERA DELICIOSA.—A very handsome creeper, with huge, leathery, curiously-perforated leaves. The fruit is like a long, green cone, from 8 to 15 inches long; it is pleasantly fragrant when ripe, and partakes of the flavour

woody shell, which can only be broken by an axe or similar implement. The seeds are the Butter Nuts of shops; each contains a large, white kernel, which has a very pleasant, nutty flavour. The Nuts are sold in England at about 3d. or 4d. each.

CASHEW NUT (*Anacardium occidentale*).—The fruit of a moderate-sized, spreading tree. It

good samples at 6d. to 8d. a lb. The Nuts will keep in good condition for several years if kept dry. A sample 10 years old was exhibited at the recent Colonial Fruit Show at the R.H.S. Hall.

GROUND NUT or **MONKEY NUT** (*Arachis hypogaea*).—A small, leguminous annual, which has the peculiar habit of burying its young pods underground, where they develop and ripen; these are forked up when ready for harvesting, cleaned, sorted and exported in their small, grey, papery shells. They keep good for a long period, and are generally seen in small lots for sale in greengrocers' and fruiterers' shops, the retail price being about 3d. to 4d. a lb.

LICHI or **LITCHI** (*Nephelium Litchi*) (see fig. 179).—A celebrated Chinese fruit borne on a medium-sized tree. The Lichi is usually of the form of a small Plum, with a thin, brittle shell of a reddish colour, covered with wart-like protuberances. It is filled with a sweet, jelly-like, opaque pulp, and is held in great esteem for dessert and preserves in China. Lichies are obtainable in London at 1s. to 1s. 6d. per lb.

LOQUAT (*Photinia japonica*).—A small Japanese tree. The fruit resembles a small Apple or Medlar, and is of a sub-acid flavour. It is sometimes imported from South Europe.



FIG. 177.—FRUITING SPRAYS OF (TOP) THE AVOCADO-PEAR (*PERSEA GRATISSIMA*) AND (BASE) THE SAPODILLA OR NASEBERRY (*ACHRAS ZAPOTA*). (See pp. 443 and 445.)

of Pineapple, but the small, black hairs attached to the edible portion cause an uncomfortable sensation in the throat. The fruits arrive in Covent Garden from the Canary Islands, and occasionally from Jamaica, and are sold at 1s. 6d. to 2s. 6d. each.

GUAVA (*Psidium Guava*).—A small tree. The fruit varies in size according to variety, but usually it is oval and about the size of a medium Pear. It is renowned for making jelly, but is not popular for dessert. Yet the fruit has arrived in London from Madeira in increasing quantities during the last few years; it is said to sell at 2s. 6d. to 3s. 6d. a dozen.

BRAZIL NUT (*Bertholletia excelsa*) (see fig. 178).—A tall, handsome tree of Brazil. The fruits are globular in shape and dark brown, 4 to 6 inches in diameter, with a thick, woody husk; this contains the hard-shelled seeds, which are the Brazil Nuts of commerce. They are commonly retailed at 6d. to 8d. a pound, according to quality. These are used at some restaurants instead of suet for making puddings.

SQUARI NUT or **BUTTER NUT** (*Caryocarp nuciferum*).—A lofty, handsome tree, with large, opposite leaves, native of tropical South America. It produces large, dark-brown fruits of the size of a child's head, and similar to the Brazil-nut fruit. It contains about four large, kidney-shaped seeds: these have a reddish,

consists of two distinct parts—a much-enlarged, succulent, green receptacle, at the end of which is the hard, brown, kidney-shaped fruit. The latter contains the Nut, which, when roasted, is very palatable. These Nuts, though scarcely known in Covent Garden, are imported from India and the West Indies by a few dealers, who find no difficulty in disposing of

In addition to the foregoing fruits, there are those which have become standard commodities, such as Oranges, Dates, Figs, &c. Of equatorial or strictly tropical fruits, however, there yet remain unrepresented in Covent Garden in number which are of excellent quality, and which could not fail to become popular in Europe if they could only be imported in good

condition. The celebrated Durian fruit, for instance, is itself "worth a journey to the East to enjoy the pleasure of eating it," in the estimation of so high an authority as Dr. Russell Wallace. Notwithstanding its very offensive odour, the Malays attribute marvellous properties to this fruit, and when it is in season they camp out in families so as to enjoy it to the full. The following fruits are all of excellent quality, and worth the attention of epicures and dealers in tropical fruits.

DURIAN (*Durio zibetibus*) (see fig. 180).—A gigantic, quick-growing, handsome tree, thriving only in moist and hot districts. The large, oblong fruits, which are covered with formidable

a snowy-white substance, which has a delicious flavour and melts in the mouth. The fruits are sold at about 1s. to 1s. 4d. per dozen. They are always charged for as an extra at hotels in Ceylon. A few specimens of this fruit were once grown in the conservatory at Syon House Gardens, near London, and were, I believe, presented to the late Queen Victoria.

SAPODILLA or **NASEBERRY** (*Achras Sapota*) (see fig. 177).—A small, slow-growing tree. The fruits vary from round to oval in shape, and are about the size of small Apples. When ripe they become soft and of a dull-brownish colour, the skin being very thin. The brownish pulp is of a sweet, delicious flavour. Few tropical fruits

bers. Orange-yellow or reddish-purple when ripe, it has a very pleasant, slightly acid flavour, and is used as dessert or stewed. Though of the Tomato family and resembling the Tomato in the interior, it has no resemblance to it in flavour. The tree is suited to sub-tropical conditions, and the fruit bears transport well.

RAMBUTAN (*Nephelium lappaceum*).—A large, spreading tree. The fruit is orange-yellow or bright red, about 2 inches long, of an oval form, and covered with long, soft, fleshy spines of the same colour as the rind. Surrounding and adhering to the seeds is a white, acidulous pulp, which is pleasant and refreshing.

PURPLE GUAVA (*Psidium Cattleianum*).—A small, slender tree with smooth bark and shiny leaves. The fruits, which are produced in great abundance, in two crops a year, are readily distinguished from the common Guavas by their deep, claret-coloured rind. They are filled with a juicy, very agreeable, acid-sweet pulp.

The following fruits have an important economic value in the tropics, but, owing to their perishable nature, are not exactly suitable for importation to this country:

BREAD-FRUIT (*Artocarpus incisa*) (see Supplementary Illustration).—A medium-sized, very handsome tree, with large, shining, deeply-cut leaves. The fleshy, oval fruit is of the size of a Musk Melon, pale green in colour; it consists of a solid mass of succulent pulp, which, when sliced and roasted, is said to "resemble the crumb of a new loaf." It is esteemed as a vegetable for curries, and is prepared and eaten in various other ways. The Rev. Firminger, who partook of the fruit in Ceylon, considered it "hardly distinguishable from an excellent batter pudding." This fruit forms the principal diet of the natives of the South Sea Islands. On the recommendations of Captain Cook, the explorer, special expeditions were sent by the British Government to the South Sea Islands for the purpose of transporting live plants of the Bread-fruit tree to the West Indies, where the tree is now established and commonly cultivated. The best varieties do not bear seed. The tree is largely grown along the south-western sea-coast in Ceylon.

JAK-FRUIT (*Artocarpus integrifolia*).—This enormous fruit, which may weigh anything up to 112 lbs., is borne on the trunk and older branches, sometimes at the base of the trunk, or even under the ground surface. It is always green, with a white or cream-coloured, fleshy, solid mass of pulp. In shape it is usually oblong and irregular, though sometimes almost round or oval. The succulent rind consists of somewhat hexagonal knobs. In Ceylon the Jak-fruit forms an important article of food to the natives. It is cut up into sections and sold in every bazaar or botique at a few cents per portion. When ripe, the whole fruit has an overpowering odour. The large, oval seeds are roasted and eaten in curries.

GRANADILLA (*Passiflora quadrangularis*) (see Supplementary Illustration).—A strong-growing climber, bearing large, oblong, greenish-yellow fruits, not unlike small Vegetable Marrows, which are hollow when ripe and contain a mass of purplish, sweet-acid pulp, mixed with the flat seeds. In an unripe state the succulent portion of the fruit is boiled and used as a vegetable. The fleshy, tuberous root also furnishes an article of food.

HOUDAPARE (*Dillenia indica*) (see fig. 181).—A medium-sized tree, with large, handsome, serrate leaves, native of Ceylon and other parts of tropical Asia. It produces a profusion of large, round, green fruits, each about 3 inches in diameter, being very juicy and acid. The fruit is formed by the much-enlarged, fleshy, closely-imbriate sepals; it is used for making jelly and a cooling drink, also as a vegetable in curries. The tree is suited to most districts at medium elevations, and is often cultivated both for ornament and its fruit. *H. F. Macmillan, F.L.S.*



FIG. 178.—FLOWERING SHOOTS AND FRUITS OF THE BRAZIL NUT (*BERTHOLLETIA EXCELSA*). (See p. 444.)

spikes, are borne mostly on the stouter branches, each weighing, when ripe, several pounds. The edible portion is the peculiar, fat-like, creamy substance in which the seeds are embedded. In spite of its odour, Europeans and others soon acquire a taste for it, often preferring it to all other fruits. Locally, the fruits are sold at the equivalent of 10d. to 1s. 6d. each. This fruit has probably never been grown in Europe; indeed it may be questioned whether it has been seen there in an edible condition.

MANGOSTEEN (*Garcinia mangostana*).—A medium-sized, slow-growing tree, with large, handsome leaves. The pretty, smooth-skinned fruits are of the size of Apples, perfectly round, and purple when ripe. Surrounding the seed is

can equal this one as a dessert fruit. I am not aware that it has ever been seen in Europe.

PAPAW or **TREE-MELON** (*Carica Papaya*) (see Supplementary Illustration).—A small, herbaceous tree, with large palmate leaves, the large, hollow fruits are roundish or oblong in shape, 10 to 15 inches long, resembling a Sweet Melon. They are very refreshing, and are said to be an excellent aid to digestion. Vegetable pepsin (papain) is obtained from the fruit in an unripe state. The leaves have the property of rendering meat tender if wrapped in them for a short time.

TREE TOMATO (*Cyphomandra betacea*).—A shrub or small tree. The fruit is of the form of a hen's egg, and is produced in large num-

HARDY TREES AND SHRUBS SUITABLE FOR FORCING.

(Concluded from page 449.)

EVERGREEN RHODODENDRONS.—These are not quite so important as the deciduous varieties for forcing, but amongst them there are many beautiful plants—*R. nobleanum* (rose-carmine) and *R. praeox* (rose-purple); both of these can be easily obtained in flower at Christmas. For later forcing the following are recommended:—*fastuosum* flore pleno (double lilac), Cunningham's White, Prince Camille de Rohan (rosy-pink, dark spot), Rosa Mundi (rosy-red, dwarf), Chevalier Felix de Sausage (red, dark spots), Purity (white), and John Walter (crimson). With the exception of *R. praeox*, which can be forced for several years in succession, it is necessary to grow most of the plants in the nursery before using them again for forcing. The flowers of all Rhododendrons are better gummed, i.e., a drop of floral gum should be placed at the base of each flower as soon as it is expanded. We use a small cycle oil-can for the purpose. In addition to the value of these plants when forced for conservatory decoration, the flowers are very useful for cutting, more especially when gummed.

RIBES.—Several of the flowering Currants can be readily brought into flower under glass. The best for the purpose are *R. aureum* (yellow), *R. sanguineum* (deep rose), and the varieties *album* (white), *atrosanguineum* (dark red), and the double form, *flore pleno*. The Fuchsia-flowered Gooseberry, *R. speciosum* (deep red), can also be readily brought into flower indoors early in the year.

ROBINIA.—Established plants in pots of the species *R. hispida* will respond to a little extra heat. The pendulous racemes of soft, pink flowers are very pleasing.

ROSES.—These are very largely grown under glass, especially for cut-flower purposes, a large number of the varieties being suitable, especially amongst the Hybrid Teas. The plants must be grown at least a year in pots previous to forcing.

SPIRAEAS.—Amongst the shrubby Spiraeas several can be forced, and they are very effective. The plants may be used for two or three years in succession if not forced before they are well established in the pots. The following species have white flowers:—*S. arguta*, *S. prunifolia* flore pleno (the long growths are thickly studded with small, double blossoms); *S. Thunbergii*, and *S. van Houttei*.

STAPHYLEA.—The species *S. colchica* is a grand subject for conservatory decoration, the pendant, white flowers being more pleasing under glass than out-of-doors, and they are fragrant.

SYRINGA (LILAC).—These shrubs are largely forced to supply cut bloom in several market nurseries. Most florists' shops are gay with Lilac in winter. To obtain the flowers early the plants are lifted and subjected to great heat, at the same time keeping the house dark and very damp. With such drastic treatment the plants are little or no use for conservatory decoration. To flower plants suitable for the latter purpose a temperature of 65° to 75° F. is sufficient. Till the trusses are well developed, the plants should be kept in the dark, after which the light may be gradually admitted and the temperature reduced. After flowering, all the plants will require at least two years in a nursery. The shoots must be cut hard back, and, as soon as growth commences, all surplus growths rubbed off. The chief object to aim for in growing Lilacs is a few very strong shoots, the number, of course, being governed by the size of the bushes. On small plants six shoots are ample, while on extra large ones 15 to 18 shoots can be left to mature. As most of the Lilacs are grafted it is important to cut away all suckers which appear at the base. In the August preceding the lifting of the plants for forcing it is important to chop around them with a spade. This materially assists the ripening of the growths. In addition to Lilacs in bush form, some varieties make very nice standards. The two best varieties for forcing are Marie Legraye (white), and Charles X. (rose-purple). Other good

sorts are *alba grandiflora* (pure white), Souvenir de Louis Spathe (dark purple), Mme. Lemoine (double white), and President Grey (light blue). Small bush plants in 6-inch pots 20 to 24 inches in height of the variety Marie Legraye form charming subjects for small greenhouses or the side stages of larger structures. These are known in the trade as miniature Lilacs.

VIBURNUM.—Several of these readily lend themselves to forcing, but, with the exception of *V. Tinus*, which flowers outside in mid-winter, forcing should not be attempted too early in the year. *V. macrocephalum* (extra-large, white flowers), *V. Opulus* var. *sterile* (Snowball Tree), *V. tomentosum* var. *platanum*, and *V. Tinus* (Laurustinus) are the best. With the exception of *V. Tinus*, Viburnums seldom force satisfactorily two years in succession.

WISTARIA.—Grown in the form of small standards, there is nothing amongst the many trees and shrubs used for forcing to surpass a well-flowered plant of *W. chinensis* (sinensis). This spring we had a plant in a 9-inch or 10-inch pot with 80 racemes of lilac-coloured flowers. The variety *alba* is pleasing, but it is surpassed by *V. multiuga* var. *alba*, which is very free flowering.

XANTHOXERAS.—The Chinese species *X. orbifolia* is a lovely plant, with racemes of white flowers streaked with red at the base. We find it advisable to purchase specially-grown plants for forcing, as it is necessary for the wood to be extra vigorous.

ZENOBIA.—*Z. speciosa* and var. *pulverulenta* are evergreen shrubs with waxy-white blossoms, which are useful towards the end of the forcing season. *A. Osborn*.

FORESTRY.

FAILURES IN PLANTING.

The article by *W. P. R.* on p. 357, under the above heading, possessed much interest. May I suggest that the real cause of his failures was that he commenced planting too late in the season? The secret of success lies in getting the plants in early, as the tree or plant gets settled down and the soil becomes firm before the plant shows any sign of life. In *W. P. R.*'s case the sap must have been well on the move, even if no outward signs of it could be seen. Last season I planted 35,000 plants, and I have 95 per cent. living now, but I had finished planting by the 10th of March. The varieties planted were Scotch Fir, Austrian Pine, Hazel, Abies Douglasii (a splendid, quick-growing Conifer both ornamental and for timber value), English and Japanese Larch, Holly, Yew, and Picea grandis, this latter variety being planted more for experience than otherwise. It is a handsome Conifer, and I find it has made very good growth for one season. The Austrian Pine is, I think, one of the easiest-grown Conifers we have, as it has a natural tendency to making plenty of fibrous roots; therefore, it is quite easy to transplant. The cost of labour depends on the kind of soil. The general price for hole digging in this neighbourhood is 15s. per 1,000 (the soil is rather chalky), and the size of the hole is 15 inches square by 10 inches deep. These measurements allow plenty of room. The planting is generally done by day work, it being next to impossible to get good planting done by piece work. It is useless to plant Spruce Fir on this soil, as last season I cut 50 large trees, and not one of them was sound, whilst some were mere shells. The reason appears to be that the tap root had entered the chalk and had set up a rot which extended, in some instances, 30 feet up the tree. I have been informed that there were some 200 cut here 10 years ago, and not one tree was sound. Perhaps some forester will give us his experience in the matter? *A. Gooding, Eastham House, Chichester.*

The Week's Work.

PLANTS UNDER GLASS.

By THOMAS LUNT, Gardener to A. STERLING, Esq., Kait, Perthshire, N.B.

Clivias.—The plants which bloomed first last spring must now again be placed into heat, for, by using the same plants for early flowering each year, they may be got quicker into bloom, having had their proper resting period. Apply liquid manure to the roots as soon as the plants have commenced to grow.

The Fernery.—All Ferns, but especially Adiantums, should be carefully examined and any decayed fronds in the centre of large specimens should be removed, also any fronds that are infested with scale insects; these leaves should be burned.

Stove plants.—Any of the plants in the stove that are infested with insects that cannot be killed by means of a vapouring compound, should be carefully cleaned with a liquid insecticide and all large-leaved species sponged with clean soft water. It is necessary to cleanse the underside of the leaves, as any red spider that is present is generally to be found there. At this season very little syringing can be done, except on bright mornings, therefore the greater need exists to keep a sharp look-out for insect pests. Admit a little air through the bottom ventilators whenever the weather is favourable; if this is practicable only for a few minutes it will do good.

Camellias.—Make frequent applications of liquid manure to the roots of plants now swelling their flower-buds. If two or three buds are found together upon one shoot, thin them out to one bud. If the plants are growing in a border, take every precaution to examine the soil to see if water is needed; otherwise, if the slightest drought is experienced, the flower-buds will drop.

Palms.—Any Palms that are in a cool temperature should be kept rather on the dry side at present, but care must be exercised to prevent the plants suffering injury from drought.

Nerine.—Plants that have made their growth should be gradually dried off. Place them in a position on the southern side of a greenhouse.

Coriaryne.—Any specimens that have lost their lower leaves should have their tops taken off, and the tops may be placed in bottles of water containing pieces of charcoal. They will soon form roots, and may be potted up when this has taken place. The stems should be kept for propagation, and may be inserted later in the same manner as are vine eyes.

Miscellaneous forcing plants.—Batches of all the forcing plants at command should be placed in heat at intervals of ten days or a fortnight, according to the demands of the establishment.

THE ORCHID HOUSES.

By H. G. ALEXANDER, Orchid Grower to Lt.-Col. G. L. Holborn, C.V.O., D.L., Westonlisle, Gloucestershire.

Cypripediums.—Members of this genus belonging to the cooler section are amongst the most important Orchids flowering at this season of the year. For ease in culture and free blooming these slipper Orchids have no equals. The flowers possess great lasting qualities, and suffer little from the effects of fogs, which damage almost all other Orchid flowers, so that these winter-blooming Cypripediums form a most useful and popular class of plants. For all kinds of decorative purposes the flowers are invaluable; they may be used as cut blooms, or the plants themselves may be taken into the dwelling rooms for a few days, and, with reasonable care, no harm will result. When cut, the flowers are useful, on account of their long-lasting properties, and, arranged with suitable ornamental foliage, they will present a pleasing appearance. Cypripediums when in flower should always be grouped by themselves, as they are more effective than when placed amongst other flowering Orchids.

Winter treatment.—Cypripediums are never inactive at any time of the year; therefore, to allow them to remain dry at their roots for any considerable length of time

is an injurious practice. On the other hand, excessive applications of water to the soil during the winter season are not advisable. When a plant has its flowers fully developed very little water will be required, following up this treatment during the flowering period and for some few weeks afterwards. A moist atmosphere must be maintained always, but care should be exercised to avoid a saturated condition of the atmosphere when the plants are in bloom, and especially during the night. If everything is done to maintain the correct atmospheric temperature and the plants are in a clean, healthy and sturdy condition, they will grow all the more freely when the days lengthen in the New Year.

Cattleya.—At this season of the year not many species of these beautiful plants are in flower, but the bignerica *Laelio-Cattleyas* are nearly always more or less in flower, and of the great diversity in shape, size and colouring of their flowers is most welcome. With the blooming of the *C. labiata* varieties finished, *C. Trianae* and *C. Percivaliana* will be the next to flower. Some plants have already flower-buds showing in the sheaths, and in a few weeks' time these will be in their full beauty. Afford such plants a suitable position in which to develop their blooms, and take measures to keep the rooting material a little more moist than hitherto. These remarks also apply to *Cattleya* hybrids that are in a similar condition.

Oncidium chrysophorum.—This charming little plant is again in flower, and it is one of the brightest of winter-blooming Orchids. The plants should be afforded a cool-intermediate temperature, and should not be given large receptacles or much rooting compost. Owing to the liability of this species to decay from damp, the plants should be kept well up to the roof, and the pans be well drained, so that when water is applied it will soak away readily. Ample root moisture is necessary, but it is well to remember that such a small-habited plant may be easily injured by an overdose of moisture, which may happen when the receptacle is not perfectly provided with material for drainage.

Vanda Amabilis and *V. Watsonii*.—These very distinct and beautiful Vandas are now flowering, and as winter-blooming subjects they are difficult to surpass. After the flowers are over the plant passes through a brief period of inactivity, when but little water at the roots is required. Do not allow the plants to shrivel, as such treatment—by many persons mis-called rest—is very weakening and harmful to them.

Sophronitis grandiflora.—This charming little species is now blooming, and is always pleasing when dotted about the houses. The flowers are produced on the partly-developed growths, and until such time as the laths are fully furnished with growth, moisture should be afforded at the roots plentifully. Plants needing new rooting material should have this afforded when new roots are seen pushing forth from the new growths.

THE KITCHEN GARDEN.

By E. BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Elstree, Hertfordshire.

The annual seed order.—Nearly every post brings a catalogue of vegetable or flower seeds for next year's crops, and these are sufficient to tempt us that we are about to commence another season. Many of the catalogues are got up in an excellent manner, and contain plates which illustrate some of the principal kinds of the popular vegetables. It is a difficult matter nowadays for gardeners to consider which is the best seed firm, and my advice is that they should not confine their orders to any particular firm, but obtain the best novelties direct from the firm introducing the novelties, for in this manner they will be most likely to obtain true stock. There is no time to be lost now in preparing the seed list. In order that suitable selections may be made, its preparation needs much care, and it is essential that the compilation of such a list should be exclusively left to the responsibility of the gardener, who knows best what is requisite to maintain a supply of fresh vegetables throughout the year which will meet the demand. The collections advertised by the seedsmen are many of them admirable, but I do not recommend

their purchase, for the reason that the man in charge of a particular garden may be expected to know best what is required, and it may happen that the particular crop he may require in largest quantities may be but indifferently represented, even in the best collection of seeds. The seed order should consist in the main of standard varieties that are known to succeed well in the locality. But if a few of the most promising of untried novelties are also obtained for comparison with standard sorts, the result will always be interesting, and occasionally the crops will have a peculiar value.

Onions.—The culture of extra large Onions mainly depends upon ensuring that the plants will have a long season of growth. The seeds therefore may be sown before the end of December, but not later than the third week in January. Prepare a compost consisting of light, fibrous loam, two parts, and leaf-mould and manure from a spent mushroom bed, one part each, adding sufficient road or river sand to ensure porosity. Mix the ingredients thoroughly together and have the compost sufficiently dry that it may be pressed firmly together, which would be inadvisable if it were in a wet condition. Boxes having a depth of 4½ inches should be provided with drainage and filled with the compost. In sowing the seeds, these should only barely be covered with some of the finest of the soil. Apply a good watering after sowing, and place the boxes in a heat of 50° to 55°. Reliable varieties include Ailsa Craig, Cranston's Excelisior, and Leamington Giant.

Tomatoes.—Plants which were raised last month and are now in 3-inch pots should be placed on shelves in the lightest possible position where the heat is about 55°. Extreme care must be exercised in watering these, it being necessary to keep them on the dry side, and any water that is applied should be tepid when used. The plants must not be over-potted, and the 3-inch pots will generally be found sufficient until the middle of next month, when the plants may be repotted into 5-inch pots, taking care to provide them with perfect drainage.

Celery.—At this time of the year, when Celery is so much in request, it is desirable to lift a good stock and store the plants in a cool shed in sand or ashes, when, if not placed too thickly together, they will remain perfectly good for three weeks or a month.

Preparations for seed sowing.—In a very short space of time it will be necessary to sow seeds of various crops in gentle heat under glass. Repair the seed boxes, therefore, and make new ones if required. Prepare labels, tie them into bundles, and place the various kinds of soil under cover, so that all will be in readiness for use.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to The DOWAGER LADY NUNBURNHOLME, Warton Priory, Yorkshire.

Wall fruit trees.—The top dressing and renovating of wall trees should be pushed forward at every opportunity. The prunings and leaves should always be carefully raked up and burnt, and never dug into the ground, otherwise the spread of insect pests will result.

General work.—If Peach trees have not yet been detached from the walls, no time should be lost in having them untied and made secure from accidents by wind or snow. Burn the ties or shreds and avoid washing these or other trees during severe weather. In frosty weather work can be done in the way of carting manure and soils to positions where they will be required, also in making stakes and labels. Get the rubbish together and burn it, and mix the ashes and surplus soils in readiness for future top-dressings. Clean out liquid manure tanks and apply the manure water to orchard trees that have carried heavy crops of fruit, but first loosen the surface soil or turf. The cleansing of trees from injurious insects should be persevered with at every opportunity while the trees are in a dormant state. Scale insects on Peaches and Pears are difficult to destroy, and in bad cases they should be removed by means of a strip of wood, and afterwards washed with a stiff brush before syringing. Where Black Currant bud mite is in evidence, hand-picking should be resorted to if possible, burning the buds afterwards.

THE FLOWER GARDEN.

By W. FYFE, Gardener to Lady WANTAGE, Lockings Park, Berkshire.

Ornamental water.—Few features are more effective in the pleasure ground than a stream or brooklet of running water. We have recently been engaged in the interesting work of changing the course of the overflow from a sheet of ornamental water. The original overflow dropped undrained into a culvert 9 feet deep, in which it continued for a length of about 50 yards. The result of our work is the provision of an open brooklet of irregular width, and of nearly the same length as the original culvert. There are four perpendicular falls, two of these being 2 feet 6 inches each, and two 8 feet 6 inches. We have preserved the sound of the falling water, and have, in addition, obtained the pleasure of seeing the water rush over the shining pebbles and falls. Two years ago we converted a culvert nearly 100 yards in length into an open brooklet. This has now all the charms of a running stream of clean spring water, together with the addition of trout. Such a brooklet permits of bold masses of Japanese Irises being planted along its banks, and their effect is magnificent in July and August. These Irises are capable of thriving in almost any soil and situation, but in a heavy clay soil, the addition of leaf-mould and peat will promote a freer growth. If any planting of Japanese Irises or similar species has yet to be done, it had better be deferred for two months. Spanish Irises planted over a ground-work of Poinsettias have an admirable effect, and will flower in May and June, therefore before the Japanese species. For flowering in August and September, *Nemesia strumosa*, with its numerous shades of colour, and *Lilium speciosum* may be recommended. There may also be planted such shrubby Solanaceas as *S. tomentosa*, *S. ruberrima*, and the variety *Anthony Waterer*; *Senecio clivorum*, and, as individual specimens by the water banks, *Verbascum Olympticum*, *Rheum atropurpureum*, *R. palmatum*, *Saxifraga peltata*, *Yucca recurva glauca*, *Y. filamentosa*, *Gunnera manicata*, *Fuchsia grandiflora*, *F. Sieboldii* elatior, *Eulalia zebrina*, *Pampas grass* and hardy Bamboos, if arranged according to their heights and colours and flowering season along the banks of such a stream will constitute a delightful scene.

FRUITS UNDER GLASS.

By T. COOMER, Gardener to LORD LLANGATOCK, The Hendrie, Monmouthshire.

Early Pineapples.—Where ripe fruits are required in June, plants of The Queen Pine, being the best variety for early fruiting, should now be started. If they are plunged in a bed that will retain a temperature from fire heat of about 85°, the plants need not be disturbed, but if the bed is formed of fermenting materials alone, it may be necessary to remove the plants, add fresh fermenting materials to increase the heat, and then firmly replunge the plants. This cannot be done without the plants receiving some injury, but it will afford an opportunity to top-dress them with artificial manure and fresh compost. The atmospheric temperature at night should range from 65° to 70°, and that for the day, about 70° to 75°. Slightly ventilating the house when the sun causes the temperature to rise to 80°, but closing the ventilators again as soon as the warmth commences to wane, spraying the surfaces of the bed and the pathways with tepid water at the same time. On fine days the pathways should also be damped early in the morning. Be careful not to over-water the plants, but apply tepid water when it is necessary, slightly enriched with Peruvian guano. On very frosty or windy nights cover the roof of the house with blinds so as to maintain the necessary temperature without excessive fire heat.

Plants for succession.—Plants raised from suckers last autumn should be kept at rest until the middle of February in an atmospheric temperature at night of 55° to 60°, allowing this to rise slightly during the day. The plunging material should possess a temperature of 75° to 80°. Particular care should be taken in watering at this time when the roots are inactive, remembering, however, that if they are allowed to become too dry they will be liable to fruit prematurely.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, as well as specimens of plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive suitable photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but he cannot be responsible for loss or injury.

SALES FOR THE ENSUING WEEK.

WEDNESDAY—Dutch Bulbs, Perennials and Herbaceous Plants, at 11, 3,500 Roses and Fruit Trees, at 1.30. Thousands of miscellaneous bulbs and roots, at 1.30. 1,633 cases Japanese Lillies, at 1. Azaleas, Rhododendrons, Palms, &c., at 6, at 67 & 68, Cheapside, E.C., by Frotheroe & MOTTS.

AVERAGE MEAN TEMPERATURE for the ensuing week, deduced from observations during the last Fifty Years at Greenwich:—38° F.

ACTUAL TEMPERATURES:—LONDON.—Tuesday, December 22 (6 P.M.): Max. 44°; Min. 39°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—Wednesday, December 23 (10 A.M.): Bar. 30.1; Temp. 44°; Weather—Overcast.

PROVINCIAL.—Tuesday, December 22 (6 P.M.): Max. 50°; Weston-super-Mare; Min. 39° Cromer.

In reviewing some of the chief **Events of the Year**, year now nearing its close, our thoughts are once again directed to the exhibition held in April last at Ghent. The usual quinquennial exhibition of the Société Royale d'Agriculture et de Botanique de Gand was invested this year with more than its usual importance by the fact that it commemorated the Society's centenary. Many of our readers are already familiar with the brilliant history of the Ghent Society, and its intimate association with the extraordinary development of Belgian horticulture. Those who had the opportunity of visiting the exhibition for themselves could not fail to admire the excellent manner in which the arrangements for so vast a display were carried out, as well as the hospitable welcome offered to foreign guests of every nationality. Time had wrought great changes since the holding of the previous quinquennial show; the president, secretary, and several other officials had fallen by the hand of death, and their places were worthily taken by others; but the traditions of Ghent horticulture were maintained in the fullest degree, and from every point of view the exhibition was successful. During the Ghent week a botanical congress took place, at which several important papers were read, including one by M. Noel Bernard upon "Symbiosis," which formed the subject of a review in a recent issue of this journal; thus something was done to honour the excellent counsel offered by the late Comte Kerchove de Denterghem in the address he delivered to a quinquennial jury in 1903.

Although there has been no unusual event of first-rate importance in our own country, the year has been marked by activity in all departments. The Royal Horticultural Society has held the customary exhibitions in the Temple gardens and at Holland House, and they have been even more successful than hitherto, the numerous visitors

at the Temple Show being now regarded, singularly enough, as something of a disadvantage. On the last occasion the Council reserved the exhibition for several hours on the second day exclusively for Fellows, and in this way sought to restore to them the opportunity for making a critical inspection of the exhibits that has become almost impossible in recent years owing to the vast numbers who visit this show. We would express the hope that a similar concession may be granted in the future, for, since the Council are unable to arrange for larger tents and broader paths in them, there appears to be no other method by which the enthusiastic horticulturist can hope to reap the full advantages which are offered by the show.

The exhibition of British-grown fruits was held at a rather late date in October, and, consequently, the display was principally one of Apples, Pears, and Grapes, the softer fruits from out-door culture having passed several weeks earlier. The show, on the whole, was not above the average merit, for, whilst the season's Apple crop was a fairly abundant one, Pears were remarkably deficient. During the exhibition there was a conference on the spraying of fruit trees for the destruction of insect and fungal pests, and several papers on the subject were contributed by scientific experts. These papers were published in our own columns, and it was pointed out that the various opinions expressed by the experts appeared to practical men so conflicting that the immediate value of the conference was somewhat depreciated. There is little doubt, however, that we are apt to expect too much from the experts, and in our impatience look to them for simple directions for effectually destroying every pest that menaces our crops. This is obviously unreasonable, and cultivators must not be despondent when they are told that preventive measures are usually effective, but remedial measures rarely satisfactory. The points that were most clearly proved were (1) that greater attention must be paid to the preparation of the spray fluids, and (2) that much of the success depends upon the season at which they are applied and the form in which they are delivered from the spraying apparatus.

It will be seen from a paragraph which appears on another page, that the fruit show is to be discontinued next year, and in its place are offered a series of prizes for British-grown fruit and vegetables spread over the whole twelve months. This appears to us an excellent arrangement, as it will give an additional interest to the fortnightly meetings.

The meetings of the Society have been held almost every fortnight during the year, and in order that the sequence might not be seriously interfered with, the Council again convened meetings in two cases immediately following Bank Holidays, thus causing inconveniences that have already been commented upon by some of our correspondents.

The special societies have generally prospered, and it is again our pleasure to remark upon the increased support given to the National Rose Society, whose growth in recent years has been of an extraordinary character. Twelve months ago we commented upon this circumstance. The total

membership was then 2,384, and during the present year there has been an increase of 666 members. At the recent annual meeting of this Society, the members made a presentation to the honorary secretary, Mr. Edward Mawley, in recognition of his valuable services.

The National Sweet Pea Society has also increased its membership from 602 to 779, and appears in every way to be flourishing. The National Carnation and Picotee Society has recently sustained a serious loss in the death of its president, the late Martin R. Smith. This Society, together with the National Auricula and Picotee, the National Chrysanthemum, National Dahlia, and the Perpetual-flowering Carnation Societies, have all held exhibitions, and most of them have issued useful literature to the members. A few days ago the National Dahlia Society and the London Dahlia Union were amalgamated with each other, and doubtless this fact will increase the prestige of the newly-formed body. The British Gardeners' Association has also increased its membership.

Several horticultural shows have been held at the Franco-British Exhibition; but although these were successful as mere displays of horticultural produce, they were scarcely so interesting or informative as could have been desired, and, in the minds of many there was considerable disappointment in the lack of consideration shown by the authorities towards the claims of scientific horticulture. Nevertheless, the exhibition was the means of bringing large numbers of foreign horticulturists to these shores, and many of them took the opportunity to visit the botanic gardens, principal nurseries, and seed-growing establishments.

In the field of legislation the principal measure affecting market-gardeners has been the consolidating Act relating to small holdings, which will come into operation on January 1. We propose to refer to this at greater length in an early issue. Parliament has shown an increased interest in agricultural and horticultural matters, and numerous questions have been asked in The House respecting the operations of the Board of Agriculture and Fisheries in regard to the control of pests and diseases. This Board has evinced greater activity in such work than formerly, and there appears a desire on the part of the public to accept a measure of State control that would not have been welcomed some years ago. A well-merited concession has recently been made to florists in respect to the Shop Hours Act, it being admitted that the florist's business is so fluctuating, and the materials handled so perishable, that the enforcement of hard-and-fast rules would be attended with undue inconvenience and loss during times when there is more than the usual pressure of work.

The Wisley gardens have showed considerable development during the year, and numerous independent plant trials have been conducted there under conditions as favourable as the circumstances of the place will allow. The laboratory has been used mainly for the teaching of students, and there is perhaps a danger that such routine work may operate against the carrying out of scientific research, which was the main object in the minds of those who were anxious that a

properly equipped laboratory should be provided in the Royal Horticultural Society's gardens. Mr. Chittenden, however, has conducted experiments upon the effect of nitro-bacteria upon leguminous crops, and the results are published in a recent number of the Society's *Journal*. We merely mention this fact at the present time, reserving a fuller notice for another occasion.

During the present year we have chronicled the establishment of a State Department for Horticulture in Belgium, and the news was received with pleasure in this country, coupled with a feeling that horticulturists at home may reasonably look forward to some recognition by the State of the growing importance of the science and industry of gardening. A year ago we remarked upon the establishment of a chair of Forestry at Oxford, and it has been pointed out on several occasions there are aspirations amongst gardeners that a chair of Horticulture may also be instituted at one of the principal universities.

Considerable excitement was caused during the commencement of the summer by the booming of the French system of market gardening. Several books were published and articles appeared in the daily Press that were calculated to exaggerate the advantages of the French methods in the minds of lay readers. It has been stated that public companies have been formed and considerable sums of money laid out in establishing French market gardens, and doubts are expressed in respect to the success of such ventures. But as it is so easy to overstate the probable returns from the culture of early crops, it is also possible to under estimate them, and in most cases it may be found that the degree of success obtained will have a direct relation to the amount of energy, brains, and experience brought into the business. At any rate, this revival of the hot-bed system of forcing salads and vegetables should serve as a lesson for head gardeners and market gardeners who, having gained their professional knowledge since the establishment of the hot-water system of heating, are less familiar than their forefathers with the peculiar advantages to be got from a good hot-bed.

In the world of books there has been a steady and continuous outpour of works relating to gardening. Another supplement to that most indispensable work, the *Index Kewensis*, has been issued, and amongst other important works may be mentioned another volume of *The Trees of Great Britain and Ireland*, by H. J. Elwes and Aug. Henry; *Trees and their Life Histories*, by Percy Groom; the first volume of the *Vegetable Growers' Guide*, by John Wright; *The Royal Gardens, Kew*, by W. J. Bean; a new edition of *Gray's Manual*; two works on Alpine plants by Reginald Farrer; and a superbly illustrated volume on the same subject by Henri Correvon.

We have had to lament the removal by death of many well-known horticulturists, including George Nicholson, V.M.H., Martin R. Smith, V.M.H., Dr. Bonavia, the Earl of Annesley, Henry Balderson, and Charles Baltet.

The gardening charities have continued their excellent work amongst the widows and orphans, and their appeals for support have met with a gratifying response. The Old Age Pensions Act, which will come into

operation on January 1, will not relieve us of the care of the widows and orphans, although the Gardeners' Royal Benevolent Institution may possibly find it necessary to slightly modify the rules governing the allowances to pensioners.

In the past few months we have published a list of generic plant names, with a view to spreading a knowledge of the proper pronunciation of the words. Although it has not been found practicable to insist on the application of definite rules in all cases alike, and concessions have been made to established usage, the list has been received with unmistakable approval, and in response to numerous requests it has been decided to re-issue the list in the form of a book.

COMPETITIONS FOR BRITISH-GROWN FRUIT AT R.H.S. MEETINGS.—In consideration of the facts (1) that the annual autumn show of British-grown fruit is every year practically a replica of the previous year's show; (2) that many British-grown fruits cannot possibly be shown (or shown in perfection) at any one show of fixed date; and (3) that vegetables are somewhat neglected, the Council have decided to omit the great autumn show for one year, and in 1909 to substitute in its place a somewhat similar series of prizes for British-grown fruit, but spread over the whole 12 months, so that every fruit may have a chance of being seen at its best. A

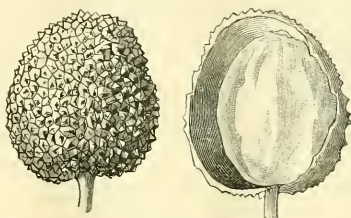


FIG. 179.—FRUITS OF THE LITCHI.
(See p. 444)

schedule of prizes will, therefore, be found offered at every "fortnightly" show at Vincent Square during 1909. In all cases quality and flavour will have most consideration, the judges to have option of tasting. The competition for January 12 is for late Grapes, and on January 26 *Seakale* and *Rhubarb*.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, January 11, at 8 p.m., when the discussion on Mr. HERBERT T. SCOBLE's paper entitled "The Administrative Aspects of Sewage Disposal," read at the meeting of November 23, 1908, will be continued.

*** INSECTIVOROUS PLANTS.**—These plants always arouse interest, and it is gratifying to see that it has been found possible to place Darwin's *Insectivorous Plants*, well printed and nicely bound, before the public at the modest price of half-a-crown. Everyone knows of the illuminating investigations which Darwin conducted on these carnivorous plants, and doubtless many people will be glad to have the book, and to see at first hand what were the methods of observation and experiment which yielded so rich a harvest in one of the most attractive fields of research.

* *Insectivorous Plants*, by Charles Darwin; revised by Francis Darwin. With illustrations. London: John Murray, Albemarle Street. 1904. Cheap edition, price 2s. 6d.

CYTISUS × BEANII.—In reference to this hybrid *Cytisus*, about which a question was asked by Messrs. PAUL & SON on p. 399, it has been pointed out to us that Messrs. JAS. VEITCH & SONS made an excellent exhibit of the plant at the last Temple show.

BLACK-SCAB OF POTATOS.—This disease, accounts of which have appeared in our own pages, is exciting some alarm in Germany, where it is said to be spreading. It appears to have been recognised as of local occurrence for some years in the neighbourhood of Düsseldorf, Elberfeld, and some other places, but during this season it has proved so injurious as to have entirely destroyed the crop in many gardens where Potatoes have been raised year by year.

ATTAR OF ROSES.—Some interesting facts relating to the well-known perfume attar of Roses are given by our contemporary *Der Handels-gärtner*. Bulgaria is one of the important centres of its production, and exports from that country to France alone amount to nearly 1½ tons. This represents a considerable money value when it is remembered that the attar costs the French importer something like £20 per pound, and even then the purity is not guaranteed, and there is also a heavy import duty to be paid. The Roses which yield the oil in Bulgaria are *R. gallica byzantina* and *R. alba suaveolens*, while in France *R. centifolia* is grown for the same purpose, and in Germany the Damask Rose is similarly cultivated. In order to obtain the oil, layers of the flowers are treated with petroleum ether, and 5,000 lbs. of Roses yield about 1 lb. of the essence. In the French garden at L'Hay, south of Paris, a pound of the oil of guaranteed purity fetches about £50.

GARCINIA MANGOSTANA.—At Government House Grounds, Port of Spain, the only fruiting tree contained in the collections again ripened fruit in August last. This particular tree has been on former occasions brought into prominence by Mr. J. H. HART, F.Z.S., late superintendent of the Trinidad Botanical Department, through successfully sending fruit to England, which were placed upon the royal table, duly acknowledged, and the fact published in former publications issued from the Botanical Department. Owing to the difficulty that has been constantly experienced in transplanting seedlings, the *Mangostana*, writes Mr. W. E. BROADWAY, has remained to the present time an exceedingly rare fruit in Trinidad. The fruit is considered by many inferior to a first-class grafted Mango, such as Peter's, Julie or Ceylon No. 1 (of Grenada).

FLOUR AND PARAFFIN EMULSION.—Paraffin emulsion is well-known as an insecticide, but it is apt to be rather troublesome to make, owing to the ease with which the oil separates from the soap solution. Prof. MACOUN, of Canada, has experimented on substitutes for the soap, and has obtained excellent results by using flour. He recommends adding to a gallon of paraffin about ¼ lb. of flour (the cheapest sort will answer), stirring them well together. Three or four gallons of water are then added, and the whole is well beaten up for four or five minutes, when more water to make up to 10 gallons is poured in and the emulsion is ready for use. It is claimed for this form of paraffin emulsion that it is easier to make, and remains without the separation of the oil for a much longer time than when made with soap. Of course, the oil will float to the top if it be left too long, but the emulsion will keep for some hours in a state fit to use.

INSTRUCTION IN POULTRY-KEEPING.—University College, Reading, has issued a special list of courses in poultry keeping to be given there with practical training at the College Poultry Farm, Theale. Additional lectures are given by members of the staff on Zoology, Soils, Manures and Pastures, Chemistry of Foods, and Book-keeping. The courses include (1) For the full certificate, occupying one year; (2) terminal course, commencing April 22, 1909; (3) short course commencing February 18, 1909; and (4) combined courses, which can commence at any time. Those who desire practical work alone without theoretical teaching are accommodated upon the College Poultry Farm.

Publications Received.—*Beautiful Flowers and How to Grow Them*, by Horace J. and Walter P. Wright. (Part 5). (London: T. C. and E. C. Jack.)

NOTICES OF BOOKS.

* "HOLLY, BOX, AND YEW."

Mr. W. DALLIMORE, of the Arboretum, Royal Gardens, Kew, treats in this book of the various Hollies, Yews, and Boxes employed in garden decoration. In addition to descriptions of most of the best sorts being given, notes on cultivation and uses are introduced, with a selection of extracts from various works on the superstitions, legends and poetry of the genera. The descriptions of the varieties of *Ilex Aquifolium*, as far as possible, are those of the late Thomas Moore, which appeared at irregular intervals in the *Gardener's Chronicle* during the years 1874, 1875 and 1876. Most of the leaf illustrations will be recognised by all who know Moore's *Monograph*, as it appeared in these pages; there are, however,

number is reduced to three, or even one. In the *Prinos* or deciduous set, however, six seeds are usually found in each fruit. In isolated trees 20 to 30 yards distant from pollen-bearing specimens, it is not uncommon to find from 25 to 60 per cent. of the seeds sterile. Much difference of opinion has existed on the part of botanists, not only in the creation of species, but also in generic titles; and of the score of generic names given in the *Index Kewensis*, *Othera* is still occasionally used in nurseries for the Japanese *Ilex integra*, and *Prinos* is associated with certain deciduous species of North American and Japanese origin. Whilst the number of distinct species of *Ilex* recorded in the *Kew Index* is 167, the synonyms amount to 138. The distribution of the genus is very wide. Its headquarters are in South America, Brazil alone being the home of 60 species. Leaf variation is very great, and among a batch of seedlings of *I. Aquifolium*, as many as 16 different variations of leaf have been noted. This peculiarity is not confined to British species.

A chapter treating of cultivation contains the result of Mr. Dallimore's personal experience, and his further remarks on soil, pruning, feeding, and enemies are valuable. Good illustrations are given of specimen trees now to be seen in the Royal Botanic Gardens, Kew. Mention is made of John Evelyn's impregnable hedge 400 feet long, 9 feet high and 5 feet in thickness, in his garden at Sayes Court.

Mr. Dallimore asserts that the Holly thrives in any position, which may be true of this country, but in some parts of Europe it grows well only in partial shade, exposure to hot sunshine causing the leaves of *I. Aquifolium* to fall. In many parts of England Hollies are found in the wild state. Johnston, in his *Botany of the Eastern Counties*, mentions the remains of natural woods at Detchant, near Belford, in Northumberland; and there are numerous Hollies on the banks of the Findhorn, in Aberdeenshire. The legends and superstitions connected with the Holly make interesting reading. The illustrations of the leaves of Holly have great value in the identification of varieties of *I. Aquifolium*.

Other evergreen species are described, and some of them figured, including American, Japanese, and those from China, viz.: *I. Fargesii*, *I. Peryni*, *I. Aquifolium chinense*, and *I. crenata*, in the possession of Messrs. J. Veitch & Sons.

The chapters on the Yew contain a fund of curious information, and the uses of the Yew in topiary are briefly referred to, as are the varieties of *Taxus baccata*, which are 39. Mention is made of other species, such as *Taxus brevifolia*, introduced by the Veitchian collector, W. Lobb, in 1854; *T. canadensis*, and *T. cuspidata*, used in Japan for cabinet work and indoor decoration of the best houses.

In addition to a good chapter on the Box, there are appended short notes on various shrubs, but these latter scarcely form a useful part of the book, and appear more of the nature of an addenda. *F. M.*



(Photograph by H. F. Macmillan.)

FIG. 180.—FRUITS OF THE "DURIAN" (*DURIO ZIBETHINUS*). (See p. 445.)

Price 1s. net.—*Farm and Home Year-Book, 1909*. (London: Farm and Home Office, 17, Farnival Street, E.C.)—*The Orchid Review* (December). Price 6d.—*Report on the Agricultural and Botanical Departments, Barbados*, for the period 1898 to 1907, with a review of the sugar-cane experiments since 1884. (Barbados: Imperial Commissioner of Agriculture for the West Indies.)—*The City* (January). (London and Letchworth: J. M. Dent & Co.) Price 6d. net.—*The British Astronomical Weather Almanac and Chart, 1909*, by B. G. Jenkins, F.R.A.S. (London: R. Morgan, 65, Westow Street, Norwood, S.E.) Price 2d.—*Memoirs of the Royal Caledonian Horticultural Society*. (Edinburgh: The Royal Caledonian Horticultural Society.)—*Ninth Report of the Woburn Experimental Fruit Farm*, by the Duke of Bedford, K.G., F.R.S., and Spencer U. Pickering, M.A., F.R.S. (London: The Amalgamated Press, Ltd.) Price 2s. 6d.

numerous new ones, together with illustrations of isolated plants and groups, all of which are from photographs by Mr. E. J. Wallis.

Appropriately in a book of this kind, and at this season, the Holly occupies the first part. The flowers of the Holly are borne in the leaf axils, and are white or cream in colour, usually fragrant, and may be monœcious, diœcious or hermaphrodite. The fruits are more or less globose, often bright red in colour, sometimes deep red, purple, black or yellow. The normal number of seeds in most of the evergreen Hollies is four in each fruit; in one or two species this

* *Holly, Box, and Yew*, with notes on other evergreens, by W. Dallimore. (London: John Lane, The Bodley Head. New York: John Lane Company. Price 7s. 6d.)

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his correspondents.)

GRAPE MUSCAT OF ALEXANDRIA (see p. 438).

—As one of the judges at the local show where Mr. Vert exhibited and the disputing question arose, perhaps I may state the following facts? The class was for two bunches of Muscat of Alexandria Grapes, and the competition was good. My two colleagues and myself judged the Grapes on their merits, and made the awards accordingly. It is true that, had these Grapes been judged from appearance only, Mr. Vert's exhibit might have been placed first; but their appearance, both in colour and shape of berry, led each of us to be suspicious, and we resolved to taste them in fairness to other competitors. The flavour was distinctly poor, being very much inferior to the exhibit to which

we awarded the first prize. These latter Grapes were larger bunches, had fine berries, and were very richly flavoured, being equal, in every respect except colour, to those shown by Mr. Vert. I believe it to be a fact that the more highly finished as regards colour a Muscat of Alexandria Grape is the better the flavour, and as this quality is the most important in dessert fruits, we awarded the first prize to what we considered to be the best. We did not go so far as to say Mr. Vert's Grape was not a Muscat, or we most certainly should have disqualified it; but surely *F.R.H.S.* (see p. 438) must admit that any Grape—it matters not what it is named—should possess high flavour as it is understood in the variety it claims to represent. *F.R.H.S.* goes on to say one of the judges is reported to have said at the committee meeting that the berries from the bottom of the bunch were tested were of better flavour than those from the top of the bunch. Now, as I was the only judge sitting on the committee of the R.H.S., this must refer to me, but I have not said one word as to this, and, in point of fact, no berries were taken from the bottom of the bunch or bunches at the exhibition. The bunch Mr. Vert brought up to the R.H.S. meeting on November 27 was, in my opinion, precisely the same as those he entered for competition, and I think I am right in saying that nearly all the committee had the opinion that the flavour was very poor indeed, and there was unquestionably

legia, *Arctotis aureola*, *A. arborescens*, *A. robustus*, *Arctia Sieboldii*, *Arbutus magnifica*, *A. Unedo*, *Ardisia japonica*, *Armeria*, *Aster grandiflorus*, *Azalea mollis*, *Barosma betulina*, *Bauera rubioides*, *Begonia corallina*, *B. semperflorens*, *Berberidopsis corallina*, *Berberis Bealii* vera, *B. Darwinii*, *B. stenophylla*, *Bignonia capensis*, *Brachysema latifolia*, *Buddleia asiatica*, *Calceolaria Burbidgei*, *Calceolaria*, *Calliophoe involucreata*, *Campanula garrigana*, *C. persicifolia*, *Candytuft*, *Canna*, *Cassia corymbosa*, *Ceanothus Gloire de Versailles*, *C. Veitchii*, *Cestrum Parqueti*, *Choisya ternata*, *Chorozema cordatum* splendens, *C. Lowii*, *Chrysanthemum indicum*, *Cineraria argentea*, *C. maritima*, *Cistus purpureus*, *Clematis Jackmannii*, *Clinanthus panicatus*, *Colletia spinosa*, *Convolvulus Cneorum*, *Coronilla glauca*, *Correa cardinalis*, *Cosmos Lady Lennox*, *Cydonia japonica*, *Daphne pinnatifida*, *Daphniphyllum glaucescens*, *Denidum calenduleaceum*, *Desfontainia spinosa*, *Diplotaxis coccinea*, *D. glutinosa*, *Diplotaxis chrysophylla*, *Hebeveria secunda* glauca, *Ecchymocarpus scaber*, *Erica vagans*, *E. carnea*, *E. codonoides*, *Escallonia Bedfordii*, *E. exoniensis*, *E. macrantha*, *E. pulverulenta*, *E. revoluta*, *Eugenia Ugni*, *Eupatorium grandiflorum*, *Eurybia Gunniana*, *Forget-me-not*, *Fuchsia corallina*, *F. Dominiana*, *F. fulgens*, *F. microphylla*, *F. Riccartonii*, *F. Rose of Castile*, *F. triphylla* superba, *Forze* (common), *Garrya elliptica*, *Gazania splendens*, *Genista*, *Gentiana acaulis*,

Rudbeckia Newmannii, *Salvia cardinalis*, *S. Pitcheri*, *S. rutilans*, *Schizostylis coccinea*, *Sedum spatum splendens*, *Senecio pulcher*, *Senecio petasites*, *Swainsonia alba*, *Silene*, *Solanum jasminoides*, *Sollya heterophylla*, *Spartum junceum*, *Spiraea Anthony Waterer*, *S. arguta*, *S. Thunbergii*, *Staphylea Coulombieri*, *Stokesia cavaea*, *Tagetes signata* pumila, *Tournefortia frutescens*, *Trileta uniflora*, *Tropaeolum Boule de Feu*, *T. tuberosum*, *Valeriana*, *Veronica coccinea*, *Dimont*, *Cookiana*, *Gauntlettii*, *Kedruth*, *Coquette*, *Lindleyana*, *gloriosa*, *Blue Gem*, *Meldensis*, *Andersonii* rosea, *Traversii*, *devaricata*, *Vulcan*, *Hendersonii*, and *Hendersonii* variegata, *Viburnum Tinus*, *Violet Kaiser Wilhelm*, *Virginian Stock*, *Vitadenia triloba*, *Wallflowers*, and *Weigela* "Eva Kathke." M. H. G., Trewidden, Buryas Bridge, Cornwall.

TABLE DECORATIONS.—Mr. E. Molyneux (see p. 405) has fallen into the error so often made by judges, that of criticising stands. You will often find them making such remarks as these: "What a lovely stand, how beautifully made, what splendid colours, how some of the judges are." Now, I assert that the duty of a judge is to decide on the harmony, the general effect; in fact, the decoration complete. Does it effect its purpose, showing Nature's products in a natural way. The most perfect stand is one that does this without being unduly prominent. The choice of a stand remains with the exhibitor. Your contributor seizes on a table at the N.C.S. November show to hold up as an example, and what does he like? We find him applauding a style of decoration in vogue in my childhood's days—in the days of the '51 exhibition. As a boy I recollect them well—flowers pressed together, showing no stalks or foliage, like as though a basin had been pressed over them and they had been moulded into shape, a mass, so welded together that you could not discern a complete flower. We do not want to go back to this, yet there are many in the floral trade and among flower-show judges who steadfastly set themselves against any progress, and who, like your contributor, still cling for the days of their youth. Thomas S. Williams, Zeeving, W.



FIG. 151.—*DILLENNIA INDICA*, A NATIVE OF TROPICAL ASIA. THE FRUITS ARE USED FOR MAKING JELLY AND ALSO A COOLING DRINK. (See p. 445.)

a great doubt among many as to whether it was a Bunch of Muscat of Alexandria or not. Therefore it was decided to invite others to send some true Muscats, and Mr. Veit kindly consented to send another bunch, which he did on December 8. This Grape was tasted first, and from some unexplained reason the Muscat was all that could be desired in Muscat of Alexandria. *F.R.H.S.* has a perfect right to his opinion as to there being only two varieties of white Muscats, Alexandria and Canon Hall; but, as he agrees that Canon Hall is a seedling from the other, there is certainly no reason, considering the large number of seedlings raised from this favourite variety, why there should not be others also in cultivation of inferior quality to either of the sorts I have mentioned. Edwin Beckett.

PLANTS IN FLOWER IN DECEMBER.—I send a list of plants which were in flower out-of-doors at Trewidden on December 8.—*Abelia floribunda*, *A. rupestris*, *Abutilon grandis*, *A. Mme. Trehayne*, *A. President McKinley*, *A. Scarlet King*, *A. vexillarium* and *A. v. variegatum*, *Acacia platytera*, *Acanthus latifolius*, *Aechha japonica*, *Adenocarpus anagrus*, *Alonsoa Warscewiczii*, *Alyssum saxatile*, *A. sulphurea*, *Anemone fulgens*, *Aponogeton distachyon*, *Aqui-*

Pelargonium Henry Jacoby, *Paul Crampel* and *Moorensight* (scented leaf), *Gerbera Jamesoni*, *Godeitia* (mixed), *Grevillea thelmanniana*, *Guevina Avellana*, *Hammamelis arborea*, *Hardenbergia monophylla*, *Helianthemum*, *Heliotrope*, *Helleborus*, *Hydrangea cyanclada*, *H. hortensis*, *H. paniculata*, *Hypericum calycinum*, *H. patulum*, *Iberis sempervirens*, *Impatiens Holsti*, *Intermediate Stocks*, *Iris stylosa*, *Jasminum nudiflorum*, *J. primulinum*, *Lapageria rosea* and *L. alba*, *Larkspur* (annual), *Lasiandra macrantha*, *Lavatera*, *Leptospermum bullatum*, *Leycesteria formosa*, *Linaria cymbalaria*, *Linum tregnum*, *Lithospermum prostratum*, *L. rosmarinifolium*, *Lobelia cardinalis*, *L. "Emperor William"*, *Lotus peltorhynchus*, *Lonicera gigantea*, *Lopezia miniata*, *Lychnis*, *Maetitia bicolor*, *Marguerites*, *Megasea cordifolia*, *Mesembryanthemum*, *Mignonne*, *Nandina domestica* purpurea, *Nasturtium*, *Nicotiana Sanderiana*, *Nigella* "Miss Jekyll", *Omphalodes verna alba*, *Oenothera Youngii*, *Osmanthus ilicifolia*, *Pansies* in variety, *Pentstemon*, *Pernettyas*, *Petasites fragrans*, *Pittosporum sinense*, *Plumbago capensis*, *Polyanthus*, *Polygala dalmaisiana*, *Potentilla nepalensis*, *Primula Aрендii*, *P. japonica*, *P. megaseaefolia*, *Rehmannia angulata*, *Rhodochiton volubilis*, *Rhynchospermum jasminoides*, *Romneya*, *Conitort*, *Rose*, *Dorothy Perkins*, *Macartney* and others; *Robus innominatus*,

THE POTATO IN SCOTLAND.—Many people accept the data given in Chambers' *Traditions of Edinburgh*, and imagine that this esculent was unknown to the Scot till the eighteenth century. Some years ago I showed that it was cultivated in gardens previous to 1683, and recently I had a book of farming thought my hands by James Donaldson, and entitled *Husbandry Anatomized*. It was published in 1697, and though the book as a whole is of no great value, it is interesting inasmuch as it contains something new about the Potato. There were two varieties grown by farmers, the one the "knobbed round" and the other an oval variety, which was cut into sets for planting. Those who can recall the methods of the field culture of the Potato 30 to 50 years ago will recollect that the manure was spread along the bottom of the drills, and each set was placed directly on the dung. This is exactly what Donaldson recommends to be done. For the garden he considered that the Potato was useful only for improving a piece of unfavorable soil. Like the pig, the Potato, though it is almost certain it must have been cultivated much earlier than we possess means of proving, was not liked by the majority of Scotsmen. It would seem it carried with it the indefinable something that rendered *Convolvulus Batatas* infamous previous to the introduction of the Potato. I am acquainted with a very old man, who still waits with expectancy an increase of the population in the year succeeding a large crop of the Potato. So that we have existing over centuries methods of cultivation, and a curious belief in the physical qualities of the tuber, the truth or falsity of which has never been investigated. R. P. Brotherton.

LAWN-CLEANING.—We are using the "Pennsylvania Lawn Cleaner" on the lawns here with great success. It removes leaves, twigs, small stones, &c., with the greatest of ease, and the grass looks better than when swept with a broom. The machine can be used by a lad as fast as one can walk. J. S. Higgins, Rüg Gardens, Corwen.

GRAPE CANON HALL MUSCAT.—Your article, (p. 394) on Grape Muscat of Alexandria, reminds me of a conversation I had a few months ago with Mr. Batley, gardener at Wentworth Castle, near Barnsley. Amongst other gardening subjects we then discussed was the origin of the above-named Grape. I chanced to say that it was nearly 47 years since I called at Canon Hall gardens and saw what I was then told was the original seedling vine of this well-known Grape. Mr. Batley said that a good many years ago the then agent at Canon Hall—a gentleman named Mr. Wemyss—told his late father that the vine in question was not a seedling. It came with other vine cuttings from France, being either brought by, or sent to, a former owner of the estate, which has been possessed by the family of Spencer Stanhopes for a long period. I have not now at hand the late Mr. Barron's book on vines, but am under the impression it is there described as a seedling raised at Canon Hall, or it may be so in Hogg's *Fruit Manual* [Yes.—Ed.], which is not at hand either. Mr. Batley is the third generation of gardeners at Wentworth Castle. He and his forefathers have always been in touch with the gardeners at Canon Hall, which is situated only a few miles distant. *H. J. Clayton, Ulleskelf, York.*

GARDENERS AND MUSIC.—Permit me to heartily endorse Mr. Lucas's remarks on p. 437. I have met gardeners whose performances both vocally and instrumentally have been much above the average, and this leads me to ask if it would not be possible for some of the gardening musical talent to combine and get up a concert in aid of the two most excellent and deserving gardening charities—the Royal Gardeners' Orphan Fund and the Gardeners' Royal Benevolent Institution? Two head gardeners among my acquaintances hold the position of organist. *Wilmot H. Yates, The Gardens, Motherfield Park, Alton, Hants.*

PERSISTENCE OF HOLLY BERRIES.—*Ilex Marnockii*, an old variety of Holly that one seldom sees, has the peculiarity of retaining its berries for more than a year. Perhaps the specimens exhibited before the Scientific Committee of the R.H.S., mentioned on p. 399, were taken from this variety. For over 30 years I had under my care a large tree of *I. Marnockii*, and I regularly noticed its peculiarity in this respect. In growth it is more straggling than the common Holly, the berries being thinly set thereon, sometimes for fully 18 inches of their length. Individually, they are larger and more distinct in colour, being of a bright vermilion red. We several times were able to get sprays for Christmas decorations from it when the birds had cleared the others. Why these berries do not also retain their colour, except that in taste they were more bitter. Mr. William Atkinson, of the Handsworth Nurseries, Sheffield, named the specimen in question for me fully 25 years ago. *Yorkshire Gardener*

AN EXTRACT FROM AN EIGHTEENTH CENTURY GARDEN ACCOUNT FOR COUNTY OF WORCESTER.—I send herewith an extract from an old garden account, which gives the prices paid for labour, etc., in the county of Worcester 166 years ago—1740. February 14, one man six days, 5s.; February 21, peck of Roundhead Pease, 2s. 6d.; March 2, spade, 4s.; March 2, sawing a Fir tree, 1s. 6d.; March 6, a rake, 1s. 6d.; March 14, making a hot-bed frame and nails, 3s., white lead and oyle for ditto, 1s. 8d.; May 17, six beesoms 7d., a hoe 1s., 1s. 7d.; June 11, a woman for six days weeding, 3s.; September 6, a wheelbarrow, 7s. 6d.; 1741—May 27, 2 ounces Savoy seed 2s., ditto Calmar 2s., 4s.; September 20, Dessey, for cyder making, two days, 2s.; 1742—May 1, Joyce Field, for two days weeding 1s.; May 27, Jno. South, for binding 200 faggots, 2s. *Andrew South, 18, Bellevue Road, Kingston-on-Thames.*

WHAT IS AN AMATEUR?—I was surprised to find this subject cropping up at a meeting of members of gardeners' mutual improvement societies in October last, as I had held the primary purpose of these societies was to promote wider knowledge in gardening amongst the members, and not to promote flower-show competitions. But in relation to the proper description of a show-

competing amateur, Mr. Wilks seems to have defined the status of such individual very well. At local shows exhibitors are defined, as a rule, as nurserymen, gardeners, amateurs, cottagers, and ladies; and I find their respective positions generally very well understood. I specially agree with Mr. Wilks in his assertion that the status of an amateur is not a matter for the show judges to determine. When committees accept entries, the responsibility of determining the position of the entrant should rest with the committee, and it is most unfair to drag judges into any such dispute. With respect to the question as to whether any person who may sell surplus produce occasionally from his garden, is or is not, an amateur, I would ask is a cottager who may sell a few bunches of cut flowers or some fruit or vegetables of which he may have more than he needs any the less a cottager? So far from being disqualified, he is to be commended. If he published lists or advertisements that he had produce for sale, he would be an amateur no longer, but to make him a trader because he may dispose of a little surplus produce rather than let it waste would be absurd. *A. D.*

SOCIETIES.

ROYAL HORTICULTURAL.

DECEMBER 22.—The final meeting of the Committees for 1908 was held on Tuesday last. There was a bright display of flowers and fruits, also a noteworthy exhibit of ornamental shrubs. Orchids were numerous, and there were also brilliant groups of Begonias, Pelargoniums, Carnations and other flowers. Messrs. JAMES VEITCH & SONS, LTD., were awarded two Gold Medals, one for the exhibit of shrubs referred to, the other for a display of Apples and Pears.

THE ORCHID COMMITTEE granted three First-class Certificates, three Awards of Merit, and two Botanical Certificates.

THE FLORAL COMMITTEE granted one First-class Certificate and one Award of Merit.

Two varieties of Apples were recognised by the FRUIT AND VEGETABLE COMMITTEE, one gaining a First-class Certificate and another an Award of Merit.

Floral Committee.

Present: W. Marshall, Esq., chairman, and Messrs. Chas. T. Drury, Jas. Walker, T. W. Turner, G. Reuthe, E. H. Bowles, Chas. E. Pearson, W. Howe, J. F. McLeod, W. Bain, Chas. Dixon, J. T. Bennett-Poe, Herbert J. Cutbush, W. Cuthbertson, W. P. Thomson, E. H. Jenkins, W. J. James, W. T. Ware, Arthur Turner, Jas. Hudson, W. A. Bilney and R. Hooper Pearson.

Messrs. JAMES VEITCH & SONS, LTD., King's Road, Chelsea, exhibited a very large collection of ornamental shrubs. The group occupied the whole length of the building, and ten large vans were required for the transport of the plants. There were Hollies, Aucubas, Arbutus, Euonymus, Olearia, Ivis, Pittosporum, Viburnum, Magnolias, Phillyreas, Crataegus, Skimmia, Bamboos, and numerous other subjects represented in all the types and varieties. Amongst uncommon species may be mentioned *Cotoneaster humilis* with low trailing shoots; *Olearia commutata*, *Berberis*, *Rhamnus alaternus* folia marginata, *Viburnum rhytidophyllum*, and *Ilex Peryi*. The same firm also showed a bright exhibit of greenhouse flowering plants, having many beautiful varieties of their type of winter-blooming Begonias, the yellow-flowered *Ceropegia Grantii* and the pink *Crowea latifolia* major, the whole relieved with Ferns and Palms (Gold Medal).

Messrs. H. CANVELL & SONS, Swanley, showed pyramidal-trained plants of Begonias *Gloire de Lorraine*, Mrs. L. de Rothschild, Turford Hall, and a large flowered variety named *The King*. All the specimens were profusely flowered and showed to advantage on a white ground, relieved with Adiantum Ferns and *Isolepis gracilis*. Adjoining the Begonias were varieties of Zonal Pelargoniums. There were several new varieties, and of these we may instance *Leonus* (deep crimson), *Venus* (white with "pipe" of perfect form), *Uranus* (some of the individual flowers measured 2½ inches across, the colour

is rosy cerise), *Vesta* (rose-salmon with a large white eye), *Mars* (crimson); the petals are of great substance) and *Mercury* (orange-scarlet, very large in size). (Silver-gilt Banksian Medal.)

Messrs. W. M. CUTBUSH & SON, Highgate, London, N., showed an assortment of berried plants, and a large number of well-fruited specimens of *Citrus sinensis*. The exhibit also included *Pernettya* (both purple and white berried), *Skimmia japonica*, *Ardisia crenulata* (a very elegant berried plant), *Daphne indica*, and *Aucuba japonica*. The same firm also exhibited a charming group of perpetual-flowering Carnations, having most of the best varieties of this popular flower, either as cut blooms or pot plants. (Silver-gilt Flora Medal.)

Messrs. HUGH LOW & CO., Bush Hill Park, Enfield, showed perpetual-flowering Carnations in assortment, several species of *Acacia*, *Correa cardinalis*, *Daphne indica rubra*, and other seasonable greenhouse plants. (Bronze Flora Medal.)

Messrs. H. B. MAY & SON, The Nurseries, Upper Edmonton, showed choice and rare Ferns in variety. We noticed the new *Nephrolepis Amerpohlii*, a very elegant variety of *N. exaltata*, also *N. e. superba* with erect-growing fronds pleasingly crested, *Asplenium nidus multilobatum*, the fronds being much divided at their upper parts; *Adiantum formosum*, *Lomaria platyptera*, *Asplenium Belangerii*, *Platycerium grande*, *Pteris argyræa*, &c. (Silver Banksian Medal.)

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, showed flowering plants of *Montanoa bipinnatifida*, which formed the subject of the Supplementary Illustration in the issue for January 18, 1908.

Mr. W. P. HORTON, Cravenhurst, Seaford, Sussex, staged an exhibit of greenhouse flowering and foliage plants, including Begonias, Primulas, *Salvia splendens*, *Cinerarias*, *Cypripediums*, &c., relieved with Ferns and Palms.

Mr. G. REUTHE, Keston, Kent, displayed a few interesting Alpine plants in flower.

AWARDS.

Acanthus montanus.—This is an old species introduced from West Africa many years ago, but it is rarely, if ever, seen in English gardens. Messrs. Jas. Veitch & Sons exhibited a plant in a 6in. pot, with long, deeply-cut leaves mottled with yellow and green. The inflorescence was about 8in. long, and the bracteoles veined with light purple, causing the flowers to appear of that colour, although this species is sometimes described as rose coloured. The three-lobed lip is perfectly white. The plant needs stove treatment. (First-class Certificate.)

Sarcococca ruscifolia.—This is a new species introduced from China, and described in *Hortus Veitchii* under the name of *S. prunifolius*, but it has since been named by Dr. Standley *S. ruscifolia*. It is a dwarf evergreen shrub with foliage like that of a *Ruscus*, bright green and shiny. Small clusters of whitish, fragrant flowers are produced in the leaf axils, and the fruits are described as bright blue. The shrub will bear cutting almost like a *Privet*, and it is said to grow well in shade. From Messrs. JAS. VEITCH & SONS, LTD. (Award of Merit.)

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, de B. Crawshaw, H. Little, W. Boxall, Stuart Low, F. J. Hanbury, F. M. Ogilvie, R. G. Thwaites, C. H. Curtis, H. J. Chapman, J. Forster Alcock, J. Charlesworth, A. Dye, J. Cypher, H. G. Alexander, W. H. White, H. A. Tracy, H. Ballantine, A. A. McBean, J. Wilson Potter, Gurney Wilson, and R. Brooman-White.

Messrs. SANDER & SONS, St. Albans and Bruges, were awarded a Silver Flora Medal for a very interesting group containing several remarkable novelties, the central figures being the new and fine *Odontoglossum Magali Sander* (see Awards); a supposed new *Odontoglossum* named *Mooreanum*, an elegant species, probably nearest to *O. Kranzlinii*, and with flowers bearing some resemblance to *O. ramosissimum*; *Cypripedium Penelope* (*Hitchinsia* x *Leeanum*), a very pretty and distinct *Cypripedium* of attractive colouring; Varieties of *Laelia anceps*, *L. autumnalis* alba, *Oncidium Loxense*, &c., were also shown.

Messrs. CHARLESWORTH & CO., Haywards's Heath, were awarded a Silver Flora Medal for a select group, in which were a fine specimen of the best form of the now rare *Vanda lamellata* Boxallii, the white *V. Watsonii*, an elegant plant of *Gongora quinquevires*, with three long spikes of flowers; various hybrid *Odontoglossums*, the brightly-coloured *Helio-Cattleya Charlesworthii* principles, &c.

F. MENTETHI GRILLIV, Esq., The Shimbrey, Oxford (gr. Mr. Balmforth), received a Silver Flora Medal for a group of *Cypripediums*, *Lycaste hybrida*, *L. Balliae*, three pure white *L. Skinneri* alba magnifica, &c.

Messrs. J. & A. McBEAN, Cooksbridge, were awarded a Silver Flora Medal for a very effective group of fine varieties of *Odontoglossum crispum*, the best of which were the very beautiful variety *Majesticum*, a grand white flower, with a few dark spots on the sepals; and a new, heavily-blotched variety, flowering for the first time. Also in the group were excellent forms of *Laelia anceps*, *L. autumnalis*, with seven spikes, and various good *Cypripediums*.

Messrs. JAS. CYPHER & SONS, Cheltenham, showed a select group of *Cypripediums*, which included C. F. Sander, a remarkable flower, with some resemblance to *C. nitens*, but with a distinct green reticulation in the leaf; C. Thompsonii; C. triumphans, C. Minos Young's variety; varieties of C. Euryades, C. insignis, &c. (Silver Banksian Medal).

Lieut.-Col. HOLFORD, C.I.E., C.V.O., Westonbirt, sent *Cypripedium Beaton* (J. Howes x *nitens* *Leeanum*) and *Oncidium Forbesii*, Westonbirt variety, having a large yellow lip, with some brown blotches in front. Also two others.

FRANCIS WELLESLEY, Esq., Westfield, Woking (gr. Mr. Hopkins), showed *Cypripedium Ernest Swinton* (Godfroye x *Beechene*), with beautiful cream-white leaves, prettily netted with green, and flower formed like C. William Lloyd, cream-white, densely blotched with claret colour; also a yellow *Laelio-Cattleya*.

DE B. CRAWSHAY, Esq., Roselyden, Sevenoaks (gr. Mr. Stables), showed *Cymbidium Roseofidense* (Tracyanum x *randiflorum*), a very promising hybrid, with large flowers, in which both parents can easily be traced. When grown it should be very handsome.

Sir Trevor LAWRENCE, Bart., K.C.V.O. (gr. Mr. W. H. White), showed a *Sophro-Laelia* between *S. grandiflora* and *L. Jongheana*, of the form of the latter, but smaller.

J. GURNEY FOWLER, Esq. (gr. Mr. J. Davis), showed a very fine and well-grown *Odontoglossum crispum* with very large flowers.

Messrs. JAS. VEITCH & SONS, Chelsea, sent *Cypripedium Thalia splendens*, approaching in size and colour the famous C. Thalia Mrs. Francis Wellesley, C. Crusader; and the very handsome C. Elator.

H. T. PITT, Esq. (gr. Mr. Thurgood), sent *Cypripedium Felicity*.

Mr. H. A. TRACY showed *Cypripedium Goodsonianum*.

Messrs. HUGH LOW & CO., staged a group of *Cypripediums*, &c., which included C. Minos Young's variety, C. Tracyanum, C. Helen II., and varieties of C. insignis.

Messrs. ARMSTRONG & BROWN, Tunbridge Wells, sent *Cypripedium Helen II.* var. *Armstrongiae*, an ivory-white flower, prettily spotted, and C. Minos Young's variety.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr. Mr. H. J. Chapman) showed a selection of his very fine hybrid *Calanthe*, &c.

Mons. MERTEENS, Ghent, showed several pretty hybrid *Odontoglossums*.

R. G. THWAITES, Esq., Streatham (gr. Mr. Black) staged a selection of his white-petalled forms of *Cattleya Maggie Raphael*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum Magali Sander (Rolfes x *Adriana* var. F. K. Sander), from Messrs. SANDER & SONS, St. Albans. A grand variety with very large flowers, broad in all the segments and especially in the very remarkable lip, the fibrillation of whose margin gives indications of *O. Adriana*, the flower generally approaching nearer to *O. Rolfes*, but in its dense spotting *O. Adriana* again appears. Sepals and petals cream white, slightly mottled with rose and with transverse bars of confluent blotches, with surrounding smaller blotches of

claret purple. Lip white, with a complicated yellow crest, with purple lines, and having one large reddish-purple blotch, in front of which is a mottled ray of deep rose colour. Margin white and fringed.

Calanthe Angela (Burfordensis x *Chapmanii*), from NORMAN C. COOKSON, Esq. (gr. Mr. H. J. Chapman). A grand improvement on the richly-coloured C. Chapmanii and with larger distinctly three-lobed lip of an intense ruby crimson, the sepals and petals being of a lighter tint.

Cypripedium Antinous (J. Howes x *Adams*), from Lieut.-Col. G. L. HOLFORD, C.I.E., C.V.O., Westonbirt (gr. Mr. H. G. Alexander). A very handsome hybrid with a fine white dorsal sepal spotted with purple on the lower half. Petals and lip pale yellow with a slight orange shade, and obscure green veining.

AWARD OF MERIT.

Cypripedium Elator (Leeanum x *Baron Schröder*), from Messrs. JAS. VEITCH & SONS, Chelsea. A very beautiful *Cypripedium* and an improvement on C. Baron Schröder in size and form. Ground colour white, finely blotched and tinged with deep violet-purple.

Calanthe Norman (vestita gigantea x *rubro-oculata*) (hybrid), from NORMAN C. COOKSON, Esq. A very bright hybrid rather lighter in colour than C. Angela and with rather larger flower. Lip mauve-crimson, petals rose-purple, sepals tipped with white.

Oncidium bicallosum Sanders variety, from Messrs. SANDER & SONS. Sepals and petals chestnut brown, lip large yellow.

BOTANICAL CERTIFICATE.

Dendrobium elongatum.—An elegant little species of the *D. cymbioides* section with slender spray of white flowers with yellow lip, margined with purple.

Epidendrum punctiferum.—A rare species of the *E. iners* group, with upright spikes of green flowers with white lips spotted purple. Both from Sir Trevor LAWRENCE, Bart., K.C.V.O.

CULTURAL COMMENDATION.

To Mr. H. J. Chapman (gr. to NORMAN C. COOKSON, Esq.), *Odontoglossum Leeannum* Clinkaberryanum, with 15 flowers.

To Mr. H. G. Alexander (gr. to Lieut.-Col. G. L. HOLFORD, C.I.E., C.V.O.), for the rare *Cologyne Mooreana* with two fine spikes.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the chair), and Messrs. W. Bates, Alex. Dean, H. Parr, A. R. Allan, Wm. Pope, James Gibson, J. Davis, G. Reynolds, Owen Thomas, C. G. A. Nix, W. Poopart, Jos. Cheal, and James Vert.

Messrs. JAMES VEITCH & SONS, LTD., King's Road, Chelsea, displayed a very fine exhibit of well-kept Apples and Pears. There were 150 varieties of the former fruit and 16 of Pears; and, in addition, there were six dishes of French-grown Pears and Apples. The whole formed one of the finest exhibits of Apples and Pears ever exhibited in December: the Committee awarded it a Gold Medal.

An excellent exhibit of Apples and Pears was shown by Messrs. H. CANNELL & SONS, Swanley, Kent (Silver Knightian Medal); and another smaller group of Apples was shown by Messrs. HUGH LOW & CO., Bosh Hill Park, Enfield.

LORD HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), exhibited 15 magnificent bunches of Muscat of Alexandria Grapes. (Hogg Medal.)

AWARDS.

FIRST-CLASS CERTIFICATE.

Apple Encore.—This variety was granted an Award of Merit on December 11, 1906, and is figured and described in the issue for January 5, 1907. From Col. ARTHUR HOUBLON.

AWARD OF MERIT.

Apple William Crump.—A dessert variety raised from Cox's Orange Pippin x Worcester Pearmain. From Mr. W. CRUMP, Madresfield Court Gardens.

NATIONAL DAHLIA.

DECEMBER 15.—The annual general meeting of the above Society was held at the Hotel Windsor on this date, Mr. Edward Mawley, V.M.H., presiding. The first business was the consideration of the scheme of amalgamation agreed upon by the members of the London Dahlia Union and by the committees of both Societies. This was adopted without dissent.

The Secretary next read the annual report, from which we extract the following:—

EXTRACT FROM ANNUAL REPORT.

The annual exhibition, for the first time, was held in the new Hall of the Royal Horticultural Society. The total number of entries for the show in 1908 was 303, as against 255 in 1907, but the bad weather just before the Show prevented some who had entered from competing.

Some 70 new varieties were submitted to the inspection of the judges, who awarded certificates to 11 of them. On September 29 a Joint Committee of the National Dahlia Society and the Royal Horticultural Society met for the purpose of making awards to new Dahlias. Certificates were awarded to nine varieties. The total number of certificates awarded in 1908 was 151; in 1907, 151; and in 1908, 20.

The Silver Challenge Cup, value 15 guineas, in Class 6, for 18 bunches of *Cactus Dahlias*, was won outright by Messrs. Stredwick & Son, and the Silver Challenge Cup, value 5 guineas, in Class 15, for 24 blooms of show or fancy Dahlias was won outright by Mr. Thomas Jones. Subscriptions are invited to replace these, and should be sent to the hon. treasurer, by whom they will be readily acknowledged.

The number of new members joining the Society in 1908 was 28; in 1907 there were 28; in 1906, 38; and in 1905, 31 new members. Thirty-nine members have resigned during the past year. The committee regret that their appeal to obtain new members has not met with the support they anticipated.

The trial of garden Cactus Dahlias was again held at Wisley. Two visits were made by a Joint Committee, and seven varieties were highly commended. The trial of Dahlias will be continued in 1909, by the courtesy of the Royal Horticultural Society, but Cactus show Dahlias of any kind, either garden or exhibition, will be excluded from the trial.

A balance-sheet showed a total income of £163 10s. and a balance of £6 6s. 2d.

The Treasurer stated that, owing to the kindness of the trade growers generally in not taking their prizes, the Society was able to carry forward a balance of £19 9s. 8d., including the reserve fund.

The President then moved the formal adoption of the report with mingled feelings of regret and pleasure—regret that the attempt made to hold a London show had not proved successful but pleasure at the fact that the two Societies had to-day agreed to amalgamate, which would tend to place the new Society on a firm basis. A generous offer had been made by the Crystal Palace Company to hold the next show at the Palace, which would no doubt be accepted; a second show will also be held in London.

Mr. Geo. Gordon advocated the claims of the garden varieties of Dahlia, and he thought trials on the purpose of ascertaining the best garden kinds should be continued; also that more publications should be issued. The report was adopted.

It was agreed to form a General Committee of not more than 40 members, from which an Executive Committee of 12 members should be annually elected to conduct the business of the Society. The number of vice-presidents was increased, and the names of Mr. John Green and Mr. W. Cuthbert were added.

Mr. Edward Mawley was re-elected president of the Society for the ensuing year, and Mr. C. E. Wilkins was appointed treasurer. Mr. E. F. Hawes and Mr. H. H. Thomas were elected as joint honorary secretaries. On a ballot for the members of the Executive Committee, the following persons were declared elected:—Messrs. Bronsson, Baxter, Cadman, Kead, Doncaster, J. Green, Lockyer, Mortimer, Riding, Stephens, Stredwick, and J. T. West. Mr. W. Stephens was elected as auditor.

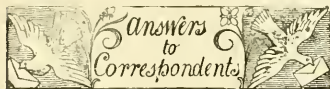
TRADE NOTICES.

MR. JOHN A. LAING, Seedsman, Seal Chart, near Sevenoaks, informs us he is in no way connected with Messrs. John Laing & Sons, of the Forest Hill Nurseries.

MR. AGATHIAS has accepted an engagement to undertake the development of a new garden at Tiptree, Essex, for Mr. F. Mycott, of Brook Hall.

MESSRS. HOWARD & HEMSLEY, LTD.

This private company has been formed with a capital of £1,000, in £1 shares, to acquire the business of nurserymen, &c., carried on at Little Byham, Lincolnshire, by T. Howard and J. S. W. Hemsley, as Howard & Hemsley, and the Lincolnshire Tomato Growers.



APPLES: *C. W., British Columbia.* According to Hogg's *Fruit Manual*, Cox's Orange Pippin was raised at Colnbrook Lawn, near Slough, Buckinghamshire, by a Mr. Cox, who was formerly a brewer at Bermondsey, and who retired to Colnbrook Lawn, where he devoted the remaining years of his life to gardening pursuits. The Apple originated in 1830, and is said to have been raised from a pip of Ribston Pippin. The Ribston Pippin did not become generally known till the end of the 18th century. The original tree was first discovered growing in the garden at Ribston Hall, near Knaresborough, but how, when, or by what means it came there has not been satisfactorily ascertained. One account states that about the year 1688 some Apple pips were brought from Rouen and sown at Ribston Hall; the trees produced from them were planted in the park, and one turned out to be the variety in question. The original tree stood till 1810, when it was blown down by a violent gale of wind. It was afterwards supported by stakes in a horizontal position, and continued to produce fruit till it died in 1835. The gardener at Ribston Hall, by whom this Apple was raised, was the father of Lowe, who, during the last century, was a fruit-tree nurseryman at Hampton Wick. Lord Suffield was raised by a hand-loom weaver named Thomas Thorpe, of Boardman Lane, Middleton, near Manchester, and was first distributed in 1836 or 1837. It was called Lord Suffield on account of that nobleman being at the time lord of the manor of Middleton.

APPLE SHOOTS: *G. H. S.* This is true "canker" (*Nectria ditissima*). Get rid of any "American blight" that is present, as canker almost invariably follows that pest. In one place the canker has followed on after the shoot was attacked by the Apple scab fungus. Spraying in the winter with 1 lb. bluestone to 25 gallons of water will remove much of the "scab." Cut out the cankers and protect the wounds by painting them over with Stockholm tar.

ASH: *A. Z.* The difference in fertility in the Ash trees is due to some specific or varietal characteristics. Varieties of all trees and plants are liable to vary in their capacity for flowering and fruiting.

BLACK CURRANT BUDS: *J. T. A.* The buds are affected with the Currant-bud mite. It is recommended that bushes only slightly affected should be dusted with a mixture of lime and sulphur in March, April, and May. Badly infected bushes should be burned.

CHRYSANTHEMUM WESTERN KING: *G. J.* The pale lemon colour in your sport of this variety is scarcely pronounced enough to be valuable.

DAHLIA: *D. & Co.* The Dahlia is attacked by a fungus known as *Sclerotinia*. The dark, bean-like substances you refer to are the "sclerotia," dormant mycelium (spores) of the fungus. Obtain leaflet No. 127 by sending a letter (unstamped) to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W. This leaflet gives a full description (illustrated), and suggests remedies.

FRUIT TREE SHOOTS: *T. C.* Although there is some "scab" fungus present (*Fusicladium dendriticum*) on the twigs, the main injury is being caused by canker (*Nectria ditissima*). If any American blight or woolly aphid is present on the trees, take steps to get rid of it at once. See also the reply to *G. H. S.*

GRAPE FRUIT: *H. E. C.* You will find a paragraph on this fruit on (trust decumana) on page 443. We do not think its cultivation in this country would be profitable, but if you wish to raise plants from the seeds you have imported, this may be possible provided you have got the conveniences of a hot-house.

HORTICULTURE: *H. E. K.* If you intend to commence business as a market gardener or nurseryman, your best plan would be to seek employment in some of the best market gardens or nurseries. During the time you are gaining practical experience you could study and attend classes in chemistry, botany and

physics. The nurserymen would give you a least a subsistence wage, and thus you might succeed in leaving your capital untouched until it is necessary to purchase a business.

HORTICULTURAL EXHIBITIONS: *M. J.* The difficulties you describe are not uncommon to those concerned in the management of exhibitions, whether horticultural or otherwise. In nearly all cases committees have found it necessary to have a rule that all produce exhibited by competitors shall have been in the possession of such exhibitors for a certain length of time previous to the exhibition. Having read your letter carefully, we think your best course would be to delete the word "such," as proposed, and adopt the additional rule marked "A," which will certainly give the committee all the power they require.

NAMES OF FLOWERS, FRUITS AND PLANTS.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time: they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. *Correspondents not answered in one issue are requested to be so good as to consult the following numbers.*

FRUITS: *H. Anxious.* Cheshunt Pippin.—*G. B., St. Donats.* 1, Reinette de Canada; 2, Durnelov's Seedling (syn.) Wellington; 3, Lord Derby; 4, Cox's Pomona; 5, Beauty of Kent (a very fine fruit); 6, Golden Reinette.—*Devonian.* 1, Grange's Pearmain; 2, Sturmer Pippin; 3, Hanwell Souring; 4, Bolts's Seedling.—*D. P. & Sons.* 1, Lemon Pippin; 2, Queen Caroline.—*J. C. W. & Sons.* 1, Harvey's Wiltshire Defiance; 2, Fife's Russet; 3, Reinette Van Mons.

PLANTS: *M. E.* A variety of the Common Capsicum, *Capsicum annuum*.—*F. E. G.* Helixine Soleirolia.—*W. J. F.* 1, Epidendrum ciliare; 2, Selaginella caulescens; 3, Cyrtopodium barbatum; 4, Carex japonica variegata; 5, Chlorophytum elatum variegatum; 6, Begonia Gloire de Lorraine.

NUTS: *Ignoramus.* The seedling Filberts will bear fruits without any special treatment provided you thin out the growths, keeping the middle of the bushes from developing into a thicket. These Nuts are usually propagated by suckers, and these always fruit earlier than seedling plants. The seedlings may differ in various qualities from their parents and from each other, but suckers may be depended upon to reproduce the same variety as the bushes from which they are obtained.

PERSIMMON CULTURE: *T. H.* The Persimmon (*Diospyros virginiana*) is hardy in this country, and is found growing wild in the United States as far north as 38° lat. Trees sometimes reach a height of 80 feet. The Persimmon is readily propagated from seeds, but the plants should be budded or grafted when two or three years old. The Japanese Persimmon (*D. Kaki*) should be accommodated in a greenhouse, where it will fruit when about three years from the graft. In Kew Gardens the plant fruits in the succulent house, where it is—or was—planted out in one of the central beds. See also reply to *Essex* on p. 402 in the issue for December 5.

RHODODENDRONS: *H. R. G.* For a succession of Rhododendrons you cannot do better than plant nobleanum, crimson, which flowers in February as a rule, though sometimes it is earlier, and is followed by Waterhouse's (pink), altalercense (red), Ascot Brilliant (scarlet), Jackson's (rose-pink), Smith's album (white), Blanche superbe (white), Grand Arab (crimson), Fortunei (white, sweet-scented), Broughtonii (red), Blandyanum (red), Cynthia (rose), George Hardy (white), Mrs. E. C. Stirling (bluish), and Pink Pearl (pink). These flower in succession in the order given, and carry the period of blooming to the end of May, when the bulk of the Rhododendrons

come into flower. Late sorts that bloom from about the middle of June are Alarm (white, with scarlet edging), B. W. Elliott (pink), Countess of Clancarty (red), multi-maculatum (white), Warrior (crimson), Mrs. J. Kelk (fine red), Sunshine (red), pictum (white), Maggie Howard (white), and Beauty of Hagshot (pink). These carry the period of flowering to about the end of the first week in July. The best plants to mix with Rhododendrons to stand well above them are some of the Liliums, more especially *L. auratum* and others that delight in a peaty soil. Some of the tall-growing Japanese Maples can also be used, the autumn tints of some of them contrasting well with the dark green of the Rhododendrons.

SALISFY: *Woodstown.* What you send appears to be Salisfy; there are varieties of this vegetable, which may be the cause of the confusion.

SEAKALE: *G. J., Loughton.* There is no Rhizoctonia present on the plants. It is possible that the decay is being caused by the recently-described bacterial disease of the Seakale. Remove affected plants and burn them; dust the remaining plants over with flowers of sulphur.

SOIL: *J. H.* We cannot determine what affected the vines merely by examining a sample of the soil. We require specimens of the vine itself.

TULIP: *F. A.* The bulb has commenced to decay from some reason or another, and the check that caused this has also prevented the flower from developing so well as it ought to have done.

TULIPS AND DAFFODILS: *G. B.* We are unable to say what is the highest price recently obtained for a new variety of Tulip or Daffodil, but propagation of both bulbs being somewhat slow, novelties of extra merit always remain expensive for some considerable time after introduction to commerce. If you get the nurserymen's catalogues you may see the prices asked for the principal novelties.

VALLOTA PURPUREA: *N. S.* The Scarborough Lily is one of the most valuable bulbs for culture in the greenhouse. One has only to visit a cottagers' show in August, or see the plants flowering in a cottage window, to see how easily the plants may be grown. Yet many gardeners find it difficult to flower the bulbs successfully. The bulbs dislike too frequent repotting, yet they need attention all through the year, rather than merely at the time they are expected to flower. As with Nerines, so with Vallotas; the more root-bound the plants are the better they seem to bloom. The most suitable soil for them is a mixture of fibrous loam, a little leaf-mould, dried cow manure, and sand. When repotting is actually necessary, it may be done in June and July, or immediately after flowering. In other seasons the loose surface soil should be removed, and a top dressing applied of the same compost as we have recommended for potting, adding a large proportion of cow manure. The bulbs must not be dried off in winter, although the soil should not be kept so moist as when the plants are growing freely. Frequent applications of liquid manure will be beneficial to pot-bound plants during their period of active growth. At all times the plants should occupy a light position on a shelf near the roof glass in a cool house, and they must never be shaded. There are several varieties of the species, differing chiefly in the size and shade of colour of the blooms. The most distinct are major (large, reddish-scarlet flower), magnifica (a robust growth, having large flower, with a white throat), and a rather small-flowered form named minor. Considerable variation in the colour of the blooms has been obtained by crossing the Vallota with *Cyrtanthus sanguineus*, the offspring being known as *V. hybrida*. A form with buff-red flowers, and another with vermilion-coloured blooms, are most distinct.

COMMUNICATIONS RECEIVED.—*H. M. V.*—Holt—J. Rogers—P. A.—T. S.—W. H. Y. J.—M.—G. W.—J. D. G.—J. R. J.—H. P. M.—G. W.—C. L.—Espeyans—A. G. B.—H. S. T.—Prof. S.—J. A. W.—W. H. W.—J. D. G.—W. W.—H. E.—B. B.—W. H.—C. H.—C. A.—F. M.—E. B.—F. A.—R. P. B.—L. A. B.—D. R.—A.—F. M.—F. C. R. (next week)—T. L.—A. J.—S. A. (many thanks)—G. H. H. (W.



