THE MARKET FRUIT GARDEN.

DEAD WOOD IN PLUMS.

The early season has facilitated the cutting out of the dead wood which is necessary to bring the tree into proper shape and to promote the health of the trees. This is a much more difficult operation than is usually supposed. If the trunk is cut and the stub left, the bulk of the dead wood in the tree will be removed as it rots away, but it is not always easy to get the dead wood to rot. In the case of a tree that is to be cut down, it is necessary to get rid of the dead wood in the stump, and this is not always easy. The dead wood in the stump should be removed as it rots away, but it is not always easy to get rid of it. The dead wood in the stump should be removed as it rots away, but it is not always easy to get rid of it.

DRESSING WOUNDS ON TREES.

Various dressings are used by different growers for dressing wounds on the bark. One of the most common is the use of tar, which is applied to the wound and left on the tree for a week or two. This is a very effective dressing, but it is not always easy to get the tar to stick. The tar is applied to the wound and left on the tree for a week or two. This is a very effective dressing, but it is not always easy to get the tar to stick.

FURTHER INVESTIGATIONS ON THE EELWORM DISEASE OF NARCISSES.†

In the spring of 1917 I delivered a lecture on the Narcissus, and although at that time the investigation was still in its infancy, it was definitely shown that eelworm was the cause of the disease which has been giving growers great concern during the past few years. Since 1917, two papers have been published by the R.H.S. Journal on the treatment of the disease, and occasional notes have appeared in the Horticultural Press. On taking up the investigation of Narcissus disease in 1916, I was amazed to find that eelworm infection had reached such enormous proportions, and I was inclined to believe that the devastating character of the disease had been greatly underestimated by growers. Affected bulbs were receiving careful treatment, clean land was being infected, and stocks hitherto free from eelworm were becoming diseased because growers did not realise the seriousness of the matter, consequently, not only were the majority of stocks infected, but land was devoted entirely for the cultivation of Narcissus. It is essential that growers who are affected in the bulb industry should be able to recognise the Narcissus disease, to enable them to take correct measures at the right time and in the proper manner. If the disease is allowed to go unchecked and disregarded, this negligence will cause a direct injury to the industry. Some growers are of opinion that the only trouble of the Narcissus is eelworm, and therefore it is not surprising to hear that the bulbs can grow out of the disease. In such cases I feel certain that if the bulbs had a chance to develop, this would not be the case. I believe that this is the case. In such cases I feel certain that if the bulbs had a chance to develop, this would not be the case.
The GARDENERS' CHRONICLE.

April 24, 1920.

VERBENAS.

The number of people who can recall the days when Verbena held the flower garden must now be few. Like nearly every popular flower, its period of popularity had its limits and extended from the early forties to the eighties of last century, when, if any were to be found who gave no place for Verbena in his garden, he would have been regarded in much the same manner as Dick Serville did the gardeners who, in A. V. Hildegard, the Rose Vervain, but it was not until the advent of the South American species that the Verbena became a popular garden flower. The first of these of gardening value was Verbena adspersa, which was introduced in this country from South America. The species was figured in Bot. Mag., t. 3551, and there is also a fine plate of it in the Magazine of Botany. I imagine that it is from one of the exceptions of V. venosa, that garden sorts were raised in this country. It is thought that Mr. Wills, when gardeners at Hunton, raised thousands of seedlings from V. venosa crossed with others, but none of these ever proved sown of value. Many varieties were imported annually from the Continent, and the earliest period, Scott of Merriott had no fewer than 200 French and British sorts.

In my recollection, the best varieties for bedding, which were distinct from the pure Verbenas, were those found near by Bandon, a private garden at Thomas Bank, Penrose, and distributed by Charles Wills, in April, 1868, at 2s. 6d. per plant, the usual price being 6s. for no varieties. Subsequent history of Verbenas has proved that the anticipation of the introducer to have been correct, for in the other years it has never been introduced. The best white of Verbena was V. King, the best of that colour, was raised by Nobles, of Holland House, and sent out by Dobson of Islington, in 1853; Bladis de France before 1855; and this and the same year. The best of the introduction was V. venosa, which is hardy in all parts, and one of the earliest known species worth growing is V. neoxisii, which was raised by Mr. Scott of Merriott, and which produced a white variety in many years. The variation of sepals was figured in

Fig. 95. NATIONAL SHOW EARLY EASTER WITH VERBENAS, AND SHOWING CONSIDERABLE GROWTH PROPORTION OF THEM HAD BEEN KILLED. I had no information regarding what a threethree-hour treatment would do. I had the impression to two of the threethree flowers growers, Mr. Geo. Watts, J. T. White and Sons, who had done much to further the investigation and they resolved at once to try to find the treatment was completely successful. An apparatus was designed and completed in November, and testing operations commenced immediately; a four-hour treatment in water at 180° F. was adopted. I took advantage of this opportunity to treat four lots of 500 bulbs each with a very distinctly dyed stock, showing 96 per cent, infection, and these were treated for 1, 2, 4 and 6 hours, respectively, and were then transferred to Wisley.

The following year it appeared as though the bulbs treated for the first time had been badly damaged. The treated bulbs in Snaking occupied about 6 acres of ground, and there was hardly a blade of foliage to be seen. The treatment was now a three-hour treatment, and the growers left the bulbs in the ground for another year, as they were far too hard, although they had not produced roots. Next year (1919) these bulbs grew healthy and strong.

(Two to be continued.)
Home Correspondence.

[This Editor do not hold themselves responsible for the opinions expressed by correspondents.]

English versus Scottish Gardens. I have been very much interested in Mr. F. C. King's article (see p. 272) on English versus Scottish Gardens. I have served under both, and I could not record one clone as better than the other. All gardeners have their own special methods of cultivating fruit, flowers and vegetables, therefore the merit of one class as compared with another is largely a matter of opinion. I quite agree with Mr. King's idea of varying a lady's work and giving her a little job to do by herself; she will naturally try to do right, and if she fails the opportunity arises to explain and show how it should be done. A little encouragement goes a long way. If her gardeners lack a little more interest in their own work, and imparted a little more of their knowledge, a hybridist in the production of new greenhouse varieties, it is a tender species and cannot be grown out of doors, except, in specially favoured localities in the south west of England and Ireland. The earliest hybrid from it was a flax-like Persian Pim. The above is a native of the Himalayas and nowhere that R. Edgeworthii, but as it flowers early in the year the seed may be injurious, and is liable to be improved by hybridisation. The latter is all of which possess its fragrance, and R. Forsterianum, a particularly fine plant whose other parent is the Mongolian R. Veinini, and R. sikkimensis, is more interesting. Some few years ago, while in Kashmir, I raised a number of valuable hybrids between R. Edgeworthii and R. sikkimensis (C. Veinini R. Veinini), using the Courtesan of Derby, Countess of Sotton, and the Parent of Hyssop. In all of them, the flowers are externally white and highly fragrant.

Delia sanguinea.-This plant belongs to the section Brugmansia, of the genus Datura, and is characterised by the shrubby or arborescent habit of the species. I have just received a spasm from a book on Datura, and it is the handsome and tropical appearance of the above plant. I regard specimens from Carriera, where it is grown in a private conservatory, and blooms all the year round, as a real evidence of the mild climate. In gardens it is usually treated as a deciduous plant, though naturally evergreen, and is often hardier in flower than in leaf. In the conservatory in question it is both evergreen and perennial. At present the small tree bears hundreds of flowers, with buds in all stages of development upon the growing shoots. Originally in a pot, it grew through the bottle after which the pot was broken away and the plant left to grow when it would. It has now attained a height of 14 feet, with a considerable spread. The funnel-shaped flowers are eight to nine inches long, densely described as seven inches, and the tree four to eight feet high in this country. The tube is orange, while the calyx is blood-red, or bright crimson, at its base. A plant of this character is capable of producing splendid effects, when planted out in a large conservatory, and requires far less attention and feeding than when grown in pots. The species is figured in Stewart's Flower Garden, II., 272, as Brugmansia sanguinea.

The Late Mr. W. J. Titchener.-The late Mr. W. J. Titchener, Superintendent of the Botanic Gardens at Hong Kong, began his garden career with his father at Kingseat House, a country-seat near Edinburgh, and was educated at the famous Edinburgh Academy. When he was 18 years of age he went to Kew, and thence to St. Mellons, near Cardiff, and then to the Gardens of the Worshipful Company of Dyers, where he spent several years, and was afterwards appointed to the position of the Assistant to the Director of the Botanic Gardens at Hong Kong. Mr. Titchener was a man of the highest attainments, and was well known for his kindness and hospitality, and for his love of flowers. He was the author of several books on horticulture, and was a member of the Royal Horticultural Society. He was a man of great ability, and was highly esteemed by all who knew him. He was highly respected by all who knew him, and his death was a great loss to the horticultural world.

Hybrid Name of the R.H.S. Floral Committee.-With reference to your remarks on hybrid names at the recent meeting, I beg to state that the Bottercup is a well-known variety. It has appeared in Van Tubergen's list since 1891. I am advised by the members of the Floral Committee that the name of Bottercup was the one first suggested for an award under the name of Bottercup, and not Bottercup Robinetta, which I believe was the name first used.
THE GARDENERS' CHRONICLE.

FURTHER INVESTIGATIONS ON THE EELWORM DISEASE OF NARCISSUS.*

(LConcluded fom p. 207.)

Last year (1919) the treatment was commenced early, for I was convinced that damage occurred if flock action had commenced. The bulk of sowing was completed by the end of September and no bad effects have resulted from the treatment. Where the treatment was given after September, the bulbs did not grow with the same freedom as those treated earlier in the season. Last year nearly 200 tons of bulbs, representing a total of about $5 million were treated at Spalding. I think growers will agree that the results are highly satisfactory. I do not lay claim to have killed every eelworm and the countless number of eggs contained in 200 tons of badly diseased bulbs, but I have walked through the stocks of treated bulbs and examined many beds, and can find no trace of disease. I do not propose to describe in detail the apparatus at Spalding. The principle is that of circulating water through a boiler to a supply tank and from there to two soaking tanks and back again through the boiler. The apparatus is capable of taking 3 cwt. of bulbs at a time. Thermometers registering the heat are inserted in the flow and return pipes and there are two wall thermographe, which serve as a check on the water, registering the water temperature. Last year about 200 bulbs were treated at a temperature of 110° F. for 2 and 3 hours, to see what effect the treatment had on bulbs which were to be used for forcing. Golden Spur was the variety employed. I was alarmed to find the damage done to the flower in the bulbs treated for three hours. Records show that these bulbs were treated early, and I believe the flower had not sufficiently advanced to withstand the treatment. Bulbs of different varieties—Emperor, Empress, Sir Watkin and ornatus, treated later, produced marketable flowers when forced and were not injured in any way. Out of doors the flowers came practically normal, although in some cases the edges of the seventh segments were infected, but by no means unfit for market. This it has been found that by soaking the infected bulbs for three hours in water at a temperature of 110° F., the eelworms are killed, and if the treatment is carried out throughout July, August and September, the bulbs suffer no harm. It is also advisable not to commence the treatment too early, but to wait until the bulbs have ripened a few weeks, before lifting time.

The cost of the hot water treatment, inclusive of labour, is estimated at about 11 per cwt. Not only are the eelworms killed by this hot water treatment, but the grubs of the larger pests found in the Narcissus are also destroyed.

Dr. Slogten, who is investigating the disease, has experimented on the application of hot air, with and without hot water, and has found that the eelworms are killed by the application of hot air, but the bulbs do not grow well after being treated. It is not so economical as the hot water treatment.

The eelworm disease is present on the farm, see that infected soil is not carried about and keep the infected ground isolated. For at least five years grow upon the infected ground crops which are immune to the eelworm which affects Narcissus.

(b) Having treated the bulbs, see that they are planted on ground which has been treated a diseased crop of Narcissi, and as far as possible from land which has carried diseased stock. Do not compost the bulbs during the interval between treatment and planting.

(c) Be ever on the lookout for trouble. It should not be taken for granted that because a stock is healthy one year, it will be healthy the next.

The time may not be far distant when the purchaser will demand from the grower a absolute guarantee that the bulbs supplied are free from eelworm. I am certain that it is possible to tell whether diseased bulbs have been supplied or whether the bulbs have not contracted the disease since leaving the growers hands.

I am quite confident that if growers take the advice which has been offered they will be in a position to guarantee their bulbs to be free from disease. It is a doable question as to whether legal control ought to be brought into force, but I feel certain that the bulbs industry of this country has a greater future before it than ever it had and can

FIG. 100.—FORCED NARCISSUS GOLDEN SPUR; THE STOCK SHOWED 65 PER CENT. INFECTION WITH EELWORM.

FIG. 101.—NARCISSUS FROM SOME STOCK AS IN FIG. 100, BUT TREATED FOR ONE HOUR IN WATER AT A TEMPERATURE OF 110°; THESE BULBS SHOWED 85 PER CENT. OF EELWORM INFECTION AFTER BEING FORCED.

* See Letter by W. J. Bandeletter, delivered before the Horticultural Section of the Michigan Agricultural Club, April 12, 1920.
GENERALITIES.

CABBAGES.

If Darwin in writing his Origin of Species, had required an additional instance of the extraordinary capacity for variation of any recognised species, he could scarcely have chosen a more fitting example than the Cabbage, which, under various forms, is perhaps the most prominent and certainly one of the most utilised salt-crops of kitchen gardens and allotments.

In referring to the "growing," as they are generally classed by the cook, the gardener usually calls them the Brassica "family," but as a matter of fact, they belong, not to one family, nor, indeed, one genus, but one species only.

That species, Brassica oleracea—Cabbage, Brussels, Colcot or Kale, as it is variously named—is still found wild on various parts of the British coast, and is sometimes used as a cooked vegetable in places where it grows freely. It is a Cruciferous plant whose appearance may readily be recognised by those familiar with unrelated Cabbages which have "bolled" and flowered.

Bearing in mind this simple, wild plant, with its loose spike of bright yellow flowers, it is amusing to think of the strange developments which it has undergone under cultivation. Every part of the plant has been modified, sometimes in one direction, sometimes in another. Four main lines have been followed: (1) the development of an enormous number of large, closely packed leaves in one head as in the Cabbage and Savoy; (2) a development of some lateral shoots as in Brussels Sprouts and the Sprouting Broccoli; (3) a great increase in the size and number of leaves, as in the familiar Brussels or Kale, and (4) the extraordinary aggregations of flower buds into a fleshy mass, as in the Cauliflower and Brussels Sprout.

And yet the most highly esteemed vegetable for culinary purposes, the Cabbage unquestionably takes pride of place in regard to the extentiveness of its cultivation, and apparently it was in this direction that the original Colcot, which attracted the gastronomic attention of primitive man, first started on its highly specialised career. The Cauliflower, indeed, must have grown, or had it growing in this form, for it is distinctively referred to by them as "Chon capo;" the former name is retained by the French not only for the Cabbage, "Chou vert," but for all the other types, for example "Chou-Bas.

The Cauliflower is perhaps the most remarkable of all, and it is the Tree Cabbage, which gives rise to the production of a large head of closely-packed flower-buds. Cabbages are often grown for the sake of the leaves, which are used as a vegetable, but for the sake of the flower-buds, which are used as edible flowers.

The variety, as its name indicates, is of Belgian origin, and is mentioned in market records of that country as far back as the thirteenth century.

Perhaps there are more variations in this tall sprouting form than any other, for we have the Tree Cabbage, which in the Channel Islands grows to a height of ten feet or more and produces an enormous quantity of side-shoots; the "Flattened Kale, which is like the Tree Cabbage, but, as in the dwarf form, has the local purple colour; and Scotch Kale, with deep green, intensely curded leaves.

In the section known as Broccoli there is a bewildering variety. Some are cultivated mainly for the side-shoots thrown out in the spring, and instead of forming miniature heads like the Brussels Sprout, produce tender flower buds. These, again, are divided into purple and green sorts, and lead us naturally to this high point to observe the development of the production of a large head of closely-packed flower-buds.

Those who have facilities for propagating vine crops cannot make them in readiness for planting during the present month, or as late as the middle of June. May, however, is the best month for planting vines in this country, which is usually followed in favor to the vines making rapid growth and also for ripening the wood. Do not grow young vines in small pots; those of 8 to 10 inches in diameter are the most suitable size. Another method is to invert the eyes in squares of turf, and later place them in boxes of a convenient size for planting. The border should be made in advance to allow the materials to become thoroughly warm; the vines should be set in the sun or shade, and, when two or three inches in height, the young, green vines will make rapid and healthy growth. Do not plant the vines deeply, but place them in the soil, and the roots will make rapid and healthy growth. Do not plant the vines deeply, but place them in the soil, and the roots will make rapid and healthy growth. Do not plant the vines deeply, but place them in the soil, and the roots will make rapid and healthy growth.

The SPRING PLANTING OF VINES.

This is the right month for planting vines, and the vines should be planted in a position where they will receive the sun for at least two hours in the day. The Cabbage, as it is sometimes called, is a good crop to plant in this month, and it is preferable to planted in the open ground, where the soil is well aerated. The vines should be planted in a position where they will receive the sun for at least two hours in the day.