

FIG. 2045. THE LOUISE BONNE PEAR.

THE CANADIAN HORTICULTURIST

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THE LOUISE PEAR.

HOW that Canadian pears are finding a place in British markets, and are likely to bring our growers remunerative prices, it will be most important to inquire what varieties should be planted for that object. The fewer the number of varieties sent forward the better will these become known in the markets and consequently the readier will be the sale for them if really desirable.

We, in Ontario, grow too many varieties of fruits for our own best interests. We are too easily tempted by the nursery agent to believe in every new kind which he extols, and in consequence we grow too few fine samples of any one variety to make an impression upon any market. This mistake must be remedied if we would achieve success.

All useless and small sized varieties of pears and apples must be top worked to better kinds, and in our new plantations we must plant only the very best. One variety of pear, for example, of its season is enough, unless there is some special reason for more. In Bartlett season, we need no other variety. Then when the Duchess goes forward what better variety could be marketed; especially if you know how to grow it? Then comes

Bosc, Lawrence, and Anjou in order, varieties well calculated to rule their season.

Now if our growers will pursue this course, and plant in quantity just enough varieties to cover the season, they can soon make up car lots of a certain kind, and make that kind known and called for in the best markets of the world.

The Louise Bonne is an excellent old French variety that may well be included in our list for export. In one of our experimental shipments this variety sold at the highest price of any. It is a tender variety, inclined to ripen rapidly after it is gathered, but not so rapidly as the Bartlett. In proper cold storage it goes over in perfect condition, and with its deep red blush on a yellowish ground presents a most tempting appearance, creating a favorable impression which its excellent quality will sustain. One caution however is worthy of the attention of fruit growers who propose to grow this pear for profit, and that is to give it the best of manure and cultivation, else it is inclined to be below size and often knotted on one side. To be fit for export it should be at least $2\frac{1}{4}$ inches in cross diameter, and of perfect form.

The writer has grown this variety for

thirty years past at Maplehurst, on soils varying from sandy loam to clay, and has had best success in a deep, rich, sandy loam not too dry. It should always be grown as a dwarf; we have never succeeded in growing the fruit of first class size on a standard tree. Every year it needs, like other dwarf pears, a careful cutting back to keep up a vigorous growth of young wood, and to keep the form of the tree symmetrical.

Leroy in his *Dictionnaire de Pomologie* gives a curious account of the origin of the name. A gentleman of Normandy named Longueval first grew it from seed in 1780. He lived at Avranches where in a quiet retreat lived an abbé who was esteemed the wisest pomologist of the eighteenth century. Their love of horticulture made these two intimate friends, and one day when dining together, during dessert, the abbé was asked by Longueval to taste the first fruit of this remarkable pear.

Finding it possessed of great merit he courteously said to Madame Louise de Longueval, whose many virtues he highly appreciated;—"That new pear is so perfect, that I beg permission to give it the name which each of us give you, viz., 'Bonne Louise.'"

The following is a brief technical description of this variety:—

Louise—(Louise bonne de Jersey). An excellent export pear if well grown. This and the Duchess have long held the first place as market varieties with growers of dwarf pears in Ontario.

Origin, at Avranches, France about 1780 by Mr. Longueval, and named after Madame Louise de Longueval. About 1827, grafts were secured by Andre Leroy of Angers. The original tree is said to be still standing.

Tree, hardy in southern Ontario, succeeds better on quince than on pear stock; a vigorous upright grower; very productive if well cultivated and set in deep rich sandy loam.

Fruit, large, often $3\frac{1}{2}$ inches in length by $2\frac{1}{2}$ in width; pyriform, sides usually unequal; skin, smooth, yellowish green with brownish red cheek, with numerous red and brown dots; stem, one to one and a half inches long, usually fleshy at insertion on one side, somewhat swollen at each extremity, set in a very slight if any depression; calyx half closed, set in a wide, shallow, slightly plaited basin.


Flesh, white, texture fine grained, juicy, buttery, melting; flavor, pleasant, aromatic.

Season, September 15th to October 15th.

Quality, very good for dessert purposes.

Value, home market fair; foreign market first class.

THE HORTICULTURAL SOCIETY LECTURES.

UR Horticultural trip has been fairly successful. The meetings have been large and the interest more than usual. I have been asked on every occasion to take up "Trees, Plants and Shrubs for the Ordinary Lawn Lot." The plan of my talk is simple. I take up the principles underlying transplanting, then arrangement of trees, shrubs and flowers in relation to the house and lawn and street, and then take up the characteristics of as

many as possible of the desirable trees, shrubs, vines and herbaceous plants, showing how they may be used to secure a pleasing effect during the whole year. As an introduction I outline the work of the provincial association till it has included all the horticultural interests of the people using the *Horticulturist* as the organ of all these interests and these lectures as an aid in the educational work.

Our Paris meeting was not large. We

had meetings without number to contend with and perhaps the advertising was not as judicious as might have been. We visited many very beautiful grounds in the town and few towns have so many, and I secured a number of views from Capt. Cox which I send you. I am not sure you can use them, but I send them with the chance that you can. If not send them back to the Capt. who is Postmaster of Paris. He will of course give you all information if you could give the grounds a notice. They are quite extensive and take the time of a man during the season.

I have been endeavoring to reach the local papers this trip with what result I scarcely know as they have failed to forward anything to me, except the Galt paper which I forward to you. Miss Rose is doing excellent work. The Galt paper report does not do her justice. Her object is rather to stimulate a love for gardening than to go into detail. She gives an excellent address to the children, taking up the distribution of seeds in a familiar way. Her platform presence is very effective, combining dignity and geniality in manner with freedom of expression and happy turns of thought, so that she never fails to secure the respect and attention of her audience, young and old.

We so often interfere with church meeting that I think it would be well to make a special effort in the future to secure the co-operation of the churches. In the smaller places the church meetings occupy a very large portion of the spare time of the very people we wish to reach. A minstrel show or a comic opera does not draw heavily on this class, but we do. Two or three nights in the week the people we want are at "Young People's Meetings" "Missionary Meetings" "Prayer Meeting," etc. Clearly one or the other must give way. We endeavor to place our meetings on as high a moral plane as the church meetings, and

if the local societies will choose their officers (and in all cases, as far as I know they have done so,) from those who will work in harmony with the churches, I see no reason why we should not ask the churches to postpone their meetings in favor of ours, as ours cannot be postponed. We discussed this matter at Mitchell where we had seven ministers, and the consensus of opinion was that such a plan was feasible. There need of course be no official recognition of the churches, as the whole thing would be a matter of courtesy arranged between the officers of each society, locally. I am visiting as many of the local gardens and grounds as I can. I believe the delegate would greatly increase the popularity and usefulness of the lecture course if he were able and willing to place himself in the hands of a local committee who could take him to the grounds already planted, and point out there, to those who wished it, the merits and defects (he had better confine himself to the former,) of the planting, or go to new places and make suggestions as to the arrangement and selection of trees, shrubs, vines and plants, flower plots, etc., on the ground. He could use these very effectively, as I know from experience, in his evening talk, and at the same time greatly relieve people who are willing to spend money on their places but don't know how to do it with advantage.

I purpose to write later to Mr. Creelman on these points. We are having a very busy trip. I am scarcely an hour between breakfast and midnight that I am not either with the local officers or on the train.

Perhaps some of the subjects I have touched this morning may be profitably commented upon in the Horticulturist. If you think so, why, of course, use anything you can, and I will be glad to develop the points further if you will indicate the line.

Yours very truly,
Seaforth, April 17, 1901. A. McNEILL.



FIG. 2046. ARBORETUM AT CENTRAL EXPERIMENTAL FARM, OTTAWA.

CENTRAL EXPERIMENTAL FARM NOTES—XVI.

FEW persons, probably, were sorry when winter was over this year. Snow fell on the 14th November and covered the ground until the second week of April, making nearly five months during which the soil was not seen. Furthermore, during that long period there was no thaw of any consequence and at times there were long continued spells of quite cold weather, so that when at last the snow disappeared, spring was welcomed more than it has been for many years at Ottawa. During the latter half of March the snow melted steadily, but slowly, as the weather was not warm, and it was unusually cloudy from March 21st until April 10th, there being little sunshine recorded between

these dates. The snow began to go faster after April 1st, as the weather was milder, and there was much rain. On April 10th, when the weather again became bright, all the snow was gone except in the drifts. As there was practically no frost in the ground last winter, the soil could be dug at any time, and as soon as the snow was gone outside work was begun, so that in this respect the spring was more than a week earlier than last year, as the frost was not out of the soil enough to use the spade until April 19th in 1900. The first ploughing was done this year on April 12th. Up to the present time the indications are that most things wintered better than usual. Both large and small fruits are looking well

as are also the ornamental trees and shrubs, with the exception of the Junipers and Retinosporas, the foliage of which was injured considerably.

An unusual injury occurred in the nursery among the young apple trees, as the bark of many of them was badly split within a foot of the ground. The trees grew until very late last autumn and the snow fell early on the unfrozen ground when the young trees were well charged with sap. The cause of the splitting was probably due to the fact that the snow prevented the frost from reaching the lower part of the trunk until very cold weather came and then the severe frost caused the bark to burst.

The trees sprayed with the lime mixture last autumn for the Oyster-shell Bark Louse are already looking much brighter than those not sprayed and large numbers of scales have dropped from the trees and the remaining ones appear quite loose and will doubtless be washed off by rain within a few days.

The clover in the orchards which came through the winter in good condition is already beginning to grow. In one part of the orchard it has already been ploughed under and the land will be re-seeded with it later on. It is the intention again this year, as during the past three years, instead of ploughing under the clover and cultivating the soil, to cut it from time to time during the summer and leave it on the ground.

This system, however, is not recommended where the soil becomes dry and where the trees are liable to suffer from drought.

Visitors to the Central Experimental Farm are often surprised at the number and variety of the trees and shrubs used for hedge purposes, and they manifest much interest in them by asking questions regarding the the best varieties to plant and the methods of growing them. Examples of one hundred species and varieties are now growing

side by side in hedges fifty feet in length and ten feet apart, which present a fine appearance in summer when in full leaf.

The methods to be adopted in growing a hedge successfully are simple, but should be followed if a compact and regular hedge is to be obtained. The young trees or shrubs should be planted in good soil, and if it is not good it should be removed and better earth brought in its place. Young stock from one to two feet in height, should be planted and all cut back to an even height of from twelve to fifteen inches. Evergreens should be procured as compact as possible at the base, for if they are loose and the foliage wanting, it takes them a long time to thicken. The roots should not become dry from the time the shrubs are dug until they are replanted in the hedge-row. Planting is done by opening a trench about a foot wide and placing the hedge plants fifteen to eighteen inches apart in a single row. The trench should be filled with good soil pressed firmly against the roots. Afterwards the surface soil should be kept loose for about two feet on each side of the hedge throughout the summer, and every following season. If the trees and shrubs are cut back when planted they will need no further clipping the first season, but, after that, hedges of most deciduous trees and shrubs require to be clipped twice a year, in the latter part of June and again in August. Regular pruning from the beginning is very essential to successful hedge growing.

The following trees and shrubs, after seven years' test, have proven among the most satisfactory for hedge purposes of all those yet tested at the Central Experimental Farm :

Ligustrum Amurense (Amur privet).—This is the only privet yet tested at Ottawa which has proven perfectly hardy. As the privet is very largely used in Great Britain for hedge purposes, it will be especially wel-

comed by English people settling in Canada. It is a pretty shrub with dark green leaves and forms a very compact hedge.

Rhamnus Frangula (Alder buckthorn)—A rapid growing shrub which makes a firm, compact hedge. Its glossy green leaves make it quite ornamental, and where a tall growing deciduous hedge is desired this is one of the best. The flowering period of this shrub extends over a period of five or six weeks, and during that time it is a favorite haunt of the honey-bee.

The Cathartic Buckthorn (*Rhamnus catharticus*), is also good.

Thuja occidentalis (American Arbor-vitæ)—This is the most satisfactory evergreen tested here for hedge purposes. It is a native tree and quite common in many parts of Canada, growing in a great variety of soils which renders it very suitable for a hedge. Its neat, compact appearance and bright green leaves make it very ornamental in summer, while in winter, although the leaves are duller, it yet remains quite attractive. In 1888 and 1889 more than one mile of this tree was planted at the Central Experimental Farm as a hedge, which is now

very compact and about six feet in height. The American Arbor-vitæ requires only one clipping each year, which is best done in August.


Thuja Occidentalis aurea Douglasii (Douglas' Golden Arbor-vitæ)—This beautiful golden-leaved evergreen is highly recommended for those who desire a golden tinted species for hedge purposes. It has formed one of the most beautiful hedges tested here, being of a bright yellow color, which makes a fine contrast with the green of other hedges.

Picea pungens glauca (Rocky Mountain blue spruce)—The blue spruce makes one of the most beautiful evergreen hedges. Its color is pale, steely blue, which produces a fine contrast with a green lawn. It is a slow growing tree and makes a very neat, compact hedge, requiring little clipping. As this tree varies in color from green to blue, in procuring hedge plants the blue variety should be ordered.

W. T. MACOUN, Horticulturist.

Central Experimental Farm,
Ottawa.

PREPARING FRUIT FOR COLD STORAGE.

T the recent meeting of the Eastern New York Fruit Growers' Society, Mr. W. H. Hart of Poughkeepsie read a paper on "Growing and Preparing Fruit for Cold-Storage." Among other things, he said:

The middleman for most fruit growers is a necessity; the difficulty of distribution is so great that we give our produce over to him. Cold-storage has become a middleman, for it enables you to sell perishable products, which before were sacrificed in a glutted market, at an even price throughout the year; and it greatly increases consumption and enlarges the market. Refrigerator

cars are equally useful in extending and increasing our markets for all farm products.

Some varieties of apples, otherwise good keepers, are apt to scald in cold-storage. York Imperial, Peck's Pleasant, Grime's Golden and Greening are all apt to scald. This tendency may be largely abated by care in spraying and fertilization. Insect attacks hasten ripening, and fungous growths impair the skin of apples. The natural oil of the skin, which should be abundant, is much increased by the fungicide, which insures health to leaf and fruit, and by chemical fertilizers and their delivery to the tree by cultivation. An

unsprayed Greening, grown without care on an exhausted soil, will scald months before a sprayed, well fed one, put into storage under exactly the same conditions.

For the great winter market, plant only leading market sorts especially suited to cold storage, such as Baldwin, Greening, Spy, King and Sutton. If properly grown, I do not assort my fruit for storage, merely requiring that it be handled gently in gathering, defective fruit dropped to the ground and apples slid from picking-basket into crate, where it remains until assorted for market. The bruising avoided by this

minimum of handling adds much to long keeping and saves expense. All care possible should be taken to keep fruit cool after gathering and in transit to cold storage. Keeping quality is frequently impaired by overheating in railroad cars or in heaps in orchard or barn. A few hours of excessive heat before storing will cause fruit to scald or decay in midwinter. Give such care in growing and preparing fruit for storage or market as will insure a uniform product of high excellence. There is no time when there is not a paying demand for the best fruit.

AGARICACEÆ.

I AM much obliged to Mr. Dearness for his valuable article on the distribution of agarics. I trust that he will write again and that others may be induced to follow his example. I would also suggest that if he knows of any reliable data or records respecting the mushrooms, edible and poisonous, to be found in Canada he will give this information to the readers of the Horticulturist.

Respecting the *Agaricus gambosus* or *Tricholoma gambosum*, Fr., Mr. Dearness gives me the credit of being the first to report it in Canada and suggests its having been imported "amongst the roots of shrubs or plants from Europe." It is quite possible that this may be the correct explanation. The main college building known as "Tralfalgar Castle" contains a large amount of oak imported direct from England. The grass seed sown upon the lawn, and some of the shrubs found in the grounds were also imported from England. It will be interesting in this connection to note a striking instance of the transportation of mushrooms that have been found in the lawn, adjoining the college ground, formerly owned by Mr. Jas. Holden, the President of the Whitby,

Port Perry and Lindsay Railway. In this lawn are to be found morels, the only ones found in this vicinity though they are quite abundant to the north. On enquiry have learned that the lawn was at one time quite low and damp in some places and that Mr. Holden brought down from the north several car loads of earth to improve his lawn and brought with it no doubt the mycelium of the morel.

Mr. Dearness refers to the disagreeable odor of the *T. gambosum* of England as reported by Dr. Cooke. The species found in the college grounds had a decided fungus odor, though not a "heavy, disagreeable odor." For some time I was in doubt as to its being the real *gambosum*, and referred to Dr. Colville, of the United States Dept. of Agriculture, who seemed to think that it was. There must be considerable difference in the matter of odor. Dr. McIlvaine in his recent work states that *T. gambosum* is found in Chester and Lebanon county, Pa., also around Philadelphia, etc., and that its "odor is pleasant like that of a new meal."

Have been rather surprised to learn that any harmful results have come from eating *Lepiota Naucinoïdes*. This mushroom is

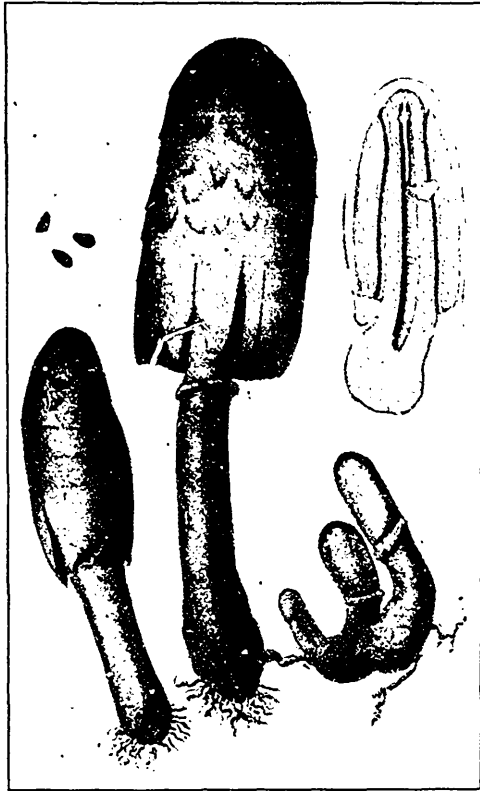


FIG. 2047. COPRINUS COMATUS.

quite plentiful in this region and is much enjoyed. Last fall I received a basket of these mushrooms, but amongst them were some specimens of *Entoloma graveolens*. The entolomas are known to cause nausea and vomiting. I mention this as a possible explanation. Perhaps a species of *Entoloma* was inadvertently gathered with the *Lepiota*, and thus the unfavorable result was produced.

Coprinus Comatus Pers. The shaggy-mane mushroom. The name "comatus" "shaggy" has come from the shaggy points or lacerated scales to be found on the surface of the cap. In general shape it has been compared to a goose egg or a closed umbrella. I am indebted to my friend, Dr. Purslow, of Port Hope, for the photograph

from which the accompanying cut No. 2047 has been prepared. He took it from an illustration found in Dr. Taylor's work on mushrooms. The Doctor reports that this mushroom is found abundantly in the neighborhood of Port Hope. It is found also in and around Whitby. It is so easily identified, and is so valuable as an article of diet, that I bespeak for it an enthusiastic reception.

In young specimens, the cap, gills and stem are creamy white, except the apex of the cap, which is frequently brownish. As the mushroom advances in age the margin of the cap turns black, and then begins to melt away into an inky black fluid. The gills are equal in length and crowded, at first creamy white then in succession pink, brown and black, finally dissolving like the cap. During the early stages when the gills are white and pink, and when the juice is either colorless or wine colored this mushroom is edible. When it turns black and begins to liquefy it is sometimes used for catsup.

This mushroom is found in rich grounds well supplied with decomposing vegetable matter. Cook in butter with pepper and salt.

Coprinus atramentarius, Fr., the Inky mushroom, and *Coprinus micaceous*, Fr., the Glistening mushroom, are species closely related to the preceding. They are both characterized by the inky deliquescence. They are so common in barnyards, or around old decayed stumps, that I presume that almost every reader of the *Horticulturist* is familiar with them. Often when a boy I jumped upon them, thinking that their inky appearance was a sure sign of their poisonous character. Like the preceding they are quite palatable when young, and may be made into catsup when turning black.

J. J. HARE.

Ontario Ladies' College.

Whitby, Ont.

BIRDS IN THE ORCHARD.

WE occasionally come across a man who is opposed to spraying, considering it an altogether too laborious and useless work. Such a man cited to me an orchard where its apples were unexcelled in freedom from worms and the orchard equally so in immunity from caterpillars.

Now this seemed pretty strongly to confirm his anti-spraying views. Thinking that there was some cause for this high state of excellence where no spraying was in vogue, I had an interview with the owner in regard to this matter and was told that the only cause he could assign to it was the work of birds, for during last spring and summer myriads of birds were busily engaged in the orchard. In the vicinity of the orchard was a grove of evergreens, through which ran a stream of water. Amid these trees numerous nests were to be found. To show that these very birds had a powerful influence in ridding the orchard of pests, we will cite a few facts issued by the New York Department of Agriculture. The United States authorities at Washington have been dissecting some thousands of birds and have made records of the contents of the stomachs of each bird.

We will now name a few birds and show the contents of stomach. The winter food of chickadees was found to be largely eggs of canker worms, each stomach on being examined contained 300 to 450 eggs of the canker worm.

Ninety-nine per cent. of the stomach contents of thirty meadow larks was caterpillars, grasshoppers and beetles.

In 46 black-billed cuckoos there were found 906 caterpillars, 44 beetles, 96 grasshoppers, 100 sandflies, 15 spiders.

In 109 yellow-billed cuckoos there were found 1,865 caterpillars, 242 grasshoppers,

69 bugs, 6 flies and 86 spiders; surely there was but very little room for fruit. In one stomach alone there were 250 tent caterpillars. From two-thirds to three-quarters of the food of the woodpecker consists of insects.

In two flickers, 3,000 ants were found in each stomach.

It has been stated that the king bird is destructive to bees, but the following will discredit this assertion. Out of 281 king birds there was only 14 stomachs which had bees and 90 per cent. of its food was found to be insects. The blue jay eats many noxious insects, also the crow, barn swallow, and our old familiar friend the robin.

I have noticed in our own orchard that the woodpecker seemed quite at home around peach trees, digging for all they were worth for the peach borer.

We might relate many more examples in these researches, but surely enough has been said to show that birds are no small factor in this matter of ridding our orchards of insects. Acts of legislation have been passed forbidding the slaughtering of many birds, and now each of us, as individuals, should take an interest in rearing and protecting the beautiful feathered fruit protectors, and and only be too happy to allow them the very meagre allowance of fruit which they eat, and which is indeed very small in comparison to the insects which they devour.

Birds need the protection of dense trees, quiet resting places in which to hatch their eggs and care for their young; evergreens are a favorable resort for many birds. Birds are much like other animals, they can become to a certain extent domesticated, and live around the same places as well as any domestic fowl.

Prof. D. Lange, in his book, "Our Native Birds"; how to protect and how to

attract them," gives a case where a lady in Vermont has made a specialty of attracting birds to her gardens and orchards, and she has succeeded admirably well. She says, "After once learning to take food provided for them the birds will come anywhere for it, to windows on upper stories or windows under deep piazzas. Her main reliance in winter seems to have been bones, with bits of meat and marrow remaining upon them,

which were nailed or tied into trees to be pecked at. Chickadees, woodpeckers, and many others go to them immediately."

A great number of us might imitate or improve on this, and entice many birds to our surroundings. If we cannot do this we can at least stop the small boy with his stones and sticks, and his robbing-nest tendency, also the big boy with his gun.

Grimsby.

J. F. BRENNAN.

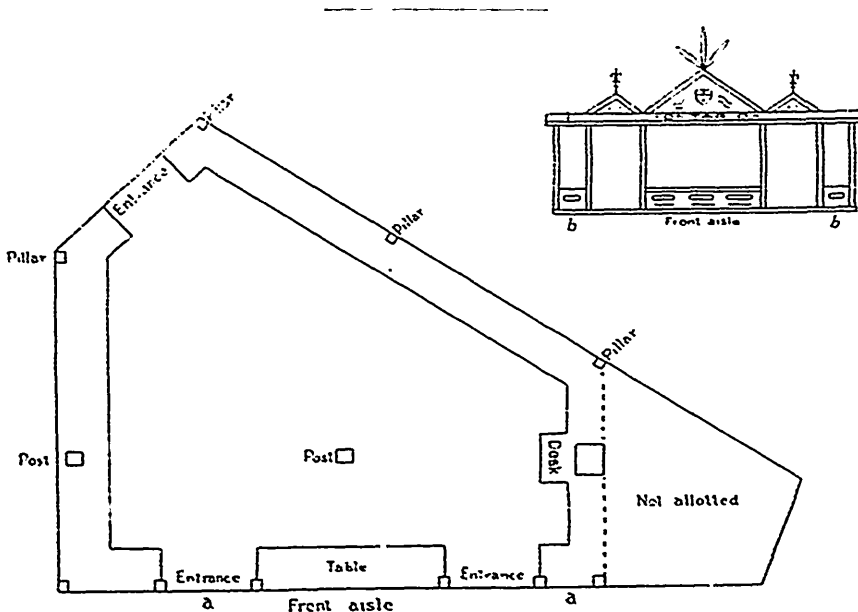


FIG. 2048.

THE PAN AMERICAN EXHIBITION.

EARLY in April the writer visited Buffalo for the purpose of aiding in securing an appropriate installation for our Canadian fruits. The writer's experience as Superintendent of the Dominion exhibit at Chicago in 1893, suggested some pointers in this matter which seemed of possible benefit to our work. To our great satisfaction, and that of all fruit growers in Ontario, we found in Mr. W. H. Bunting, the Superintendent for Ontario, an energetic, wide awake gentleman, with ex-

cellent original ideas, and withal quite ready to profit by any useful suggestions.

The space secured for Ontario fruits is only about 1100 square feet, but it is splendidly situated along one of principal aisles, where it will show off to splendid advantage. The accompanying plan of the floor space will give our readers an idea of the shape, and of the tables which will be arranged along the margin; *a, a*, shows the principal entrance, along which it is proposed to arrange an arch, with the word Ontario prom-


inent, and adorned with the coat-of-arms of the province, as shown at *b, b*. In the interior of the space Mr. Bunting proposes to erect a trophy which will be a centre of attraction, surmounted by flags, and laden with bottled fruit, plants and other objects of interest.

Now upon the directors of our Association and the officials of our affiliated Horticultural Societies and other members, to a large extent depends the success of this work. Every Horticultural Society should make up a special exhibit to be shown under its own name, and secure a diploma and a medal. This is quite within the reach of every one of our Societies, for the awards

are not competitive as in the case of smaller fairs, but instead, an award is to be given for each exhibit that is up to a certain standard of merit.

We would advise all our Societies to place themselves in correspondence with Mr. W. H. Bunting, St. Catharines, the Superintendent of Horticulture, and give him notice of the kind and quality of the exhibit they propose to make, and the probable date of shipment. The same precaution should be taken by all our directors and experimenters, for the greater the number of different awards to Societies and individuals gained for Ontario the greater the sum of the honors for our province.

A HINT ON PREPARING BORDEAUX MIXTURE.

OMPLAINTS are frequently heard of the lack of results from the use of Bordeaux mixture.

One man stated at a Farmers' Institute meeting last winter that he had used it for apple scab for four years without results, and was ready to sell his outfit. His orchard was no freer from scab than his neighbors' orchards which were unsprayed. This is only one case out of many met with.

On enquiring closely into the way the work was done to discover a probable cause of failure it was found, in almost every instance, that it was due to the improper method of compounding the Bordeaux mixture.

Many people dissolve the copper sulphate, slack the lime, pour them into the barrel and then drive to the pump, fill the barrel with water and imagine they have Bordeaux mixture, but they are mistaken. The solutions of copper sulphate and lime being brought together without being sufficiently diluted with water have caused a chemical reaction which has entirely changed the composition of the mixture.

The original substances were soluble in

water and beneficial, the resulting substances were insoluble in water and useless for the purpose.

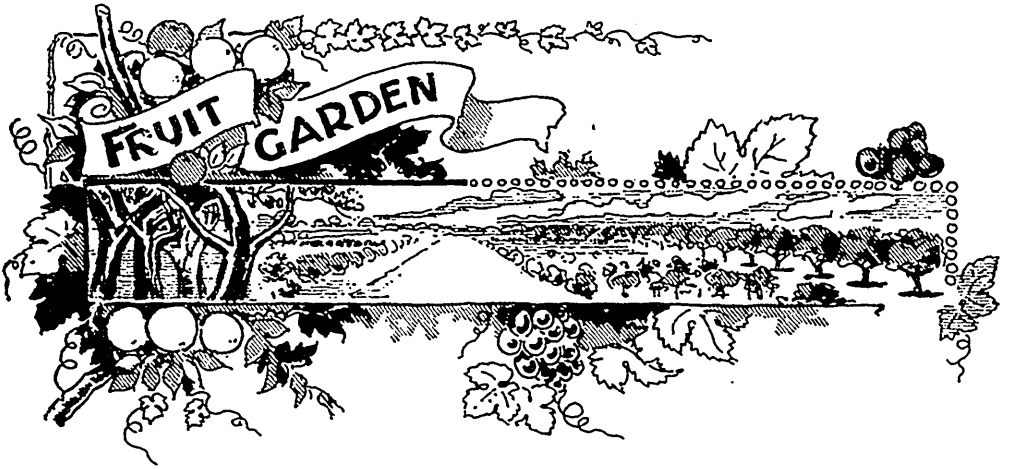
Where spraying is done in a small way the mixture is usually prepared as needed. The copper sulphate is dissolved in hot water and of course the newly slacked lime is also hot. As heat hastens chemical action the change in this case would be very rapid. Bordeaux mixture made in this way has a "curdy" appearance as if filled with small insoluble particles.

The man referred to above as having sprayed without results, said that sometimes his mixture was so "curdy" that he could scarcely get the pump to work.

To make Bordeaux mixture properly the solutions should be cool and the barrel almost filled with water before they are brought together. When properly prepared it should have a smooth creamy appearance. Bordeaux mixture made in this way and properly applied at the right season will not fail to give satisfactory results.

J. E. ORR.

Fruitland, April 20th, 1901.



SEASONABLE HINTS.

PLANTING trees usually belongs to the month of April, but frequently this work is unfinished until late in May, owing either to the late arrival of the trees, or to the condition of the soil. It is important that the soil should be in good condition, both for the soil texture itself and for the effect upon the tree. Nothing is more difficult to overcome than a stunted condition, and therefore favorable conditions should always be provided.

At our Brantford meeting the question of pruning or not pruning at time of planting was hotly discussed, some maintaining that it was best not to cut back young trees at that time. Some experiments were made last year at Woburn, England, with several varieties of apple trees, both dwarf and standard, involving questions of pruning, root treatment, manuring and planting. These experiments were slightly in favor of immediate cutting back on setting out, rather than waiting until a year later.

“Root pruning trees has resulted in checking both vigor and growth. Trees not pruned every year were in 1898 but little more than half as large as normal trees, and those pruned every other year only about three-quarters as large. The crops borne by these trees, however, were heavy in proportion to their size. Trees carefully

lifted every year and replanted at once suffered no injury thereby, but when left three days before planting, in imitation of commercial nursery methods, material injury resulted, amounting four years after the transplanting to a loss of 28 per cent. in size. The effect of growing grass about trees was most striking.

“The grass-grown trees are, after five years, scarcely bigger than when planted, and the actual increase in weight which they show during this time is about 18 times smaller than in the case of similar trees in tilled ground. The effect of weeds has been distinctly less than that of grass, and that of careless planting, combined with weeds and total neglect, is scarcely greater. The grassed or weed-grown area, in the majority of cases extended to about six feet beyond the stems of the trees, but in the case of two of the varieties of standards the extent was only three feet, and in these instances recovery began in 1897 and now appears to be complete, so far as the vigor of the trees are concerned, although they have not made up for the loss in growth experienced before 1897. In the case of the other trees, where the ground is more efficiently grassed over, there seems to be some signs that recovery is now beginning. With those trees which have been recovering since 1897 the ma-

jority of their roots are still within the grassed area, and it seems impossible, therefore, to attribute the effects of the grass to a competition of food between the roots of the grass and those of the tree. We believe one of the main causes of the effects to be due to the large increase in the evaporation from the soil which is known to be produced by grass, the trees being thereby made to suffer from drought, with consequent deprivation of other nourishment as well; but we have reason to consider that the grass acts also, by preventing the access of air to the roots of the trees. Further experiments have been undertaken to elucidate this action more fully."

Top Grafting bearing apple and pear trees is a far simpler job than most fruit growers imagine. A skillful hand with a sharp knife and a fine toothed saw, a ball of wax and some scions, can transform a worthless orchard to one of great value. Why grow a dozen kinds of winter apples, giving a mixed

car load that is hard to sell, when a few days work would result in an orchard of straight Spy, Ontario, York Imperial, Gravenstein or some other one of the best varieties, and

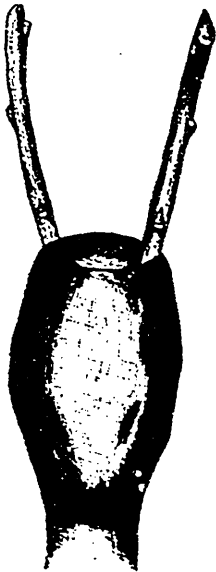


FIG. 2049.

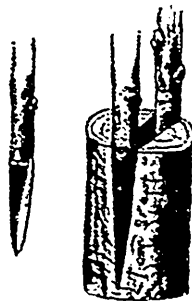


FIG. 2050.

enable you to export whole car loads of a single first-class sort at top prices.

Cut 2050 clearly shows the method of cleft grafting without further description.

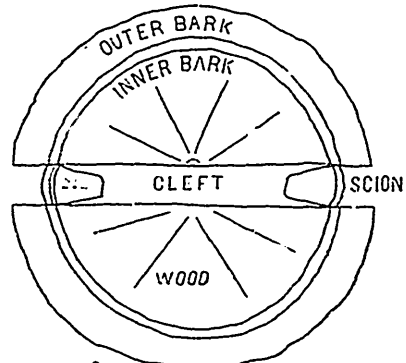


FIG. 1.

FIG. 2051.

The scions should be cut in advance when perfectly dormant, and if this precaution is observed, the tree to be grafted may be even coming out into leaf and yet the work be a success. It is important to learn to make a uniform slope in wedging the scion, and at such an angle as will fit the split. For this a sharp knife and a little practice is necessary. Fig. 2051 shows how important it is that the inner bark of stock and scion should meet and thus grow together, for here the vital union takes place. When fitted, the wedge holding the split open is removed and the scion will be held fast in place.

The grafting wax should be applied as shown in 2049. The following is one of many recipes for making grafting wax: Resin, 4 parts by weight; beeswax, 2 parts; tallow, 1 part. Melt together and pour into a pail of cold water. Then grease the hands and pull until it is nearly white.

Spraying — Much as our experiment stations have done for us in this particular line, there is yet room for considerable work on their part. Sometimes it gives marked results, and then again, the fruit grower almost concludes it has been a complete failure and a great loss of time and money. What we growers want to know are just the exact conditions that give certain results? Just now, before the buds open, we are instructed to spray our apple, pear and plum trees with

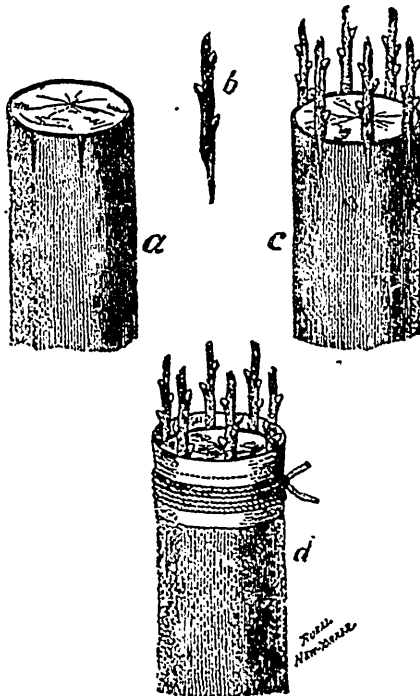


FIG. 2052.

copper sulphate, one pound to twenty-five gallons of water to destroy the germs of scab and rot. Some growers prefer to use the Bordeaux even for this first application, because it does not wash off so quickly as the copper sulphate solution.

One thing is sure, that the man who treats his trees thoroughly succeeds. J. W. Brennan, with fifteen acres of orchard, does his work thoroughly, and such Spys we never saw. Scarcely a worm, no scab, magnificent fruit—some of which has gone forward to the Paris and the Buffalo exposition and the rest was sold in Ottawa at top prices. Some of those Spys brought in our home markets over \$1 a bushel last autumn. But when one has one hundred acres to spray several times thoroughly, he is apt to shirk his job.

Some of our Horticultural Societies have struck a splendid plan. The society purchases a large pump, which is worked by a gasoline engine, a man is employed to run it,

and each pays into the funds so many cents per tree for having them treated. Some such co-operative plan would be a grand solution of this question, for the job is nasty, and most would rather pay than spray.

Crown Grafting.—In the case of large trees, where the ordinary cleft grafting seems unsuitable, some have successfully tried crown grafting, as shown in the accompanying illustration. The branch is sawn square off as shown at (a). The wood is not split, but clean slits are made down the bark as if for budding, and in these the scion (b) is inserted, one in each slit, as shown at (c). Grafting wax is not needed, but a band of thick paper is wound about the graft, leaving it to project about an inch above the wood, as shown in (d). It is then secured with a strong twine, and the cup so formed is filled with mud, which protects the cut until it is partially healed. This method of grafting is very simple, and usually succeeds.

Grapes.—The tying should be completed at once, if not already done, and the vineyard cleaned up for cultivation.

Grape thinning is somewhat practiced in England for such kinds as Lady Downes, Gros Colmar, etc., but we question if it would pay us in our vineyards. The work is done there when the fruit is about the size of No. 1 shot, and when done a bunch of grapes should have even sized berries that will form a compact cluster, close enough to retain its form when cut and laid on the dish or stand. If they fall about and show the stalk it is overthinned; if they force each other out of place it is underthinned. They always begin at the point and work upwards, steadying the bunch with a small peg or stick, removing the smallest and plenty of the inside berries first.

For a gentleman's garden no doubt this would be practicable, but scarcely in a commercial vineyard.

NOTES ON VARIETIES OF STRAWBERRIES IN 1900.

THE season was so unusually dry, even for this northern district, that only plantations under superior cultivation offered a fair test of their capabilities. Hence varieties commonly accounted only worthy of the "matted row" system of cultivation did not show up so well in comparison with others as they do in moist seasons. Certainly the relative value of a variety seems to vary with the season as well as the soil. Nevertheless we got a very interesting test of a number of varieties, as the crop did not wilt and wither off, as reported in some districts further south.

I have tried to arrange the order of the notes following according to the prominence of the varieties before the public as well as to my estimate of their value.

CLYDE.—Probably the most valuable for a not too distant market of all recent introductions. It is not as firm as *Wilson* but seems to stand up better than *Crescent*; not good enough in quality for home use, but quite so to take the market and be asked for again; rather too light colored in the matted row system, especially in a moist season, but very beautiful as grown in the narrow row and in ordinary seasons. Its strong points are its size (large to very large), smoothness and regularity as if run in a mould, and extraordinary productiveness. Plant it on rich clay loam if possible. Indeed I have seen it fruiting wonderfully with a neighbor on rather poor clay soil baked "hard as a brick." On sandy soil it is apt to falter and fall down under its load of fruit unless well stimulated with manure.

WM. BELT.—This is the most remarkable berry I have ever seen—for some purposes and under certain conditions. Of the *Sharpless* type in both plant and berry, but under fair (not extra) culture it is perhaps three to

four times as productive. Probably it would not prove at all a success grown by the slipshod method. Moreover it is not at all the berry for sandy land. Even with plenty of manure it is hard to keep the foliage from rusting on light dry soils. But on moist fair clay loams, grown in rather narrow rows, with most of the runners cut, it is simply a marvel. On such soil, far from rich, I gathered thirteen berries that filled a quart basket heaping full—my neighbor, Mr. Newman, being witness—and the foliage was green and healthy in spite of the drought, and the plants immense. Best of all, the quality was sweet and rich—next to *Marshall*, the prince of strawberry flavor. Not only are the berries very large and delicious but they are also rather firm, glossy, and of beautiful color. The first berry in a cluster is generally rather coxcombed in shape, but never rigid and ugly—all the others are generally of rather uniform shape. Of course the crop is not equal in quantity to the *Clyde*, and probably a smaller, firmer and more acid berry might be preferred by some for preserving; but for growing in quantity for a fancy market, or to delight the family and amaze the neighbors, I know of nothing to beat the *William Belt*.

MARSHALL.—This is the great show berry. If anything can excel the *Sharpless* and *Wm. Belt* in size it is this. In quality and firmness it is superior also, and even more glossy and of richer color. A good bearer, but not so productive as *Wm. Belt*—say about double as productive as *Sharpless*. The plant is about as large as *Wm. Belt*, and with me, on moist clay loam, the foliage seems even more healthy and handsome. But it is yet more impatient of light soil. On poor sandy soil I found it a dismal failure, but on good dark land it stands at the head of the class for size, beauty and quality.

SPLENDID.—The best general-purpose berry I have well tested. Not best in any one particular (except healthfulness) or for any one purpose, yet if I could only have one variety for all soils and purposes it would be this for its high general average: smooth, regular, handsome, of good size, of excellent quality, quite firm, with a crop close up to Wilson or Crescent in quantity, growing on good strong plants with handsome glossy foliage, as if varnished, that stands up and does its best in any season on all soils, it is indeed Splendid.

NICK OHMER—of the Marshall and Wm. Belt type—is scarcely as large or delicious as the Belt but firmer, more regular in shape and perhaps more productive. I think the foliage is healthier than that of either Marshall or Belt, and I would sooner plant it on light land. I consider it a valuable variety.

SAMPLE (P.)—This is the first variety in these notes which is deficient in pollen, so that it will not bear well without some variety near it with perfect blossoms. Otherwise it is a fine variety—strong, healthy, a good runner and a great bearer, fruit very large, roundish-conical, firm, deep colored, handsome, and of good average quality. It is not so particular about soil and keeping runners cut as so many of the other big fellows. I have only fruited it once but it appears quite promising.

GLADSTONE.—I just mention this here to sound a note of warning. I am not prepared to call it a fraud without further test. Possibly the nurseryman who sent it may have made a mistake, so I am trying it on plants from another firm. But as I have it so far it appears exactly identical with Sharpless. I notice, too, that some American growers are beginning to say the same thing. Every now and then some old variety gets a new label and goes out to astonish and disgust enterprising fruit growers. What a pity the fellow who does it can't be labelled!

RIDGEWAY.—A fine early berry, large, handsome, firm, good to eat, glowing-like flame—a good cropper, but does not send out many runners; fruited on full grown plants only once here but quite promising.

WILSON—On “improved pedigree stock” from Michigan, this grand old market variety seems as good as ever, but we want something better.

CARRIE (P.)—Claimed to be an improvement on its parent the Haverland. I cannot see much difference, but the Haverland is a fine variety lacking only firmness and better quality to stand near the head of the list.

TENNESSEE PROLIFIC—Of the tough sturdy, very productive Crescent type, but larger than Crescent, firmer, not so insipid, and with a perfect blossom. Having fruited it only once I am not positive yet as to whether it comes up to the Crescent in productiveness, but it is evidently a good cropper. A leading grower in the Niagara District declared it superior to Clyde oneseason, and the next year, after fruiting, he said he thought it about equal. It is evidently a valuable market variety. The foliage is bright and glossy, and it does well with me on both light and heavy soils.

MORGAN (Morgan's Favorite)—Fruited just once, but evidently of great excellence. Imagine a Wm. Belt that will keep healthy and bear abundantly on bright soil, and you have a picture of the Morgan as it behaved with me last summer. On a yellow sandy knoll, without manure, the plants were magnificent in size, and the fruit large to very large, beautiful, firm, abundant and delicious.

MAGOON—Side by side with Morgan this variety was nearly or quite equal in every particular except that the fruit seemed scarcely so smooth, firm and sweet, while it was decidedly later in season.

DOWNING'S BRIDE, STAR, FOUNTAIN, are varieties that must be tested on better soil

before I can recommend them. Side by side with Morgan and Magoon on the sandy knoll they were comparatively worthless.

CRESCENT and BEDER WOOD on the sandy knoll stood well up to their old reputation. Crescent, especially, grown from selected pedigree stock offered by a strawberry specialist in Michigan was just as productive as we used to know it fifteen years ago—large, too, for the season. Beder Wood of course rusted, as it always does, but it bore well and early too.

EXCELSIOR.—This is the first early variety they make such a fuss about in the States. Well it is early no doubt—the earliest of all I have seen—and it is smooth, glossy, dark red and very firm. But oh it is so sour! After one year's test I must not talk as if I know all about it, but it must bear a larger crop and stand up a little freer from rust before I can praise it. Yet its great earliness and firmness make it promising for market.

MICHEL'S EARLY—Nearly as early as Excelsior, and much sweeter—is a better variety for home use, but it is quite soft for a market berry, and if allowed to make runners without restraint it will be unproductive. Checked a little in running I have had it bear well.

JOHNSON'S EARLY—I find more promising than Excelsior—very early, large and firm enough, healthy, moderate in forming young plants, and quite productive even on light land, but rather acid. Only fruited once.

SAUNDERS, WOOLVERTON, WILLIAMS—All fine, large, well-known varieties of Canadian origin, of which the last seems to be the most profitable for market.

BRANDYWINE—A good late variety, about the size of the three last mentioned—fine for late market.

GANDY—The latest of all yet tested, large, very beautiful and delicious, but unproductive on sandy land.

RUBY—One of the most beautiful and delicious, large and firm, but only moderately productive.

GLEN MARY (P.)—Late, very large, quite productive, but rather soft and sour, and a poor grower except on rich land.

BISMARCK—Large, handsome, of ordinary quality and moderate productiveness.

PARKER EARLE—Immensely productive on moist rich land and in a wet season. In ordinary seasons, with common treatment, it will not ripen half its fruit, so I am afraid it has got to be turned down,—which is a pity considering the size and beauty of the fruit and the greatness of its attempts.

PARKER EARLE IMPROVED (Arnout's)—Just a chip off the old block.

PARKER EARLE JUNIOR—Hardly even a chip, I think—seems quite worthless.

GREENVILLE (P.)—Large and productive, but had to be rejected for lack of health. The leaves would draw together, and upon examination were found to be affected with mildew.

WARFIELD (P.)—Immensely productive, and the glossiest and most handsome berry for its size of the whole lot, not very large, but large enough for market. But the fruit is of poor insipid quality, and in a wet season a good many of the blossoms would fail to pollenize properly, so that a large part of the crop would be gnarly and small. So when it developed the same fault of mildew on the leaves noted in the Greenville it had to go. The Senator Dunlop is said by Mr. Crawford to resemble it greatly in appearance and crop, but to be of delicious quality and of perfect blossom. The plants certainly grew well, and I look forward to fruiting it next summer with eager anticipations.

Kansas, New York, Bennett, Mrs. McDowall, Murray, Darling, Success, Parson's Beauty, Smith's Early, and especially Jos. H. Black's seedlings, viz., Joe, Nettie, Carrie

Silvers, Nina, Stella and Reba, have shown healthy, vigorous growth on my place, but have not fruited yet.

With all our improvements there is yet room for the perfect strawberry. When we reach a combination of productiveness and regularity of the Clyde, the vigor of the Sharpless, the size and quality of the Wm. Belt, the firmness of the Wilson or James Vick, and the wiry constitution of the Crescent, we may perhaps consider ourselves

near enough to the top of the ladder. Whether Providence has made the requisite arrangements for such a result in a world of imperfections may well be doubted, but certainly the process of reaching up for the best possible is delightful, and we must congratulate ourselves upon the improved varieties now to hand of "the best fruit God ever made on earth."

T. C. ROBINSON.

Owen Sound, Feb. 1901.

TREATING THE SAN JOSE SCALE.

Mr. G. E. Fisher, Burlington, the chief inspector, has addressed a carefully prepared circular to the fruit growers of Ontario, regarding the treatment of this scale, and we extract a few lines. Our readers may secure the whole circular on application to him.

The grower will find the best proofs of its identity in its being plentiful and widely distributed over the tree, in its being present in all stages of development at all times of the year and its very distinct nipple and ring. If left to itself the San Jose Scale will increase very rapidly indeed, but it may be controlled by remedies.

Whale oil soap applied $2\frac{1}{2}$ lbs. to the imperial gallon of water just before the buds open will check the scale severely, and has a splendid effect upon the trees in destroying fungus and stimulating growth, but if used before the frosts are over will kill the blossom buds of tender varieties. Soap offers so little resistance to re-attack and so many of the scales were left alive that before the end of the season the original condition of infestation was fully restored. There was very little spreading, however, where the soap was used at full strength and in sufficient quantity. Every part of the tree must be saturated. I have never seen a tree which had been injured by soap.

Crude petroleum is strong medicine, and must not be used in excess of what is necessary to penetrate encrustation. Every part of the tree must be reached, but no part sprayed a second time, nor must the spray be directed too long against the tree. Special attention should be given to the inside of the branches, the twigs and the deep cracks in the bark. Many trees have been killed by excessive applications and it is safer to use crude oil diluted to 25 per cent with water, which must be applied with an emulsion pump. The London Spray Motor combination is the only reliable pump I know for applying mechanical mixtures. No scale can live on an oil treated bark, and the oil not only

kills nearly all of the scales but protects the tree from reinfestation. Too much crude oil will kill trees and very little is necessary to kill the scale. If applied to peach trees the treatment should be very light, even and complete. Crude oil should be used thoroughly but sparingly just before the leaves appear, and costs about one-sixth the cost of soap. I have not seen apple, pear or hardy plum trees, which had been injured by crude petroleum.

Whale oil soap and crude petroleum may be combined in any proportion to suit tender trees.

Kerosene is not satisfactory except as a summer treatment in the proportion of 10 per cent with water for killing the young scales, and whale oil soap, one-half pound to the gallon, may be used for the same purpose. Neither of these summer sprays will penetrate the coverscale beyond the white stage, and to be effective must be repeated every ten days.

The remedial work done last year was not altogether successful, owing partly we think to the material used not being of first quality and partly to improper use of it. If there is one thing which above all others is worth doing well it is treating trees affected with the San Jose Scale.

The Minister of Agriculture for Ontario, recognizing that this work is still in the experimental stage, that it is urgent and that great difficulty in procuring suitable spraying material would be experienced, will again supply whale-oil soap and crude petroleum to those whose orchards are affected or exposed to infestation with the San Jose Scale, on the same terms as last year, that is one half of its cost laid down cash on delivery. The soap will be made from strictly high grade material and will probably cost a trifle more than that used last year. Having recently completed a tour of the oil fields and made many tests, I can now locate the most suitable crude petroleum for this purpose the Province affords.

The following are given in the same circular.

INSTRUCTIONS FOR SPRAYING.

1. Trees must be thoroughly pruned, and all rough bark and lichen removed.

2. Have a sufficient supply of material on hand and a proper pump for applying it.

3. Do not spray the trees when wet.

4. Thoroughness is imperative.

5. For early work, soap should be used in the proportion of $2\frac{1}{2}$ pounds to the gallon of water where the scale exists, and one pound to the gallon when operating only against fungus. It should be first dissolved in a separate vessel, then strained into the barrel of the pump, and is more effective when applied hot.

6. Any good force pump provided with an abundant supply of hose, an extension pipe and a suitable nozzle, will apply the soap.

7. Soap can be used most effectively during the time between the swelling of the buds and the opening of the blossoms; even if a few blossoms are open, no harm will ensue. An earlier application will destroy the fruit buds of tender trees. The tree should be sprayed until every part is saturated. The inside of the limbs, the twigs and crevices should have especial attention. $1\frac{1}{2}$ gallons

of the mixture is sufficient for a full grown peach tree.

8. If undiluted crude petroleum be used, the least possible quantity of oil that will cover every part of the tree should be applied with the very finest vermored nozzle. It is safer to use oil diluted to 25 to 30 per cent with water. The vermored nozzle, either coarse or fine to suit the work, is best. While every part of the tree must be reached, no part should be covered twice with oil. A reliable combination pump only should be used in applying mechanical mixtures.

9. Treat for Lecanium and Pear Psylla early in April. San Jose Scale and other purposes as late as possible before the buds open. First, apple, then pear, then the hardier varieties of plums, then the tender varieties, and last peach, allowing sufficient time to complete the work. Crude petroleum should not be used at all on the foliage.

10. For summer spraying, use kerosene, 10 per cent. with water on bright, airy days, which will promote evaporation, or whale-oil soap, one-half pound to the gallon of water, whenever practicable.

THE MOUNTAIN RARERIPE PEACH.

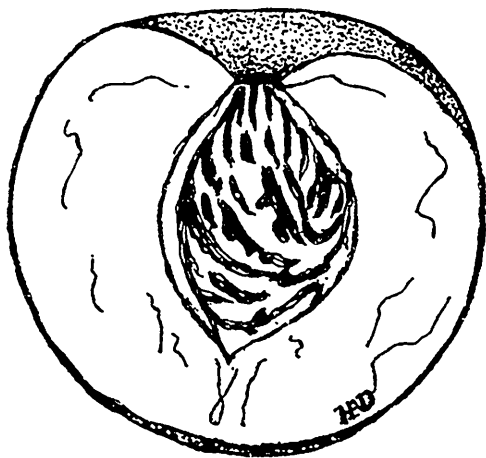


FIG. 2134. MOUNTAIN RARERIPE PEACH.

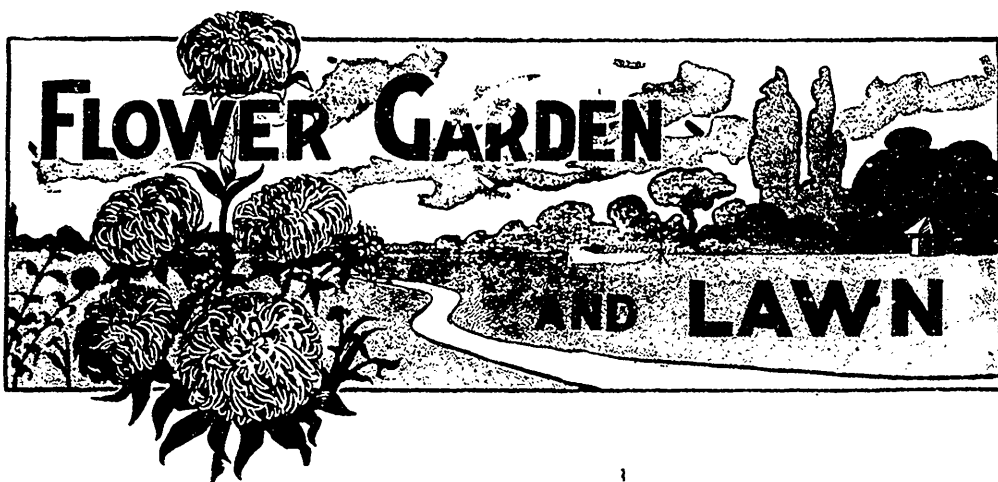


AMONG the multitude of peaches that have proved their value this year there are few of the white fleshed free stones that have equalled the Mountain Rareripec. It is comparatively a new peach and ripens in mid-season, just before and lapping onto Stump and Old-

mixon Free, which are of the same character; hence, it has close competition. In some of the leading orchards of Delaware, where it fruited in considerable quantities this year beside these old standards, it proved fully their equal and in some cases their superior.

The size is from medium to large and the shape round, with a very faint suture on one side. The color is white, beautifully shaded with carmine red. The flesh is very thick and firm enough to withstand shipment before the fruit is fully ripe, and very tender and juicy in the end. Its flavor is rarely equalled, being rich, yet mild, subacid, and very fragrant. The stone is not very large, has no bitter taste in the flesh about it and is very free. It is a good variety to go along with Elberta, which ripens at just the same time, and it deserves extensive trial where such a peach is wanted either for market or home use.

H. E. VAN DEMAN.



TIMELY TOPICS FOR THE AMATEUR—XV.

HERE is no season of the year that taxes more severely the energy and skill of those who take an interest in their gardens, than the month of May and the early part of June. Neglect or carelessness in garden operations at this season, is certain to be followed by disappointment and regret, later on.

Not only has the ordinary spring and early summer work of rolling lawns, cutting grass, getting the walks in trim, and other routine work to be attended to, but the vegetable and fruit garden also demand their share of attention.

The vegetable garden, more especially, must not be neglected. Unless successive and late crops of vegetables are sown or planted, there will be a dearth of vegetables during July and August, as well as a shortage of autumn and winter vegetables.

Always endeavor to sow and plant garden crops when the ground is sufficiently dry to work easily. Tramping about on the ground when in a wet and soddened condition, is detrimental to plant growth, more especially on stiff clayey soils. If planting is carried on in wet or showery weather, always loosen the soil up with a fork or hoe where it has been tramped about

on. A loose, friable surface soil is conducive to rapid growth, and much heavier crops will be secured than by allowing the soil to become hard and packed.

Another important point in garden work, is never to allow the roots of any tree or plant that is to be transplanted, to be exposed to the air any longer than is really necessary. If the roots cannot be covered with earth, cover them with damp straw, or a piece of matting, so as to exclude air from the roots. More plants and trees are lost by neglecting this important point than is generally supposed. Plants that can be kept from wilting for a few days after being transplanted, by judicious shading and watering, will well repay the extra care bestowed on them by responding with quick root action, and a vigorous, healthy top growth.

The transfer of tender flowering and foliage plants from the greenhouse, or perhaps from the hot-bed or window, to the changed conditions of out-door life, is a feature of spring work that is often very carelessly and thoughtlessly conducted. Tender exotic plants, such as coleus, cannas, caladium esculentum, etc., are often hurried out into the cold soil of bed or border, without any

attempt having been made to harden and prepare them for this sudden and decided change in their surroundings.

The result of this harsh and unnatural treatment is soon apparent. The plants soon lose the beautiful rich color and markings of their foliage, and unless the weather is very favorable it is possible that they may be entirely denuded of their foliage.

It is almost impossible to harden plants off successfully in a small greenhouse or conservatory where there is a mixed collection of plants. By keeping the ventilators open at night, or even late in the evening and not shading too heavily, much can be done in the way of hardening plants. But this plan is not advisable where there is even a small collection of plants such as exotic ferns, fancy caladiums, foliage begonias, etc., as these require shade and heat to bring them to perfection.

There is no better plan to harden plants intended for summer use out of doors, than standing them outside under the shade of trees, or standing them on a border or walk on the north side of a fence or buildings so that they are protected from the direct rays of the sun for a few hours at mid-day, and from cold biting winds and slight frosts. A week or ten days in this position will gradually harden the foliage of tender plants, and

avoid the anxiety and loss that is often caused by hurrying tender plants out direct from greenhouse or conservatory to exposed positions outside.

This hardening-off process will be found to be beneficial, not only to tender greenhouse plants, but also to plants raised in the window, or in any position where they have not been hitherto exposed to direct sun and air.

If dull warm weather could be depended on for a few days, when placing plants out doors, all trouble of hardening-off would be avoided. But it is seldom that much dull, cloudy weather is experienced toward the end of May or early in June, to favor us in this respect.

I have written these few remarks more as seasonable reminders than notes of instruction to readers of the journal. I know from experience that matters of this kind are oftentimes forgotten and lost sight of in our anxiety to have the flower-garden and lawn looking bright and gay as early in the season as possible. Recollections of past experience and failures too often occur to us, when the results of neglect and forgetfulness have become too apparent to allow of their being remedied very easily.

W. HUNT.

Hamilton.

THE PANSY—"FOR THOUGHTS."

"Of all the bonny buds that blow,
In bright or cloudy weather,
Of all the flowers that come and go
The whole twelve months together,
The little purple pansy brings
Thoughts of the sweetest, saddest things."
—*Mary E. Bradley.*

"Is there not a soul beyond utterance, half nymph, half child, in those delicate petals which glow, and breathe about the centres of deep color."
—*George Eliot.*

IF THE writer had such conceptions of the elegance and soulfulness of the pansy of the not distant past, what would be the sentiment of the surpass-

ing splendors of the many families perfected in the present time?

The last few years have seen most remarkable developments in the pansy world. First, departures from the rich self-colorings seemed to be in the direction of wild irregular splashings in the color and markings, with greatest dimensions, regardless of symmetry and the striking effect of the clearly defined eye. Afterwards came, in evidence of the aesthetic tastes of the Parisians in perfecting, the beautifully

pencilled and regular petalled, richly suffused "Cassier" and "Bugnot" families. Again appear the deeply serrated, gold and silver margined, grandly mottled, mammoth sized, American grown varieties, of surpassing beauty and even fragrance, like to that of the violet. Latterly, fanciers have turned their attention to the development of trade on this bloom as "cut flower." So that we have now extraordinary large flowers, of rich velvety substance, in most elaborate and gorgeous colorings, borne on long stiff stems, well foliaged plants with deep rooting, drought resisting, and great branching characteristics. And many will find in these newer strains such surprises in their new combinations of coloring, cinnamon, canary, orange yellow, black, indigo, and sky blue, cream, violet, claret and fiery red, that the unfolding revelations will astonish, as much as please them.

Seed offered from such strains, perfected through years of scientific culture, hybridization, and selection in process of raising, should receive the best attention and skill we can give it, so that we may realize pleasure and profit in our venture to grow them. A few thoughts on this line is my apology for the following abbreviated suggestions:—

The time of sowing and blooming and the purpose for which you grow and bloom them, must be determined by each one engaging in it, for himself. By sowing the seed now indoors, and transplanting into the garden you can secure some sample blooms this season, but you cannot obtain the fullest and best development and possibilities of the plant. Therefore, if you sow early, be satisfied with a few blooms and grow on the plant, as I should, if I were to sow in July and prepare fully for a grand display the following year's autumn—August to winter—and carry over for another year.

Should you desire, or should circumstances require of you, to sow your seed in

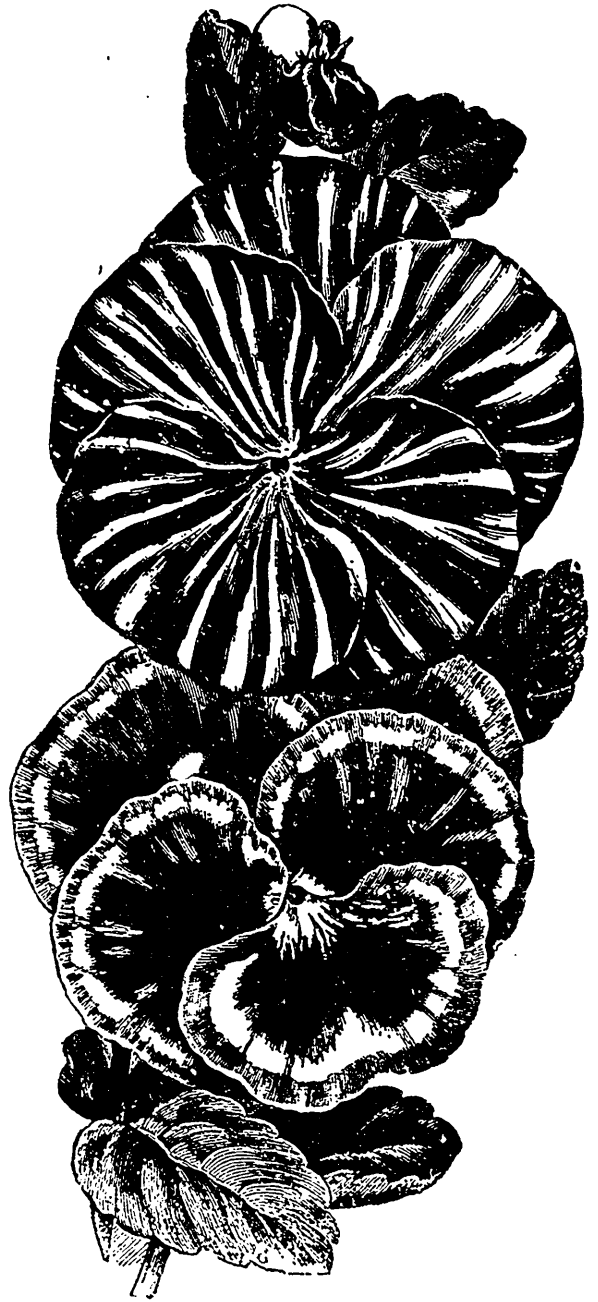


FIG. 2054. PANSY.

the open garden, secure a spot somewhat sheltered, and pulverize and make even the seed bed of a nice loamy soil with plenty of

humus—decomposed forest leaves, spent hops, etc. Cover the seed lightly and evenly, keep moist and secure against trouble by placing leafless branches over the bed, and follow the line of culture herein indicated.

I prefer sowing the seed in boxes indoors, because boxes do not absorb the moisture so quickly as crockery, etc., less attention is required, and the seed is too precious to be exposed to loss and disaster from depredations of cats, hens and dogs, and possibly frolicsome children. The box in which the seed should be sown may be about $2\frac{1}{2}$ inches deep, and of width and length to suit your purpose, as, in the same box, within properly defined limits, you may sow other seeds, and thus make one vessel do. It would be advisable to sift or make fine the entire compost for the box so that the fine rootlets may run freely and be taken out in transplanting without much damage. No soil is better for this purpose than a well rotted loamy turf sod, reduced to fine tilth, mixed with a little fine sand and leaf mould. Fill your box to within $\frac{1}{2}$ inch of the top, then take a shingle or piece of smooth board and press the soil firmly to an even surface. On this scatter your seed not too thickly, use a clean side of your shingle, glass or board, and press down the seed evenly and firmly, after which cover with a very fine soil, and to the depth of three times the size of the seed. This is a pretty safe rule to follow in all seed sowing, excepting in the case of very fine seeds, such as *calceolaria*, musk, *begonia*, which scatter thinly upon the top of the soil to which could have been added a little moss dried, rubbed very fine and mixed in the soil near the top. The process indicated for pansy seed sowing is equally good for *primulas*, *auricula*, *cinnearia*, *cyclamen*, *polyanthus*, etc.

This being done, water should be given in a very fine spray to prevent washing the covering off the seed. If you do this

liberally at brief intervals for a few hours at the start, then cover with thick paper and place in a position not too much exposed to sun and air by out of doors, not in danger from storm, and you will be spared much trouble, and germination will be evident in a few days if the seed be new and fresh. Preserve moisture thus, if dried, spray again, and you will soon behold the evidence of upspringing life. Do not altogether uncover at once, but bring to the light gradually, never into a very bright sun, especially through glass. At this stage be quite sure that the seedlings get fresh air in some way, and do not be tempted to have them too wet, more especially so as they begin to cover the soil and crowd each other for room. The main thing now is to secure a strong, stocky growth in the seedling, as nothing so much militates against success in growing a good show plant of the royal "heart's ease" as to allow it to run to a single stem, weak and elongated.

As soon as they are in the four or six leaf they should be transplanted into a bed or frame, that has been specially prepared for them in the meantime, with well enriched soil, deeply dug, thoroughly pulverized and stirred with the hoe or rake to destroy germinating weeds. Cow byre manure is preferable as a fertilizer.

Into this bed transplant the seedlings six inches apart each way. Care should be taken that the rootlets are nicely spread and not bundled together in the planting. A careful watering, in the absence of a timely rain, is now in order, so that the growth of the pansy be not checked by wind or sun. I like to get through this operation in the early evening. Two things departing from this point should be carefully noted: First, use the hoe very diligently to keep down weeds, conserve moisture, and excite nitrification of the soil. Second, as soon as the precocious plant gives evidence of its blooming character pick off every bud and

positively allow no blossom to develop for some time, certainly not until plants are established in their permanent bed, and if you wish to grow for genuine display or competition, or for quality, style and magnificence of plant purely, it is best to sow seed about July 15th to 20th and follow these rules. And let this bed or cold frame, be in such a place that some shelter from wintery blasts will be secured. To assist the young plants in their coming safety through the winter, as soon as the ground is frozen hard, cover liberally with a light mulch of short straw, or better still newly fallen leaves, and do not remove this in the opening spring, till the fear of hard frosts is gone. This prevents damage from thawing and freezing intermittingly, and when they come out they go with a rush right into their life work, which I should, personally, prefer to be on the following lines.

Presuming that the grower wishes to have the greatest satisfaction in securing a bed of large plants, crowned with a wealth of richest blooms of magnificent size and colors, he will in the season preceding have prepared his permanent flowering bed by enriching with well decomposed manure, a deeply dug soil, well drained; in location such as to escape the fervid heat of the mid-day summer sun, and the blighting winds of early and late season; and, as soon as the balmy days of spring appear, after frequently stirring the soil of the new bed to destroy weed life, retain moisture and gain warmth, will transplant his beauties, yet unrevealed, nine inches apart in the row and twelve inches between the rows, noting what has been said about the roots in planting, and not burying the neck of the plant too deeply, or gathering the soil about it so as to smother and cause decay. Then dispose the head of the plant, if already branched in all directions. Pinch off every bud and, if long in the runner, shorten one or two joints with a clean cut. What you want now is root development and spreading top.

Stir the soil diligently, never allowing the plant to suffer for want of water. If watering is a necessity attend to this late in the afternoon rather than in the morning. Continue to carefully pick off all buds till, say, July or even later. In the meantime, top dress with some well rotted manure and work well into the upper inch or two of soil with the hoe. And as pansies are very gross feeders, you will soon discover they have assimilated in their full development all nutrients within immediate reach. So now, that is about August, to give a fresh stimulus to growth and increased vigor for their supreme effort in the unfolding of a vast number simultaneously, of richly painted, thick petalled, immensely large regular blooms, begin at one side of the bed and carefully take away the soil near to the row of plants (all along side the plants) deep enough to receive the whole plant with good depth of roots; then move bodily each plant and settle it nicely and firmly into the place made for it, drawing the soil from the middle of the two rows towards it and continue this until your whole bed of plants now stands where the unoccupied soil was before. This accomplishes two things: first, by this root pruning you check redundant gross growth and promote floriferousness, and secondly, it provides fresh nutrients for enlarged blooms and lengthened life.

When in fullest glory never allow the blossoms to remain on the plant any length of time, but pluck in full freshness and take in-doors and distribute to your friends, the sick, the churches, the doctor's offices, drug stores; mail to the hospitals, sick children, particularly; and you will still have the more to send. Lastly, if you wish to preserve a few choice ones for seed, remove to other quarters, and use slops or light dressing of salt before planting, then when the seed food turns the least brown pluck and dry in a box with holes in.

F. BACON.

Orillia.

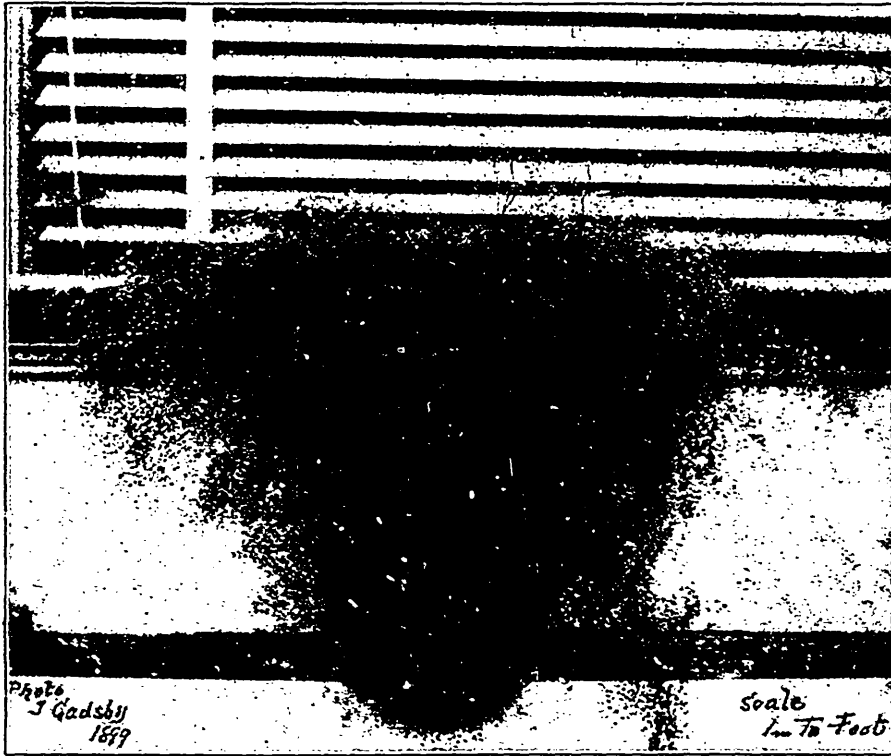


FIG. 2055. ADIANTUM GRACILLINUM.

GREENHOUSE, WINDOW AND GARDEN—V.

THE GREENHOUSE—Most of the present occupants of the greenhouse or conservatory will soon be gradually transferred to their summer quarters outside. Hydrangeas, agapanthus, clivias, genistas and pelargoniums that have done flowering, and other similar plants can generally be safely stood outside under temporary protection about the second or third week in May. Geraniums, ageratums, verbenas, petunias, pyrethrums, garden annuals and the hardier bedding plants are also quite as well stood outside about the same time, before being planted into the bed or borders later on.

Coleuses, cannas, ricinusas, achyranthes, palms, azaleas and the more tender plants had better be kept in the greenhouse until

the end of May or early in June. The facilities available for temporary shelter and the condition of the weather, must however largely determine the best time to introduce all plants to outdoor life.

If the greenhouse or conservatory is not occupied during the summer with tender plants that require shade and very little air, the benches may be utilised to grow chrysanthemums on. Owing to the prevalence of the fungus disease, commonly called "rust," that has attacked outdoor grown chrysanthemums so badly during the last few years, it seems to be impossible to succeed with these gorgeous autumn favorites except by growing them under glass all the summer. This plan has been practised for several years by a few growers in Can-



FIG. 2056. SPIREA, ANTHONY WATERER.

ada, and almost entirely so by our florist friends in the neighboring republic during the same period.

To grow good sized plants on benches, five or six inches of good rich potting soil must be used. Early struck plants that should now be in three or four inch pots can be planted eight or ten inches apart each way. The tops of the growth can be pinched off every week or so until July, when the plants should be allowed to grow on without further pinching. Plenty of air night and day, must be given the plants during the hot weather in summer, both top and bottom ventilators being used for this purpose. The plants must never be allowed to become dry at the roots, and will require syringing daily. Early in the day is the best time for both these operations. Later struck cuttings can be planted in the same depth of soil and grown on for single stemmed flowers. These can be planted much closer together than those planted earlier, and must not be pinch-

ed back. A little fine bone meal mixed with the soil before planting will be beneficial to the plants.

Tuberous begonias, gloxinias, fancy caladiums and exotic ferns must have a liberal supply of water at the roots. These plants dislike too much syringing or sprinkling overhead. The tuberous begonias will benefit by being removed to a cold frame any time in June. The protection of a sash slightly shaded must be given them, and plenty of ventilation.

Old plants of cyclamen can be placed in the frame with the begonias, and not given very much water during summer. Young seedling cyclamens can be potted as required and grown on in the greenhouse successfully.

Genistas in pots should be plunged pot and all in the open border, when danger of severe frosts are over.

Plants of early struck stevias and eupatoriums should be potted into six or seven inch pots. These should be plunged in the open border about the middle of June when all danger of frost is over.

Fuchsias will be better brought outside in June and placed in a shaded position on the north side of a fence or building. Pelargoniums can be treated in the same way.

Azaleas should be syringed daily and never allowed to become quite dry at the roots.

Pot roses that have done flowering can be stood out under the shade of a fence or building and given only sufficient water to keep them from drying out at the roots.

Ventilating the greenhouse must be attended to so as to suit the requirements of the plants it contains.

Exotic ferns, fancy caladiums and a few other plants require less air and a more humid atmosphere.

Pot a few good winter flowering geraniums into six or seven inch pots. Plunge these in the open border. Keep the tips of

the young shoots pinched out occasionally until August. The flowers stems must also be kept picked off until September to ensure good flowering results in winter.

It is not too late to sow a pot of East Lothian stock seed. Pot the plants singly into 4-inch pots and plunge pot and all into the open ground until fall. The plants can then be potted into 6-inch pots and taken into the greenhouse. By March or April they will give you some grand spikes of their deliciously perfumed flowers. The white variety is the best.

THE WINDOW—Many of the plants that have occupied the window all winter will be better stood outside in a shaded place. Cactus and epiphyllums that have flowered during the winter or spring, calla lilies, old plants of geraniums that are wanted for next winter's flowering, can be treated in this way. Fuchsias will probably do better stood out in a shady place during the summer.

Plants for the window boxes outside will soon be required. For sunny positions use geraniums, cordylines and coleus for the centre, and vincus (periwinkle), German ivy, nasturtiums, *Othonna grassifolia*, Madame Saleroy geraniums, petunias and a few other sun resisting plants for the edge of the box. If the position is nicely shaded, fuchsias, tall growing abutilons, summer flowering begonias, foliage begonias and similar tender plants for the centre can be made use of, whilst ferns, tradescantias, *Isolepis gracilis*, *Festuca glauca*, etc., will be found satisfactory for planting around the edge of the box. A slight shading to window boxes at mid-day in sunny positions will be beneficial to the plants.

THE GARDEN—The flower bed and borders should have a light coat of well rotted manure forked into the soil if it was not done in the fall. The beds and borders should in any case be forked over just before their summer occupants are placed in them. The herbaceous border should be treated in a



FIG. 2057. SPIKE OF EAST LOTHIAN STOCK.

similar way. Any large clumps of perennial phlox, campanulas, etc., that need dividing up should be attended to early in May.

Annuals and the hardier kinds of bedding plants can be planted out as the weather permits. Water and shade all newly planted seedlings carefully for a few days after transplanting.

Put the brushwood sticks or other supports to sweet peas before they commence to run. If left later the vines are oftentimes injured.

Give the rose bushes a sprinkle of dry hellebore before the buds are developed. A second application may be necessary. This will keep down the rose slug or maggot. Half a teaspoonful of Paris green, well mixed in a small quantity of water first, and sufficient water added to make two gallons of the poison liquid, will answer the same purpose sprinkled on the rose bushes.

A strong solution of tobacco water is the best preventive and remedy for the small white pests—the rose thrip—that attacks rose bushes in June and July. Pour boiling water on a handful of raw tobacco or raw stems in a pail. When the liquid is cool, strain it off and add sufficient water to make two gallons of the solution. Sprinkle or syringe the foliage with this solution, once or twice a week, before these pests have made much headway. Sprinkling raw tobacco or stems around under the plants is a partial remedy against the attacks of this enemy of the rose.

Bulbs that are out of flower can be taken up and planted in some out-of-the-way place to ripen. If the bulbs can be left undisturbed, especially the tulips and crocuses, they will give good results next season. But it is useless to leave them in beds intended for coleus, geraniums and similar strong growing plants, unless the bulbs are a great distance apart from each other. Small annuals such as alyssum, candytuft, portulacca, etc., might perhaps be sown without disturbing the bulbs, but the results are not often satisfactory.

Gladiolus should be planted out during May at intervals of a week or two. Plant the bulbs three or four inches deep, in good light soil.

Dahlia roots can be planted out the last week in May in safety.

Ricinus, cannas and tender plants are better not planted outside until well into June.

VEGETABLE GARDEN—The main crop of beets and carrots should be sown early in May. Second early and late potatoes can be planted from the middle of May until the first week in June.

Celery plants, from seed sown in April, will require transplanting into a small frame out of doors. The plants must be kept well

watered and shaded until they have started into growth.

Successive crops of peas and beans as required can be sown. The Golden Wax, Early Valentine, Excelsior and Refugee are good beans for the garden. Horsfords' Market Garden, Burpee's Profusion and the Stratagem are good kinds. Plant second early corn about the second week in May. Early Minnesota, Cory, Hickock's Improved and Stowell's Evergreen are four good varieties. By sowing these four varieties at the same time they come in for use one after the other in the order named. The Stowell's Evergreen is a grand main crop sweet corn, the immense ears it produces remaining fresh and sweet for a long time. Plant a few seeds of vegetable marrow squash in the hills of corn. The Bush Marrow is the earliest variety, but the long-running English Marrow is the most productive kind.

A second crop of spinach may be sown early in May, but it is doubtful if it will yield profitable returns.

Plant out leeks as soon as large enough in shallow trenches prepared the same as for celery.

Start the hoe and cultivator early to keep down weeds and to help the crops.

Sprinkle powdered hellebore on the gooseberry and currant bushes to check the ravages of caterpillars.

Radishes and lettuce should be sown early in May so as to secure a succession of salads for the table.

Late frosts must be watched for and guarded against in May and early June. A little protection given now to early crops, for perhaps only one night, means the enjoyment of a dish or two of vegetables very early, at a time when they are certainly a great luxury.

Hamilton.

W. HUNT.

DECIDUOUS SHRUBS.

I HAVE often considered the want of a reliable list of the best, most floriferous, useful and hardy deciduous shrubs a great drawback to the general planter of such stock ; hence my reason for compiling this list, trusting it may serve a good purpose. It will certainly save busy people from turning up hundreds of varieties in the different catalogues and journals, when if not familiar with the varieties, they are very apt to be led astray by the glowing descriptions given, and those unfamiliar with shrubs are apt to be confused since with their great number, so many of them being so alike in appearance. Another mistake too often made in catalogues is their silence as to the hardiness of plants, and the silence of our journals in not condemning such, so saving the unwary from spending their money in useless stock. Farmers are generally ridiculed for not planting trees, shrubs and hardy plants about their houses ; they are not all bred gardeners, why then not tell them the varieties to plant ? Why not give good prizes at our large exhibitions for collections of such stock, and have them named ? I think that a prize offered by the government for the best named collection of trees, shrubs and herbaceous flowering plants would be of untold value to the country by educating the farmer and the mechanic as to what to plant. I hope the following list will be found to fill the bill, and as to the names there is nothing here mentioned that will not do well in Welland or Lincoln counties.

1. *Berberis Thunbergii* — From Japan, about 3 feet high, one of the best dwarf shrubs in cultivation ; flowers yellow, in drooping racemes followed by red berries in the fall and continuing well through the winter ; no collection should be without the Japanese herbary.

2. *Berberis var. purpurca*—A purple leav-

ed variety of our native *Berberis vulgaris*; will grow to 8 feet high and is a beautiful object as a specimen plant on the lawn or as a hedge plant : a hedge of this plant looks well throughout the summer, and well into the winter after the leaves fall, with its quantities of berries, particularly if planted on poor sandy soil. The fruit is much prized by the partridges, and is equal if not better than cranberries to eat with turkey at Christmas, if canned before getting frozen. My experience is that the purple variety does not fruit as freely as the native variety *B. vulgaris*.

3. *Caryopteris mastacanthus*, or Verbena Shrub—About 3 feet high, blooms from September until cut down by frost ; this shrub is a grand acquisition ; it is one of the prettiest flowering shrubs that I know of, the flowers resemble heliotrope, it blooms in the axils of the leaves and all along the stem ; the leaves are very pretty light green



FIG. 2058. DEUTZIA, PRIDE OF ROCHESTER.



FIG. 2050. WHITE FRINGE.



FIG. 2060. ELEAGNUS LONGIPES.

above and very silvery on the under side; the whole plant has a beautiful odor. If this shrub proves to be hardy, there is no shrub will give as much pleasure; there are two colors, blue and white.

4. *Chionanthus Virginica* (White Fringe)—This will grow from 5 to 8 feet high in rich deep soil; is also a hardy gem, producing racemes of white fringe-like flowers about the first of June, followed by purple clusters of fruit, like grapes, in the fall.

5. *Corylus var. purpurea*—(Purple leaved hazel)—This plant is by all odds the best purple foliage plant for general purposes we have and very hardy; it is very showy at a distance. It will grow to 10 feet high, but can be kept dwarf by trimming.

6. *Daphne mezereum* (*rubrum* and *album*) should be in our collection of shrubs from the fact that they are the earliest flowering shrubs we have, and of very sweet perfume. This plant is a native of Niagara Falls and is very hardy; flowers before leafing out; it grows to a height of 5 feet.

7. *D. crenata*, single white.—Will grow to 7 feet high; all the deutzias are beautiful shrubs, and we cannot afford to leave all of them out of the list.

8. *D. crenata flore pleno*—Double pink flowers in racemes in the month of June, 8 feet high.

9. *D.* (Pride of Rochester)—Double white tinged with pink, a very beautiful variety, but I think it a little tenderer than the last. This one is

useful for florists' work, to cut from.

10. *D. gracilis*—This one is of a dwarf bushy habit, very hardy, pure white, single flowers in racemes completely covering the plant, good to force in the greenhouse, also good to cut for florists' work, will flower in May; about 4 feet high; will flower at Easter when forced.

11. *Eleagnus longipes*—Silver thorn of which there are several varieties; this one has the most beautiful foliage of a greenish

white above and a silvery white on the under side, which shines in the sun.

12. *Eleagnus umbellata* — The female plants of this variety are a grand sight to see when in fruit, the leaves are silvery white like the rest of its class; the fruit is eatable, of a reddish amber color about like currants in size; flowers small and yellowish, not showy. Plants can be kept down by trimming to 7 or 8 feet in height.

13. *Enonymus Europæus* (European strawberry tree)—This shrub will grow to about 10 feet in height; should

be kept as a single specimen plant, which makes it more attractful when bare of leaves in the fall; about the first frosts the seed pods begin to open, exhibiting their strawberry colored seeds which remain on the plants all winter, making them pretty objects standing among the snow; flowers small, chocolate color.

14. *Exochorda grandiflora*—From China, hardy here, a most beautiful shrub, bearing white flowers in clusters, very showy, about 6 feet high—one of the best.

15. *Forsythia Fortunei*, var. *suspensa*, and var. *viridissima* (Golden Bell)—From China; the three varieties are hardy here, in bloom end of April or first of May; a grand shrub covered with bright golden bells before leafing out; blooms here the second time in the fall.

16. *Halesia diptera*, and *H. tetraptera* (Silver Bells)—This plant becomes a mass of

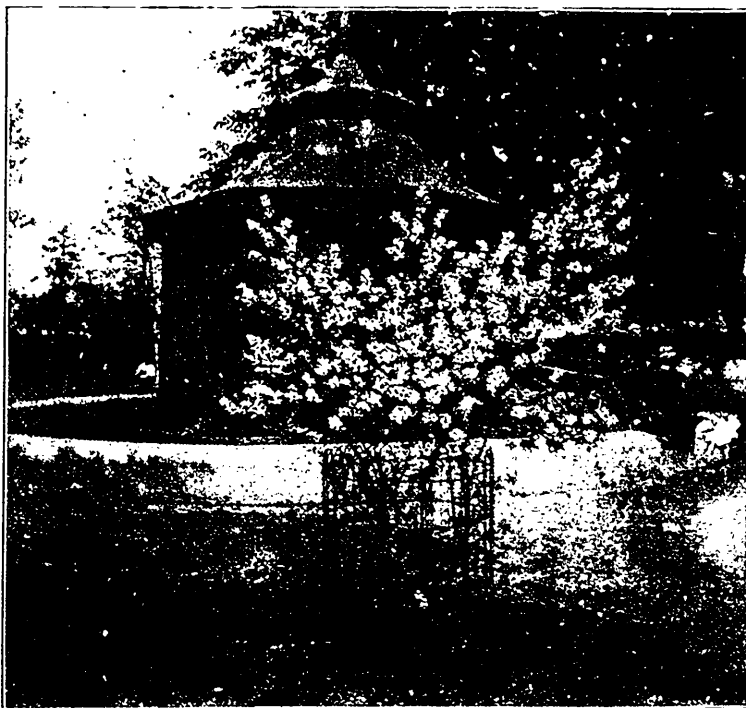


FIG. 2061. ENOCHORDA GRANDIFLORA.

white bell-like flowers, will grow to small sized trees, 10 or 12 feet high; there is no plant prettier when in bloom about the middle of May; blooms before the leaves expand; belongs to Southern States.

17. *Hibiscus syriacus*—*Althæa* (Rose of Sharon)—It will grow to 10 feet high; extremely useful on account of their late flowering; they bloom profusely at a season of the year when but few shrubs are in bloom, 1st August. There are double and single flowering varieties. The following will be found as good as any H. var. Carnation, double white striped red; H. var. Cœrula, double blue; H. var. Lady Stanley, double white, tinged pink; H. var. Variegatus, leaves beautifully variegated.

18. *Hydrangea paniculata grandiflora*, grows from 5 to 6 feet, but should be kept cut back to within 4 or 6 inches of the old stem or trunk each spring, and only leave



FIG. 2052. MOCK ORANGE.

four or five of these short stems to have large panicles of bloom; a long-lived healthy plant, blooming in August and September; from Japan.

19. *Hypericum Moserianum* (St. John's Wort)—Grows to about 3 feet in height, a very desirable hardy shrub, producing yellow flowers 2 inches across from July to fall; native of America.

20. *Ilex Verticillatus* (Deciduous Holly)—5 to 6 feet high. I met with a plot of these shrubs lately in our own woods, and I thought them one of the most beautiful sights I had seen for a long time, the plants were literally covered with bright red ber-

ries, the ground being covered with snow made them look all the brighter; they last all winter; flowers small, white in July.

21. *Ligustrum, var. tricolor* (Privet)—This variety I would recommend on account of its beautiful variegated foliage, a very pretty sport of the common Privet.

22. *Lonicera* (Bush Honeysuckle.) Turkestan. *L. var. candida*, 8 to 10 feet, white flowers in end of May.

23. *L. var. fragrantissima*—This is a Chinese variety, greatly admired for its very sweet scented pinkish white flowers which appear early in spring.

24. *L. var. grandiflora* is probably one of the best of all, much larger pink flowers than the type blooms in May.

25. *Pæonia Mouton* (Tree Pæony)—3 to 4 feet high; slow growing, but when matured will agreeably surprise the owner by the large rosy pink double flowers it produces in profusion; requires rich soil.

26. *Philadelphus* (Mock orange)—Southern United States. *Philadelphus grandiflorus* is one of the best, 10 feet.



FIG. 2063. PÆONIA PARVIFLORA.



FIG. 2064. SPIRÆA, VAN HOUTTEI.

27. *Philadelphus var. aurea*—Is a golden leaved variety of the preceding one, and of a dwarfer habit, good.
28. *Prunus pissardi*—8 to 10 feet, a grand purple leaved large shrub or small tree, retains its color until the fall, a valuable plant for color.
29. *Pyrus Japonica* (*Cydonia Japonica*) Japanese Quince, or Burning Bush, too well known to need description, 5 or 6 feet high.
30. *Rhus cotinus* (Mist or Smoke Tree)—8 to 10 feet, bears large panicles of mist like flowers in June from which it derived its name, native of United States.
31. *Sambucus* (Elder) *var. aurea*—A golden leaved variety of the common elder, a showy plant for color effects; 6 feet high.
32. *Spiræa*—The spiræas are very desirable shrubs in all shades of color, double and single flowers. They grow from 2 to 6 feet high; there are about 49 varieties that I am acquainted with. The following are about the best:
33. *S. bumalda*—2 to 3 feet, one of the best of the newer sorts, flat heads of rosy pink flowers.
34. *S. Anthony Waterer*—2 to 3 feet, a continuous bloomer all summer; a sport of the preceding one, crimson flowers.
35. *S. callosa*—3 feet, pink flowers, and continues in bloom a long time, hence its value.
36. *S. callosa variety alba*—A white variety the same as the preceding variety.
37. *S. punifolia* (Bridal Wreath)—Too well known to need description; 5 feet high, double white flower.
38. *S. reevesii*, var. *flore pleno*—3 to 4 feet high; a very beautiful variety bearing double white flowers about the size of daisies, one of the best; in bloom about first of June.
39. *S. thunbergii*—4 feet; this one has single white flowers in two to four all along the young wood and preceding the leaves, very pretty; in flower about the first of May.
40. *S. Van Houttei*—This one when in bloom would mind one of banks of snow; a grand variety; also makes a pretty hedge, 4 feet high.
41. *Symphoricarpus*—(Snowberry) var. *vulgaris*—This one bears red berries; very pretty in the fall.
42. *S. racemosus*—Bears white berries, otherwise like the preceding one, both are nice planted together.
43. *Syringa* or lilac—The lilacs are too well known to make any comment upon them, suffice it to give the names of a few of the best, and will begin with the Persian varieties, which are dwarf, growing to about 8 feet high; they have small leaves and are profuse bloomers; *Syringa Persica* (Persian lilac) flowers light purple.
44. *S. persica var. alba*—The white form of the preceding; both are good to plant among some of the larger varieties.
45. *S. vulgaris*—This is the common garden lilac, 10 feet high, purple flowers.
46. *S. alba*—A white form of the above. Both are as reliable as any of the newer ones of which there are a great number.

47. *S. var. comte Horace de Choiseul*—Reddish lilac, and double flowers.

48. *S. Charles the 10th*—7 feet, very good purple.

49. *S. vulgaris Marie Legrange*—4 feet, a dwarf form, with large white panicle., very good.

50. *Tamarix Africana*—Grows to 8 feet high; has small pink flowers, in slender racemes, which appear towards the end of May or the first of June; the foliage is small and heath like; makes a good green for bouquets.

51. *Tamarix Indica*—6 feet high; blooms at the end of August or first of September, of a brighter rose color than the above variety. A few plants planted together of the tamarisk makes a fine display of which the bees are very fond.

52. *Viburnum plicatum*—6 to 7 feet, Japanese snow ball; this is one of the best shrubs in cultivation.

53. *Weigelia or Diervilla* (var. *rosea*)—One of the best, and flowers the second time in the fall.

54. *Weigelia candida*—Pure white variety of the above.

55. *Weigelia desboisii*—Dark rose color.



FIG. 2065. AFRICAN TAMARISK.

56. *Weigelia variegata*—A variegated leaved sort, all arc grand shrubs for any lawn, grows to 7 feet high.

Niagara Falls South. R. CAMERON.

THE PHYLLOCACTUS.

THE Phyllocactus (flat leaved) are the most satisfactory bloomers under the ordinary conditions of house culture of all the cactus family. They are for this reason the most commonly found in the windows and conservatories of amateur flower growers.

They have many good points to recommend them, the principal one being the freedom with which their magnificent flowers are produced. They seem to reward the greatest neglect with a profusion of bloom, which is unequalled by any of the ordinary

decorative plants in cultivation. To many people the very name of cactus is quite enough to satisfy them that the plant mentioned is undesirable, and they do not give them a trial, thus missing the pleasure felt by anyone fortunate enough to own a good specimen when it is laden with its gorgeous flowers.

Perhaps the easiest Phyllocactus to grow and bloom, and the one oftenest seen in window garden, is *Ackermanni*, or King cactus. This grows to large size, and as it gets strong, makes a lot of new growth each



FIG. 2066. PHYLLOCACTUS.

season. The fine satiny scarlet flowers are borne along the edges of the leaves at every notch, and very profusely. The buds in all stages of maturity keep the succession of brilliant bloom up for a long period, beginning in February. There are two specimens of this plant in a conservatory at Niagara Falls which bear annually upwards

of six hundred flowers, and are the pride of their owner. Another very strong grower, with much larger leaves than Ackermanni, is *P. Anguliger*, which also has a larger flower, and is a good contrast both in color of stem and flower. The stem is a fresh pea green, and the flower is white. It is a winter bloomer, and was illustrated in the January Horticulturist.

Another species of a very slender growth, altogether out of proportion to the wonderful bloom it bears, is *P. Pferrdorffi*. It is rarely seen, and only shows its good qualities when in flower. The flowers are from 8 to 10 inches across, very fragrant, and are valuable because the sepals are a clear yellow, with white petals.

P. Rosens Superbus is of easy growth, and blooms when very small. The flowers are a pleasing rose shade, and a nice addition to any collection. Some of the rarer parts have flowers of a purple shade, such *P. Kampmanni*, *P. Laloyi*, *P. Conway's Giant*, and others. But the Queen of them all, and one quite commonly seen, is *P. Latifrons*. This fine species is a night bloomer of easy rapid growth, and is often wrongly called the night-blooming-cereus. The mistaken idea that many have, that all cactus which bloom at night are night-blooming-cereus, is a common error. *P. Latifrons*, called Queen of Night, has a distinct style of growth, well shown in the illustration, Fig. 2066. A well grown plant looks like a fresh green shrub about five or six feet high. Its growth is in round woody stems three or four feet high, surmounted by the broad flat leaves from which its name is derived. Given a good rich soil, plenty of water while growing, and a position slightly shaded from the heat of the sun, and it will reward you with plenty of its magnificent white flowers. These open at night, and are very fragrant, filling the air around them with their delicious perfume. This is a most satisfactory plant for any one to grow,

and is a good decorative plant if well grown, even when not in bloom.

The culture of the *Phyllocactus* consists mainly in not allowing any stagnation around the roots and providing the proper soil. A good compost is made by using a light, well rotted pod, with one-third each of leaf mould, dried cow manure ground

fine, and sand added to it, and the plants potted rather dry. Plenty of charcoal in the bottom of the pots gives a good drainage, and plants need not be repotted, after they are a good size, for years. An annual top dressing of the same compost used in potting will be found the best treatment.

Woodstock.

J. H. CALLANDER.

THE PURPLE FRINGE (*RHUS COTINUS*).



FIG. 2067. PURPLE FRINGE.

This Purple Fringe or Smoke Tree, as some call it, is one of the favorite mid-summer flowering shrubs in Western Ontario, where it has been grown for the last 30 years. It belongs to the same family (*rhus*) as the sumac, which though affording us the most beautiful of colored foliage in the fall, is also one of the most troublesome things to eradicate with which we have to contend. This shrub however is not troublesome in that way, for it does not readily produce suckers, and is easily destroyed if not wanted. But it is so beautiful a shrub that so far we have never had enough of the plants, let alone too

many. It is a native of Southern Europe, from Spain to the Caucasus, whence it was introduced to England in 1656.

It is rambling in its habit, making a large round bush which give a better effect grown singly than in groups. Towards the end of June it is a mass of large panicles of purplish misty blossoms, which are very beautiful. These are very effective for a long time, and everyone feels attracted to them for cutting to add to bouquets and other decorations.

The photograph shows one of those shrubs growing at Maplehurst.



The Canadian Horticulturist

COPY for journal should reach the editor as early in the month as possible, never later than the 15th.
 SUBSCRIPTION PRICE, \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter or Post-Office Order are at our risk. Receipts will be acknowledged upon the Address Label.

ADVERTISING RATES quoted on application. Circulation, 5,500 copies per month. Copy received up to 20th.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, etc., 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.

DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

NOTES AND COMMENTS.

THE SWEET CHESTNUT.—Some of our readers are anxious to plant nut trees for profit, but have no information regarding their hardiness. We have a chestnut ridge where a large number of magnificent old native sweet chestnut trees are growing in deep rich sand. This is in latitude 43° 12'. We would be pleased to hear from our readers how much further north these trees will succeed and mature their nuts.

THE STANDARD APPLE BARREL.—We have just received a letter from Wm. A. Taylor, Assistant Pomologist, U. S. Department of Agriculture, Washington, acknowledging receipt of information about standard size of apple barrel adopted in Canada. He says, "We believe this is a step in the right direction, as it tends to simplify marketing. There is still a great diversity in the standard of apple barrels used in this country,

and it will require some years under our system of government to secure the universal adoption of any standard."

GEORGIAN BAY FRUIT GROWERS.—A strong Fruit Growers' Association was formed at Collingwood on Friday the 27th of March to be known as the Georgian Bay Fruit Growers' Association, with Mr. Charles Lawrence, as Secretary. One important object of this society will be the Co-operative handling of fruit, especially apples, of which it is stated that at least 100,000 barrels are produced annually in that district, of such a quality that they bring a special price in the best markets.

Some of the members of this society are desirous of affiliation with our association, and this may be carried into effect. The plan is to make the membership \$1.00, so that after paying the fee for each member

to be a member with us, they could retain the usual commission of 20 cents a member for their own treasury. Then each member would receive our journal, plants distributed, reports, etc., our lecturer would visit their meetings, and their proceedings would be published by us.

FRUIT IN NIAGARA DISTRICT.—Mr. E. D. Smith of Winona, reports to the Toronto Globe that the prospect for peaches, pears, grapes and other fruits in the Niagara district is unusually encouraging for the coming season. The export to the Northwest shows great possibilities for Ontario fruit growers so soon as varieties are grown which will endure long shipments. It is not the packing that our Winnipeg friends need to complain of with regard to Ontario fruit, but the fact that the varieties grown in California are better for long shipments than ours. This export trade in tender fruits is a new development, and in future this consideration must largely govern varieties planted.

Mr. E. D. Smith states that last year he alone shipped two hundred car loads of fruit from this district, via Hamilton & Grimsby electric road and Canadian Pacific Railway.

PAN-AMERICAN.—The transportation facilities would seem to be ample for all possible demands of the mammoth crowds which are expected. The entire street railway system of Buffalo, driven by the power of Niagara Falls, is so laid out as to secure direct communication from all parts of the city to the Exposition grounds. At the northern boundary of the grounds there has been built a fine steam railway station. A two-track steam belt line encircles the City of Buffalo reaching this station, and all the steam railroads centering in Buffalo have access to these tracks. This means of transportation will be extensively used, both for excursion trains from out the city and for conveying

people from the various parts of the city to the grounds.

MR. THOMAS MEEHAN, the eminent botanist and nurseryman who is at the head of the firm that publishes that high class journal known as Meehan's Monthly, is well represented to our readers in the accompanying likeness. Born in London, England in 1826 he is one of the oldest living members of the American Association for the advancement of science, and his election to membership of the Royal Wernerian Society of Edinburg before he was of age was an honor unusual to one so young.



FIG. 2068. THOMAS MEEHAN.

His literary work is quite voluminous, but his greatest and most important undertaking, is the "Flowers and Ferns of the United States" each illustrated with a magnificent colored plate. This was first published by Prang & Co., of Rochester, but is now continued in Meehan's Monthly.

QUESTION DRAWER.

Dwarf Apple Trees.

1215. SIR.—Are dwarf apple trees as hardy as standards? Are they as successful in Ontario?

Newbury.

J. GANDIER.

The apple tree is dwarfed by being grafted or budded on a small growing species, usually either the Paradise stock, a small variety, never reaching over three or four feet in height, or the Doucin, a medium size tree, producing small sweet fruit. The object of dwarfing apple trees is to adapt them to a small garden, and on the Paradise stock they make beautiful little miniature trees, say four feet in breadth and height, which, when loaded with bloom, are very attractive.

We do not know that this stock is any hardier than the free grown seedling stocks usually employed for standards, some of which are more hardy than others. Although the fact that so many orchards of Fameuse are grown about Montreal on dwarf stock would give one the impression that they are at least equally hardy, if not more so.

We should be pleased to hear from any of our readers who have experience in the colder sections.

As to the success in growing them, if our correspondent means, are they as profitable as standards, we would say certainly not. They would not give nearly as many apples per acre, and are chiefly intended for the small garden.

We must, however, give testimony to the excellent size and color of the Astracan, which we have been growing at Maplehurst now for nearly forty years on Doucin stock.

Gillett's Lye.

1216. SIR.—I want to spray my snowball (*Opulus sterilis*?) and roses for the aphedes eggs at once and Gillett's Lye has been strongly recommended for the purpose. Could you give me any idea what strength should be used before the buds

burst and after; also if it will injure the lawn about the shrubs? If the lye be used safely and effectively for such purposes it will prove a boon to me who has found kerosene emulsion and tobacco water dirty and very troublesome to prepare. I wrote Gillett's people, having seen the recommendation in the Horticulturist, and they referred me to you. I am of opinion that many busy men are deterred from growing plants to the extent they would because spraying has now become in many cases essential to success, and the spraying mixtures have to be experimented with before they can be used, and are dirty besides.

A. B. ORD, Ingersoll

We have never yet fully satisfied ourselves as to the strength in which this should be used, and so far as we know our experimental farms have not fully tested it. We found it effective in killing cherry aphid used in the proportion of one 10 cent package to 5 gallons of water, but destructive to the foliage. Dr. Fletcher says he has not yet found it very satisfactory in killing oyster shell bark louse, for though it kills the very young scales, it is not sufficiently effective to warrant its use. The samples he has examined have turned out to be simply caustic soda, which even at a strength of one pound to three gallons did no permanent harm to the foliage. Prof. Shutt writes that he supposed the formula for lye wash for dormant wood, was one pound to three gallons of water, and for use after the foliage has appeared, one pound to forty gallons of water. Prof. Shutt is now engaged on the analysis of a number of Canadian and other lyes and will report later on.

Nut Trees For Ontario.

1217. SIR.—Could you please tell me what nut trees are hardy and bear nuts around Toronto, and especially whether I can grow the American sweet chestnut, also whether anybody has succeeded with the *Salisburia*.

Tedmorden, Ont.

WM. KIDD.

In reply to your question regarding nut trees which are hardy and would bear nuts at Toronto, I beg to give the following list:—black walnut, butter nut, Japanese

walnut (*Juglans sieboldiana*), and shell black hickory, all of which should be perfectly hardy at Toronto and produce fruit nuts. There are two kinds of hazel nuts which would also be quite hardy, namely, *Corylus rostrata* and *C. Americana*. The European filbert or hazel, though it would probably prove hardy at Toronto, so far as the wood was concerned, would not be likely to set fruit. The reason why the nuts do not set is that the pollen from the male flowers is shed before the female flowers are in a condition to receive it, the result being that the latter are not fertilized and no fruit forms. If the pollen were saved and applied artificially it is possible that the fruit would set. The American sweet chestnut is not perfectly hardy here. We have, however, a few trees which have not been

injured by winter and have produced nuts, but there were no kernels developed. The conditions at Toronto should be more favorable for growing the sweet chestnut than at Ottawa. The *Salisburia* is hardy here, and should succeed near Toronto.

W. T. MACOUN.

Horticulturist C. E. F. Ottawa.

Scions of Canada Red.

1218. SIR,—This last spring I put in about a dozen grafts of Northern Spys into a Canada Red tree, and they grew to nearly three feet in length but very small around. Will you please say through the Horticulturist what I had better do with them?

Norval.

F. F. BRADFORD.

The Northern Spy is inclined to grow rather slender wood. We would advise thinning out the growth, and cutting back from one-half to two-thirds its length.

Open Letters.

Hillcrest Orchards.

SIR,—From your note at the end of the article on Hillcrest Orchards, Kentville, N.S., in your March number, it might appear that the writer, Prof. Macoun, had been incorrectly informed as to the value of the oldest part of the orchard. To substantiate the figures which Prof. Macoun quoted I wish to say that this valuation of \$1,000 per acre has been placed upon the oldest part of the orchard by at least a half dozen orchardists well qualified to judge. Different blocks have different values according to age of trees. On the block of twenty acres referred to, the apple trees, 40 to the acre, are eleven years of age, and the additional intermediate trees, 280 to the acre, of the most desirable varieties of plum, peach, pear, cherry, apricot and quince, are from five to seven years of age, each one ready for work and not interfering in the least with the apple trees. Had there been but the forty apple trees to the acre it would not have been valued at more than \$400 to \$500 per acre at its age, but in its present condition it is not remarkable that it has been considered worth double that amount.

I am aware that this is the highest figure for orchard land, still some well cared for apple orchards of full grown trees of the usual number, forty to the acre, have changed hands in Kings county at that price and if you will do us the honor of a visit some time I will be pleased to show you from 20 to 40 orchards of from five to ten acres each, within a radius of seven miles of Kentville, whose owners will tell you. I think, that they

would not take less than that figure for them. There would, of course, be many in the same area, equally as old, that would not be worth more than from \$300 to \$600 per acre, but when our best fruit men are getting from 100 to 125 barrels of shipping fruit per acre yearly and receiving direct from the London commission men an average of \$25 per barrel for their season's crop you will understand the appreciation our orchardists have for such property. Respectfully,

RALPH S. EATON.

Kentville, N.S., March 27th, 1901.

Grapes in Waterloo County—Three Good Ones

SIR,—Ten years ago I planted a few grape vines, among others, the Brighton, Worden and Moore's Diamond, three grand grapes, for the home garden. They have done exceedingly well here bearing fine crops every year.

Brighton, red, clusters large and long, finest flavor of any grape I have. Worden, black, the first to ripen, about the first of September; very good berries, large as Concord. Moore's Diamond, white, very good berry and cluster large and fine—a sight to see. For the farmer's garden these three would make a fine collection and give abundance of that fine fruit for the home.

The Green Mountain grape I received from the Association of Fruit Growers is a good grape and is doing well, early as Worden and very sweet.

Galt, Ont.

WALTER M. TURNBULL.

Pan American Notice.

SIR,—Will you permit me through the columns of your valuable journal to draw the attention of all fruit growers in the Province of Ontario to the fact that the fair name which our province enjoys, as a country producing in abundance fruit of fine appearance and magnificent quality, will be put to a severe test during the coming season at the Pan-American Exposition. Surrounded as we will be, not only by the fruit products from the various states of the union, but also by those from more distant and tropical countries, all of which will be fully represented in the Horticulture Building, it is very desirable that we spare no effort to maintain the reputation which Ontario has gained already at the Expositions of Chicago, Paris and elsewhere, and to secure, if possible, fresh laurels.

With this end in view, I am extremely anxious

to enlist the co-operation and hearty assistance of all fruit growers in the different sections of the Province, and I know of no better way to reach them than through the columns of the Horticulturist!

I have been much gratified with the many expressions I have received of intentions to forward fruit in season from different points, and I trust that every section of the Province will, either through prominent individuals or through its Horticultural Society, be able to furnish a supply of choice fruit from time to time.

I hope to be able in the next number to furnish your readers with a full statement of the arrangements as to awards etc., under which fruit will be exhibited during the season.

Yours respectfully,

St. Catharines, April 22. W. M. H. BUNTING.

Our Affiliated Societies.

CAYUGA.—We had our open meeting last night in the Court House. An orchestra of seven pieces played for us. The Court Room was banked with flowers at the end, and a large audience filled every seat. Mr. Bacon's lecture was much appreciated. He knows his work thoroughly and is a clear, explicit and intelligent speaker. He also was much pleased with his reception and our new work as a new society. A. K. GOODMAN, Secretary Cayuga Horticultural Society.

THORNBURY.—On the evening of the 18th inst. the Thornbury Town Hall was crowded to the doors by an enthusiastic audience to listen to the lecture and musical entertainment held under the auspices of the Horticultural Society. After a chorus by the Glee Club, of about forty voices, Mayor Pedwell, who occupied the chair, called upon Miss Blanche Maddock, of Guelph, for her lecture on "Window Gardening," which proved most interesting and instructive, and gave new light on many points regarding the culture of flowers, and was just such a talk as the ladies of this section have been wishing for for some time.

After well rendered solos by Mr. McInnes and Mr. Pedler, Mr. Hutt, of Niagara Falls, delivered his lecture on "Beautifying the Home," prefacing his lecture proper with a short, but very interesting talk on "Nature Study." Mr. Hutt gave many practical suggestions on landscape gardening, making and care of lawns, ornamental shrubbery, etc. Also during the afternoon Mr. Hutt visited the schools of Thornbury and Clarksburg and addressed the children.

The evening meeting closed with more music and the national anthem.

The Thornbury society is flourishing; has a membership of sixty-five, and don't have to canvas for members.

J. G. MITCHELL, President.

April 22nd, 1901.

KINCARDINE.—Pursuant to notice given the Kincardine Horticultural Society were favored on Friday evening, the 19th inst., with two most inter-

esting addresses delivered in the Town Hall here, one by Mr. A. McNeill, of Walkerville, on 1st—House plants; 2nd—Plants, trees and shrubs for the ordinary town lot. The other address being by Miss Laura Rose, of Guelph, on 1st—Why I have a garden, 2nd—On economic gardening. The audience was a fairly good one considering that the weather was cold and a protracted or revival service was being held at the Canada Methodist church, close by our lecture hall; notwithstanding these our gathering was a decided improvement on what we have been accustomed to in the past shewing an increased or growing interest in horticulture, etc, about 250 being present. Mr. McNeill was listened to with very marked attention and the several demonstrations of applause evinced during his address and when he concluded, showed plainly that all were highly pleased. Miss Rose fairly delighted everyone and it is quite safe to predict a full town hall to hear her on her next visit to Kincardine to instruct us in the happy art of cottage gardening. I must not forget to report that Kincardine's worthy mayor, G. M. Mackendrick, Esq., kindly gave the free use of the town hall in the afternoon when Miss Rose gave an interesting address to a large number of the school children, a treat they will not soon forget.

T. BARKER, Secretary.

SEAFORTH.—The enclosed clipping from the Huron Expositor of this town contains a very good account of our public meeting on Wednesday evening, and expresses, I think, the opinion of all who were present:

The meeting in the town hall on Wednesday evening under the auspices of the Seaforth Horticultural Society, was a very successful and interesting affair. The attendance was large, the hall being well filled. The chair was occupied by Mr. Wm. Ballantyne, president of the society. Excellent and instructive addresses were delivered by Miss Rose, of Guelph, and by Mr. McNeill, of Windsor. They are both good speakers, and they have the faculty of making their addresses interesting as well as instructive. Musical selections

were also given by Mr. Will McLeod and Master Willie Hays. The meeting was in every respect a gratifying success, and will, no doubt, do much good in the way of stimulating renewed interest in the society, as well as in the pleasant pursuits of floriculture and horticulture. In the afternoon Mr. McNeill addressed the students of the Collegiate Institute, and Miss Rose the pupils of the public school."

Mr. McNeill is indeed a practical man and speaks of what he knows. Miss Rose's address was simple, yet pleasing and instructive. There will certainly be some results from their visits to the various towns.

Our society has grown some this year, both in numbers and in interest.

Although you do not very often hear from us, we nevertheless very much appreciate the Horticulturist.

V. KNECHLER, Secretary.

PICTON.—The addresses given by Miss Maddock and Mr. Hutt on Monday evening, in Shire Hall, under the patronage of the Picton Horticultural Society, were a decided success. The hall was full, the audience being very attentive and appreciative of the matter laid before them. The question box was well patronized, and the information clearly given by Mr. Hutt and Mr. Wise, florist at Messrs. J. Terrill & Sons'. The subjects dealt with by Miss Maddock were principally "Beautifying the Home," and "Domestic Science," while Mr. Hutt spoke of the "Birds and Insects," in relation to flowers and trees. Both speakers referred to the remarkable success of Mr. Ross, the secretary of the society, with the tropical and economic plants he has given his attention to. These lectures to the horticultural societies are now under the management of, and the delegates are sent by the superintendent of the Farmers' Institutes, and no doubt will be of much value to those interested in horticulture.

CARDINAL.—The officers and directors of the society have reason to feel satisfied with the good success that attended the afternoon and evening meetings on Tuesday last. The society was favored with the presence and help of Mr. W. N. Hutt, of Southend, and Miss Blanche Maddock, of Guelph. In the afternoon the scholars of the Public School were treated to an address by each of the above named visitors, and so interested were the children with the addresses that they called "More, more."

The Town Hall in the evening was most tastefully arranged with bunting, flags, flowers, etc., and the display of plants on the platform was handsome. President R. B. Dowsley, Reeve of the village, acted as chairman. A short musical programme had been arranged, including songs from Mrs. W. B. Sweet, Mrs. N. Bolton, Miss E. Ross and Rev. Mr. Stafford, while Mrs. W. A. Logan and Miss Ross acted as piano accompanists.

A large audience assembled which completely filled the seating capacity of the hall. Two addresses were delivered by Mr. Hutt and one by Miss Maddock. In a racy, interesting and most instructive manner Mr. Hutt dealt with pruning, spraying, insects, birds, etc., and Miss Maddock on the mission of flowers and window gardening. At the close Mr. W. A. Logan, in moving a vote of

thanks, and Mr. M. L. Connelly in seconding the same voiced the sentiment of all present in pronouncing the meeting one of the best and most instructive the society had ever held.

For a membership fee of only one dollar per year, there is given about twice that amount in plants, bulbs, etc., and in addition a monthly horticultural journal.

PERTH.—The above Society held its first open meeting yesterday in the Town Hall here. There was no distribution, as we had distributed four tuberous begonias and six gladioli a short time before, and have yet to receive our Crimson Rambler rose and clematis paniculata for later distributing.

The committee appointed for the purpose had the stage beautifully decorated with palms, ferns, and flowering plants in great profusion.

At three in the afternoon all the schools of our town turned out with their teachers and paraded to the Hall. There were upwards of 500 pupils there. The meeting was opened by Mr. Charles Meighen, the Chairman of the School Board, in a very neatly turned speech, introducing Dr. Jas. Fletcher.

Dr. Fletcher is Entomologist and Botanist at the Central Experimental Farm, Ottawa, but, as he humorously puts it, he is more familiarly known as the "bug and weed man." He kept the attention of his audience riveted for three-quarters of an hour by his simple delivery and the simple facts he brought to their attention. The text of his lecture was "The Value of Nature's Study in Education," and he brought out many things that it would be well for young and old to remember.

In the evening Dr. Fletcher addressed the members of the Society and their friends, to the number of about 400. The Mayor, Mr. J. A. Stewart, opened the meeting with a short address, setting forth the aims and objects of the Society and the benefits derived from membership. Dr. Fletcher then spoke a half hour on "The gardener's insects' enemies." This was extremely interesting and instructive. The Doctor's address on this subject is not nearly as bloodthirsty as one would think from the title. In fact I think he would rather preserve the lives of the innocent insects than to destroy them; but in the meantime he gave us many practical hints in the best ways to preserve our fruit and flowers. He divided the insects into two classes; those having mouths with which they devour the foliage, and those having suckers, by means of which they sap the life of the plant from within. Dr. Fletcher then described thoroughly the use, and the way to use coal oil, paris green and insect powders as insect destroyers.

After this part there was a short musical programme, when Dr. Fletcher continued his discourse, taking for his subject "Some plants worth growing." He took up the four plants we are distributing, also the "Golden Glow."

Without doubt these meetings are splendid things, and great good should result from them. Dr. Fletcher reached 900 people yesterday, and turned their thoughts in the right direction for this season of the year. •

April 20, 1901.

A. W. GOODMAN,
Secy. Perth Hort. Society.

PLANT DISTRIBUTION FOR 1901

FRUIT.

A. CUMBERLAND RASPBERRY, TWO PLANTS.

Described by the Introducers as follows:

This new Raspberry originated nine years ago with Mr. David Miller, a life-long horticulturist and fruit grower, who thoroughly tested it under all conditions. It is offered with the assurance that it is *the most profitable and desirable market variety yet known*, because of its *immense size, firmness and great productiveness*, well entitling it to the designation of "*The Business Black-Cap.*" It has undergone a temperature of 16 degrees below zero, unprotected, without injury—a temperature which badly crippled similarly situated plants of Gregg, Shaffer, Cuthbert, etc. It is of wonderful productiveness, producing regularly and uniformly very large crops. *In size, the fruit is simply enormous*, far surpassing any other variety. The berries run seven-eighths and fifteen-sixteenths of an inch in diameter. In quality it is similar and fully equal to Gregg. Although extremely large, it is unusually firm and is well adapted for long shipments. In ripening it follows Palmer and precedes Gregg a short time, making it a midseason variety. It is an unusually strong grower, throwing up stout, stocky canes, well adapted for supporting their loads of fruit.

It is thought to be a seedling from Gregg, with a dash of blackberry blood in it. The Cumberland is a true raspberry, but it may be of interest to state that several seedlings from the Cumberland have had true blackberry foliage.

J. W. Kerr, Denton, Md., a well known horticulturist says:

"There is no horticultural effervescence in me; otherwise, I would bubble over or burst when I look at the fruit on those three plants of Cumberland Raspberry. I have grown Mammoth Cluster and Gregg that were very fine, **but this Cumberland is really a marvel.** Fifteen-sixteenths of an inch diameter was the measure of as large a berry as I saw of it, but they were all large. I let all the plants carry all the fruit they set, and they were very full. If this season's behavior is a safe criterion to judge by, I pronounce it vastly superior to any Black-cap I know anything of. I never knew any of its type to be so long in form as it is."

FLOWER.

B. SPIRÆA JAPONICA BUMALDA, ANTHONY WATERER

The Rural New Yorker says of it:

The most satisfactory Spiræa in existence; a constant bloomer. The plant is of low growth; the umbels of a bright pink color, brighter than those of its close relative, Bumalda. A profuse bloomer. Introduced there a few years ago.

Mr. Wellington says of it:

"Am also sending bloom of Spiræa Waterer. Quite a sight in nursery row and they bloom till frost comes."

A WORD TO OUR SUBSCRIBERS.—We submit the list much earlier than usual because we want to get all our renewal orders for 1901 in before the end of 1900. We want to make the first year (1901) of the new century a **record breaker** for the membership of our Association, so we are offering each subscriber a choice between these two beautiful plants, both of which are **new and valuable**.

Any person sending in two names and two dollars, may have an extra plant in place of commission, and thus have for himself both the Spiræa and the Raspberry.

New Subscribers sending in one dollar for the year 1901, may have the balance of the year 1900 free, in addition to choice of plants.

No plants can be promised to those who do not make selection when paying the subscription.

Remember the old proverb, "First come, first served," so the sooner you send in your subscription and select your plant, the more sure you are that the stock will not be exhausted.

Horticultural Societies or Agents are allowed to select an extra plant in place of the commission allowed for each subscriber, in which case, of course the whole \$1.00 must be remitted us for each person on the list. In this way a society could, if desired, secure two different plants of trees from our list for each of its members, the value of which at retail would nearly equal the whole membership fee.

PLEASE NOTICE that the descriptions above are by the introducers. We expect our readers to test them and report where these novelties are as described.