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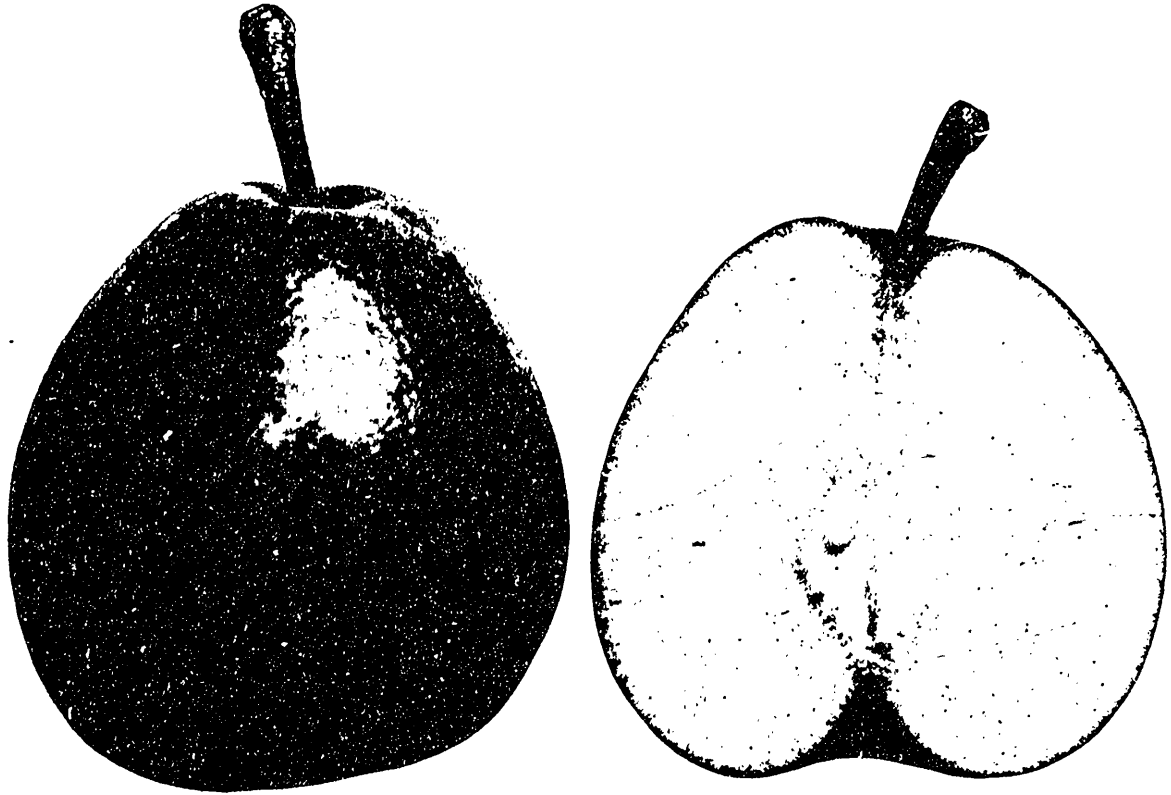

SHELDON PEAR.

THE
CANADIAN HORTICULTURIST.

VOL. XXII. 1899. No. 11

THE SHELDON PEAR.

THIS pear is an American seedling. It was propagated accidentally, on the farm of Norman Sheldon, in the town of Huron, Wayne County, N. Y., and has borne several synonyms, as, for instance, Huron, and Wayne, from the places above mentioned; but, properly enough, the name Sheldon prevailed, as being the name of the originator.

With regard to its adaptability to the climate of Ontario, our reports show that it is perfectly hardy in the Counties of Lincoln, Brant, Essex, Kent, and even Huron, along the borders of the lake, but in the County of York it is not considered quite hardy. The conclusion, therefore, to be drawn is that this pear is not suitable for planting north of Toronto, except under some particularly favorable circumstances.

The pear ripens in October and November; but it must be gathered in good time, or a large portion of the crop will need to be gathered from the ground; and it must be used just at the hour it becomes mellow, or it will be found too far gone for use. In this respect it bears a worse character than even the Bartlett. We esteem its quality very highly; and a writer in the Country Gentleman says that he thinks that, when well grown and properly ripened, it excels all other pears in deliciousness of quality. It is as melting as ice cream, and its flavor is superb. The pear, however, is variable in quality and sometimes, when badly grown and poorly ripened, might be called poor. As a market pear the Sheldon cannot be ranked high, first, because of its russety appearance, which, however, yellows up finely when ready for the table, and, second, because the tree is not sufficiently productive.

A tree at Maplehurst, about thirty years old, bears some years a few straggling specimens, and other years possibly a bushel or so; certainly far below the average yield of many other varieties, as, for instance, the Buffum, Tyson, Bartlett and Howell. But, whether

the crop of Sheldons be large or small, we always save it for home use; for none of its compeers, the Duchess, the Anjou, nor the Lawrence, though all are delicious, are as desirable. No member of the family would select one of the latter for eating when he can have the Sheldon.

The Committee on Pears, appointed by the Ontario Fruit Growers' Association, gave the Sheldon ten marks, the maximum number to indicate its value for dessert, and seven for market; but they have ranked the Anjou equally high, and, in our opinion, this might justly be amended to make the latter variety at least one point below the Sheldon.

The following description of this pear is given in "Fruits of Ontario," Tree vigorous, erect, not very productive, late coming into bearing. Fruit above medium in size, roundish, obtuse, obovate; skin yellowish green, covered with thin light russet, brownish crimson in sun, russet dots; stalk short, stout in a narrow cavity; calyx nearly open, in a broad basin. Flesh creamy white, buttery, juicy, sweet and aromatic. Season, October, One of the most delicious of dessert pears, if eaten just at the proper time. Worthy of a place in every home garden, but not productive enough to be planted for market.

Two or three reports concerning this pear have been sent in, which we here insert:

W. Boulter, of Picton, Prince Edward Co., writes: "My experience with this variety has been poor. I planted ten years ago, seventy-five of them, and lost every one of them, perhaps due to the winters' cold. I gave them the same cultivation as the Clapp's Favorite and the Flemish Beauty, some three hundred of which I had by the side of them, and lost none. I think it will not endure the climate of this county."

Thos. Beall, of Lindsay, says: "I have not grown this pear, but I had two trees planted, which died before the bearing age. I do not know of its being grown in this locality."

The late Warren Holton, of Hamilton, said: "I have fruited the Sheldon for several years and think very highly of it. It is with me a moderate bearer when young, but improves with age. I consider it the best quality and it always commands the highest price and a ready sale in the local markets."

T. T. Lyon, of South Haven, Mich., once wrote: "The Sheldon pear is considerably grown for market in Michigan. It is a vigorous, healthy variety; a little variable in quality and somewhat uncertain in bearing. Aside from Bosc and Anjou, this and Howell may be said to range next to the Bartlett in the estimation of the mass of commercial planters of this fruit."

PROFESSOR S. T. Maynard says that the old varieties of apples are running out and cites the Baldwin as an example. The varieties which he calls new, and which he says are coming more into vogue, are Sutton, Palmer, McIntosh, Wealthy and Gano. None of these, except possibly the last, are in reality new. All are good, says the Country Gentleman. Palmer, is little known, except locally. We suppose that this is the same as Palmer Greening, or more properly, Washington Royal.

THE EXPORT OF PEACHES.

IT seems well proven that we cannot export the Early Crawford peach with any certainty of success. One lot that was safely landed sold for $3.75 per bushel and clearly showed that our peaches would bring a long price in England, if only they could be landed in good condition, for the quality is most excellent and the color is exquisite. But for the most part this peach has arrived in a soft and worthless condition, and brought loss upon the shippers. The package first used was very clumsy and very expensive, but of course if it were successful we could stand the cost. It was a box holding a little more than a bushel, having 8 trays, each of which contained one layer of fruit, and had to have a separate cover nailed on it. The peaches were each wrapped in tissue paper and tightly packed. The labor of packing in this way was most wearisome. This season the same case is being used, but still greater care is being taken to ensure safe carriage. Not only is each peach being wrapped with cotton batting, but it is laid on a cushion of the same, and a pad of this material separates each row of fruit, as shown in our illustration.

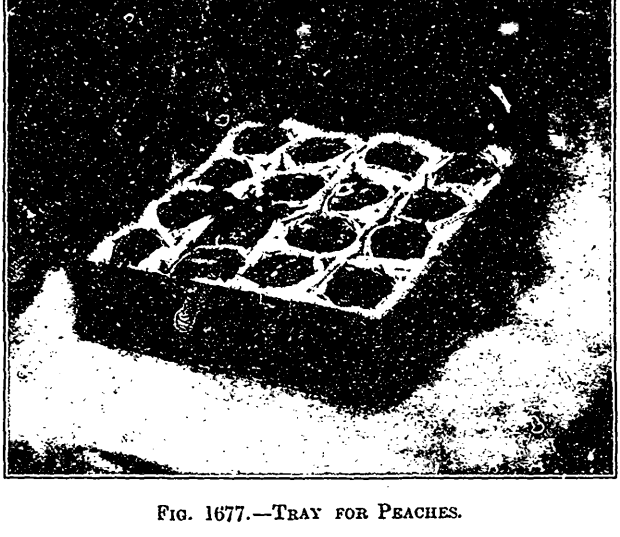

FIG. 1677.—TRAY FOR PEACHES.

(Fig. 1677). Then a cushion covers the whole, so that there is no possibility of bruising, and if carried at a temperature of 36° F., we see no possibility of failure even with the Early Crawford.

Two trays of them so packed were left over at our cold storage building at Grimsby, and three weeks later opened at the Town Hall, at our Horticultural Socicty Exhibition, and although of this tender variety, they were in perfect condition, with no perceptible change since packing.

The surest success in exporting peaches will come about by the use of some better shipper than the Early Crawford, and we believe that in the Elberta we have found such a peach. It is about as large as the Early Crawford, longer and flatter lengthwise, not quite equal in

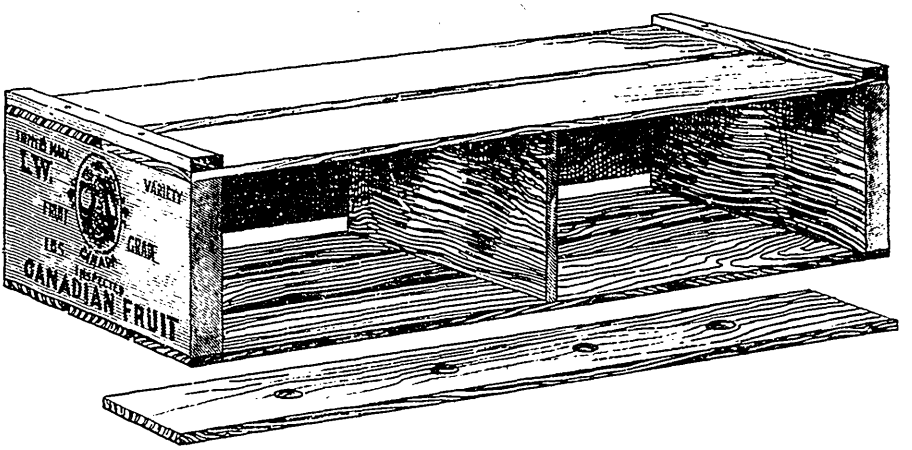

FIG. 1678.—CASE FOR PEACHES AND PEARS.

color, but a fine yellow peach with a fairly well colored cheek, not very juicy, but rather firm in flesh, and a free stone. For such a peach as this, our pear case (Fig. 1678) would answer an excellent purpose and be far less expensive. It is 1 ft. x 2 ft. x 4½ or 5 inches, and holds two layers of fruit, wrapped in tissue paper, with packing *ad libitum*. A small shipment of this peach has gone forward and we hope to hear encouraging results.

UNFERMENTED GRAPE JUICE.

THE manufacture of unfermented grape juice assumes considerable proportions in many localities, but difficulty is often experienced in preparing a product which will "keep," *i.e.*, does not ferment. Fermentation is due to the presence of micro-organisms in the juice or cider, and may be prevented by sterilizing the latter as well as the vessels used in connection with the bottling of the product. Heating is the simplest, safest and most effective means of sterilizing, but great care is necessary in order to so control the temperature as to secure thorough sterilization without injuring the flavor of the product.

A report of the Canada experimental farms gives an account of a series of experiments on the juice. The conclusion, which probably applies to sweet cider as well as to grape juice, was that "the natural flavor of grape juice may be preserved intact by raising the temperature of the juice gradually to 170 degrees F., keeping it at this point for ten minutes and then quickly bottling it, taking care to use absolutely air-tight and thoroughly sterilized vessels. These vessels should be taken from a tank or kettle of boiling water, immediately filled, and corked or covered with the least possible delay."

AMONG OUR NEIGHBORS.

BOTH Canada and the United States have reached a period in their history when the art of the landscape gardener is much in demand. Thirty years ago our foremost cities had but the smallest excuse for parks or artistic cemeteries. Hamilton had a little enclosure on King Street called the "Gore," still an interesting feature of the city; Toronto had her Queen's Park, reserved in the interests of her University seat, and London and Kingston similar small plots, but anything like a system of public parks was hardly thought of, much less planned out. In New York State, the commercial metropolis had her elegant Central Park, but Buffalo, with her large population had nothing worthy of notice. During these years a change has come over all these cities and popular taste is demanding that our city parks be thoroughly up to date.

Passing through Buffalo recently on the way to Nova Scotia we were most cordially received by Mr. J. C. Graves, superintendent of the parks of that city, who gave us a carriage ride of two hours through them, explaining numerous points of interest by the way. The parks of Buffalo have been the growth of the last thirty years until now they embrace about 1100 acres, and cost the city from $150,000 to $250,000 per annum. The plans for improvements were made by that able landscape architect, Mr. J. C. Olmstead, of Boston, who planned the World's Fair Grounds at Chicago, and they really include about forty smaller parks connected by artistic boulevards. Every class of citizen is considered—the boys with a wad-

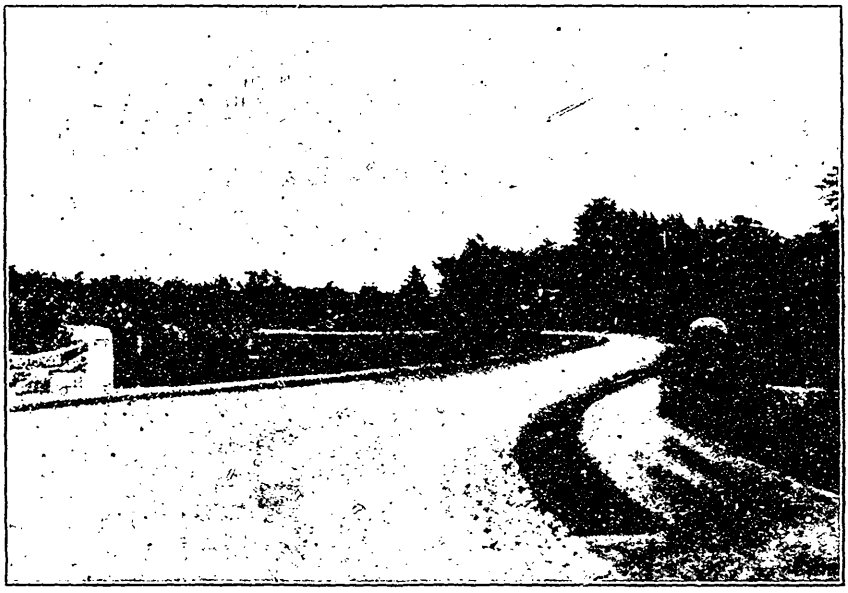

FIG. 1679.—ARNOLD ARBORETUM—West Entrance.

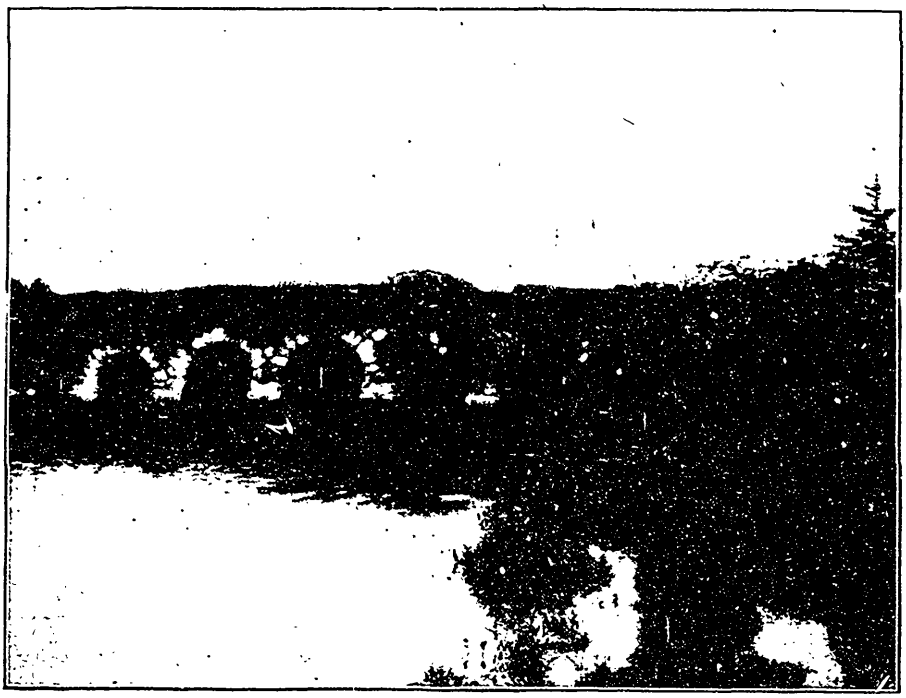

FIG. 1680.—AGASSIZ BRIDGE—BACK BAY FENS.

ing pond in which several hundred boys may at times be seen, sporting people with a golf field, the horsemen with a fine speedway of half a mile, and all lovers of the beautiful in landscape, with beautiful lawns and trees and water in most excellent combinations,

At Boston, Mr. W. H. Manning, landscape architect and secretary of the Park and Outdoor Association, was extremely courteous and obliging to us. Though over-burdened with office work, and the superintendance of park designs in many different States, he yet found time to engage a carriage and accompany us through the magnificent park system of Boston, which now covers an extent of 12,000 acres, of which the Metropolitan Park embraces about two-thirds, and the Bay Fens, the Arnold Arboretum, Franklin Park and others the balance. Probably no city in America has the same extent of Park as this old and refined City of Boston. It seemed like classic ground to pass the homes of such noted men as Prof C. S. Sargent, so well known as editor of The Garden; Charles Downing, author of American Landscape Gardening and Francis Parkman, the historian.

The Arnold Arboretum is beautiful and the group of hickories, oaks, conifers, etc., show a good beginning of an important collection but it seems to have never realized the ideal of the founder, for it has no labels and is apparently incomplete in its collection of species.

In order to give our readers an idea of some features of these parks we give views of the Arnold Arboretum, Agassiz Bridge and in Back Bay Fens, and some ribbon bedding in the Public Gardens

Mr. W. H. Manning has most kindly

FIG 1681.—RIBBON BED IN PUBLIC GARDENS, BOSTON.

consented to answer questions on "Landscape Gardening," in our journal, if such are forwarded to him, and we shall be glad to take advantage of his kind offer.

At the old Quincy Market we saw quinces in barrels and crates, apples in barrels in endless quantity, especially Colverts, Vandeveres, Greenings and Baldwins. These were of course mostly No. 2, and were bringing from $1.25 to $2.25, about the same as this stock brings in Montreal. Canadian Snow apples were much wanted. Concord grapes were almost all in five pound baskets at 13 cents each. California grapes were offered in four pound veneer baskets—four of these crated together, the Tokay being the prominent variety.

In another article we give some account of the gardens and orchards of Nova Scotia.

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140 VARIETIES OF PEARS were exhibited at the Syracuse State Fair by Messrs. Ellwanger & Barry, of Rochester; and 235 plates of plums by Mr. S. D. Willard, of Geneva, N.Y., the latter included some samples of the Wickson, described as large, brilliant red, very juicy, sweet and pleasant flavor.

CENTRAL EXPERIMENTAL FARM NOTES—II.

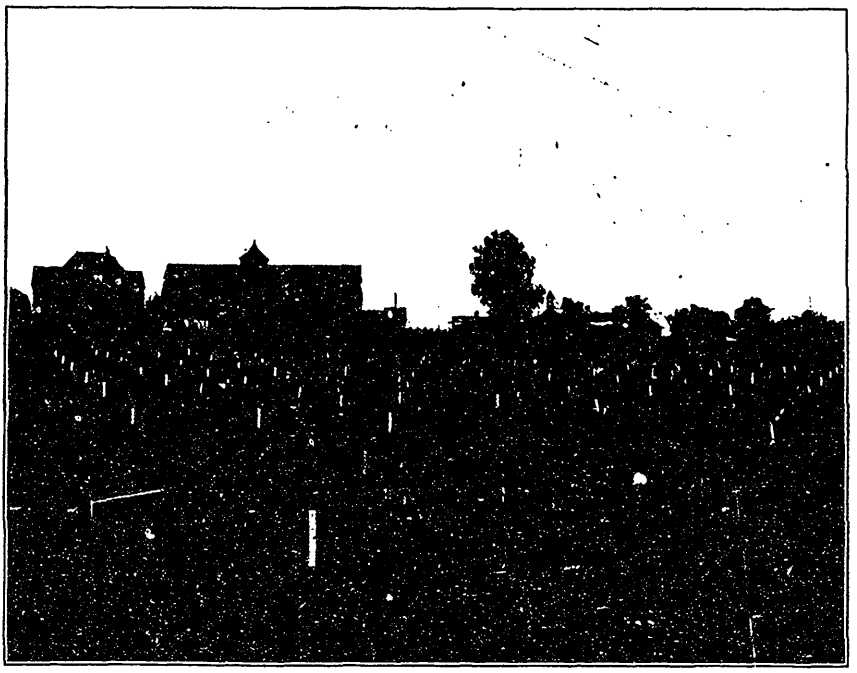


FIG. 1682.—STRAWBERRY PLANTATION, CENTRAL EXPERIMENTAL FARM.

THE first frost to seriously check vegetation occurred at Ottawa on the 23rd of September, when the tomatoes, cucumbers, melons, squash and other tender things were killed. This frost was followed on the 2nd of October by one much more severe. The thermometer only showed four and a half degrees of frost, but the ground was frozen about three fourths of an inch deep; the leaves on the grape vines were killed, and the fruit, of which there was a large quantity unpicked, was much injured. While it was thought that not more than twenty-five varieties of grapes would ripen thoroughly, more than 50 sorts have matured. The Moyer grape, of which mention is made in the October number of THE CANADIAN HORTICULTURIST, is certainly a very desirable variety to plant for home use in the colder parts of the country. This year, it ripened on the 23rd of September, while Delaware, one of its parents, was not ripe until the 5th of October, and then unevenly. Of white grapes, the first to ripen was Golden Drop, on the 17th of September. This is a small sweet grape, lacking in character, but a sure ripener here. Moore's Diamond, a grape of high quality, is, however, probably the best white variety to plant. It usually ripens early, but owing to the unfavorable season this year it did not mature until the 5th of October. It was interesting to note the order of ripening of the dif-

ferent varieties, as some kinds which ripened early last year were among the latest to ripen this year.

The Walter apple fruited this season for the first time on trees planted in 1895. The apples are very large and of fine appearance ; quality about medium ; season, appears to be October and November. If it continues to thrive, this variety may be a valuable aquisition to our list of hardy fruits. Two trees of the Milwaukee apple, planted in 1895, bore heavily this season. The fruit is large and is striped somewhat like Duchess, of which it is a seedling. Its season is said to be from December to March. The trees seem quite hardy. also, is a promising variety and will prove valuable if it is a good keeper.

In the year 1890 an orchard was planted containing about 3000 trees raised from seeds imported from Riga, Russia. These trees were reduced by blight, winter-killing, and other causes, to about 1000 trees before they began to fruit. Up to the present time, about 150 trees have borne. The greater part of these have produced fruit ranging from medium to large in size. They are nearly all summer varieties and none of them are especially promising. Although there are many of them which appear just as good as some of the named varieties of Russian apples.

A building for curing tobacco in has been erected this autumn from plans prepared by one of the most practical tobacco growers in Canada. The system of ventilation is well planned, and good results should be obtained. One and a half acres of tobacco, consisting of three varieties, namely, White Burley, Little Oronoko, and Havana Seed Leaf, were grown, and the plants are now curing in this building. Besides the three varieties mentioned, there were 45 varieties grown for comparison.

The potato crop was good this year in the Experimental Plots. Most of the varieties which usually yield best will again be near the head of the list this year. Among the most productive and best in quality are : American Wonder, Everett, Carman No. I, and Empire State.

The leaves of the trees and shrubs are, with few exceptions, not highly colored this autumn ; the weather being cloudy and wet has not offered favorable conditions. Three of the exceptions are : the Ginnalian maple *(Acer tartaricum Ginnala)*, Thunberg's Barberry *(Berberis Thunbergi)* and the Fragrant sumach *(Rhus aromatica)*, The first of these is a little maple from Amurland whose deeply cut, pretty leaves, and ornamental fruit are very attractive in spring and early summer, while in autumn there is no maple yet tested here which surpasses it in the brilliant coloring of its leaves ; the season appearing to make little difference. It is perfectly hardy at Ottawa, but apparently does not live to be more than 10 or 12 years old, by which time it reaches a height of about 13 feet. Thunberg's barberry is a compact little shrub which does not usually grow more than from three to four feet high, but it is a perfect blaze of color in autumn. Its scarlet fruit also makes it quite ornamental in winter. It is a very desirable shrub. The Fragrant sumach is a native shrub of spreading habit. Not specially ornamental in early summer, but it should have a place where there is much shrubbery, on account of its high coloring in autumn.

The perennial border, which is half a mile long, contains about 1200 species and varieties of herbaceous plants, and is very attractive to visitors from early spring until late in autumn. The severe frost of the 2nd of October this year

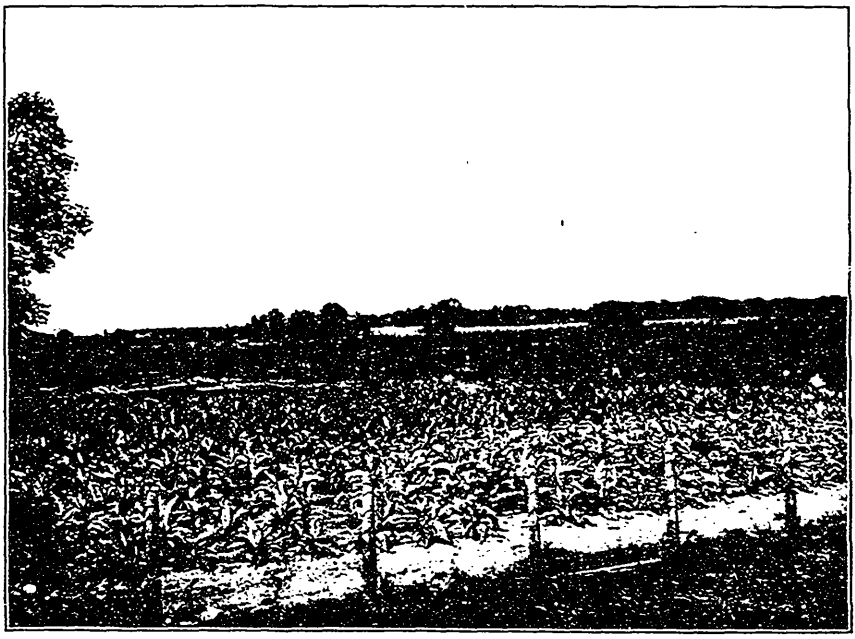


FIG. 1683.—TOBACCO PLANTATION WITH ORCHARD IN BACKGROUND, CENTRAL EXPERIMENTAL FARM.

destroyed all the flowers except the very hardiest. Among these were the Michaelmas daisies or Wild asters, and *Boltonia asteroides*. Some of the improved asters are beautiful flowers and, on account of their lateness in blooming, are very desirable.

Boltonia asteroids, a tall aster-like plant, is a profuse bloomer and very noticeable during the month of October, when there are so few flowers.

W. T. MACOUN,
Horticulturist, Cent. Exp. Farm.

NOVEMBER IN THE ORCHARD,

THE rush of the fruit harvest is now over, and the fruit grower can have a few weeks to clear up many duties necessarily postponed.

Where cover crops have been sown in the orchard for winter protection, of course fall plowing will not be in order, but where root killing is not a danger, nothing will so improve the texture of the soil as turning it up to the action of the winter's frost. This treatment will also be a better protection than leaving the uncovered ground unplowed, for the fine earth at the surface will itself be a sort of mulch. Last winter immense numbers of peach trees were either root killed or so weakened at the root by the continued cold of February, that they have been slowly dying ever since, and in most such cases we have noticed the ground was naked or unplowed; while orchards which were protected by crim-

son clover, grass, chickweed or finely cultivated surface soil, escaped with little injury.

The fact is our orchards must have better cultivation; owners usually have too little time for this work and, if we discourage fall plowing, the evil is the greater.

The soil should not be left rough plowed, as in the open, but about trees it should be harrowed to fine the soil for the protection of the roots. Care must also be taken to plow up to the trees and not from them, for nothing is more injurious than water standing about the roots.

Our old enemy, the mouse, must be carefully guarded against. A simple method is to heap fine earth against the trunk, or a bit of veneer may be tied about the tree. Of all things, rubbish about the trunk must not be allowed; it is an invitation to a mouse to build his house in it.

Pruning is also in order, a job usually left until spring, but too often neglected entirely in that brief season. The pear and the plum tree need thinning out, the limbs which are inclined to cross, and a shortening in of those inclined to sprawl. The dwarf pears should be trained in pyramidal style, and severely shortened in to bring them into shape. The lower limbs should be encouraged near the ground, the leader shortened and intermediate branches cut to a line from their extremities. Spur pruning of the bearing shoots, much as we practice in grape pruning, will also be helpful in securing good sized fruit.

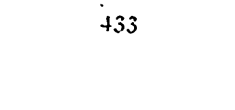
The vineyard should also be pruned in November and December, while the sap is perfectly dormant, if possible; leaving the spurs a little longer than one would do in spring pruning. It is a cold job in March, and if left till April, it is sometimes neglected.

The apple on rich land grows rapidly, and, if neglected, the head soon becomes a thicket of brush wood. Annual pruning is the only proper treatment, and in the end the most economical.

Dead trees should be dug out of the orchard with the roots; it is untidy to cut them off and leave the stump in the way of the plow. All rubbish should be gathered and burned, for nothing more encourages mice. Thrift is economy, and it actually pays in hard cash to be tidy.

The house yard should be an index to the character of the whole farm, and not only be kept free of weeds, but laid out with taste and artfully planted, that it may bring the owner what is of more worth than money, the possession of a *home*, with the sweetest possible associations, and a rich inheritance to those who follow after him.

Plans for planting should now be made, and lists of fruit and ornamental stock needed should be made out and ordered in advance, in order that they may be on hand in spring when planting season comes.



HOW TO KEEP GRAPES.

A paper by W. Mead Pattison, of Clarenceville, Que., before the Quebec Hort. Soc.

IN seasons of abundance, like the present, the question is often asked: "How can I keep grapes?" Much has been written on this subject, and different methods to attain this object have been recommended and adopted during the past few years, with varying success. When grapes are intended for keeping, care should be taken that all cracked or bruised berries are removed, with long pointed scissors, made for the purpose, for if such are left they will mould, rot and destroy others. One obstacle to guard against is the weight of the fruit, as stored in baskets or boxes. The grapes continually settle, exclude the air, and finally mould. The question is how can we obviate this in packing? Two methods have been found successful in the grape-growing region of Central New York. Ten-pound baskets are used, a layer of dry oats or sawdust is placed in the bottom, and then a layer of grapes, then a layer of oats or sawdust, and so on till the basket is full. Bran should never be used in packing fruit, as it heats. The objection to this method is that the grapes cannot be readily looked over during the winter, and mouldy or rotten ones removed. My own experience has been, that for all practical purposes, the ordinary cotton wadding in sheets is the most satisfactory packing, cut into pieces, to cover the layers in shallow grape or peach baskets with wire handles, which allow of their either being piled on tables or hung on nails to the beams in the fruit cellar. Line the sides and bottom of the basket, place a layer of grapes, then a layer of wadding, and so on four or five layers at most. With proper precaution and attention the best keepers will remain in good condition till May or June, although somewhat wilted at the last.

Unripe, poor and watery grapes, will not keep under any condition. In gathering grapes a dry day is preferable, and great care in handling is necessary. A bruised grape, like a bruised apple, is sure in time to decay, and affect others in proximity. Hence, in a basket of grapes as we buy them in market from the south and west, from long carriage and solid packing, many bunches are more or less bruised and require all injured berries cut out before packing. Grapes should not be packed away till the excess of moisture in the stem has dried off. This can be accomplished in fine weather in a few hours by placing them in single layers in baskets or on tables.

The most important requirement after packing is to keep the grapes in a continued low, dry and even temperature, in very cold weather, as near freezing point as consistent with safety. This requires some watchfulness, as in the fall we often have some very warm days, requiring their removal to the fruit cellar for a time. It is preferable to store the baskets on a verandah or in an airy out-building till hard frost, even if they have to be covered with a blanket at night. When permanently removed to the fruit cellar it should be kept as near the freezing point as possible during the entire winter to attain that object and ensure dryness. Raise the windows during the day rather than the night. As to varieties to select for keeping, the rather thick skinned ones are the best, like Salem, and others of Roger's hybrids.

The Vergennes, originated in Vermont, is the best keeper of all, though it rarely finds its way out of the home garden, as it is essentially a keeping grape, whereas Rogers' hybrids, Concord and Delaware are plentiful on our markets. The Duchess, a rather small white grape, is a good keeper, but efforts to keep extra early varieties like Champion and Hartford, do not pay for the trouble. In a trial of some forty selected varieties in the winter of 1883-1884, I found Concord, Worden and Dela ware to keep in fair condition till December. Duchess, several of Rogers' hybrids, and a black wine and table grape given the name of Pattison at the Experimental Farm at Ottawa, till January; and Vergennes, Salem, Wilder, Herbert, Rogers' No. 30, El Dorado, Gaertner, Mary and Owaso through February. These grapes were packed with paper between the layers, but since the adoption of wadding, I have kept most of these till June, at which season it is not possible to keep the cellar in proper temperature and dryness. If a system of cold storage could be adopted for our fruit cellars, better results could be attained. In warm weather close cellars induce dampness and mould in our fruit.

USE OF GRAPES AS FOOD.

The highest medical authorities claim that the grape is a potent remedy for the prevailing derangements, having their origin through the alimentary system. On the continent of Europe, in the world-famed "grape cures" for dyspepsia and its sequel, consumption, the diet during the season consists almost exclusively of ripe grapes. The patients stroll about the vineyards and make their meals as appetite dictates. During the balance of the year the diet is composed chiefly of fruit with coarse ground cereals. With the permission of any medical man, who may be present, I will venture to give, without charge, a prescription for indigestion and want of appetite, namely, make breakfast or supper entirely of grapes or other fruit—nothing else, neither coffee nor tea. I have endeavored to show how we may enjoy the grape nearly the entire year, and contend that if the apple is recognized as the "king of fruit," the grape, the autocrat of the garden, is entitled to be called the queen.

PRAISE OF THE APPLE.

The old Scandinavians believed that the gods subsisted wholly upon apples, and that it was through the peculiar properties communicated by this queen of fruits that they acquired the wisdom which they imparted to men.

The acids of apples are exceedingly useful through their stimulating influence upon the kidneys, whereby poisons are removed from the body, and the blood and tissues purified. The acids of apples are all highly useful as a means of disinfecting the stomach, since the ordinary germs that grow in the stomach, producing biliousness, headache and other troubles, will not grow in fruit juice or fruit pulp.—Editorial in Good Health.

FRUIT EXHIBIT AT HALIFAX.

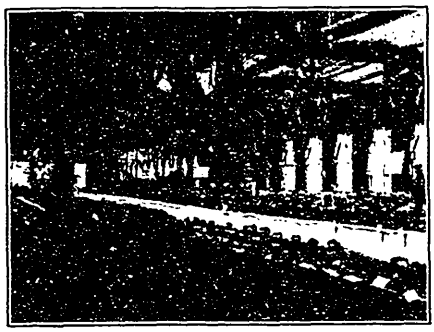


FIG. 1684.—APPLES AT N.S. PROVINCIAL FAIR

THE exhibit of fruit at the Nova Scotia Provincial Exhibition, held in Halifax, September 23rd to 30th, while not quite so large as that of last year, impressed one as being better in quality and as illustrating better the capabilities of the province along commercial lines. There was a splendid exhibit of the leading sorts of market apples, there being nineteen entries of Gravensteins, which were magnificent, and the other most popular sorts being equally well represented.

It is perhaps to be regretted that more prominence was not given to barrels of apples packed for export, since this subject is of so much importance to growers, and anything which can be done to encourage better methods in this respect, ought to be done.

At present the prize offered is only $4, for the best barrel of the different sorts, the fruit to become the property of the Commission, and this is scarcely the cash value of some of the better varieties, when sorted as carefully as these prize barrels have to be. If growers could only be brought to realize how much more valuable a prize they are competing for when they pack a barrel of apples for export, we might look for an improvement in the general practice of packing.

The value of modern methods of culture and spraying was well illustrated by some Burbank plums exhibited by Mr. Ralph S. Eaton, of Kentville. They were almost a third larger than any others of this variety exhibited; and Prof. John Craig, who acted as judge of the fruit, pronounced them the finest Burbanks he had ever seen.

Mr. Eaton practises thinning his fruit, which is doubtless in part accountable for the superb character of these plums; but cultivation, spraying and fertilizing are also largely responsible. If Nova Scotia can grow such plums as these, and if cold storage can be developed sufficiently to land them in perfect condition in the London market, there is no reason why this branch of fruit growing should not become of great importance commercially.

Peaches again formed an interesting part of the exhibit, and enough were shown to prove that Nova Scotia can grow them for the home market, though they may never be of commercial value. Some really creditable plates were shown of such sorts as Alexander, Crawford's Early and Hill's Chili.

A very valuable feature of the exhibition, to those who were fortunate enough to hear it, was a short address given in the Horticultural building by our old friend, Prof. John Craig. After complimenting the fruit growers upon the splendid exhibit of fruit, on the merits of which he had just had the pleasure of passing judgment, Prof. Craig called the attention of those present to some of the lessons to be learned from the exhibit. He wished first to impress growers with the importance of raising

FIG. 1685.—PROVINCIAL FRUIT EXHIBIT AT HALIFAX.

only those varieties of fruits of the different classes which reach especial excellence in Nova Scotia.

With the present transportation facilities, growers the world over come into competition with one another in the world's markets; and it is useless for growers in one district to grow those sorts which can be better grown in some other district. For example, the Gravenstein and Ribston Pippin reach a higher state of perfection in Nova Scotia than anywhere else in America, while the Ben Davis can be grown much better in the Ozark region of Missouri and Arkansas. Nova Scotia growers should therefore confine themselves largely to the former sorts and avoid those varieties which reach only mediocre quality here.

Again, it is a well recognized fact that where a plant of any kind reaches its highest perfection, there it will be most likely to vary from the type. It therefore follows that varieties, or even sorts of the varieties first named, are very likely to be found in Nova Scotia, and Prof. Craig urged that growers should pay more attention to this matter, noting those trees, or even branches, which give the best fruit and the most of it, and propagating from them.

Continuing, he said that in his opinion the fact that it is possible to ripen Alexander and Early Rivers peaches in Nova Scotia, is a strong indication that chestnuts might also be grown there. There is no question as to their hardiness, and by selecting the early sorts of Spanish and Japanese chestnuts, there should be no difficulty in ripening the fruit,

Nova Scotia ought also to grow her own grapes. With the proper varieties, grown on the warmest soil, in a sheltered location, and trained upon a trellis, there should be no question as to supplying the home demand. But we must abandon such old and late sorts as Catawba and Isabella, and select in their stead, Lady, Moyer, Winchell and Moore's Early. These are not commercial sorts, but are the ones most likely to succeed in this climate.

F. C. SEARS.

Mr. Chas. E. Brown, of Yarmouth, writes as follows regarding their exhibition.

Among the miscellaneous sorts was one dish of Wolf River, shown by J. Adolphus Hatfield, of Tusket, the most brilliantly colored specimen on the table, very large in size, and perfect in shape and cleanliness, meriting a special prize. Clearly Wolf River should be propagated wherever it does well. It is thought to be a seedling of the Alexander, but it is of better quality, and less liable to black spots.

It has become quite solidly established that to grow fine, clean apples, spraying several times during the summer is imperative. Neighbors might club together and procure a spraying outfit of a more effective make than each might care to afford for himself, while about town, in the vicinity of orchards, the owners of haying machines might add a spraying outfit to their

plant with confidence of profitable employment.

Equally with our own country, the writer was struck with the large number of barren trees and orchards through the fruit counties on a recent visit to Halifax; and in some cases of young orchards where the trees are planted in sod, with no subsequent cultivation. Fruit cannot in these degenerate days be so grown; in young orchards the soil must be cultivated and made as near like garden soil as possible, while in old trees the superfluous wood must be removed. Often three-quarters of the crowding branches, taken off would result in a fruitful tree, where now is only barrenness.

BIG APPLE CROPS IN NOVA SCOTIA.

KENTVILLE Advertiser gives the following idea of the big apple crops being harvested in King's County.

The fertile and pleasantly situated tract of King's County called Starr's Point has always been noted for its productiveness. Large crops of potatoes have always been raised there, and interest was taken in horticulture many years ago by members of the Starr family and also by Mr. Prescott. This year Providence has smiled upon this favored section and large root and grain crops and well laden apple trees are the result.

The orchard of Mr. A. C. Starr will produce the largest quantity this year—about 2000 barrels. He has eleven acres in full bearing, five acres more twenty years old, which has not come into full bearing before, on account of being top grafted. Mr. Starr also has twenty-seven acres of young orchard growing nicely and another strip of land will soon be cleared and set out which will make a block of fifty acres altogether.

It requires a great deal of care to look after this large orchard, but the owner is equal to it, and besides has raised this year twenty-seven acres of potatoes. The crop is heavy on most all of this acreage, and fully six thousand bushels of potatoes will be the result.

It is seldom that one sees such fine fruit. Gravensteins, Blenheims, Northern Spys and Fallawaters, were a full crop and of excellent size and color.

Mr. J. E. Starr on the farm adjoining has a good crop of all kinds this year. His orchard will produce fifteen hundred barrels this year, nearly double that of last year. The trees are very thrifty and the quality of his fruit excellent. Gravensteins were a fine crop and Kings were very large and well colored. Some of the largest Baldwins ever seen could be found in this orchard. Mr. Starr and his son George are packing ten barrels of choice fruit for the Paris Exposition. The fruit will go to Montreal and remain in cold storage there until next spring, and then be shipped to Paris. Mr. A. C. Starr will also send five barrels all packed like oranges.

There are three other farms in this vicinity which will produce about one thousand barrels of apples. They are Richard Starr, 1200: Percy Starr, 1000; and Joseph Starr, 900 bbls. We thus find that in five Starr families, all living as neighbors, about six thousand six hundred barrels of apples will be raised. With the price of apples ranging from $2 to $3 per barrel, our readers can realize from the product of this small section we have referred to, the amount of money that will reach King's County this year for fruit.

VLADIMIR AND KOSLOV MORELLO CHERRIES.

SIR,—I have received the thirtieth report of the Fruit Growers Association of Ontario, which gives the fifth annual report of the Fruit Experiment Station of Ontario under the joint control of the Ontario Agricultural College, Guelph, and the Fruit Growers Association of Ontario, for 1898, and on page 41, of the last mentioned report, I find a plate of the Vladimir cherry, giving experiments from the stock which was sent out by your Association in 1887, which was anything but satisfactory and rating it at fourth rate for either home use or market.

Having had some experience with this variety of cherry, I write to say that with your permission I will contribute my knowledge of the same for publication with the hope that it may somewhat rectify the mistaken opinion which is likely to be formed by the readers of said report and with the hopes of establishing the fact that a variety of cherry under the name (Vladimir) is one of the most profitable varieties grown in this section either for home use or market.

Some thirty years ago there was an American Nurseryman by the name of Carpenter established a nursery at Peterboro', Ont, and about twenty-five years ago he sold a large orchard to Mr. Lewis Gleason, of Haldimand Township, and among these trees he got two cherry trees which thrived well and soon commenced to show fruit of very superior quality in abundance, which attracted the attention of the people in that neighborhood who were anxious to get trees of this variety; but as Mr. Carpenter had failed in his undertaking and has since died none knew the variety of cherry or where he got this stock from. However, in the summer of 1891 our salesman, Mr. J. L. Knapp, called upon Mr. Gleason, who told him that if he could furnish this particular variety of cherry true to kind and exactly the same as his two trees, without a doubt, he would take 50 or 100 trees and many others who lived in the same neighborhood told Mr. Knapp that they would also order if sure of getting this particular and profitable variety. Therefore, Mr. Knapp picked some of the fruit which was not fully ripe and also brought in some of the wood and foliage to me to see if I knew the variety, but not knowing it I sent it over to a leading Rochester, N.Y., Nursery Company, believing they would know it, but the result was the same, they could not name it. Therefore, Mr. Knapp returned to Mr. Gleason and secured more fruit and foliage and sent it to Prof. J. L. Budd, of Iowa Agricultural College, Department of Horticulture, Ames, Iowa, and herewith I give you a copy of his reply.

AMES, IOWA, Aug. 17th, 1891

Mr. J L Knapp,

MY DEAR SIR:—Yours with cherries at hand. In leaf and fruit the samples closely resemble the "Vladimir" cherry found in Poland and North Germany as well as in Russia. It is a small tree and has been grown so long from pits that it is exceedingly variable. The leaf is like the variety of "Vladimir" we got from Warsaw, Poland. I believe two hundred varieties of this dwarf morello can be found in the North and East Europe, hence the difficulty of naming. Planted along the highways of East Europe we can find in two miles fifty slight variations from seeds and sprouts.

(Signed,) J. L. BUDD.

Taken from the Iowa State Register, Newspaper, of Friday, September, 1891, Weekly edition:

VALDIMIR CHERRY.

Mr. J. L. Knapp, of Colborne, Ont. Canada, writes Prof. J. L. Budd, Ames, Iowa.

Enclosed in box sent by mail is a sample of an unknown cherry. No one here knows its name and they cannot name it in Rochester, N.Y. I found it in Western Ontario on a farmer's place and they were so hardy, such excellent bearers, and so fine in quality, that

additional trees are wanted. The trees are free from black knot so common here.

(Signed) J. L. KNAPP.

ANSWER.—The variety is the typical Vladimir, (25 orel). This variety we found in North Germany and in Poland, but its home is North Central Russia, where it is grown by the train load. It is a wonderful bearer at the North, and a medium sized, colored, juicy black cherry, nearly sweet when fully ripe. It has a slight bitter flavor which is liked by nearly all who have tasted it.

(Signed) J. L. Budd,

of Iowa Agri. Col. Dept. of Horticulture.

I have had a good many trees propagated from the original trees found on Mr. Gleason's place, and now there are several others who have the young trees bearing in this section and who can testify to the superior quality of the fruit, which is of good size, as well as to the hardiness of the tree which is so well adapted to this country, and which I believe will be extensively planted when better known. It can be readily understood from what Prof. Budd says, that the varieties are so numerous that care must be exercised in starting from a tested tree otherwise in nine cases out of every ten the fruit will be worthless.

Hoping I have not imposed too far upon your valuable space, I remain,

Respectfully yours,

JAMES MCGLENNON.

Colborne, Ont.

NOTE BY THE EDITOR.—We have to thank our correspondent for his letter and criticism of our description of the Vladimir cherry, for this is exactly what we desire in order to reach the truth about each variety described. A comparison of this letter of Mr. McGlennon's, and our description of the cherry there referred to, plainly shows that we cannot be speaking of the same variety. Possibly the Vladimir we have growing at Grimsby is not true to name, or it may be that the cherry propagated by the Chase Bros as Vladimir is some superior variety, such as *Koslov Morello.* This latter variety is grown as a bush fruit by the peasants in Russia, and would be a most profitable variety for market. The most probable solution of the whole matter is, that the Koslov Morello and the Vladimir Morello are one and the same cherry in a general way, only being all propagated in Russia by the seed, our Vladimir is a worthless seedling, and our Koslov Morello is a valuable one, and possibly nearly identical with Chase Bros, Vladimir.

THE BRILLIANT GRAPE.

WE have two vines of the Brilliant grape, which is certainly a very beautiful and showy variety. Its bright red color, from which it takes its name, makes it noticeable even by the side of its parents—the Lindley and Delaware. It was originated by T. V. Munson, in 1883, and he says of it:—"The Brilliant ought to be a great grape in Canada. It is double the size of Moyer, better in quality, and twice as heavy a bearer. The vine is much stronger, and seemingly just as hardy. It is perhaps a few days later, and clings to the cluster better; besides this has a perfect flower, and the Moyer is practically pistillate.

WINTER PROTECTION OF THE STRAWBERRY PLANTS.

THERE should always be a distinction between winter protection and summer mulch, for it will not always do to get the two things mixed. A good summer mulch can be made use of more or less as a winter protection; but the best winter protection is wholly unsuitable for a summer mulch. Nature's protection — snow—is most decidedly the best of all as far as the nature of substance is concerned, and if it could be depended upon to come early enough and stay late enough to do its perfect work it would be all the heart could reasonably desire. But unfortunately, we cannot depend upon it, so we are obliged to look out for a substitute. As being the most available material we make use of small evergreen trees, the fir being the best. Trees that are from 8-12 feet high are the best; the boughs trimmed off from the lower side so that they will lay where they are placed. Moss, straw, and salt hay are also largely used here as a winter protection and summer mulch. Whatever material that is most available which contains no poisonous matter, and is of a coarse nature so that it will not pack down so close as to exclude the air and smother the plants, will do.

The time to apply the protection depends much upon the locality, and somewhat upon the season and material used, the coarser the material the earlier it can be applied with safety. It will not do to cover closely till the season of dormancy approaches, which begins here about the middle of November, but is not fully on with the strawberry till well into December. The hackneyed advice that goes the rounds of the small fruit department of the press, "As soon as the ground is frozen hard enough to bear a horse and cart so that you can drive over the patch without injury to the plants," etc., is not good or practical. While the ground might many times be frozen hard enough to bear a team during the early morning hours of November this state of things would not last long after the sun is up; and then again, it is not advisable to drive over the patch with a heavy cart at any time when the ground is bare. When the time approaches that the ground freezes nights and thaws days the strawberry patch should receive its covering. It is a good plan to put on a light covering at first, and then later a more complete covering.

There are winters when apparently the plants will pull through without injury; that is the foliage may be all killed and the weak plants heaved out, but all the strong plants will start a strong healthy growth again. But when such plants are compared as to their fruiting side by side with those that were well protected, you will see a marked difference greatly in favor of the latter. I am well satisfied from the results of careful experimenting that by far the greatest cause of the so-called "barrenness" among strawberries of varieties that are usually productive, and also the deformity of the fruit, is due to the effects of severe winters and improper protection.—American Gardening.

TOP-GRAFTING—ITS ADVANTAGES AND POSSIBILITIES.

THE use of top-grafting in the propagation of the apple is very general in Nova Scotia, where conditions seem to be especially favorable for its success, and my object in the discussion of this is to call attention to some of the advantages to be secured by this method of propagation, but which might, perhaps, be overlooked by the orchardist.

Top-grafting as usually practised has this advantage over other methods of propagation, that we know the character of the stock on which we are grafting, and can therefore tell something of what the effect of this stock will be on the variety we are propagating.

That the stock used does influence the scion cannot be doubted, and in proof of this let me cite one or two instances. A most interesting case of this kind was related to me by my friend, Mr. Robert Starr. Briefly stated, it was this: Some years ago Mr. Starr bought a dozen Baldwin apple trees, and when they came into bearing it was noticed that one of the trees bore apples a year in advance of any of the others, and the fruit was so highly colored and ripened so early as to be scarcely recognizable as Baldwins; yet the true Baldwin flavor was there, though somewhat intensified, leaving no doubt as to their identity. The last tree of the lot to come into bearing produced very large, light colored apples that ripened very late indeed, and though, when they finally did ripen, there was no doubt as to being Baldwins, yet the flavor was exceedingly weak, by no means as pronounced as the typical Baldwin flavor. A few years after sprouts came from below the graft on both trees, and were allowed to grow in order to determine what characters the original stocks had It was found that these sprouts exhibited shown the same differences which had characterized the apples. In one case they were small and short jointed, reddish in color, both leaves and twigs, and ripened early in the autumn, the leaves falling before frost. In the other case the sprouts were coarse and green, long jointed, and did not stop growing in the fall until nipped by frost. Without prolonging further this phase of the discussion I may say that numerous similar instances might be given, showing conclusively that the characters possessed by the stock are shown to a greater or less degree by the fruit borne on the tree.

Accepting this as true, let us see what practical application can be made of the principle involved in securing desirable qualities in our fruits, more particularly in apples. First, we recognize that more highly colored fruit is, as a rule, desirable. Is it not possible then to profoundly modify the color of any of our fruit by top-grafting them upon trees of more highly colored sorts? For example would not Gravensteins be improved in color if they were worked upon Ben Davis trees? Undoubtedly they would. From our present knowledge it cannot be accurately predicted to just what extent this influence would be shown, but enough has already been stated to show that whatever influence is exerted by the stock will be toward making the fruit approach in color to the fruit borne by the stock.

Again, as to season of ripening. If so variable and elusive a character as color of fruit is likely to be transmitted,

is it not reasonable to expect that the period at which a certain variety ripens might be changed by varying the stocks upon which the variety is grafted? In this connection Prof. Bailey says: "Grafting often modifies the season of ripening of fruit. This is brought about by different habits of maturity of growth in stock and scion. An experiment with Winter Nedis pears showed that fruit kept longer when grown upon Bloodgood stocks than when grown upon Flemish Beauty stocks. The latter stocks in this case evidently completed their growth sooner than the others. Twenty-ounce apple has been known to ripen in advance of its season by being worked upon Early Harvest. If all this has been done, is it not reasonable to suppose that if the Gravensteins were grafted on the Ben Davis, as was before suggested, not only would the color be improved, but the result would be Gravenstein apples with better keeping qualities? Some one may object here that if the Gravensteins be thus grafted on the Ben Davis it will not only partake of the characters of the latter in color and season of ripening, but in other qualities as well, and we shall have our Gravensteins, the pride of Nova Scotia, tending to become as dry and tasteless as is proverbially the case with the Ben Davis. In answer to this objection I would say that there might be some ground for it; yet it is not a real objection, since in the common practice of root grafting we graft the Gravenstein on to seedlings, not one in ten thousand of which would probably be equal to the Ben Davis.

One other point in this connection is worthy of the most careful consideration, and that is the importance of selecting scions from the best and most prolific trees in propagating any variety. Every observant orchardist knows that certain of his Gravenstein trees, for example, bear more and better fruit than certain others do, and the same is true of other varieties. Not only this, but certain branches of a tree bear better than others. As a proof of this fact that even all branches of the same tree are not alike, I need only to cite the case of the Red Gravenstein, which originated on a single branch of Gravenstein tree. With these facts before us it is scarcely necessary to state the conclusion that the selection of scions for grafting deserves greater consideration than it usually receives. What would be thought of a stock breeder who paid absolutely no attention to the individual characteristics of the animals he bred from! Why, even in an ordinary dairy herd, kept simply for milk, we recognize the importance of individuality and save the heifers only from the best cows. And yet when it comes to plant breeding we take scions from any tree and from any part of the tree—suckers, water sprouts, anything, so long as it is the desired variety. The time has come to make a decided change in this respect, and top-grafting offers the most simple remedy, since it gives an opportunity for each man to select his own scions from his best trees and set them in whatever stocks he prefers.

That in this discussion we are treading upon ground not quite so fully understood as some other fields of horticulture, I am quite well aware; yet it seems to me that we do know enough to warrant the belief that with sufficient care in the selection of stocks and scions we may greatly improve, not only the productiveness of our trees but the color and keeping qualities of the fruit as well.—Prof. Sears before Nova Scotia Fruit Growers.

CONCLUSIONS.

OFTEN it is a puzzle to know which variety of plums to plant. This season, the writer determined to keep strict tally of an orchard planted in 1894 with the following result :—

From 49 trees of Abundance plum 73 baskets were sold, realizing $29.82 or 40c. per basket. Season from Aug. 2nd, to Aug. 15th.

From 94 Geuii plum trees, 93 baskets were picked which sold for $55.11 or 59c. per basket. Season Aug. 6th, to Sept. 3rd.

From 97 Lombard trees 211 baskets of plums were picked which sold for $78.34 or 37c. per basket. Season Aug. 28th to Sept. 9th.

From 107 trees of Reine Claude 227 baskets of plums were picked which sold for $98.26 or 43c. per basket. Season Sept. 11th to 21st.

The same proportionate amount of Ponds Seedling and Yellow Egg made no creditable showing and if this season can be taken as a test, the varieties come in order as a money-maker ; Reine Claude, Lombard, Geuii, Abundance. All were very carefully sprayed with Bordeaux and Paris green, which did not seem to have any beneficial effect for the Cuculio Beetle which seems to show that jarring the trees in early morning would have a better effect on the theory of "catch them and kill them."

The season of harvest is over and what do we learn from it. The packing and grading has been better carried out and in many cases after a brand has become know, good prices have been the result : but "the first hill is the hardest climbing" for when starting grading grapes— which is done when picking off the vine—the writer had the mortification of the inferior 2nd grade selling for from 4 to 7c. more on a 10 lb. basket than the 1st. That was to a commission house but it righted itself in time. The commission man to whom they were sent openly acknowledged, that some sellers will put a man's good grade in with a poor grade lot, as an inducement to the purchaser, but said in time a man's good grade soon became known and the store keeper came repeatedly to buy fruit bearing that brand and would have no other ; it will always pay to make two grades, stamp them as such instead of putting the two grades in one basket.

JUNIOR.

JAPAN TEA GARDENS.

TEN miles south of Kyoto are the famous tea gardens of Uji. They produce the finest teas in Japan, which often command from five to seven dollars a pound. Tea was introduced into Japan from China in A.D. 805, and the gardens of Uji have existed for about eight centuries. Two kinds are grown : a small-leaved variety which yields two pickings a year,—the first about the second week in May and the second about the end of June. The other sort, which has larger leaves, yields one crop about the middle of June. The small-leaved sort is the most esteemed, and the first picking is considered the best in flavor.

It is now well known that the color of tea depends entirely on the treatment of the leaves after being picked. If green tea is desired, they are fired immediately ; while for black, they are spread out on mats or trays, the sap being allowed to ferment in the same manner as we observed practised with indigo, and then fired. The curl or twist is imparted to the leaves by turning and shaking them while in the firing pans.—Rept. Mass. Hort. Soc.

CALADIUM ESCULENTUM.

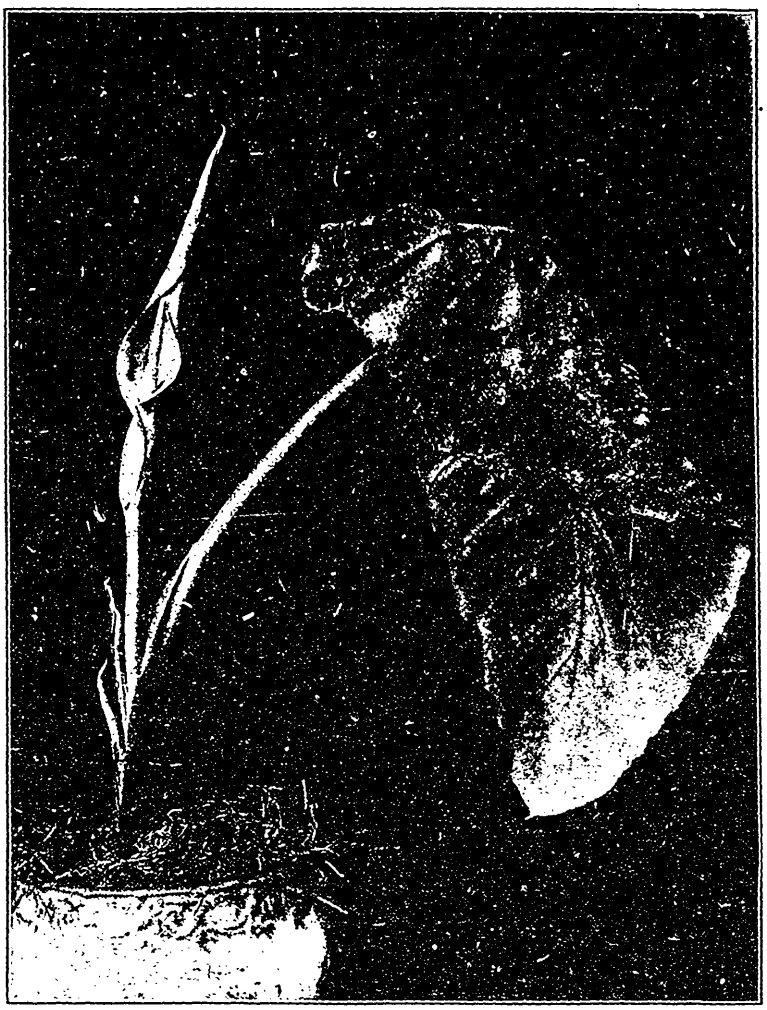


FIG. 1686.—CALADIUM ESCULENTUM.

SIR,—I enclose photograph of blossom of *Caladium esculentum*. I find that many, like myself, have never seen the blossom of this plant. We have grown them for their foliage for a number of years, but have never known them to develop blossom before. The flowers are from twelve to fifteen inches in length, and in color orange yellow, inside lighter or cream yellow. The bulbs were medium sized, started in hot-bed early in March and planted June 3rd in a dry situation.

GEO. NICOL,
Cataraqui.

We are much pleased to receive so excellent a photograph of this well known foliage plant. Although commonly

known as *Caladium esculentum*, it is strictly speaking another genus of the same order (*Aroideæ*) viz:—*Colocasia esculenta* It was brought to England from the Sandwich Islands in 1739, and has been much used in the southern counties in beds of tropical plants. It grows to a height of about two feet under favorable conditions. Even in England it is not planted out until early June, for like the Caladiums proper it will not endure cold much lower than 55° or 60° Fahr. In the heat of summer, these plants need plenty of water and in early fall, before danger of frost, the tubers must be stored away in a cellar until March, when they may be started in a hot-bed as practised by our correspondent.

FALL BULBS: SUGGESTIONS AS TO PLANTING AND CULTURE.

IF desired, snowdrops can be planted in a 4 inch pot, and treated like the hyacinths and narcissus; that is, by being watered, and put away in a cool, dark cellar or shed, or put out of doors and covered by several inches of some material (not fresh manure) until the pots are full of roots. They must be kept from frost and not allowed to get dry after root growth has begun. If thoroughly watered when potted they will not require much afterwards until they are brought to the light. The hyacinths and Easter Lily will not be ready to leave the cellar until about the first of January. The Narcissus about a month earlier.

If desired, all these bulbs, except the Lilium Harrisii, will do quite well if planted in the garden. In that case, they should be planted in good soil, and at least three inches below the surface.

The best soil for the potted bulbs would be rotted sod, leaf mould and sand, in equal parts, or very old friable manure in place of the leaf mould. Let the pots be clean and well drained, to allow the surplus water to pass out at the bottom. This is best accomplished by putting a handful of beach gravel or broken potsherds in the bottom, with a little moss or half decayed tree leaves broken over this, to prevent the soil being washed into the drainage. On this fill in the soil for the hyacinths to within two inches of the top, when the soil has been shaken down (not pressed) by jarring the pot on something solid. Then set the bulb in the centre of the pot and fill in the soil around it so that when gently pressed there is an inch left to permit of effective watering. When finished, half the bulb will be above ground. The Narcissus should be just out of sight, and the lily two inches below the surface. Any good garden soil will do if the rotted sod is not at hand.

If preferred, three hyacinths might be placed in one 6-inch pot, but the bulbs should not touch each other when planted.—Mr. A. Alexander, before Hamilton Horticultural Society.

FIG. 1687.—A CLUSTER OF PALMS.

MR. W. HUNT, gardener to Mr. John Stuart, "Inglewood" Hamilton, sends us the accompanying photographs of plants shown at the Floral exhibition. Two, says Mr. Hunt, are Adiantum or Maidenhair, and the other a large palm, growing in the conservatory. According to Mr. Stuart, the owner, the palm was 75 years of age when he purchased the place, 26 years ago. By estimating the first few years growth, and the tiers of fronds since, I make it over ninety years of age. The following are some of the dimensions of this palm (*Cycas revoluta*); height from base to tip of leaves 10 ft. 4 inches; circumference of trunk at base 3 ft. 6½ inches; diameter of scales upon which flowers and seed pods appear, 22 inches when fully expanded; the scales are light brown in color and before expanding resemble (in shape only) a monster cabbage on the top of the stem (Fig. 1688.) The length of a single frond is five feet, and the width ten inches.

FIG. 1688.—FROND.

Of the two Maidenhair ferns, *A. cuneatum* is the older form, and was brought from Brazil, 1820; it takes its name from the cuneate or wedge shaped fronds of the lower pinnae at their base; it is a favorite. The scale of measurement is 1ft. to the inch.

The other fern, *A. gracillinum* is a form of *A. cuneatum*, and is the most delicate and charming of greenhouse ferns. These plants do credit to the gardener who grew them and to the artists who made it possible for us to have such good photographs. See cuts 1689-1690.

HARDY FERNS.

THERE are no more lovely and useful plants for decorative purposes than our Hardy evergreen ferns

For rooms too cool to sit long in as a general thing, these plants luxuriate, as they will endure every change of temperature, even beyond freezing.

needs protection from the sun, and does best in a pot by itself. Edging this box were the dwarf species: *A. ruta muraria*, *Asplenium ebeneum*, *A. trichomanes*, *Camptosorus rizophyllum* and *Polypodium incanum* and *vulgare*.

No collection of house plants is com-

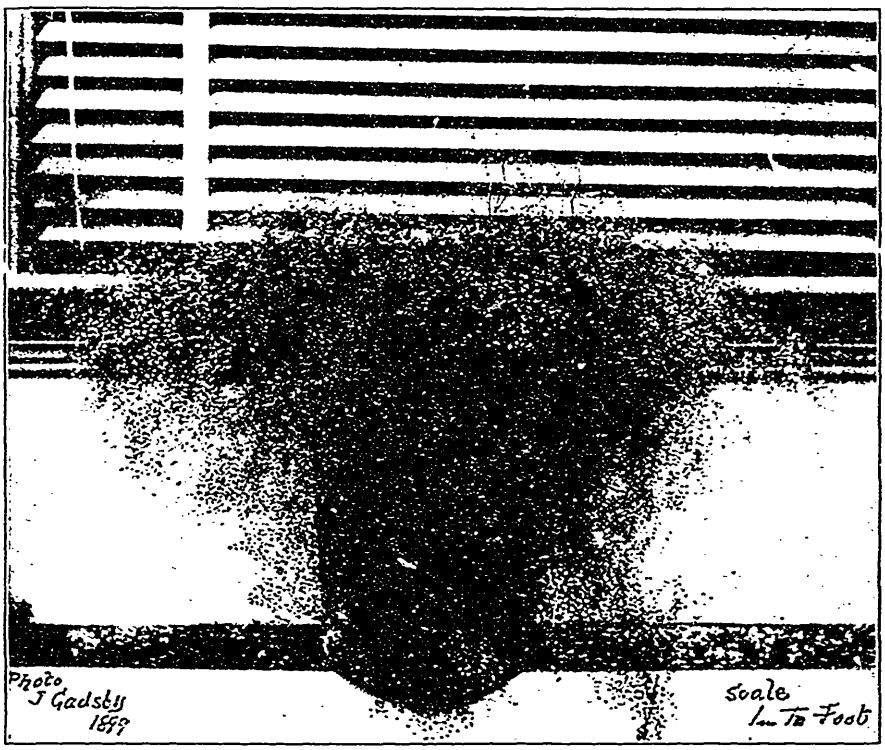


FIG. 1689.—ADIANTUM GRACILLIMUM.—*Photo. sent by Mr. Hunt.*

Exotic ferns require the Wardian case, or bell glass; but they cannot compare with the intense green, and freshness of the hardy sorts. A handsome box I once saw, contained, for the centre, *Aspidium acrostichoides*. *A. cristatum*, *A. lonchitis*, *A. spinulosum*, and the climber *Lygodium palmatum*, surrounded by the Maiden Hair (*Adiantum pedatum*), which

plete without the fern. The Boston is a good one to raise, and is so close a relative to the florid fern, that it is thought by many to be one and the same. The Lady fern (*Asplenium filix-formina*) is a splendid pot fern, elegant and vigorous.

Then there is the Rattlesnake fern, largest of its genus. The Ostrich, of

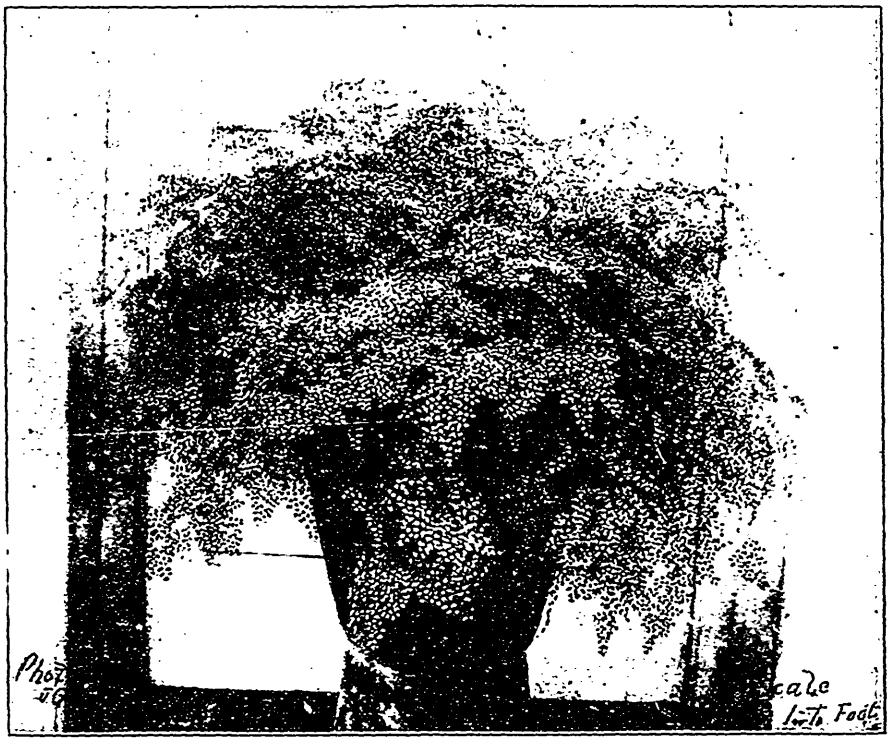


FIG. 1690.—ADIANTUM CUNEATUM.—*Photo. furnished by Mr. Hunt.*

majestic port, attaining five feet in height, with feathery graceful frond. The Royal *(Osmunda regalis)*, that may grow in pots, with care, and the Hart's Tongue *(Scolopendrium vulgare)*, with simple glossy-green fronds, both curious and very interesting.

All these will grow luxuriantly in fresh loam, one-fourth sand, one-half leaf-mould, mulched with well rotted manure. These and the *Asparagus* species are fine for window gardening. Give your little daughter one or more on her birthday, until she has a fine collection. Include the little ball Horizon fern.

M. A. HOSKINS.

Newport, N. H.

SOME DESIRABLE BULBS.

The Roman hyacinths and Bermuda lilies (*L. Harrisii*), which were potted in September, and stored in the dark pit or cellar, should now be rooted and ready to bring to the light, if they are wanted for early blooming. It is best to keep the main stock of winter flowering bulbs in the dark as long as possible; nothing is gained by bringing them forward before the root system is well developed, as the result is almost invariably imperfect blooms, tardily produced. While most of forcing bulbs have passed their prime by November, some varieties, such as the hyacinth and narcissus may still be potted with good results, but the tulips, crocuses and freesias should be let alone, as the probable result will be a crop of leaves without the blooms.—R. N. Y.

GLADIOLUS CULTURE.

THE gladiolus I consider the most beautiful and, at the same time, the easiest raised of all tender bulbs. By tender bulb I mean those bulbs that have to be taken up and housed over winter. Last summer I had in bloom one hundred bulbs, and thirteen different varieties. This is the collection of years, for I have been a gladiolus "crank" for many years. I have all shades of pink, red, orange, cream and pure white, although white is the most difficult to raise.

In the fall, after quite a hard frost, I take a fine, dry, warm afternoon and arm myself with a sharp spade and dig up my gladiolus bulbs. Taking care not to injure any of them. I take them and shake all the earth off and cut the tops off about two inches above the bulbs, with a sharp knife. Then I take a box, put in a layer of dry clean sand, then a layer of bulbs, and so on until the bulbs are all packed. On the top I put about two inches of sand. Then I bid my bulbs a long good bye and put them to rest under the cellar stairs. But the cellar must be dark and frost proof.

The first fine weather in May I set out my bulbs. The most of them will be sprouted, but that does no harm—does not injure the sprouts. The larger the sprouts, the sooner the gladioli will be up. I plant them out in the vegetable garden, for you cannot raise gladioli successfully and crowd them. That is one thing to be remembered. I plant in rows four feet apart, and ten inches apart in the rows, setting about two inches deep.

What a joy when in about ten days the first tinge of green shoot peeps out! Some may not come up for weeks, but just have patience, and they will all come up if the bulbs are sound. My experience has been that if a bulb doesn't look perfectly healthy, it doesn't pay to plant it; it will only be a puny plant all summer and die when the heat of August comes. The terrible heat of last summer destroyed some of my choicest bulbs. Some small worm will also get at the roots sometimes and kill a plant, but not often. Cut worms have cut some for me, but very seldom, and cut worms are easily destroyed before they have done much damage. But the gladiolus is free from all destructive flies, bugs, spiders, etc.

I cultivate with a horse and a common garden cultivator, and hoe them often. I plant the bulbs all at one time, but they will not begin to put out their spikes at once; so I have a succession of bloom for weeks and weeks. Mine begin to blossom the last week in July and keep up until killed by the frost. Some of the spikes on mine, last summer, were eighteen inches long; but then I have the heaviest soil and I fertilize besides, with barnyard manure. The manure must be free from straw or the heat will kill the plants, use no manure of a heating nature; I would rather use none.

Now I will tell you how to increase your stock of bulbs. Last summer I had one hundred flowering bulbs, but more than two hundred little ones, some of which will blossom this year, and some won't. A bulb that has been blossoming once will never blossom again, but instead several new bulbs are formed close around it, and they are the ones which will blossom the following year. So there is an increase of blossoming bulbs of, perhaps, two, four or six, sometimes even more than

that. I always leave the old bulbs attached until spring, when I set them out.

So much for the flowering bulbs. Now for new bulbs which are not ready to flower for a year or two, These are attached to all gladiolus bulbs when you take them up, numerous small bulbs in size from a pin head to a pea. These leave attached until spring, when separate them and plant them by themselves. Some of the larger ones will blossom, perhaps the first summer, but that won't happen often, I tend carefully, and by fall most of them will be fine, robust bulbs, ready for fine bloom by the next summer. Gladioli can also be raised from seed, but I have never tried it.

In my opinion there are few flowers to compare, in beauty in the garden and also for cut flowers, with the gladiolus. All labor expended on them will be more than repaid, if a person is a lover of the beautiful.—Minnesota Horticulturist.

POVERTY STRICKEN GARDENS.

HOW strange that with the great wealth of easily grown, inexpensive material which is possessed in the hardy flowering shrubs as home-adorning material, anything like fair collections of these should be so rarely met about country houses. Shrubbery groups are among the most fascinating and ever-changing plant adornments that can possibly be employed on the home grounds, and the shrubs are no more trouble than the same number of currant bushes. Here is a list of what we consider the best hardy flowering shrubs for common culture. *April Flowering.*—Mezeron Pink *(Daphne me erum)*, Golden Bell *(Forsythia) May Flowering.*—Japan Quince *(Pyrus)*, Flowering Plum *(Prunus triloba)*, Flowering Almond *(Prunus)*, Thunberg's Spiræa *(Spiræa Thunbergi)*, Plum-leaved Spiræa *(Spiræa prunifolia)*, Lilacs, many sorts; Rough-leaved Viburnum *(V. rugosum)*, Lantana-leaved Viburnum *(V. lantanoides)*, Bush Honeysuckles, Tree Pæony. *June Flowering.*—Silver Bell Shrub *(Halesia)*, Lance-leaved Spiræa *(S. lanceolata)*, Josika's Lilac, Garland Mock Orange *(Philadelphus coronarius)*, Double-flowering Mock Orange, Large-flowering Mock Orange *(P. grandiflorus)*, Dwarf Snowball *(Viburnum plicatum)*, Graceful Deutzia *(D. gracilis)*, Double Deutzia, in several varieties; Weigela Rosea and varieties, Red Branched Dogwood, White Fringe *(Chionanthus). July Flowering.*—Alder-leaved Clethra *(C. alnifolia)*, Billiard's Spiræa *(S. Billiardi)*, Fortune's White Spiræa *(S. callosa alba)*, Fortune's Spiræa *(S. callosa)*, Japanese Spiræa *(S. species Japonica)*, Oak-leaved Hydrangea *(H. quercifolia). Flowering in August and later.*—Altheas, Double and Single *(Hibiscus)*, Large-panicled Hydrangea, Purple Fringe *(Rhus cotinus). Variously Attractive.*—Moneywort-leaved Coteneaster, handsome fruit; Prunus Pissardi, beautiful dark red foliage, all seasons; Purple-leaved Berberry, violet purple foliage; Variegated Cornelian Cherry, handsome white-blotched foliage; Silver-leaved Corchorus, white-edged foliage; Holly-leaved Mahonia, evergreen; Box, in varieties, evergreen.—Popular Gardening.

TULIPS.

WE have endeavored for years to make the growing of tulips more popular, by showing how easily they can be grown, and at the same time not sacrifice any room, which is a great object in small gardens. But what is more important still, to have by their assistance a constant display of bloom from April until November.

When the time for planting arrives, which should not be later than the middle of September, if we are to expect the best results, the flower garden is a mass of bloom which we do not wish to disturb to make room for the tulip, consequently they do not get planted. The general impression is that they should be planted annually, which is an error of judgment at the expense of a loss of flowers in May that cannot be afforded and which need not be.

One September we had sent us a thousand bulbs of the late flowering or show tulips, for which we immediately made room. We planted them in rows lengthways of a bed fifty feet long, placing the bulbs six inches apart in the rows which were eight inches apart; but between every third row we left a space of fourteen inches. When planted we had twelve rows of tulips with three broad spaces between. There were filled with petunias that had been grown in pots, and very soon after the tulips were out of the way the petunias completely covered the ground, and a more showy mass cannot be imagined. This not only utilized the space but it shaded the ground so perfectly that the bulbs were not injured by the summer's heat. After the frost had completed its work of destruction, the bed was cleared and covered to the depth of four inches with coarse litter from the stable This was raked off early in April, by which time the tulips were well above ground, and now, where we planted a single bulb we have a clump of from four to eight flowering bulbs. So rapid has been the increase with this treatment that we shall take up the bulbs soon after flowering and prepare a similar bed for them again in autumn, which will require to be at least eight times the size of the present one.

Our early tulips, planted in the same manner, are a mass of flowers, and do not show the least sign of neglect.

It is well here to remark that while we consider the tulip to be a perfectly hardy bulb, capable of enduring any amount of freezing without injury, in our changeable climate there is, however, some danger of injury from contraction and expansion of soil caused by freezing and thawing. It is, therefore, better to protect the bulbs by a liberal mulch of coarse manure or newly fallen leaves. This not only affords protection against injury from the action of the frost, but it allows the bulbs to do much of their spring's work during the winter, which they will do if the ground is not frozen.

HYACINTHS.

In the border these come on rapidly, and soon will make a grand display. They were amply protected against freezing by a heavy mulching of coarse litter from the stables, which they must have because hyacinths are not hardy. These may be planted in the same manner as we do the tulips, and, if second size bulbs are planted, they will flower well for three years, if the bed is well covered with some annual during summer.

THE CROCUS.

If there is one early spring flower we admire more than another it is the crocus, and our admiration for this flower is in proportion to the care we give it. It is one of the many forms that fully appreciates good attention, and will amply repay all the kindness shown it. We plant these in every warm, cozy corner where the sun delights to linger, and not infrequently we have them in flower the first week in March. But if we expect this result good strong bulbs must be planted in September. Our best display is from bulbs planted three years ago, and from that time frost has not touched them. Not so, however, with the flowers, as they have been so hard frozen several times that they were as hard as ice and as brittle to the touch. But the moment the sun came out the frost departed, leaving the flowers uninjured. We put these in clumps, the bulbs four inches apart each way, and they completely fill the spaces that were between them. We shall let these remain at least another season and as long as they do well, then separate and plant out anew.

SCILLAS AND SNOWDROPS.

These should be planted in alternate rows, or in mixed clumps a foot or more in diameter. As an edging, or for filling small beds, if planted sufficiently thick the effect is matchless. The azure blue of the one contrasts beautifully with the pure white of the other. These can remain for years without removal and seemingly do better the closer they grow. Both remain long in flower, coming the first in spring and remaining until the tulip and hyacinth overshadow them.

THE ANEMONE AND RANUNCULUS.

These were not born for our climate, as they come into flower during winter or early spring. But with little trouble they can be grown in frames and amply repay the labor they cost. As the tubers are easily kept, it is best to plant them about the first of February in a frame where they can be protected, both against frost and sun. In their native element they flower during the rainy season, when there is but little sun or heat, producing a mass of very gorgeous flowers. A frame filled with these flowers in April has no peer in the garden.

CROWN IMPERIAL.

Fritillaria Imperialis is an object to be admired. There is nothing particularly striking in the flower, but its arrangement in clusters on the top of the naked stalk about a mass of clean luxuriant leaves, makes it an object of beauty. While it is not a hardy bulb, when growth commences in spring it seems to defy frost and forces its way through frozen ground. It is pleasing to watch its growth, we see the heads an inch in diameter, coming through the ground one morning, and the next they are fast frozen in, but the moment the ground softens they push themselves forward and are in blossom while yet the ground freezes. Ours were in full flower, (April 15) while during the week previous ice to the thickness of half an inch formed near them.

These we planted early in September, as should always be the case if they are to succeed, as the bulbs are so tender they suffer if long out of ground. Every bulb and plant has its marked peculiarity. This in having a hole through the entire length of the bulb, when it gets to be of flowering size. In buying the bulb, select only such as have a hole through them, as none others will flower. Protect against frost during winter and the bulbs need not be disturbed for a number of years.—American Gardening.

AUTUMN AND WINTER NOTES FOR THE AMATEUR.

THE beautiful autumn tints that so recently appeared on tree and shrub, shedding a glowing radiance of crimson and gold over the surrounding landscape but which now have almost disappeared leaving little but blackened foliage or bare leafless stems to remind us of their past beauty, were only the last brilliant tokens of summer sent to warn us of the approach of the keen nipping frosts and winds of winter; compelling lovers of floriculture to ascertain if they have made due preparation for brightening up their windows with plants and flowers during the dreary days that intervene before the approach of spring, as well as making provision for beautifying the lawn and flower garden for coming summer. Possibly a few remarks relative to these matters may be acceptable, and I trust instructive, to the readers of THE HORTICULTURIST.

It is expected that ere now (November) all tender plants are in their winter quarters, and will require careful attention as to watering, keeping safe from frost, and free from the various insect pests that infest and injure them; such as scale, aphis or green fly, thrip, mealy bug, and last, and possibly least so far as size is concerned, but by no means the least destructive, the pernicious little insect generally known as red spider, but which entomologists tell us is not really a spider. It suffices, however, to know that it causes sad havoc amongst our plants, very few being entirely free from its voracious and subtle attacks, the dry warm atmosphere, generally prevailing in our dwelling houses, being a perfect atmospheric paradise for these tiny little pests. Its presence is soon made apparent by the brown or rusty appearance of the under side of the leaves; lantanas, fuchsias, roses, and carnations being special favorities for its attacks. The last named plant when attacked presents a sickly looking whitened appearance and the three others mentioned commence dropping their leaves and if not attended to quickly will soon be devoid of foliage altogether. The tiny pests can not be seen at their work of destruction with the naked eye, but with the aid of a small microscope they are easily seen by examining the under side of the leaves of the plants attacked.

The best preventive of their attacks is to induce as moist an atmosphere as possible around the plants by syringing, especially on the under side of the leaves, with tepid water. Small rubber sprinklers can be purchased at most florists or seed stores which answer the purpose splendidly for house plants. In greenhouses the hot water or steam pipes may be sprinkled, the vapor so raised making their stay on the plants uncomfortable and less harmful; sprinkling the floor of the greenhouse frequently will help to keep them down. Several other good remedies have been published from time to time in THE HORTICULTURIST which it is needless for me to repeat.

Scale can be kept down by sponging the plant with a wash made from whale-oil soap, one ounce of the soap dissolved in a gallon of hot water, allowed to cool, and applied as often as required. This will generally be effective. I prefer moderate applications frequently applied, rather than severe applications,

as whale-oil soap is injurious if carelessly used. The plants should be rinsed or syringed with clear tepid water after the operation, to remove all traces of the soap

For the small green or black fly, thrip or similar pests, the easiest applied and most effective remedy is tobacco water, made by placing a handful of raw tobacco, or tobacco stems in a pail and filling the pail up with boiling water. After being allowed to cool, the liquid can be strained off into bottles or jars, and when required can be diluted with equal quantities of water. It can be applied with a small brush or rubber sprinkler and will generally destroy these pests; fumigation by burning tobacco stems that have been dampened or evaporation from tobacco stems are really the most effective remedies, but neither of these methods are so readily adaptable for house plants Mealy bug is not so destructive to plants as the insects before mentioned, but, if not kept under check, gives the planta very dirty appearance. Constant syringing and picking out the bugs with a small sharp pointed stick and destroying them is the best method to get rid of these floury dusty looking visitors.

Information is often asked as to watering growing plants in winter. It is not easy to give advice on this matter, to meet the requirement of each and every plant, but a few general remarks on this important subject may perhaps be useful. It is best to water your plants early in the day, with water about the same temperature as the room where the plants are growing, giving sufficient water to well moisten all the soil in the pot, and watering only when required which can only be ascertained by close observation. Always water or syringe your plants on fine warm days if possible.

Should any of your favorites unfortunately get touched with frost, the best plan to save them, is to at once remove them from near the window or glass, and place them on the floor of the room and cover closely with sheets or table cloths to effectually exclude light and air without allowing the cover to touch them, and raise the temperature of the room gradually. The covering must be kept on for several hours, and the plants gradually introduced to the light and heat, when if not too badly frozen, they will revive. I prefer the above plan to the cold water cure sometimes recommended, being far easier than the latter method.

Hydrangeas, oleanders, clivias, agaves, fuchsias, crinums, agapanthus and similar plants require very little attention in winter, and can be stowed away under the greenhouse bench, or in a basement or cellar, providing the temperature is a few degrees above freezing, 40° to 45° suiting them very well, as they require to be kept in a dormant or semi-dormant state until early in the spring, when they can be brought out into more light and a higher temperature, watered more frequently and grown on for summer flowering. They require very little if any water during the winter months. I have often wondered that the several varieties of the Agapanthus or African lily are not more extensively grown and used on lawns for summer decoration, as they succeed admirably in large pots or tubs, their long, arching, glossy green leaves and large showy umbels of blue or white flowers, borne on stout stems well above the foliage, making them very attractive. Their flowering period extends over several weeks, usually at a time when flowers are scarce, the blue flowering varieties being probably the most showy and remunerative. A shaded position with plenty of water and perhaps a little weak

liquid manure, meets their requirements in summer. They can be kept in a semi-dormant condition during the winter as before described.

Winter flowering plants such as freesias, cyclamens, winter flowering begonias, primulas, Callas, Bermuda and other kinds of lilies should be well started into growth by this time. The Bermuda or Easter lily often suffers from attacks of aphis or green fly which appear chiefly at the top of the plants just as the buds are showing, or perhaps earlier. Tobacco water or tobacco dust are the best remedies. A little dust from tobacco stems sprinkled on the plants where affected, will generally destroy the insects without injury to the plant and can be washed off before the plants are in flower.

Holland or Dutch bulbs should soon be ready to take from the cool, dark positions they have been started in Roman hyacinths especially should be showing good growth and may be brought into the house at intervals so as to have succession of them in bloom from Xmas, and even as late as Easter, their beautiful waxy white spikes of flowers being particularly suited for Easter decoration. The different varieties of hyacinths, including the pink and blue Romans which are very similar in habit to the Dutch varieties, as well as narcissus, tulips, crocus, etc., require to be well rooted in their pots before growing them on to flower. A cold frame or the sides only of a box of the required size, and about ten or twelve inches deep, is a splendid place in which to start the bulbs. Pot the bulbs in good loamy potting soil and water thoroughly, place the frame or box outside in the garden, dig out a sufficient quantity of the soil inside the box, so that the pots when set in will be about level with the surface of the ground; cover the pots with about an inch of sandy soil and spread over this some straw or long manure, sufficient to prevent frost from penetrating. A few boards over the top of the box to keep out the snow is advisable. The pots will require no more water until they are taken from the frame, which will be in three or four weeks from the time they were potted. They can be left as long as desired if kept from severe frosts and brought in as required, when water must be given them freely whilst growing. A cool dark cellar, shed, or room, will answer as well as a frame for starting bulbs in.

Dahlias, Cannas, Caladium esculentum, etc., ought now to be indoors, packed in sand away from frost. The last named bulb keeps best packed in dry sand in a warm room with a temperature never below 45°; dahlias and cannas can be kept in a warm cellar or root house free from frost. The latter also keeps well laid under the benches of a greenhouse, and can be brought out in April or May, potted and grown on for planting out in the beds in June. By this method the plants are in good condition when planted out, and at once make a display without having to wait for several weeks, as one often does if they are planted out direct from their winter quarters. It is best to stand them outside in a sheltered position for a few days before planting them out.

For geranium plants that have already done good service in beds or borders, and which are often allowed to remain and freeze, some favorite oftentimes being lost entirely, as the cuttings that have been taken from it may fail to root. Possibly a few words as to the method I have successfuly followed for years in keeping old plants over winter, may be acceptable to our readers.

I have often seen geranium plants,

FIG. 1691.—GERANIUM CUT BACK IN THE FALL.

special favorites particularly, dug up from the beds in their full vigor, potted with great care, with foliage and flowers complete; the result being, if they grow and survive the winter at all, that only tall, lanky, almost leafless specimens are secured, and which by bedding out time in May or June are such miserable looking objects that one feels tempted to throw them on the rubbish pile rather than plant them near nicely grown plants. The method I follow is to procure a flat wooden box without a cover, of the size required, and about three inches deep, with a few small holes bored through the bottom to secure drainage, dig the plants up from the beds before frost, and prune the tops back severely. The large roots also may be cut back, leaving all of the small fibry roots possible. The accompanying small photo of a plant cut back, ready to plant in the box, will give a good idea how to perform this operation. Place the plants rather deep and close together in the box without crowding too closely, filling the box nearly to the top as you proceed with fine sand. Rinse sand from a stone road will answer, but lake or river sand is preferable. The plants should be a little deeper in the sand than they were in the soil in the garden. Water the plants once thoroughly, place the box near the window in a warm place, and water only when the sand shows signs of dryness, avoiding keeping the roots too wet. After the plants have started growth well, remove the box to a rather cool position near the window so as to avoid a rapid, sappy growth. The plants can remain in the box undisturbed until spring, except to pick out any decayed or too crowded foliage, when they can be taken out and potted singly into ordinary potting soil and grown on for use in beds or borders; they will produce nice stocky, dwarf plants that will reward their owner with a wealth of flowers that cannot be obtained from young plants, and will amply repay for the time and attention given them. A box twelve inches square of the depth mentioned will hold a dozen or more ordinary sized plants easily.

FIG. 1692.—SLIP.

Cuttings of geraniums taken in August or early in September can be grown in a similar way to that recommended for the old plants except that a box two inches deep will be better for them than a deeper one. Cutting prepared ready to plant is shown in the photograph.

W. HUNT.

Hamilton.

THE PEACH-LEAFED BELLFLOWER.

FIG. 1693.—PEACH-LEAFED BELLFLOWER.

THE Peach-leaved Bellflower, *Campanula persicifolia*, whether grown in the garden or window. There are two colors, white and blue, and they may be had in either the single or double form. The former is generally considered the more graceful of the two, and a plant in full bloom, as represented in the engraving, is a source of great admiration. The seeds should be sown in the spring, and the plants set out where they are to bloom, as soon as they are large enough to bear transplanting. They will then become well established the first season, will endure the winter safely, and make a fine display the second year. In a severe climate protect with evergreen boughs when cold weather comes.—Parks' Floral Guide.

ROSES FOR BEGINNERS,

SIR,—I would like to remind my critics of the gilt-edged list of roses that I was asked to give, that they are overlooking three very significant considerations: (1) that I was restricted to one dozen varieties; (2) that they were to be really hardy; (3) that they must be fragrant.

One thing to avoid in recommending the cultivation of the rose is, discouragements to the beginner. With that aim as a primary object, I would never advise more than a dozen varieties to begin with. Nor would I ever encourage the new beginner to start out with such doubtful varieties as Margaret Dickson, Perle des Blanches, Merveille de Lyons, and a number of others given by one of your correspondents. These are well enough for faddists or enthusiasts, but they are not calculated to bring much encouragement or enthusiasm to new beginners.

But this rose question is now threshed out; for after all one may say it is still a matter of experience; and each year brings its own experiences; and with the same individual the favorites of one year may not be the favorites of the next. Observing a few general principles, each rose grower will be guided in his choice of varieties by his own experience.

T. H. RACE.

Mitchell.

Our Affiliated Societies.

GRIMSBY.—The exhibition by the Society in the Town Hall, Thursday, 21st Sept., was one of the best that it has ever given. The new departure in showing fruits and vegetables in addition to flowers and plants, proved a decided success and will be carried out in the future, as it was found that it created a much wider interest in the annual display; and it is not to be wondered at, as everyone here is interested in the production of fruit—and probably the finest fruit grown in Canada is produced in this district. The exhibit of fruit proved so good, that it was decided to send the whole exhibit to Guelph, to be prepared for the Paris Exposition, as the Grimsby Horticultural Society's contribution. Parties who had seen the fruit at the Toronto show, said that there was nothing there to beat our exhibition here. A striking feature at the show was an exhibit of fruits prepared for exhibition in England by Linus Woolverton, who kindly lent the exhibit for the occasion. Very few vegetables were shown, but they were of the best. The show of flowers was large and varied, proving that the influence of the Society is being felt. Messrs. Cole and Terryberry were the largest exhibitors of flowers and plants.

The Grimsby Band turned out in full force and did their part in contributing to the interest of the occasion.

E. H. READ, *Secretary.*

NAPANEE.—The annual flower carnival of the Napanee Horticultural Society has now become quite the event of the year, looked forward to with pleasure, and patronized freely by the citizens. The turn-out on Thursday evening, the 21st September, was the largest in the Society's history, repaying well the arduous work devolving on the members in decorating the large building and in the arrangement of plants and flowers. The ceiling was hung with gay bunting and lanterns, and the walls with much bunting and numerous English and American flags. Evergreen trees were placed against the walls, and the whole building illuminated with electric lights, transforming it into a bower of beauty.

Down the centre the tables were arranged, holding alternately plants and cut flowers. Some beautiful specimens were shown of asters, dahlias and gladioli. Many beautiful and rare foliages were exhibited. The chief attraction in the building was perhaps the floral suspension bridge, designed, built and pushed to successful completion under the direction of Mr. W. S. Herrington. The design, along the west side of the building, represented a suspension bridge over a river, showing boats sailing, and a panorama of country on which could be seen roads, houses, flower beds, camps, swan pond, cattle, the farmer in his democrat travelling along, hammock, rustic seats, avenues, trees, etc. The contour of country was first built of sand and covered with moss. The contrast of the greens with the bright flowers of the bridge was very beautiful. The whole work was a great success and admired by all.

The Klondyke scene, showing the mouth of the shaft, with the bucket, was another striking success. The color scheme in this design was charming, reflecting the greatest credit to the ladies who had the work in hand.

The spinning wheel, with all its parts gaily decorated with flowers, was another great attraction, and was continually surrounded by people watching the lady in charge, dressed in the garb of the olden days, go through her patient work.

The management were greatly disappointed over the non-appearance of the "Harpers." This talented company had been engaged at Toronto, and were expected to take part in the Kingston show, but for some unaccountable reason they failed to make connections. There was no dearth of music, however. A number of Napanee's accomplished musicians were present and gave instrumental solos and duets on a piano from Mr. W. A. Rockwell's warerooms. Among those who thus favored the audience were Mrs. O. L. Herring, Miss Lineau, Miss O'Brien (gold medalist of the Toronto Conservatory of Music), Miss Ward, Miss Georgie Herring and Miss Edith Dafoe.

The architect and builder of the suspension bridge was ably assisted by Mrs. J. A. Shibley, Mrs. W. S. Herrington, Mrs. George Napier (Montreal), Miss Harshaw, Miss Stephanie Harshaw, Miss Templeton and Miss Lake.

Those responsible for the creation of the Klondyke were Miss Harshaw, Miss Templeton, Mrs. J. A. Shibley and Mr. George Perry.

The spinning wheel was the work of Mrs. W. H. Boyle and Mrs. James Harmer.

After the carnival was over the cut flowers were distributed among the churches, and the sick around town were remembered with choice bouquets.

THE WINDSOR HORT. SOCIETY issued a fine prize list for their exhibition, in the Curling Rink, Oct. 11 and 12, 1899. The following is a copy of the rules governing exhibitors:—

Entries must be made to the Secretary upon printed forms furnished, not later than the 7th October.

Forms may be obtained from the Secretary.

All exhibits to be placed, and during the exhibition cared for, by a Committee of the Society; and must be in the building not later than ten o'clock on the morning of the 11th of October.

No plants, fruit or flowers can be removed from the building until the close of the Exhibition, without the consent of the Committee of arrangements; but cut flowers injured from any cause may be replaced by others of the same kind.

Exhibitors may attach their names to exhibits only after the judging shall have been completed.

Pot plants of exhibitors will be collected and delivered by vans engaged for the purpose by the Society, but the Society will not be responsible for injury to such plants from weather or other causes during such transportation.

A disinterested professional Florist will be engaged to judge the plants and flowers, and an experienced Pomologist to judge fruit.

All exhibits must be the growth of exhibitors within the county, and correctly labelled.

SALE OF PLANTS, FRUIT, ETC.—At 8 o'clock on the evening of the 12th October a sale of pot plants and fruit will be held under the direction of the officers of the Society; and exhibitors wishing to dispose of surplus stock will be afforded an opportunity of doing so.

Instead of money premiums, a handsome lithographed Certificate will be issued, which the directors have been assured will prove much more acceptable to exhibitors than cash, as it may be preserved indefinitely.

PORT HOPE.—A short time ago, the directors of the Port Hope Horticultural Society met in the Secretary's office. Among other business, the question of plant distribution was discussed.

The feeling of the meeting was decidedly in favor of the present system of premium distribution as being "the greatest good to the greatest number." I am afraid that it would be a hard blow to the HORTICULTURIST, if the suggestion of one of your contributors in August Number was adopted—viz., the offering of a prize for the best essay on "shrubs, etc," This would result in concentrating the amount (which is at present equally divided among the subscribers) in the hands of a few who have had the privilege of a good education, while the bulk of those, equally entitled, could not possibly enter into competition. I am quite sure that your correspondent is desirous of furthering the interest of horticulture, but I have no doubt, that after careful consideration, he will find that his suggestion will not meet with the approval of those who are now enjoying the present system of distribution.

J. C. JACKSON *(acting Secretary.)*

PEACH CULTURE.

A WELL drained, naturally dry soil is best. Thorough drainage is necessary; peach trees will not grow with their feet wet. We have been growing peaches of the Persian family; also varieties from South China. Another type from North China, which we are just getting acquainted with, seems to be more hardy than the Persians. The most notable among the North China peaches is the Elberta. The Early Rivers is one of the hardiest peaches. Some think that Mr. Rivers really had a seedling of a North China peach without knowing it. The Crawford will thrive better on a clayey soil than on a sandy loam. The best soil, all things considered, is a light, sandy loam.

The peach industry tends to increase the value of land. Let ordinary farm land be developed into a peach orchard, and all the land in that vicinity will immediately command $200 or $300 an acre.

The land about the average home is rich in nitrogenous matter, and peach trees planted in this soil will make rapid growth and produce splendidly for one or two crops. But such rapid growth makes soft wood, and the trees will soon die. If we want our trees to live long and be happy we must not give them too much nitrogen. I would prefer poor soil to a very fertile one, and would feed it, but would avoid stable manure. Fertilizers rich in phosphate acid and potash give ripe, hardy wood, and may be used freely. Potash adds to the color and quality of the peach.—Rept. Mass. Hort. Soc.

The Canadian Horticulturist

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, 5,000 copies per month.

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 arrearages 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 CHARLTON GRAPE.—We have received to-day (September 27th) three bunches of the new Charlton grape. Messrs. John Charlton & Sons, of Rochester, the introducers, say, "We send you a sample of our new grape which we allow to speak for itself"; and certainly if the vine is healthy and productive the qualities of the fruit are such as to ensure it a place among our very best varieties. A cross between Mills (Muscat Hamburg x Creveling) and Brighton, (Concord x Diana) two varieties themselves possessing most excellent qualities, we would expect nothing less than a first-class hybrid. The bunch is large, about five and a half inches in length, shouldered and very compact. The berry is large, skin tough, light red turning dark maroon and almost black at maturity. Covered with a thin lilac bloom; flesh meaty, tender, pulp breaks up readily from seeds, flavor sweet, fairly juicy, sprightly, aromatic, very pleasant.

CORRECTION. — Height of Japanese pine (p. 383) should be two feet and its age 52 years; and instead of Douglas spruce having two companion trees it has only one.

MR. C. W. HARTMAN, of Clarksburg, sends us a freak of nature in two samples of a plum, one yellow and one dark red, grown on the same graft. The specimens seem to be the same in every other respect except color.

THE SOUTHERN FAIR at Brantford has been a decided success this year financially, the receipts being about $3000.

THE CHARLTON GRAPE has been awarded the Wilder medal at the recent meeting of the American Pomological Society. Chairman F. M. Hexamer of the native fruit committee of the American Pomological Society, reported as follows on the Charlton grape at the Philadelphia meeting of the society: "A cross between the Brighton and Mills, raised by John Charlton, Rochester, N.Y. The original vine has fruited the last six years, and its fruit seems to increase each season. The berries are globular in shape, and medium to large in size, moderately compact, and sometimes shouldered; color red, similar to Catawba, quality best, flesh tender and melting, juicy, sweet and vinous, separating readily from the seeds of which there are but few. Skin thin, but firm enough to ensure good keeping and shipping quality. Season early, showing color before Concord, but the fruit is in eating condition before it is fully colored. The vine is a strong, healthy grower and prolific bearer."

TEN THOUSAND ACRES OF LAND of Manitou Island, Lake Michigan, was purchased by a Chicago fruit firm, with the intention of planting it to one great apple orchard. The plan has been abandoned, owing probably to the decline of apple values, and the property will be converted into a summer resort.

THE NATIONAL APPLE SHIPPERS ASSOCIATION complains loudly against the custom in the large English markets of allowing the buyer to return fruit once bought in the auction room. It seems the purchaser has thirty hours after the sale in which to accept or reject his purchase, and very often goods are returned for some show of a reason that they are not as represented and such goods must of course be then sold at a sacrifice. The calculation is that the sale in the auction should be final, as is customary in other lines.

THE WINTER MEETING of the Ontario Fruit Growers' Association is to be held in the Music Hall at Whitby, Ont., on Tuesday and Wednesday, the 5th and 6th of December. Prof. J. W. Robertson will speak on "*The Commerce in Large Fruits*," a most important topic for Ontario Fruit Growers to consider at the present time.

All the prominent fruit men are expected to be present. Representatives will be on hand from the Central Experimental Farm and from the O.A.C., Guelph.

Mr. A. W. Campbell, of the Dept. of Agriculture, will give an address on Good Roads and Cold Storage for Fruit Growers. Mr. E. C. Beman, one of the best pear growers in Ontario, will speak on Varieties of Pears for the Home Markets Mr. Lick, Mr. J. E. Farewell, Q. C., Dr. Waugh, and Dr. Hare will give address. Music will be furnished by the Ontario Ladies' College. These are but a few of the good things before us. We hope for a large and enthusiastic meeting.

THE AMERICAN PARK AND OUT DOOR ASSOCIATION will hold a meeting of its officers and of others interested in its work at Chicago, on the 4th of Nov. The Secretary, Mr. W. H. Manning, may be addressed at the Auditorium, Annex Hotel, during and before the meeting.

This Association is an important one and should have the encouragement and support of all those interested in landscape improvements.

FORMATION OF NEW LOCAL SOCIETIES.—This is the month to consider

the formation of new Horticultural Societies. Mr. Thos. Beall, of Lindsay, one of our directors, is to be sent out by our Association to assist in forming local Societies, wherever his services are required

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MONTHLY MEETINGS of our Affiliated Societies should begin at once and be continued throughout the winter. One paper read and fully discussed, a few flowers on the table for comparison and a little music, will make a delightful evening. The Hamilton Society meets the first Monday evening in each month.

ROSES, CHOICE OF VARIETIES AND WINTER CARE, is the subject of an interesting article by Mr. J. C. Jackson, acting Secretary of the Port Hope Horticultural Society, which will appear in our November number.

THE HAMBURG APPLE MARKET seems to be a good one for fancy colored varieties, which are quoted at $7 a barrel. Ordinary stock would not be worth the freight.

THE ANNUAL MEETING OF THE ONTARIO FRUIT GROWERS' ASSOCIATION will be held in Whitby, Ont., Tuesday and Wednesday, 5th and 6th of December, "The Commerce in Large Fruits," will be the subject of Prof. J. W. Robertson's address, and "Beautifying Country Homes," will be treated by Prof. Hutt. The best talent in the country will be present and the programme will be spicy. Everybody welcome. Copies of the programme, which is now being prepared, may be had on application to the Secretary, L. WOOLVERTON, Grimsby, Ont.

Question Drawer.

Canadian Apple Barrel.

1117. SIR,—Would you please give us through the Journal the size of the legal Canadian apple barrel?

A SUBSCRIBER.

The following is taken from an advance copy of the amendment to the Weights and Measures Act, which has since become law.

2. On and after the first day of July, one thousand nine hundred, section 18 of the *The Weights and Measures Act* shall be repealed and the following shall be substituted therefor :—

18. All apples packed in Canada for sale by the barrel shall be packed either in cylindrical veneer barrels having an inside diameter of eighteen inches and one-third, and twenty-seven inches from head to head inside measure, or in good and strong barrels of seasoned wood twenty-seven inches between the heads, inside measure, and having a head diameter of seventeen inches and a middle diameter of nineteen inches, and such last-named barrels shall be sufficiently hooped, with a lining hoop within the chimes, the whole well secured with nails

"2. Every person who offers or exposes for sale, or who packs for exportation, apples by the barrel, otherwise than in accordance with the foregoing provisions of this section, shall be liable to a penalty of twenty-five cents for each barrel of apples so offered or exposed for sale or packed"

Cutting Back the Clematis.

1118. SIR,—Should Clematis Jackmanni be cut back to root, that is each season's growth taken off, so that the next year's growth will be entirely new?

W. S. G. WALKERTON.

The treatment should vary with different varieties of clematis. Some varieties die back sufficiently, as for example, those of the Lanuginosa type: but with a strong grower like Jackmanni it is quite safe to remove the whole top and cause the growth to break forth fresh from the crown. If, however, even this variety is needed to cover some bare trellis pole, or old tree trunk, time in spring is lost by cutting back, for it cannot so clothe the bare wood with verdure.

Open Letters.

Notes from St. Joseph's Island.

SIR,—I thought perhaps it might be interesting to you to know just how our fruit trees came through a winter here in Algoma, when the thermometer got down to 44 below zero. We know that in Manitoba that degree of frost means not only no fruit, but no fruit trees, with perhaps the exception of that one tree that appeared in a late number of the HORTICULTURIST. Without attempting any explanation, it is a fact that we experienced that degree of cold, and that the loss by trees being killed to the ground would not exceed one per cent. among apples, and ten per cent. in pears. I saw a statement in an American paper the other day, that Japan plums would not stand more than 15 to 20 below zero. without being killed root and branch; but this summer I have examined several trees of Abundance, and cannot see that they have sustained the slightest injury, one tree in particular with a north and west exposure clear through to Lake Superior, although like other trees in the small orchard —leaning away from the cold—was making good growth. Of course, we had little fruit on cherries or plums; the trees bloomed, but the fruit never set, owing, I think, more to the long continued rain when the trees were in bloom in the spring In my own orchard, the only tree that I can say sustained any injury from the cold, was a Yellow Spanish cherry, part of last year's growth being killed and all the fruit buds.

We have had considerable rain during the summer, which perhaps will account for our apples being not so highly colored as usual, still the specimens to be seen at the different Fall shows would be hard to beat even in your highly favored district for anything except size. Fall apples were good, trees of Duchess and Wealthy had in most instances to be propped up as usual. Of long keeping winter apples we have a poor crop, in fact we are yet looking for a long keeper. Scotts Winter is perhaps the best so far, but is too small and too much of the cast metal order. Give us something better if you can.

Our summer boarders, the Forest tent caterpillars, have come and gone. Next year we will have few or none, at least they themselves have made no arrangements for next summer. A neighbor of mine says they ate off every green leaf before they were full grown, and died of starvation before they could spin their cocoons.

I believe their visit has done us some good. You see it is hard for a man who makes the growing of fruit a kind of side show, to understand the first injunction on your spraying calendar, spray before the buds open, but when he sees the young caterpillars, he sees an urgent necessity for killing them quick.

CHAS. YOUNG

Richard's Landing, Ont.

Japan Plums.

SIR,—In your October issue I note the letter of S. Speedweil under the heading of "Japan Plums in Simcoe County;" now "Simcoe" is a very large county, and there may be doubtless some favored portions of it where the Abundance plum tree will do well and bear fruit; but it is not anywhere about this locality. It would add much interest to Mr. Speedwell's letter to know from what section of the county he writes, say his nearest post office, I have twice procured Abundance and other Japanese plum trees and given them the best of care; at most they lingered for three or four years, blossomed once or twice and then died without ever having yielded any fruit.

C. L. STEPHENS.

Orillia.

The Church and Horticulture.

SIR,—Will you permit me to say to the readers of THE HORTICULTURIST that I am not responsible for the errors abounding in my contribution to the October number. Apart from the use made of that article, the clauses omitted from it and the errors left in it, the October number is an exceptionally fine number.

T. H. RACE.

Mitchell, Oct. 9.

At Covent Garden Market the first arrival of Canadian apples and pears were sold on Wednesday (yesterday) by Messrs. W. N. White & Co. (Limited). The Howell pears made 5s. 3d. to 5s. 9d. per case, and Bartletts from 2s. 6d. to 7s. 6d. Messrs. Elder, Dempster & Co., are dealing with these Canadian supplies at Bristol, and the North of England Fruit Brokers (Limited) at Manchester.—Fruit Grower, Sept. 21st.

The Markets.

Apple Reports.

MESSRS. JAMES ADAM, SON & Co., Liverpool, write :—

Although still very early, the shipping season may be said to have commenced in earnest, a fair quantity, mostly from New York, having already come to hand, as will be seen from the figures given below. Whether results have given satisfaction, however, is more than we can say, as owing to the more or less faulty condition of the fruit prices obtained have been very irregular, defective barrels making from 7/ to 15/. and tight up to 23/ per barrel. In many instances the stock was very tender, and ought never to have been shipped, especially at a time when English-grown fruit is available; indeed, considering this, we have been surprised that such high prices were paid for the better samples of American, and are consequently inclined to take a favourable view of the out-look for winter stock. So far, of course, it has been impossible to form any opinion as to what the quality is likely to be, but we hope, as reports indicate, it will be good, and that shippers will exercise every possible care in the selection of fruit for export, and keep back anything not likely to carry in good condition.

MESSRS. DICKHOTH & SOHN, Hamburg, write :—

In regard to the prospects for the sale of apples from your side in our market, we can only confirm what we said in our last circular, that is for table apples we shall have entirely to depend upon shipments from your country, and we can strongly advise you, to make regular shipments of first grade best keeping winter-apples.

The Trade Bulletin, Montreal, says :—

The heavy shipments of common grades of apples in different markets of the country has had the effect of glutting most markets and of forcing prices to a much lower scale. This condition at market points has very materially changed the situation in the country. Buyers are not anxious for stock and are inclined to hold off, and farmers who have been holding out for higher prices are now offering fruit more or less freely at lower figures, $2.25 being about the top price in a general way for No. 1 stock with some very good fruit to be had at $2 per barrel. The market in this city is somewhat congested, principally with lower grades of fruit, and would propably be even more so had the growers in Jersey and Up-river points been able to have secured help to pick and send in fruit, which in lack of these has had to go to the evaporator and cider maker, or else wasted. Stock in store and in transit has ripened very rapidly, owing to the warm weather, and much fruit originally intended for export has for this reason been thrown on the market. The general range of prices here is from $1.50 to $2 per barrel, although fancy soft, table fruit commands a higher price. On good, sound fruit, well packed, there is a fairly good shipping trade and a moderately good export demand, and on this quality of stock the market is holding fairly steady.

The New York Fruit Trade Journal says:—

Apples.—About all the apples that came forward the past week for market purposes were of such quality as would not do for storage or export. The best of these met slow sale while, very poor stock was hard to move and accumulated. Prices quoted are for fair to choice stock, while undergrades were often sold as low as 50c. per barrel. The following are quotations :

King, per d-h, bbl.....	$2 00 to $2 75
Twenty Oz. d-h bbl	2 00 to 2 50
Snow, d-h. bbl.	2 00 to 2 75
Ben Davis, d-h. bbl.....	1 75 to 2 00
Fall or York Pip. d-h. bbl....	1 50 to 2 00
Baldwin, d-h. bbl.	1 50 to 2 00
Pelican, d-d. bbl	1 50 to 2 00
Smith Cider, d-h. bbl.....	1 50 to 1 75
Greening, d-h. bbl	1 25 to 1 75
Open heads, bbl	50 to 1 00
Crab apples, small, bbl.....	1 50 to 2 00

Pears.—The demand was smaller than for some time past. Even fancy Bartletts, which are very scarce, met slow sale at $2 to $3 per box. All other varieties were scarce, except Keifers which were quite plentiful with practically no demand. They were quoted at $1.50 to $2 per double-head barrel, but prices were frequently shaded as demand required.

Quinces.—Receipts of Quinces were quite liberal, but fancy stock was scarce. Demand was small at $2.50 to 3 per barrel for fancy and $1.75 to 2 25 per barrel for other grades.

Grapes.—Fancy table grapes were very scarce and wanted. Offerings were poor and hardly worth the price paid, 13 to 14c. per basket. The bulk of grapes coming on the market are for wine purposes, the frost having rendered them unfit for table use. Receipts were heavy and offerings were not all disposed of. Prices were quoted at $25 to 28 per ton for Concord ; $25 to 30 per ton for white ; $45 to 50 per ton for Delawares and $25 to 28 per ton for Catawba. At the end of the week these figures were shaded considerably.

And further regarding the grape situation :

The grape market has been sadly congested the past week. Owing to the heavy frost the early part of the month, shipments of wine grapes have been rushed very much and the market has had more of this kind of stock

than it could properly absorb, and prices show weakness with a further decline in sight. It is estimated that four-fifths of the crop on the vines at the time of the frost were destroyed as far as use for table purposes is concerned; but they are being shipped forward for wine grapes, and the growers will probably do equally as well as though they had been shipped for table grapes. This applies to the black and while varieties only. Catawba were almost a complete loss in the frosted district, as the berries had not ripened sufficiently to make wine, and were so badly frozen as to cause them to drop from the vines. Table grapes are not so plentiful, though in sufficient supply to meet the demand. Many of the larger concerns are holding their stocks of table grapes for later markets. The warm weather has been unfavorable for the keeping of grapes, being especially hard on those in transit or in cars waiting to be unloaded, and we advise lighter shipments for a while, as the only remedy against a glutted market and lower prices.

THE SCILLA SIBERICA.

FIG. 1694.—SCILLA SIBERICA.

THE Scilla Siberica is one of the loveliest of the small flowered bulbs. Its blossoms are of the purest blue, of the most exquisite shade you can imagine. They grow on slender stems and are frail and delicate in appearance.

One fall I put a lot of these little bulbs out of doors, and early in the spring they began blooming, the tiny bulbs seemed rather to outdo themselves in sending up flower stalks and the dainty, delicate blossoms were very fair to look upon.

It will pay any flower lover to invest in a few (or a good many) of these bulbs; they cost but a trifle and they make an ideal border for a bulb bed anywhere. They are much finer if set in rows of half a dozen wide or even more. The bulbs may be set closely and should not be covered too deeply. Set them perhaps three inches apart and as many inches under cover. Mulch the bed after setting, or before cold weather comes on too severely. Still they are hardy, perfectly so, but a little protection given even to the hardiest bulb, will make itself shown in the size and quality of the flowers.

The scilla makes a pretty bulb for forcing, as it blooms so early it may easily be had in blossom for the winter holidays. A dozen or more of the little bulbs may be set in a six inch pot After setting, put away in the dark to root, for some six weeks. then bring to the light and you will soon be rewarded by the shooting up of slender green stalks and the blossom stem almost at the same time. They continue in bloom for quite a length of time, and while they cannot compare with some other bulbs for size, their dainty exquisiteness may, to some, make up for such lack.—Vick's Monthly.