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The Canadian Horticulturist

DECEMBER, 1906

Volume 29, No. 12

TORONTO

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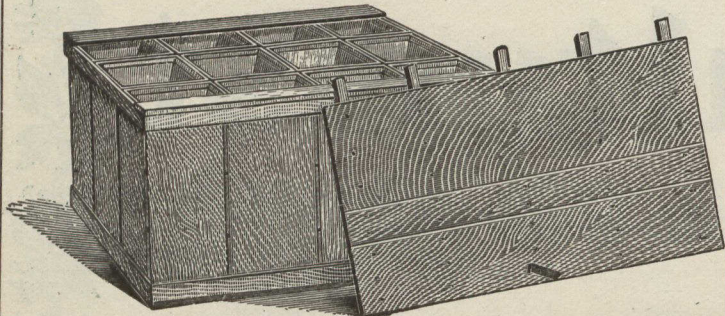
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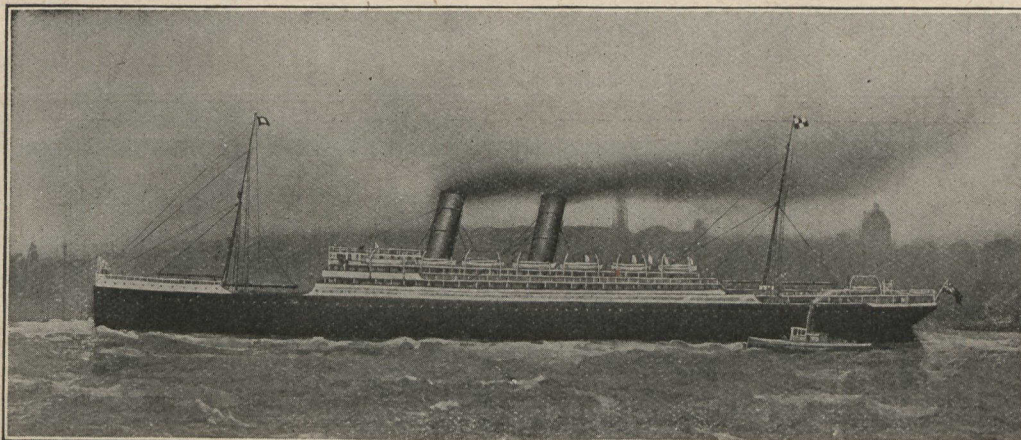
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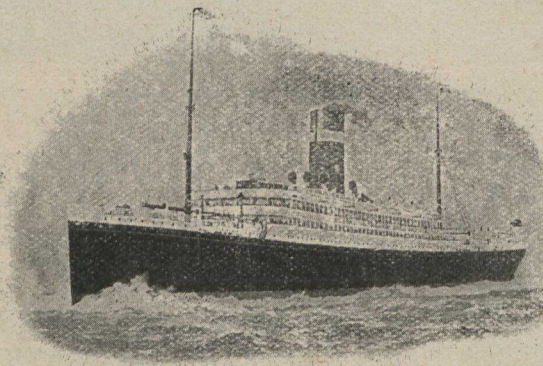
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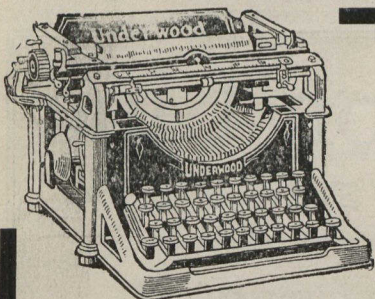
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The Canadian Horticulturist

Vol. XXIX

DECEMBER, 1906

No. 12

The Relation of Winter Apples to Hardiness of Tree*

W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa

THE search for a hardy, productive winter apple of good color and the best dessert quality is becoming an old story in the north-western states, in the north-central and eastern portions of the province of Ontario, throughout the province of Quebec, and over a large part of the province of New Brunswick. Over this immense territory the cry for many years has been for a long-keeping apple which will compare favorably, in all particulars, with the best long-keeping apples grown in the more favored parts of the American continent. Why does this search still go on? And will the desired apple ever be found? These two questions I shall attempt to answer in this short paper.

From the writer's experience with over 3,000 species and varieties of trees and shrubs, exclusive of cultivated fruits, from many countries and climates, that are under his care and observation at the Central Experimental Farm, Ottawa, I have drawn the following conclusions regarding hardiness of trees: A tree or shrub which will withstand a test winter at Ottawa must be one which ripens its wood early.

Trees or shrubs which are native to places having a longer or much longer growing season than at Ottawa, grow longer than the native species, or those from a somewhat similar climate to the native species. When a test winter comes, their wood is not sufficiently ripened, or winter-resistant, and they are more or less injured or perish.

After 17 years' observation of this large collection, which has increased to over 3,000 species and varieties, it may be said that with scarcely an exception, and these doubtful ones, no apparent increase in hardiness has taken place in individual specimens. Plants which killed to the ground 17 years ago, kill to the ground still. Those which killed to the snow line, kill to the snow line still. Those which are killed back one-half or merely a few inches at the tip do so still. Sometimes a tree will remain hardy for several years and then kill back to near the ground. It is possible that they are getting hardier very

gradually, but if so this increasing hardiness is imperceptible so far. Another observation regarding tender trees has been that after a season when the growth has been strong more injury is likely to occur than in a season when the growth is short.

Individual specimens of certain species have been found hardier than others. This has been particularly noticeable in the case of *Catalpa bignonioides* which, as a rule, kills back badly at Ottawa, but some individual trees have proven much hardier and bloom freely at Ottawa. The raising of seedlings from these tender species has not been carried on long enough to state positively, from our own experience, that hardier types will be produced in this way, but the history of such work makes us hopeful. Some favorable results have, however, already been obtained.

All Meat—No Waste

You are making THE CANADIAN HORTICULTURIST very valuable. It is all *meat*, free from bone and waste. I have pleasure and profit in reading it.—Frances Wayland Glen, Brooklyn, N. Y.

Let us now turn to the hardiness of apple trees, and we might include all other large fruits that have been tested at Ottawa. About 700 named varieties of apples have been tested. It has been found that a far larger proportion of those which originated in the eastern and south-western states are tenderer than those which originated in the north-eastern and north-western states and in Canada. The same may be said of Europe. The hardy varieties from Great Britain, France, and Germany are few compared with those from the colder parts of Russia. The exact figures have not yet been worked out, but may be before this paper is published. It may be stated safely that the hardiest apples are those which have originated in Russia. They are the hardiest survivors of the hundreds and thousands of varieties which have originated in Russia

during the past centuries, and have shown their ability to withstand the winters there as far north as latitude 55°, or further in a continental climate. In America, and especially in the colder parts of the country, the origination of varieties has been more recent, and we believe that it will be some time before such hardy kinds as Hibernial, Charlamoff, and Duchess will be obtained on this continent, although some quite hardy varieties have already been originated.

By again analyzing the list of varieties tested, we find that the season of all the hardiest varieties is summer or autumn. The winter of 1903-4 was a very severe one in Ontario, and in the orchards at the Central Experimental Farm, and 164 varieties of apples were winter-killed. An analysis of these varieties, a list of which was published in the annual report for 1904, shows that 130 of these were early winter and winter varieties, and 34 summer and autumn. This is sufficient evidence to prove that summer and autumn varieties are hardier than later keeping sorts.

Let us now consider the difference between a summer and a winter apple.

A summer apple is one that is ready for use in the summer; a winter apple is one that is not ready for use until winter. The season of the first is much shorter than the second, mainly because it reaches maturity in a hotter time of the year than the others. Duchess and Wealthy apples will keep much longer on Prince Edward Island, where the climate is cooler and development slower than they will at Ottawa. Winter apples will also keep better there than they will in those parts of Ontario where they succeed.

It has been observed frequently that apples which mature early and are in condition for eating in summer and autumn are grown on trees that ripen their wood early, and on the other hand, an apple which is not ready for use until winter is usually grown on a tree that does not ripen its wood early. This is a fact which many have observed and that is perfectly natural. The fruit of most varieties of winter apples has to be kept on the trees at Ottawa until there is

*Read before the last convention of the Quebec Pomological Society.

danger of severe frost, in order to get the apples sufficiently mature that the flavor will develop and that there will be a fair color. The wood of such trees, also, is equally slow in arriving at that stage of ripeness which will enable it to withstand the winter, as has been proven by the figures given above.

Some winter apples are hardier than others, but from our experience with a large number of varieties we are forced to conclude that unless the fruit of a variety reaches a certain stage of development or maturity every season a certain time before it has to be picked, owing to danger from severe frosts, that variety is not a safe one to plant. What that stage of maturity is we cannot at present definitely say.

In a nutshell, then, it is a physiological impossibility for the majority of

Russia. The growing and ripening season in two countries, or districts, while about the same length of time, may vary sufficiently to cause a marked difference in the season of a variety. As an example, I should like to refer again to Prince Edward Island, where there is a late spring, but where severe frost does not come until late, and to the colder parts of Ontario where the spring is early but where fall frosts are early also. In order, then, to get an apple most suited to a district or climate, and to get it of the season required, it must be originated in that climate.

The work of originating apples has been comparatively recent in the north-western states, and in the colder parts of eastern Canada, and by far the largest majority of seedling apples of merit which have been produced are summer

ancestry. In most cases in the past the ancestry of seedling varieties originated in the north has not been favorable to the production of hardy winter varieties. The importance of ancestry in the origination of a hardy winter apple is well illustrated in a number of cross-bred apples which have fruited at the Central Experimental Farm. Of a cross between Scott Winter, male, and McMahon, female, made by Prof. John Craig when horticulturist, 23 trees have fruited. None of these are earlier in season than McMahon, and 14 of them are later keeping apples. Practically all of them have some visible resemblance to the parents, and some are very similar to both parents. All withstood the test winter of 1903-4.

The basis for the production of the desired winter apple for the north should be a variety or varieties which have withstood test winters in the north, and are also the latest keepers of such varieties. It has been said already that late-keeping varieties mean late ripening of wood, hence tender trees; but such late-keeping, hardy varieties as have already been originated in the north, are of a different class. They are varieties which, although they mature or are fit for use early in the winter, yet keep all winter with good care. The fact that they are fit for use early means that the wood has ripened comparatively early, and hence is able to withstand the cold. Pomologists are well aware that certain varieties of fruits which are ready for use at the same time as other varieties will keep much longer. It is to this class that the desired winter apple for the north will belong.

The following winter varieties originated in the north stood the test winter of 1903-4 at Ottawa, and are just such apples as have been described: Canada Baldwin, originated in the province of Quebec; Winter Rose, originated in Dundas country, Ont.; Calumet, originated in Calumet Island in the Ottawa River; Baxter, originated near Brockville, Ont.; La Victoire, originated in the province of Quebec; Stone, originated in Vermont; Scott Winter, originated in Vermont; Milwaukee, originated in Wisconsin.

Other promising unnamed late-keeping seedlings, obtained from the colder parts of Canada and the United States, are growing at Ottawa. We have also crosses and seedlings of our own production which have not fruited, from which something good is expected. None of the varieties above mentioned have all the desired points, but we consider the outlook very bright for the origination of a hardy, productive, long-keeping variety of good color and best dessert quality for the north.

Eat more fruit and less meat.



Apple Tree Top Grafted with Two Varieties, on Hardy Stock

One variety winter-killed, other uninjured and requiring props to support load of fruit. It shows how a hardy stock does not increase hardness of a variety to stand a test winter. Hardy variety is Milwaukee; tender variety, Martha apple (not Martha crab).

winter apples which have yet been produced to prove hardy in the northern parts of the United States and the colder apple districts of Canada, because the trees having originated where the season is longer grow too late for our short season. Must we then conclude that the origination of a hardy winter apple for the north of good color, and the best dessert quality, is an impossibility? I believe not. Apples that will keep nearly all winter when grown in some districts are autumn apples elsewhere. Some of the hardy varieties of Russian apples which have been introduced, are found to be much earlier in season in America than they are in

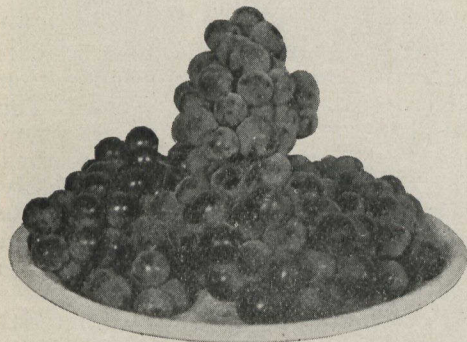
or autumn kinds. This is due to two principal causes. In the first place, because most of the seedlings have been raised from summer or autumn varieties, and we should naturally expect that most of such seedlings would be of the same season as their parents. In the second place seedlings have been raised from the best late-keeping varieties, but which are not hardy enough to stand a test winter, and the seedlings from such trees have not, as a rule, proven hardy.

I do not believe that because seedlings are raised in a climate with a short season that the largest proportion of them will prove early apples regardless of their

Home-Grown Fruits for Christmas

H. S. Peart, Ontario Agricultural College, Guelph

THE judicious selection of home-grown fruits suitable for the Christmas season is one which has received but little notice from purveyors. With the advent of Yuletide the busy housekeeper keeps a close



A Plate of Vergennes

watch for fruits suitable for the Christmas dinner, and for the production of artistic decorative effects. Tropical fruits are used extensively. Oranges, bananas and Malaga grapes seem to be the favorites. Let us pause for a moment and consider why home-grown fruits are not used more extensively. In the first place, the relatively low price of imported fruits as compared to home-grown ones at the Christmas season has had much to do with the ever-increasing use of perishable southern fruits. Secondly, native fruits are not offered by local salesmen because they have not yet learned how to handle our most delicate and high quality fruits.

What is more refreshing on Christ-



Grapes Packed for Storing

mas day than a well-matured, thoroughly ripened Anjou pear? Compare its buttery, melting properties with the insipid flesh of a green picked Ja-

maica banana, or the acid flesh of all but the very highest grade oranges, the kind reserved for those to whom money has little or no value. Everyone should have at least a basket of Anjous for Christmas day. Select well-matured specimens toward the end of October, and store them in a dark place in a cool cellar. If they do not ripen fast enough to be ready for Christmas, bring a few of them into a warmer room for a few days, and you will be surprised how quickly they will mellow and become ready for eating.

During the past few years the imports of Malaga grapes into Canada have continued to increase. This is well, from a fruit-consuming standpoint, but it is not in the best interests of either Canadian producer or con-

mixed fruit gives us a glow of color and richness that is impossible to obtain from imported fruit, most of which is yellow and entirely unattractive in appearance. For purely decorative effect, the little Lady apple may be used on our Christmas trees and over our mantles. Its rosy cheek and bright yellow skin blends remarkably well with an evergreen background.

Among the native fruits that tend to further the success of the Christmas display, we must not omit the cranberry. What turkey is complete without cranberry sauce? Thousands of acres of these piquant berries are found growing wild in Canada.

A good collection of nuts should always be provided as a supplement to



Apples and Grapes Grown at Central Experimental Farm, Ottawa

sumer. For those who have always used Malaga grapes, allow a suggestion. Order direct from a reliable grape grower a half dozen baskets of carefully selected home-grown grapes, specially packed so that no berries are broken from the stems, and packed with a sheet of paper between each layer of fruit, or what is better, each bunch carefully wrapped in Manilla paper. Boxes of choice fruit, as shown in the illustration, form a convenient method of storing. Set the baskets or boxes in a dark, cool cellar, and the fruit should compare favorably in quality with the choicest Malagas, and the cost will be less than one-half. Such varieties as Vergennes, Salem, and Lindley are the most satisfactory.

What place has our common apple for Christmas cheer? A few choice Fameuse, McIntosh, Swazie, and Northern Spys in an attractive setting of

our Christmas cheer. Of these, Canada furnishes a great variety. The English walnut, so famous on account of its rich, sweet meat, has been introduced into British Columbia, and it may be only a matter of a few years until we may be producing it in sufficient quantity that the people of the home land will be sending to us for supplies. Filberts, hazels, black walnuts, shag-bark hickories, and butternuts are found in many parts of our great Dominion. Although scarcely so easily prepared as almonds and brazils, native nuts deserve a place on the Canadian Christmas menu.

A choice collection of home-grown fruit served for Christmas cheer adds greatly to the general decorative effect of the dinner table. It will be relished by young and old, and each should feel they are enjoying the fruits of our young and promising Canada.

The Codling Moth and How to Combat It

Dr. C. J. S. Bethune, Ontario Agricultural College, Guelph

AT the last annual meeting of the Entomological Society of Ontario, held in Guelph, with Dr. Fletcher as chairman, an interesting discussion took place upon the Codling-worm, in which a number of practical entomologists took part. One of the important points brought out in connection with the life history of the insect is the fact that east and north of Toronto there is practically only one brood per annum, while west of Toronto, throughout the Niagara peninsula and the southern counties of western Ontario, the insect is double brooded. A different treatment is therefore necessary in the two sections of the province. Where there is but a single brood a sufficient remedy will be found in the spring spraying with Paris green, which should be done a few days after the blossoms fall, and before the calyx closes, and again about two weeks later. As all varieties of apples do not come into bloom or shed their blossoms on the same day, the fruit grower should be careful to note those trees that are later than others and treat them at the proper time. Subsequently all fallen fruit should be destroyed. If these measures are properly carried out at least 75 per cent. of the crop, and possibly a larger proportion, will escape injury from the insect.

About Toronto and westward the fruit grower should watch his trees and find out whether there are two broods or not. At Guelph it is found that about fifteen per cent. of the first brood complete their transformations in the summer and produce a second brood. Further north this proportion would be smaller, but to the south it would be greater and a more serious matter, involving a different treatment. If the spring spraying is properly carried out, and the fallen fruit destroyed, the second brood will not amount to very much, but if these measures are neglected or carelessly performed, the second brood will be most destructive. These second brood caterpillars enter the fruit anywhere that they can find a convenient place, for instance where two apples touch each other, or where there is any rough spot on the skin; the tiny worm seems to require some support to enable it to bite its way through the skin and penetrate the fruit. It will be necessary to maintain a close watch and to spray the trees as soon as any entrance holes are to be found. No date can be specified as the time varies with the season and the locality.

It will not do to rely upon spraying alone. The trees should also be bandaged, beginning as soon as wormy fruit falls from the trees. Bandages can be made of burlap or sacking, or any thick

material, and tied with twine around the middle, leaving the portion above and below the string somewhat loose. The object of the bandage is to provide an attractive shelter for the worms to come to when they want to form their cocoons. It is absolutely necessary to take off the bandages and kill the worms beneath them at least every 10 days, otherwise the bandages become an actual aid to the insect. Before beginning, all loose bark should be scraped off the trunk where the bandage is to be applied in order to leave no hiding place for the worms except the burlap. When the bandage is taken off all worms and cocoons should be destroyed and the bandage replaced. Most of them will be found in the burlap and can easily be crushed, others burrow into the bark and are not readily seen, but they also can be quickly destroyed with a wire brush. This is no doubt a troublesome and expensive remedy, but it will be found to pay. The second brood is by far the most injurious to the fruit, causing large quantities to fall prematurely, and rendering some of the finest apples unsaleable. The benefit may not be entirely reaped during the first season, but it surely will during subsequent years, if faithfully persevered in.

To destroy the fallen fruit, Mr. Geo. E. Fisher, of Burlington, recommended turning pigs into the orchard, and described their effective work. This may not in all cases be practicable, but it is absolutely necessary that the apples should not be left lying on the ground till the worm has had time to come out and crawl away to some convenient shelter.

The subject of parasites was introduced by Dr. Brodie, of Toronto, who read a valuable paper on the subject, and the discussion was shared in by many of those present. There is evidently no parasite in Ontario that can be relied upon to keep the insect in check, but efforts should be made to ascertain what parasites we have and to what extent they can be bred and multiplied. Dr. Brodie has been studying and experimenting upon them for years, and finds that the parasites we have are themselves kept in check by secondary parasites, and are not sufficiently abundant to effect any appreciable reduction in the numbers of the codling-worm.

Since the meeting the writer has learned from Mr. E. M. Ehrhorn, Deputy Commissioner of Horticulture for the State of California, that they have there a parasite imported from Europe, which they hope will materially aid in checking the codling-moth. They have it established in orchards, but it is too soon yet to tell definitely how far it is likely to

prove efficacious. Should the experiment prove a success, every effort should be made to introduce the parasite into this country.

Mulching Strawberries

J. C. Black, Truro, Nova Scotia

As soon as the ground is frozen hard, strawberry plants should be covered to protect them during the winter from alternate thawing and freezing. This may be done with any material at hand or the cheapest that can be procured. This may consist of straw or old hay, or evergreen boughs. The latter is the best for a small patch, but on a large field they would be expensive to gather and haul.

Be careful not to put the material, especially the straw, on too heavy. Enough to cover the green is plenty. If thrown down in bunches and not evenly spread it will smother the plants and be worse than none. There is no better covering for strawberries in winter than plenty of snow, but this cannot be depended upon in our climate.

Protection From Mice

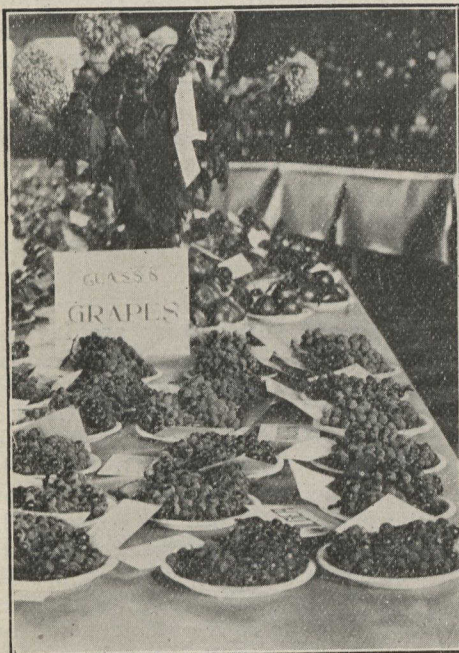
A simple but effective method of protection against mice is the use of a decoy. Mice prefer young wood. They do not relish the bark around the base of a tree, when they can get at the young limbs and twigs. These they cannot reach without the aid of man. It is well, therefore, to feed them with young bark. Prune a portion of your trees in late fall or early winter. Leave the branches on the ground, but in the middle of the space between the trees. The mice will enjoy them, and leave the trees alone. Try the experiment, and tell THE CANADIAN HORTICULTURIST the result.

There are several other methods of protecting orchard trees from the depredations of mice. In localities where the snow falls early and remains on the ground all winter, the simplest preventive is to tramp the snow firmly about the base of each tree early in the winter. In places where the snow is not continuous, a mound of earth thrown around the base of the tree in the fall is generally effective. Another method that is cheap and satisfactory is to bind the tree to a height of about one foot with building paper or veneer before snow falls.

We try to manure our bearing trees while the snow and frost is in the ground, so as to keep them back in the spring. It keeps them back about two weeks, so the late frost does not kill the blooms. I have found this practice a success.—Isaac Smith, Northumberland Co., Ont.

Propagate the Grape When Vines are Dormant

GRAPe cuttings may be taken in the fall from wood of the past season's growth. The best ones are secured



A Display of Grapes

from vines that are well matured and short jointed. The length of the cutting

is governed by the distance apart of the buds. Single bud cuttings may be used to propagate new and scarce varieties. Two or three bud lengths are used for the established sorts. Two bud lengths are desired by most growers, as more of them can be taken from a vine. Those of three buds are more clumsy to handle, but give stronger plants, as roots start from both underground joints. Mallet cuttings also may be used, but as only one can be made from a cane, and as the use of them interferes with good pruning, they are seldom adopted.

Tie the cuttings in bunches and store over winter with the butts uppermost, in sand, moss or sawdust. In spring they should be examined and, if the butts are not properly callused, they should be treated so as to hasten or complete the process. A trench should be dug in a warm spot in the garden or vineyard. In this place the bunches of cuttings with the butts uppermost. Fill the interspaces with some poor conductor of heat, such as sawdust, and cover the butts with an inch or so of warm sandy soil. This method may be practised, also, with cuttings that are not taken from the vines until late winter or early spring. In a short time, say two or three weeks, the butts will be well callused. Then, if all danger of frost is passed, the

cuttings should be taken up and planted in a nursery row, preferably in light, sandy soil.

When transplanting to permanent quarters in the vineyard, some growers prefer one-year-old vines, while other prefer those of two years' growth. The proper age to transplant depends not only upon personal preference, but also upon the strength of the plant and upon existing local conditions as effected by climate and location. Two-year-old vines are the better of the two, if they have been left in the ground until they become of age, but this is not the customary practice amongst nurserymen. The two year vines offered by nurserymen are, in most cases, nothing more than the culls of the one-year-old stock replanted and allowed to grow for another year. Growers who desire good two-year-old stock can get it by doing their own propagating as here outlined.

When transplanting grape cuttings, it is customary to set the plants every 10 or 12 feet, in rows 10 feet apart. Two seasons after transplanting, they are usually ready to be trellised. The number of posts for the trellis is governed by the distance apart of the vines—usually one post for two vines. The number of wires depends upon the method of training to be adopted.

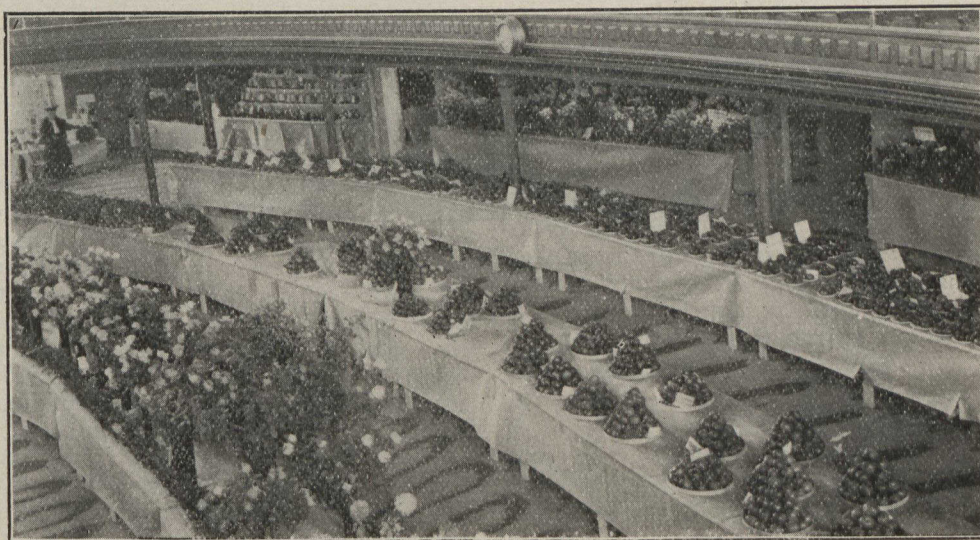
Winter Protection for Tender Fruit Trees

PROLONGED mildness in winter weather is as injurious to tender fruit trees as prolonged cold. During warm spells, the buds are induced to swell and, if not properly protected, a subsequent freezing will greatly injure, if not kill them. On the other hand, prolonged cold or severe freezing in itself is oftentimes the direct cause of winter injury. Between these two conditions of weather there is an optimum winter temperature for tender fruit trees, particularly the peach, which is one of the most susceptible to sudden changes. The optimum temperature for peaches is that condition or degree which will winter the greatest possible number of trees with the least possible loss. Unfortunately such ideal winter weather is seldom experienced in this country. It is necessary, therefore, to find some means of protection.

It is well known by those who observe that buds often burst into growth when the roots of the tree are frozen and inactive. The dark-colored twigs and buds of fruit trees, like all dark-colored objects, absorb heat rather than reflect it. For this reason, tender fruit trees are

in danger of injury during mild winters. In the Niagara district the past winter did considerable damage in this respect.

coun, at Ottawa; Wm. Orr and Jos. Tweddle, at Fruitland, and others, is whitewashing the branches and buds.



Fruits and Flowers at the Ontario Horticultural Exhibition

A practical means of winter protection, originated by Prof. J. C. Whitten, of Missouri, and confirmed by W. T. Ma-

Whitewashing prevents the premature swelling of the buds as heat is reflected by whitened buds rather than absorbed.

Whitened buds will remain practically dormant, whereas unprotected buds frequently burst into growth during warm spells, as already mentioned. Experiments have shown that whitened buds blossom six days or more later than those unsprayed.

Whitewashing for winter protection should be done early in winter; apply two coats, and repeat as often as necessary to keep the trees white. Usually two or three sprayings are sufficient. The following formula was used in some

experiments personally conducted by the writer at the O.A.C., Guelph, and gave good results: Lime (unslaked), 2 pounds; water, one gallon; skim milk, one quart; salt, five ounces. These figures merely indicate the relative proportions of a quantity sufficient to spray one good-sized peach tree. Slake the lime in warm water, stir to slake quickly and well, add the remaining ingredients, and mix thoroughly. The skim milk is not essential, but it is thought to add to the effectiveness and

adhesiveness of the material. When thoroughly prepared, strain the mixture through a fine-meshed sieve and apply hot.

The use of the lime-sulphur wash has a similar effect, but, as it is not applied until early spring, its value in this respect is not marked. Before the customary time for applying this wash, peach and other tender trees are liable to injury. For purposes of winter protection a lime wash must be applied in early winter and repeated often enough to keep the trees white.

Some City Garden Troubles*

AMATEUR gardening has its portion of troubles. Like the professional florist, the commercial fruit grower and the truck farmer, the amateur is occasionally the victim of adversity, due to inexperience, insect and fungous enemies, unfavorable conditions and other causes.

MEALY BUGS

On greenhouse and indoor plants, mealy bugs are troublesome. They derive their name from the fact that they are covered by a white, powdery substance, which is really a secretion of the insects themselves. By this characteristic they are easily identified.

Mealy bugs thrive best in a high temperature. Spraying with cold water usually will hold them in check. They are destroyed also by contact poisons. A dilute kerosene emulsion is satisfactory. Where the number of plants is small, they can be cleaned of the pest by touching the infested parts with a brush dipped in methylated spirits.

"AMERICAN BLIGHT"

On apple and crab apple trees in city gardens, where spraying is not practised, the woolly apple louse, or "American Blight," as it is called in England, may accumulate and do much injury. They appear like tufts of cotton attached to the leaves and bark. They secrete a fine cottony fibre, beneath which they are concealed. The eggs may be found singly in the bark crevices during winter. Where the cottony masses are too numerous to destroy by hand, the best remedy is kerosene emulsion.

CHERRY TREE TROUBLES

Like the commercial orchard, the city man's fruit garden has a host of troublesome pests. During the past season in Toronto many newly-set cherry trees did not do well, owing either to lack of proper attention or to insect and fungous enemies. To grow and thrive from the start, a cherry tree must be planted right. Long exposure

of the roots to sun and air is injurious. The tree should be properly pruned when set. All ragged and bruised roots ought to be removed and cut off clean, and the tops should be pruned and thinned out to counterbalance the loss of roots. The hole to receive the tree must be large enough to take in the roots without cramping. It is necessary, also, to pack the soil firmly about the roots. Water poured into the hole will make the operation more safe.

The Cherry Aphis has done much damage on trees in Toronto gardens. Unless the owner is observant, the aphids multiply rapidly and badly injure the foliage before they are noticed. This insect winters in the egg stage, the eggs being laid on young twigs close to the buds. Trees that are badly infested should be trimmed thoroughly in winter and the cuttings destroyed. The eggs are of a reddish color, and can easily be seen upon close inspection. Where pruning or destroying the eggs is not desirable, much can be done by spraying the trees as soon as the eggs hatch in spring with kerosene emulsion—one part in 12 parts of water.

SALVIA SPLENDENS

The Scarlet Sage, *Salvia splendens*, is a well-known and popular tender perennial. It blooms late in fall and makes a fine effect in beds or borders. It is easily transplanted, and when removed to the house in fall, the plants continue in bloom for some time. Unless a rare strain or variety, it is not necessary to carry plants over winter. Should this plan be desired, it is best to take up from the garden early enough to make good roots; cut back to get cuttings, and later strike the cuttings in sand.

New plants may be got from seed. Sow in February. When seedlings are large enough, pot them. Good plants may be had in plenty of time for planting out in spring.

GROWING DAHLIAS

The dahlia is an old favorite. Even the formal flowered types have a place in the appreciation of many home gardeners. The loose-flowered forms and

the improved single sorts are favored by everybody. The single varieties may be grown from seed, but the double sorts should be grown from cuttings of the young shoots or from division of the roots. If cuttings are to be made, it will be necessary to start the roots early, either in hotbed or house. The cuttings should be made when the growth is four or five inches long, usually May or June. Take care to cut just below the joint, as a cutting made between two joints will not form tubers. Pinch out the terminal bud. Start the cuttings in sandy soil near a fence or building. Later they should be transplanted to desired position in the garden.

The later that dahlias are started, the greater the chance of freedom from injury by the dahlia "bug." Late-planted dahlias produce the best blooms. They do best in cool, moist seasons. In dry seasons, the striped dahlia "bug" is most active. It is difficult to combat, but when conditions are unfavorable for it, such as inferred—cool, moist weather, and plants started late in season—it will not do much damage.

Dahlias flourish best in a deep, rich, moist soil. Clay should be avoided. Sandy soil will do, provided plant food and moisture are furnished. In most home gardens, the plants are allowed to reach their full height, and are tied to stakes. To grow them without stakes, pinch out the centre of each plant after it makes two or three joints. Thus, the lateral branches will be made to start near the ground; the plant will be stiff enough to withstand the winds.

After the first frost in fall, lift the roots. A little earth may be left on them, but it is not necessary. Let them dry for two or three days and protect at night with a covering of paper. Trim off the tops to within six inches from the roots. Store them in a cellar. Do not allow them to freeze, but keep them at a fairly low temperature. Canna roots may be treated similarly, except that, in their case, it is best to allow the earth to adhere. It prevents shrivelling.

*The topics that make up this article were discussed at a recent meeting of the Toronto Horticultural Society.

The Christmas Tree

E. J. Zavitz, O.A.C., Guelph

MOST Canadians have experienced the youthful pleasure of tramping out to find the Christmas tree. Through the snow and even the storm we have trudged to find a suitable tree in which Santa Claus could hang the gifts. Full of anticipation, this has been one of the most pleasant incidents of the Christmas season.

In those youthful days a small evergreen, like the walnuts and hickory nuts of the locality, seemed common property. To-day in older Ontario the ideal tree is almost extinct, and the small boy of the rural district has a great problem to find the Christmas tree of his dreams. The city children miss the pleasure of helping to cut and bring home the tree, but wake on Christmas morning to find one which has been delivered with the groceries the night before.

The Christmas tree seems to have been of German origin, and there to-day it has a more prominent place in the season's festivities than in any other country. Here in America many families use the gaily decorated tree in the distribution of gifts. Other devices have been introduced, as Santa Claus coming in with a loaded pack upon his shoulders, or a mysterious pie is opened and the gifts taken from it. In Germany, every family, however poor, must have a tree. These are not always large, and they vary in decorations according to the taste or financial condition of the home in which they are found. No presents are placed on the tree, for they destroy the beauty and grace of its appearance. These are placed on a table near at hand. There are always candles which, on Christmas eve, are lighted as the family gathers around. The trees are usually kept through Christmas week, and if they are small may be seen placed on a table near the window of the home.

The Christmas tree idea has been enlarged in Canada so that, in many churches, the Sunday school department holds an entertainment, the chief feature of which is the distribution of gifts from a very large Christmas tree. The tree in this case is a very large Norway or native spruce.

While the Christmas tree exists in England, the holly, ivy, laurel and mistletoe are favorite decorations for the Christmas season. This custom of decking the houses and churches with evergreens is derived from ancient Druid practices. It was thought that the sylvan spirits would flock to the evergreens till the cold season had passed.

By the middle of December, in Canada, the city dealers begin to display

their stock of Christmas evergreens. These consist of white cedar, juniper, spruce, balsam and hemlock. These trees are sold in sizes ranging from five feet to even 20 feet in height. Along with the trees or a little later comes other decorative material as club moss, ferns, holly and mistletoe. Of our native evergreens, the spruce and balsam make the best Christmas trees, as their branches are regular and formal. The cedar, juniper and hemlock are better for pulling apart to make wreaths and other hanging decorations.

owners in the vicinity of large towns and cities. Nurserymen in the United States are growing evergreens for Christmas purposes at a nice profit. Why not plant some of the waste portions of the land with evergreens as an investment? Marketable trees can be grown in from 6 to 10 years. The prices are going to advance, especially for well formed, symmetrical trees.

Some sentimentalists have condemned the cutting of Christmas trees as wanton destruction of forest growth. This is a mistaken attitude. Let every



The Wonderful Doings of Santa Claus

The demand for Christmas trees and decorative material has developed a business which has assumed an important character. Long before Christmas, trainloads of evergreens are being shipped into the larger centres. To-day the well-shaped tree of 6 or 10 feet in size is becoming scarce. Complaints are heard that the material is too expensive to be used as in days gone by. The trees of best quality, which grew near shipping points, are exhausted, and dealers have to bear the cost of longer hauls.

Here is an opportunity for land-

home have a Christmas tree. No better use of a tree can be found than in giving the child a heritage which meant so much to us. It is part of the birthright of childhood, and should be denied to none. Blessed is the man who still holds the memories of Santa Claus and of Christmas customs as worth while!

Sprays of the common barberry may be used for Christmas decorations. The drooping clusters of scarlet berries are effective in any scheme of ornamentation that may be proposed for the home, the church or the hall.

Japanese Lilies

MANY bulbous plants can be used to advantage in winter, while others should be started in the early winter months to present the most pleasing appearance in the beginning of summer. Amateur flower growers can frequently obtain surplus stock of Japanese lilies as late as January, but it was advisable to obtain them earlier. As a rule the experienced grower of bulbs purchases his Japanese lilies late in November or in December.

In every case good, sound, solid bulbs must be procured. Some interesting information concerning their growth was furnished THE HORTICULTURIST recently by Mr. Wm. Hunt, of Guelph. They should be set singly in six or seven inch pots as soon as they arrive. A light and fairly rich loam potting soil is recommended. Perfect drainage is essential. After being potted, a liberal watering should be given, and the pots set in a room with a temperature of 55 to 65 degrees. Success is common in ordinary window conditions. For the next two or three weeks scanty watering is all that is required. It is well, however, to keep the soil moist.

When top growth is well commenced the supply of water should be increased, and under no conditions should the pots be allowed to become dry. The leaf growth should be well sprinkled at least once or twice every week. When a height of ten or twelve inches is reached the plants will grow to one side or break off at the base if they are not carefully staked. If the soil is in right condition no liquid fertilizer is required. The addition of fertilizers causes too rank growth and often induces disease. Sufficient extra nourishment is obtained from the bulb.

When warm weather comes the beauty of the garden can be greatly increased by setting these Japanese lilies outside. About June 1 they can be taken out of the pots and put in some well-protected place, where the wind will not have a chance to destroy the plants. Special care must be given to the staking after they are set out. In many cases they are not taken from the pots. The pots are plunged to the rim. When handled in this way bloom will come by July or August. If started before January the plants will flower earlier in the summer.

The three best varieties for ordinary culture are *Lilium speciosum rubrum*, red; *Lilium speciosum album*, white; and *Lilium speciosum auratum*, golden banded lily. The *rubrum* is hardy and most easily grown. With most growers it gives better satisfaction than the other varieties.

This plant is not without its enemies. The most common insect pests are green fly and red spider. The plants can be

protected from injury by the green fly by frequent dusting with finely powdered cigar. The red spider is easily kept in check by liberal sprinklings of clear water.

Three Crops of Roses

W. Hunt, O.A.C., Guelph

I was pleased to read in the September HORTICULTURIST the interesting notes on the rose bush owned by Mrs. A. Thompson, of Erin, Ont., and of its producing the two crops of blossoms in one season. The rose bush mentioned is in all probability an old-fashioned rose known as "Setina," supposed to be a sport from the well-known old Bourbon rose "Hermosa." The rose Setina is known in and around Toronto as Mansfield's Seedling or, at least, the two were con-



A Sample of the Bloom

sidered to be identical about 30 years ago, when it was very commonly grown as a greenhouse trellis rose, being under greenhouse treatment, of a semi-climbing habit. In color it is more of a rose pink, a shade darker than Hermosa, and has a delicious perfume that Hermosa has not.

I have a small bush of the Setina rose growing in my flower border at Guelph, that at the time of writing, September 10, has a few buds on it. The parent plant of this one was taken to Hamilton by me from Toronto in 1880, and planted in a warm border facing the south. It flowered, as stated, in June and again in the fall, and I remember one particularly mild winter, picking a fairly good rosebud from it on Christmas day. The plant was never artificially protected in winter

and, although the tips of growth were killed back, it sprang up strong every spring from down near the ground. The bush in Guelph was struck from a small branch accidentally broken from the parent plant in early summer, and stuck in the ground in the open border. This plant has had no protection given it, except by the snow, for the past three years.

I am almost certain the rose mentioned as growing at Erin is the variety known as Setina, and I am pleased to find it is hardy so far north. I should like at some time to see a few leaves or a bloom from the bush in question, as I consider it a very valuable rose for outdoor cultivation, being a fairly good flower in substance, size, and color, and deliciously perfumed, as well as an ever-blooming and hardy nature; a very useful, pretty, free-blooming summer rose.

NOTE—Since the article on the rose that bloomed twice appeared in the September issue of THE CANADIAN HORTICULTURIST, a third blossoming took place, a bloom of which was received at our office. A cut illustrating it is published on this page. Besides the foregoing remarks by Mr. Hunt, THE CANADIAN HORTICULTURIST received the following letter from Mr. Francis Wayland Glen, of Brooklyn, N.Y., a gentleman who at one time was closely allied with horticultural interests in Canada. He is a life member of the Ontario Fruit Growers' Association.

"When I resided in Oshawa," he writes, "I always had three crops of General Jacqueminots, Crested Moss and White Moss. The plants were upon their own roots.

"As soon as the June roses were past their prime, I cut the plants down to the ground and grew new wood. When that wood was 2½ feet high, I pinched the top off, and that forced the canes to send out new branches, upon which I got fine clusters of roses in August. Then I repeated the process and had a third crop. This crop I had to protect against early frosts.

"In the fall, I again cut the bushes down to the ground. I gave them a coat of compost from spent hotbeds; then covered them with leaves.

"My roses were superior in size, in beauty of color and in foliage. I never lost a plant."

A popular and satisfactory plant for the house is the Rubber Plant, *Ficus elastica*. It is tough and thrifty, yet there is a limit to its endurance; it does not like gas. The Rubber Plant will stand a fairly low temperature where the air is pure. Do not give too much water, and keep the plant in the light. Keep the leaves free from dust and insects by sponging with soapy water.

Christmas Greens Make Christmas Merry

WHAT is Christmas without Christmas greens? Half the sentiment and the charm of the festive season is associated with the use of greens in the home. They contribute more than all else to make Christmas a time of good cheer.

The mistletoe, as a Christmas decoration, seems to be indispensable. In the



Under the Mistletoe

'Hang up Love's Mistletoe over the earth
And let us kiss under it all the year round;
Hail it with joy in our yule-lighted mirth,
But let it not fade with the festival sound.'

past it has been associated with many superstitions and highly extolled for its medicinal purposes. Legends of Scandinavia associate the mistletoe with Freya, the goddess of love and beauty. From this sentimental association arose the custom of suspending the mistletoe in halls and drawing-rooms with the privilege that custom confers. Even to the present day the idea of a kiss under the mistletoe bough has not lost its ancient mystic meaning as a glance at the scene on this page readily shows. Let us not forget the custom.

From whence comes the mistletoe? It grows as a parasite on trees, preferably the apple. The American mistletoe is found from New Jersey to Florida, and is shipped to northern parts during the holiday season. The eastern cities of Canada and the United States use small quantities of mistletoe, brought over from England and France. It is liable to injury from frost, but being more showy, and having larger berries than the American sort, it has greater decorative value.

Another important Christmas green is Ilex, or holly, of which there are many species and varieties, comprising both deciduous and evergreen shrubs with

many colors of fruit. The common American holly is found in dry and barren fields from Maine to Florida. It differs from the English holly in many respects. It is hardier but less handsome, leaves are more oval and not so waved and crinkled; fruit, a dull, deep scarlet, and usually solitary; while in the Old Country holly the berries are bright and shiny, and occur in clusters. English holly is imported into Canada occasionally, but seldom with commercial satisfaction. In this country we have no true native holly, but a closely allied species is the winterberry, found in our swamps and low grounds.

Lycopodium (also known as ground pine or club moss) is one of the oldest and most common of our decorative materials. The best of this is found in moist woods and rough, spongy swamps. It is found in drier situations also, but of a lighter and yellowish color. Selaginella is sometimes mistaken for lycopodium, but, as the latter is identified by the coniferous habit and the single form of its capsules, they can readily be distinguished.

The leucothoë, or "branch ivy," is coming rapidly into favor as an artistic bit of greenery. For grace and elegance it is unsurpassed. For making up designs, sprays of leucothoë are often used in connection with galax leaves. Its native haunts are the moist ravines of the southern states, but some of the hardier species are grown in Massachusetts and western New York.

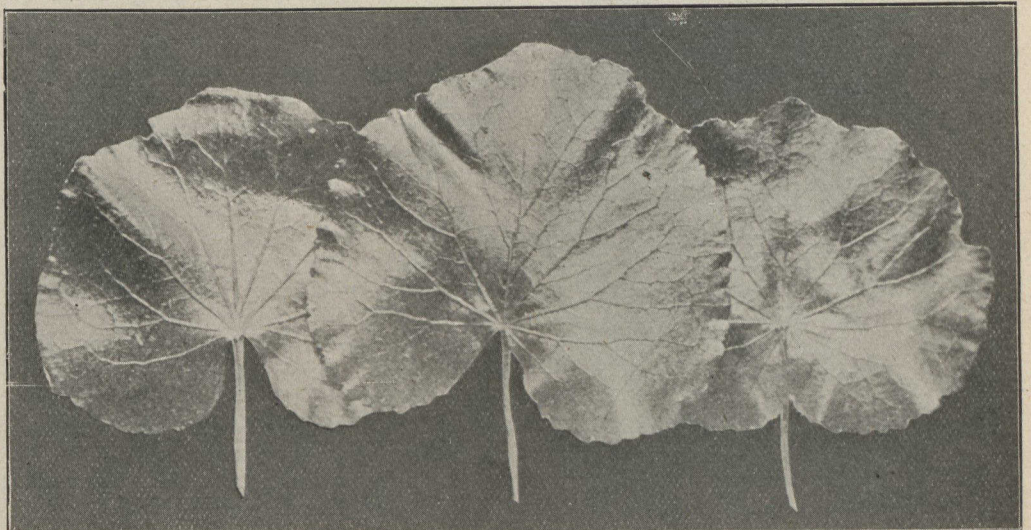
The pretty little galax, or "colt's foot," with its rich-hued leaves, tinged with shades of red and bronze, is an-

ful wreaths, crosses, and other designs for holiday purposes. In spring they are used for bunching violets and mayflowers. They are gathered in the mountains from North Carolina to Georgia, and are shipped in large quantities to the cities and towns of the north.

Another highly-prized green is the wild smilax that comes from Alabama and Georgia. Like the mistletoe, it requires a little attention to prevent injury from frost. When used for decorating, its luxurious festoons are charmingly free and striking. Besides this and some of those already mentioned, the south contributes palm leaves, dagger ferns, magnolia branches, and Florida moss, with individual characteristics, peculiar in themselves, which are effective for special purposes.

The north also contributes its share of Christmas greens in hardy ferns, needle pines, hemlock clippings, and many others. Clippings of cedar, hemlock, and yew, for roping and massing in large churches and halls, are used with effect and economy. Our common hardy ferns gathered from the woods give strength, when well arranged, to any plan of Christmas adornment. For the sake of contrast and variety, branches from some of our hardy decorative shrubs may be used. For this purpose, the bright scarlet berries of the burning-bush are particularly desirable.

One of the most appreciated of all the Christmas greens is the Christmas tree, as it plays the most conspicuous part in the all-pervading fun and frolic of the occasion. A favorite Christmas



Galax Leaves are Excellent for Christmas Decorations

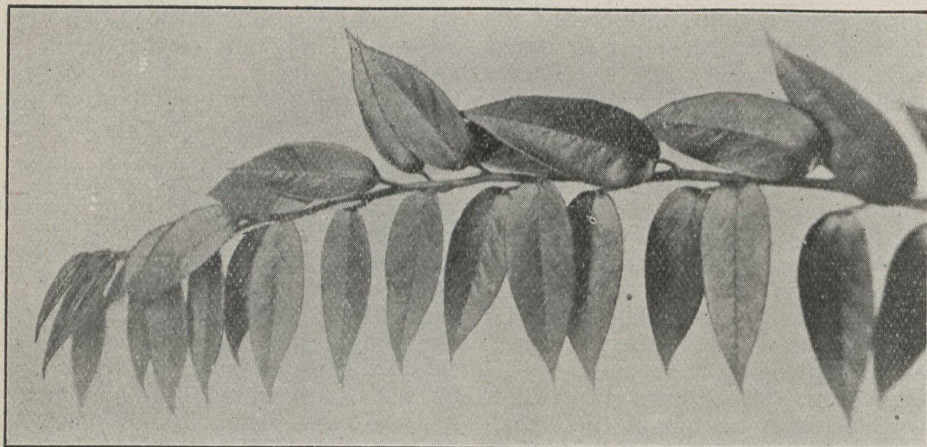
other recent decorative introduction. Galax leaves have largely displaced the English ivy, as it furnishes long, wiry stems, is less expensive, and is easier handled and kept. They make beauti-

tree is the balsam fir. Certain types of spruce and other conifers also are in demand. The fir is favored for its pyramidal shape. When young it is very striking and pretty, with its

branches regularly whorled and leaves dark green and whitened on the under side.

In the associations and traditions of

that historic individual, coming from the snowy woods, bearing upon his genial shoulders the tree, laden with good things and glittering with lanterns,



A Spray of *Leucothoe*

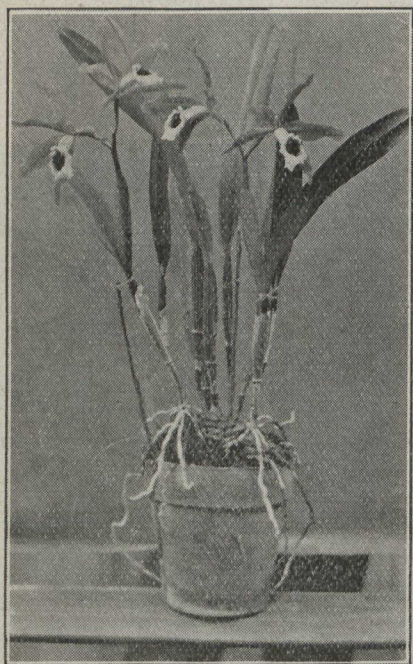
the Christmas tree are centred the cheery and buoyant side of the festive season. Prominent among these is that youthful antiquity, Santa Claus. The tales of

touches in the hearts of the children a note of Christmas sentiment that will never die out so long as this great annual festival is observed.

Late Flowering Orchids

F. J. Goode, Toronto

LÆLIA *purpurata* and *Lælia grandis*, the subjects of the accompanying illustrations, furnish us with two orchids of exceptional merit. The first



Lælia Grandis

mentioned is one of the grandest and most magnificent, while it is one of the most robust and easily grown. The bulbs are fusiform and furrowed, often

measuring 15 inches in length, and it has oblong, light green leaves. Strong, well-ripened bulbs will throw from three to five flowers, which, for form and coloring, are hard to beat. Sepals and petals, pure white; the lip has the base lobes folded over column; throat, yellow, striped with purple. Individual flowers are often five and six inches across. It is one of the latest flowering lælias.

Lælia grandis, white flowering, about the same time as the former, is more singular and distinct. The bulbs measure between eight and ten inches in length, surmounted by a single, oblong, acute, green leaf. It has free-flowering sepals and petals with a dark fawn throat. Magenta rose produces flowers four to five inches across. This variety will last in flower for three weeks, if kept free from damp; but, owing to its lack of white, it will never become a commercial rival to the Cattleyas. It is, however, deserving of a place in every collection. Both varieties thrive well in the Cattleya house, and are excellent for large specimens.

Good, fibrous peat, fresh sphagnum moss, charcoal and broken crocks, form the best potting material for these plants. After the plants have finished flowering, remove dead moss from among surface roots, fresh moss being pressed firmly wherever live roots are exposed. Syringe lightly night and morning during hot weather. This will

help the plant to start, and will also take away that shrivelled appearance caused by keeping the plants on the dry side till flowering is over. It is best to keep late flowering orchids as much to themselves as possible during early spring months, as too much water often causes the plant to start its new growth, which, in nine cases out of ten, prevents the plant flowering.

As soon as the new growths are about two inches long, water may be given more freely. It is generally conceded by orchid growers, that no fertilizer may be applied direct to the plants. Taking this for granted, the next best thing, and the one usually followed, is to throw liquid manure on the floors, or benches, amongst the plants. Cow or sheep manure will do. This should be done when closing the houses for the night, thus creating a moisture and retaining the strength of the fertilizer, which is essential to orchid life. If this treatment is followed for a few weeks, the difference in the appearance of the plants will be apparent.

These varieties, flowering so late, often the middle of June, leave only three or four months to make their new bulbs. The more attention you give to these plants during that time, the better you will be rewarded by having good, strong bulbs. These mean plenty of the most beautiful flowers grown the following



Lælia Purpurata

spring, which will recompense you for the extra trouble you have taken.

If you subscribe for THE CANADIAN HORTICULTURIST on the 13th of the month or on any other day, you will be lucky every day that it continues to come.

Timely Topics for the Amateur Plant Lover

WHAT gifts shall I give my friends for Christmas? is a question that comes to each of us in December. If you want to select something

to become dry at the roots. Freesias require a fair supply of water when top growth has well started.

Are you growing some bulbs for

cient water to moisten all the soil in the pot. Do not repeat the watering until the soil shows signs of dryness.

VEGETABLES AND FRUIT

Prepare the hotbed and cold frame for next season's use. Remove the old soil and manure. It is easier done now than in spring. Store some fresh soil for use when the time comes.

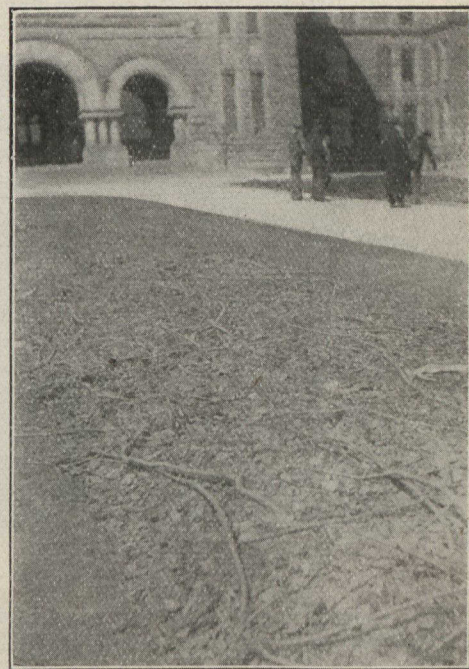
Store the garden tools before the snow falls. Make everything about the garden snug and secure.

Onions for winter use should be stored in a dry, airy place. It is best to keep them out of the cellar. Parsnips, carrots and beets may be stored there and covered with sand to prevent wilting.

Keep a close watch for rotting fruit and vegetables in the cellar. If given a good start they will cause the loss of much that is now sound. Frequent sorting and the most careful handling should be the rule. Bruising from careless handling is the cause of most of this trouble.

THE OUTDOOR GARDEN

Beds of newly-planted bulbs should be covered with a mulch. Strawy manure or spruce boughs make good material. A covering of leaves with brush to hold them and to catch the snow, is excellent for the purpose. See the illustration on this page.



Ready for the Winter

Tender and half-hardy perennials will be benefited by the application of some light protective material. Lilies of all kinds should have a good mulching of manure, especially the Japanese varieties. While the hardier types do not re-



The First Prize Decorated Dining Table at Ontario Horticultural Exhibition

that will last until the return of Christmas another year, and longer, why not give growing plants? Make your selections a week or more before the holidays. An early selection means a greater variety to choose from. Do not buy a plant that has every flower expanded. Select a plant with only a few of the flowers open. The remaining buds will open in due time and the effect will be prolonged.

One of the best flowering plants for Christmas is the Gloire de Lorraine begonia. It is always in bloom. Among the many plants suitable for Christmas presents are "Baby Rambler" roses, cyclamen, Jerusalem cherry, genistas, potted bulbs, primulas, azaleas, rubber plants, araucaria, poinsettias, screw pines, and a host of others.

Books on gardening or fruit growing are acceptable gifts. There are many works on horticulture that are not only practical but interesting, and nicely bound. THE CANADIAN HORTICULTURIST has issued a book catalog. You may have one free by making application.

THE WINDOW GARDEN

Do not keep house plants in an atmosphere that is too dry. Moist air and intelligent watering at the roots are necessary to attain success in window-garden work. Some plants require only a limited amount of water; among them, cacti, century plants, hydrangeas and oleanders.

Potted bulbs should not be allowed

Christmas gifts? Watch them closely. Keep them well watered and not too warm. They like plenty of sunlight above and a cool temperature at the roots. Think of the natural conditions in which they grow best outside. The same applies to house-grown ones.

In order to grow plants well in the house they must have plenty of light. The best exposure is a southern one; the next best, an eastern. Geraniums, lantanas, heliotropes and all plants that love much sunshine should be in the south window. Begonias and plants that care more for the sun in the early part of the day than they do after its rays become more intense, do best in an eastern exposure. A west window gives too much heat, but, if you desire to grow plants there, the heat can be tempered by means of a curtain of thin muslin. A north window is not suited to the needs of flowering plants, but some foliage plants can be kept there, viz., ferns, palms, aspidistra, ficus, lycopodiums and tradescantia.

Avoid draughts of cold air on plants, as they check the growth and often induce attacks of mildew. It is well to ventilate on calm, warm days

If your plants require repotting, do not make the mistake of using a pot four or five times larger than the one in which the plant now grows. Two sizes larger is sufficient.

Newly potted plants should be watered once as soon as potted. Give suffi-

quire much protection; they are benefited by the fertilizing effect of a manure mulch.

Make a compost heap of the fallen leaves. Leaf mold is not rich in plant food, but it is excellent for improving the texture of the soil. You will appreciate it when you come to make flower beds and pot bulbs next fall.

Two Mertensias

Roderick Cameron, Niagara Falls, Ont.

There are several varieties of the mertensia in cultivation, of which *Mertensia Virginica*, also called Virginian Cowslip, Blue-Bells, and Virginian Lung-wort, is probably the showiest; but on account of its short duration of bloom, the preference must be given to *Mertensia Siberica*. The foliage of *Mertensia Virginica* dies down and the plant disappears from view shortly after flowering. This necessitates the plants being kept well staked, that their whereabouts may be kept in view and to prevent the destruction of the roots when digging the border. On the other hand, *Mertensia Siberica* lasts longer in bloom, and it holds its foliage all summer. The plants are taller and the flowers lighter in color. The flowers of the former are about an inch long, deep blue, and are produced in clusters of about 20 blooms each, drooping to one side. The plants grow from one to two feet high, and are among the choicest of our garden perennials that belong to the Borage Family.



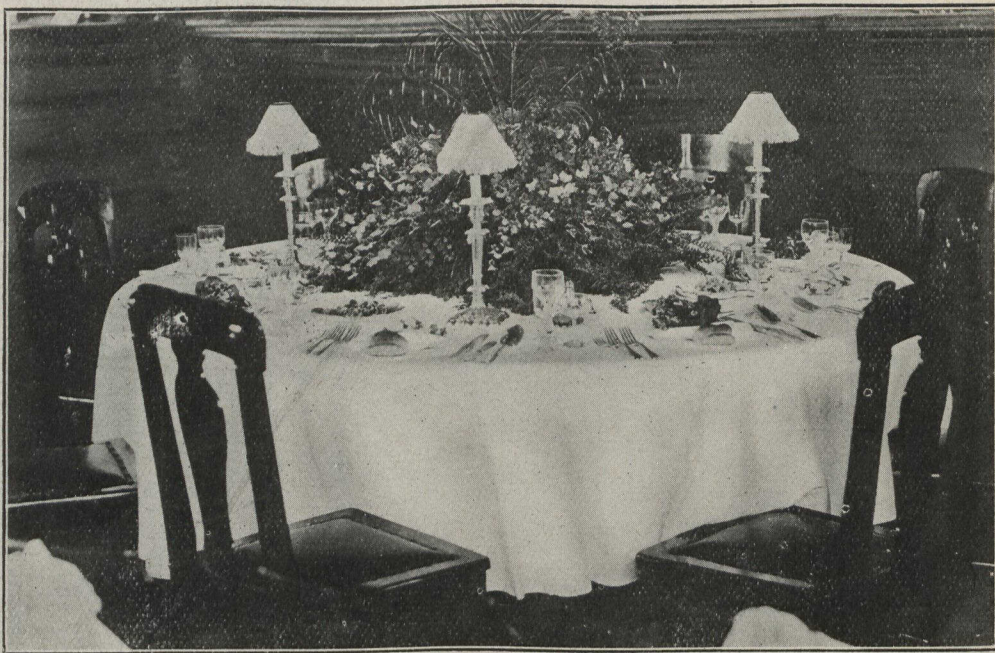
Virginian Cowslip

The mertensias should be propagated by seeds, sown soon after being ripe. The roots will not divide well. The planting of them may be done any time after they die down, but not late in the fall; better wait until early spring. A few stones placed around the plants on the surface of the ground is beneficial to keep the roots cool and damp during hot weather.

The Amateur Greenhouse

ARE you growing palms in the greenhouse? To induce a rapid growth use nitrate of soda applied weakly at first, and once or twice a month.

more space between the pots containing those that have come on well. Loosening the surface soil in the pots is like hoeing or cultivating the soil



The Table that Won Second Prize

As your callas will be making plenty of roots, do not stint the water supply.

Keep the weeds down, as they encourage the red spider, aphids and other insects. If you are trying sweet peas inside, look out for the little green worm and kill him, or trouble will result.

Keep the leaves of plants away from the window glass. It doesn't look well, and sharp frosts may injure them.

A small aquarium filled with aquatic plants is a nice feature in the home greenhouse. Gold fish in bowls also can be kept there.

Be continually on the watch for aphids on roses. They are among the worst pests of the greenhouse. Fumigate as soon as they are seen.

At this time of year, sow-bugs or "wood lice" appear in numbers under shelter of pots and other material. Treat them with a mixture of corn meal and Paris green.

Geranium cuttings are weakened if the flower buds that appear on them are allowed to open. Keep the buds regularly picked off and the cuttings will do well. Growers of bedding plants who put their zonal geraniums into two-inch pots in September should now see that the plants are stood over and that the surface of the soil is stirred. This is easily done. All that are going to root will have done so by this time. Remove the dead ones so as to give

in the outdoor garden. It allows the air to enter and prevents too rapid evaporation of moisture.

Begonia Gloire de Lorraine, intended for Christmas, will be sending up the growth that will make it a serviceable plant at that time. Now is a good time to do the tying that is necessary. Three or four small stakes may be used and the plants surrounded with a strand of silkoline. Some growers prefer one stake in the centre of the plant and the branches supported by similar material.

Paper white narcissi should be in now on the bench and in full light, and where the temperature is about 50 deg. at night. Roman hyacinths, also, should be in full light. They should be allowed six weeks to come into flower. Keep them where the temperature is 60 deg. at night.

Gloxinias may be grown in the window garden, but they are better adapted to greenhouse culture. They will not stand varying conditions. They are sensitive to cold weather and draughts. Water should not be applied to the leaves. Gloxinias must have plenty of light, a uniform moist and warm atmosphere, and protection from the direct rays of the sun. The soil should be porous and rich.

All temporary structures, such as potting benches, that were prepared for summer use outside, should be taken down and the material stored away.

Watering Plants in Winter

Wm. Hunt, O.A.C., Guelph

IN watering house and window plants only the best water should be used. Tepid water at a temperature of about 50 degrees gives best results. Pure fresh rain water is most desirable for the purpose, and in no case should water from a dirty cistern be used. If water from a spring or well must be used, it should be allowed to stand in a tub or pail a day or two.

Avoid using ice cold water. Mix

some warm water with the cold so as to make it lukewarm. Sprinkle the foliage of plants only on warm sunny days. Rex begonias and similar rough or hairy leaved plants should not have their foliage sprinkled at all in winter.

Palms, dracaenas or cordylines, Ficus or rubber plants, Farfugium or leopard plant, English ivy, aspidistras, and similar glabrous or glossy leaved plants should have the leaves sponged with

clear water once a week. A little common soap, or, better still, a little fir tree oil mixed with the water will improve the appearance of these plants and help to keep down scale and other pests. The fir tree oil must be strongly diluted as directed on the bottle, as it is sure to injure the plants if very strong. Avoid using chemically prepared soaps and similar preparations, as they are dangerous and often fatal to plant life

Onion Culture for Profit*

T. Delworth, Weston, Ontario

FOR profitable onion growing, select a soil containing rather more sand than clay, clean and free from stones and other obstructions to cultivation. The location should be cool and damp, yet free from stagnant water either above or below the surface.

We will assume that the soil is in good tilth, having had clean cultivation and been well manured for some years previous. An attempt to grow onions for profit would be useless unless soil in that shape were available for the purpose. Start operations in the fall by applying a good dressing of stable manure, say 40 or 50 tons an acre, and plow it under. Let it freeze up for the winter without harrowing.

In spring, as soon as the soil is dry enough to work, go over it with a spring-toothed cultivator or disk harrow; thoroughly stir and pulverize it to get the manure well incorporated with the soil. Harrow as fine as possible, and if the soil be dry enough, finish with a planker. Then drill in the seed.

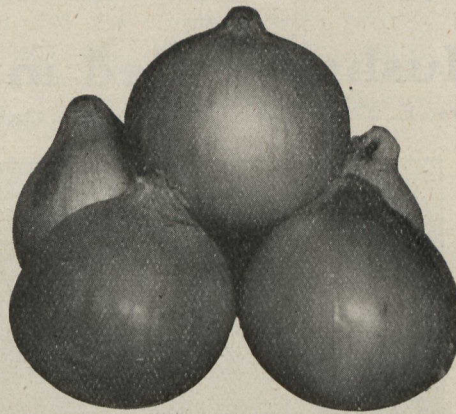
At this point there is an important question to decide. Where land is cheap and labor scarce, some growers adopt the plan of throwing the soil up in light ridges about 24 inches apart, sowing the seed on those ridges and cultivating with a horse. For market gardening in close proximity to large cities where land is expensive, in a high state of cultivation, and rich from many years of heavy manuring, I consider that method wasteful of the land. I prefer to get the soil as fine and level as possible, and then drill in the seed in rows as straight as may be done and about 15 inches apart, using about 6 pounds of seed to the acre, and then cultivate with a wheel hoe.

The selection of varieties is a matter that may be affected by local market

conditions. In Toronto, an onion is wanted with a bright, yellow skin and white flesh. In some cities a fair demand exists for red onions, but there is little or no demand for them in Toronto. Onion growers practically are unanimous in the opinion that, as long as seedsmen will give them a good strain of seed of Yellow Globe Danvers, they are getting the best onion on the market for ordinary domestic use.

CULTIVATION

As soon as the seed is up so that the rows may be seen, start the wheel hoe.



White Globe Onions

Use the flat cutting blades and keep them sharp. Cultivate shallow and frequently. Follow with hand-weeders and clean out the rows. For this work I prefer a weeder that we make ourselves out of a table knife, heated and bent round and sharpened on both edges. Don't allow the weeds to get large. A few days' smothering at this stage will do the crop irreparable damage.

Should thinning be necessary, do it with the weeding knife while they are small. Onions do not take kindly to being loosened at the roots in warm weather. It stunts their growth. Keep the wheel hoe going till the onion tops

get so large that you can't get through them. Then use a flat or Dutch hoe, and be careful not to cut the onions. Cultivate often and very shallow. Keep the hoe sharp and barely skim the surface.

DISEASES AND INSECT PESTS

The onion crop has at least two enemies that are sometimes very destructive. The first is the Root Maggot. This insect usually does its work in the month of June or early part of July. Various methods of combatting it have been suggested, but so far no practical and reliable remedy has been found. It is usually worse in light soils. Its method of injuring the crop is too well known to need description.

The other trouble is known as Onion Blight. It is a fungous disease that appears usually in August when the onions are about half grown. It shows as patches of grayish-white mildew or mould on the foliage. The foliage turns black and dies where the blight appears. The disease spreads rapidly, a few days being enough to turn a mass of healthy foliage into a few dried and blackened tufts. Spraying with Bordeaux mixture has been tried without much success. The writer made a few experiments last summer with dry air-slacked lime and sulphur (1 oz. sulphur and 5 or 6 oz. lime) dusted over the onions while wet with dew. The results were encouraging but not conclusive. Next year the experiment will be repeated.

HARVESTING

As soon as the onions begin to ripen, pull them at once. The time may be determined by pulling a few. When an onion completes its growth, the roots begin to die and they lose their hold on the ground. The onions pull easily. Onions becomes spoilt for keeping if not harvested promptly. Pull and lay in windrows. Turn several times in the sun until dried. Then, if wanted

*The essay on onions that won first prize in the Ontario Vegetable Growers' Association's competition.

for long storing, carry them in with the top that does not break off in handling still adhering to them. They keep better when stored in that way.

As they can be topped when they

are picked up in the field quicker than at any other time, those that are wanted for immediate use should be tipped as they are gathered. Never handle onions when wet. Store in a dry and

cool place. Do not store in deep piles. I have kept them in good shape until April when spread out five or six inches deep on shelves in a dry cellar.

Vegetables for the Christmas Market

E. E. Adams, Leamington, Ontario

IN many places, very little attention is given to the subject of Christmas vegetables. If we go to some stores in which vegetables are sold, and look at the "display" as we may call it, we are not enticed to give our order because of the untidy or unclean appearance that they present. This method of presenting goods for sale is far too backward and must be remedied if the grower is to reap a fair reward for producing his crop. What is more unpleasant for a would-be purchaser of vegetables than to find them exhibited for his or her approval in a dirty condition?

Many growers have no taste for presenting to their patrons their products in a tasty manner. If, on offering them for sale, they are unable to command a good price, in many cases the fault lies with themselves. Every dealer is, or should be, desirous of procuring first-class vegetables, well put up, clean, and of fine size. When they are put up in attractive shape, he will pay a better

price than if they are offered in the unclean condition in which they come direct from the soil.

This applies especially to Christmas offerings. The consumer, at this season of the year, is looking for the best that can be got. The coming Christmas dinner must be something out of the ordinary. It must be one of the best of all the year, and it usually is. Celery, parsnips, rutabaga turnips, onions, parsley, lettuce, tomatoes, cucumbers, Hubbard squash and sweet and Irish potatoes, all are valuable for the Christmas dinner.

Celery should be well washed, cleaned thoroughly and put up in half-dozen bunches or heads and tied with a nice blue ribbon, which contrasts nicely with the white celery. This bunch looks well, sells well, and is a handsome-looking article. Lettuce is usually sold at this end of Ontario by the pound. It is sometimes pulled up by the roots and well washed, the roots being left on; but if the roots are cut off, a much more

presentable article is obtained. Turnips, parsnips and potatoes may be well washed, although potatoes might be left off the list. The others should be well cleaned and stripped of small rootlets, so as to present a tasty appearance. Well-formed specimens of fair size should be used so as to have a uniform grade. Hot-house cucumbers, lettuce and tomatoes are in evidence at this time. Tomatoes should be shown in a small package similar to the southern carrier with lace paper edging. They should be well ripened to the stem, showing no green spots. They are a good selling article at this season of the year, if properly put up.

The grower of vegetables can add considerably to the appearance of his goods by having a good team, harness and wagon. He also should be particular in regard to his own appearance. The grower will be well repaid for all the attention and trouble that he takes to present his goods to the consuming public in a tasty manner.

Make a Mushroom Bed in the Cellar

Mrs. E. C. Bennett, Thornbury, Ontario

MANY persons think that it is difficult to grow mushrooms, but such is not the case. They are easily grown if you have good fresh spawn and fresh manure, both being essential for producing good mushrooms.

Try growing them in a large box in your cellar. That is the way I started and I have had the best of success. First get some fresh horse manure, say two or three wheelbarrow loads. Place it in a pile in a stable or a shed, and let it remain for two days; then turn it well every day until the mass is cold and let it stay for three days. It should then be cold; if not, turn again and let remain for three days more. By that time, it will be ready for making into beds.

Pack the manure to a depth of 14 inches in the box and let it remain for nearly a week. If you find that the heat is over 100 degrees, let it go down to 90 or 80. Then spawn the bed by putting pieces of spawn nine inches apart each way. Press the bed down firmly and let it remain so for 10 or 12 days. Then put on about two inches of good garden loam and again press firmly. On top of this put some straw or soft litter. In four or five weeks the mushrooms



Mushrooms that Won't Stop Growing

A bed that had grown mushrooms in a cellar for one year was thrown out in the garden and covered with fresh soil. In two weeks' time large luscious mushrooms sprang into existence. The photograph was taken at the home of Mrs. E. C. Bennett, Thornbury, Ontario.

will begin to appear. When first seen, sprinkle the bed well with warm water. Place a handful of salt in each pail of water. Wet the soil well on top, but not enough to reach the manure, as that will kill the spawn.

Any amateur can make a bed like this. There is no mystery about it. Without good, fresh spawn, however, profitable beds cannot be had, as that is the only secret in mushroom growing.

In the article by Mr. A. McMeans, O.A.C., Guelph, that appeared in the November *HORTICULTURIST*, he was made to say that poor selection of seed causes "rottenheart" in celery, instead of "hollow-stalk." It was an error on the part of—let us say—the printer's devil.

The kind of soil has much to do with the prevalence of blight in celery. Clay soil seems to induce blight more than any other kind. On black muck it is not so bad. Extremes of both wet and drought are unfavorable. Cloudy, warm weather is effective in causing this disease.—E. Gibbard, Todmorden, Ont.

OUR QUESTION AND ANSWER DEPARTMENT

Readers of *The Horticulturist* are invited to submit Questions on any phase of Horticultural work

What is a Fruit?

Is the tomato a fruit? The September *HORTICULTURIST* infers that it is. I classify it as a vegetable. Please define the word "fruit."—B.E.M., Wolfville, N.S.

From a strictly horticultural standpoint, the word "fruit" cannot be defined. Botanically, a fruit is the ripened ovary with such organs as may adhere to it. A well-known authority states that a fruit, in the popular sense, is the fleshy and juicy product of some plant, usually tree or shrub (and nearly always containing the seed) which, when ripe, is *edible without cooking*, and adapted for use as a dessert rather than as a salad. This would include the tomato and exclude the quince and the cranberry. Perhaps some of our readers will venture to coin a perfect definition. Let us hear from you.

The Niagara Peach

Is the Niagara Peach a good variety to plant for commercial purposes?—A.M., Vineland, Ont.

The Niagara Peach has not been tested to any extent in Ontario. In New York State some of the best growers claim that it is a good one. It comes in about the same season as Elberta and is equal to it in size, color and thickness of skin. In flavor it is on a par with Crawford. The Niagara peach should be tried in all our peach districts.

Cherry Scion on Plum

Will cherry graft on a plum tree be satisfactory as a bearer of fruit?—Subscriber, Clinton.

It would be difficult to make the cherry scion grow on plum stock. The density of the two woods and the habits of growth are so different that even if it grew it would never be a complete success unless as a curiosity.—Answered by L. Woolverton, Grimsby, Ont.

Sterile Strawberries

I have a patch of Irene strawberries. They bloomed well but did not set fruit. What is the reason?—W. B. A., Lindsay, Ont.

Strawberry blossoms are of two kinds, perfect and imperfect. Irene belongs to the latter. Dig up and plant every third row with some perfect flowering variety like Williams, or, plant a new patch similarly planned.

The Garden Huckleberry

Is the garden huckleberry of value either as a domestic or commercial fruit?—J. S., Prescott, Ont.

This fruit is not a huckleberry. It is closely related to the deadly nightshade,

which has until recently been considered poisonous. The garden huckleberry is not poisonous, however, like some other plants of the same genus, *Solanum*, notably the tomato and the potato. It is easily grown, productive, and quite hardy. The berries are not edible without cooking. In seasons when fruits for preserving are scarce, the garden huckleberry will be appreciated in the home garden. It is not likely to be of commercial importance.

Apples for New Ontario

Is it possible to grow apples in New Ontario? What are the best varieties? Is spring or fall the best time to plant black currants?—J. M., North Bay, Ont.

Apples can be grown in that district but not with commercial satisfaction. Only the hardiest varieties will withstand the severity of the winters, and most of them are not the leading commercial sorts. Among those that have done fairly well are Yellow Transparent, Charlamoff, Duchess, Wealthy, Hibernial, Longfield, Patten and Scott's Winter. The Whitney and Hyslop crabs also can be grown with success. Currants start into growth so early in spring that it is best to plant in fall. They are hardy, and may be planted at either season.

Growing Muskmelons

What should be done to prepare gravelly soil for a few hills of muskmelons in a private garden? Is Paul Rose a good red-fleshed variety for the purpose?—M. J. T., Niagara Falls South, Ont.

Manure with well-rotted compost this fall. Plow or dig late as possible before freezing, and repeat the work in spring. There is no better salmon or red-fleshed melon than Paul Rose for quality.—Answered by W. A. Emery, Aldershot, Ont.

The English Ivy

Is the English Ivy grown as a decorative plant in America?—L.A., St. John, N.B.

The English Ivy is cultivated in some parts of America, even in the north, when protected in winter, but its part in the rôle of decorating is a small one. Such vivid contrasts of color in foliage and such a wealth of Christmas associations is possessed by no plant as the ivy, "To which the ghost of all the storied past alone tells its tale of departed greatness; the confidant of old ruined castles and abbeys; the bosom companion of solitude itself. True to

these instincts, the ivy does not seem to be naturalized so easily in America as most other vines. We are yet too young—this country of a great future and a little past." For covering walls in greenhouses, for screens in drawing-rooms and for hanging baskets, it is a valuable plant. The ivy that is most used in America for decorating is a shrub of the Southern States.

The Rosemary

In literature dealing with old-fashioned Christmas customs, we often read of the rosemary. What is it?—E.L.B., Stratford, Ont.

The rosemary of old England, so largely used at one time in the appointment of the Christmas feast, grows wild in some parts of that country, but is native more particularly to the Mediterranean region, especially the chalk hills of Southern France. With it are connected many superstitions, as: "The rosemary, which was anciently thought to strengthen the memory, was not only carried at funerals, but also worn at weddings." It is a hardy evergreen shrub with aromatic leaves, which are sometimes used for seasoning. The wild rosemary of Canada, a species of Labrador tea, and the sand-hill rosemary of the south, are quite distant from the true rosemary.

Laurel or Sweet Bay

Last Christmas I bought some branches said to be laurel, but do not think they were true to name. Is there more than one kind?—E.W., Galt, Ont.

Under the name laurel are commonly included many broad-leaved evergreens, but the true laurel, or sweet bay tree, of the florists* is *Laurus nobilis*. Laurel leaves are used in some countries for cookery and making confections, because of their aromatic flavor. For purposes of adornment, it has had, and still has, a prominent place. In America the kalmias are known as laurels, and their glossy leaves are much sought for at Christmas. Most of our laurel comes from Maryland and Virginia, but it also is found in the eastern provinces of Canada.

Camellia Not a House Plant

Is the camellia a good plant for growing in the house?—R. P., Sarnia, Ont.

The camellia is a plant that requires plenty of pure air and a moderate temperature; therefore, it is not recommended as a house plant.—Answered by Thos. Manton, Eglinton, Ont.

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find reason to believe that any of our advertisers are un-
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immediately the publication of their advertisements in
THE HORTICULTURIST. Should the circumstances war-
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paper. Thus, we will not only protect our readers, but
our reputable advertisers as well. All that is necessary
to entitle you to the benefits of this Protective Policy is
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THE CANADIAN HORTICULTURIST,
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THE CHRISTMAS SEASON

There is nothing that exercises a more charm-
ing spell over the imagination than the time-
honored tales of Christmas in "ye olden time."
They carry us back to a time when Christmas
was not only a season of gift-making and family
gatherings, but also a season of complete aban-
donment to mirth and good-fellowship; to an
age when men enjoyed life roughly, but heartily
and earnestly; when society lost itself in home-
bred feelings and honest fireside delights; and
to a time when all classes observed more strictly
the religious and social rights of this, the grand-
est festival of all the year.

The traditional customs of the Christmas of
long ago awaken within us most profound and
heartfelt admiration for the manner and senti-
ment in which they were observed. Every-
thing conspired to produce the kindest feelings
of merriment and good cheer. The Yule Log,
with its many superstitions, glowed and blazed
to warm the hearts of the merry makers; the
sound of minstrelsy and the singing of Christmas
carols added their charm of melody to the oc-
casion; and the profuse decorations of Christmas
greens—the holly, the laurel and the mistletoe
—contributed more than all else to make Christ-
mas what it surely was then, and what it is to-
day, in a somewhat modern sense, a merry
Christmas.

Time and modern fashion have gradually
worn away many of these ancient customs. The

old genial spirit of hospitality has been sup-
planted, for better or worse, by the more en-
lightened and elegant tone of modern refinement.
The beautifully simple, but earnest, melody of
the old-time carol has been displaced by the
more stirring effect of the modern anthem. The
honest enjoyments of the past have given way
to more trivial and fleeting pleasures. Truly
we may say that the Christmas of to-day is far
removed from the Christmas of long ago; yet,
despite the havoc wrought by time, the season
is now, as then, the most fondly cherished of all
the year. In sentiment and charm Christmas
remains the same, notwithstanding the work of
Father Time in altering the customs of antiquity.

The very season of the year influences our
appreciation of Christmas. At other times we
may enjoy the beauties of living nature, but at
this time, when all around is barren and bleak,
or lying silently hidden beneath the snow, we
are bound to appreciate the joyous season of
good cheer. While the world without is
stripped of its verdure, within the home nature
may be reproduced in a wealth of Christmas
greens. A cherished remembrance is the decor-
ative effect produced by the use of evergreens
in the house. "What deep breaths from the
outside world come into our homes with these
Christmas greens! They are resinous with the
odor of great fir forests, where snowflakes are
flying; spicy with orchid incense from tropical
jungles, where palms and smilax flourish;
vibrant, perhaps, with mocking-bird songs in
swamps, where the mistletoe grows." With this
issue, THE CANADIAN HORTICULTURIST greets
its readers right heartily and wishes them well.

BELOW THE STANDARD

The need for improvement in the horticul-
tural department at the Ontario Agricultural
College has become so apparent that further
silence, on our part, would be an injury to
the horticultural interests of the province. It
is out of touch with the rank and file of the
fruit and vegetable growers, as well as with
the professional florists. There are men under
the direction of the professor of horticulture
who are capable of doing good work. They
should be given an opportunity, for the de-
partment is not accomplishing the results that
it should.

Last February we drew attention to the
necessity for something being done that would
place the horticultural department at Guelph
on a better footing. Our remarks drew forth
a reply in defence of the department. We
were tempted to make answer, but did not do
so, because we were given to understand that
the appropriation for the horticultural depart-
ment for this year had been increased, and
that better things, therefore, might be ex-
pected. In the months that have intervened
no signs of any marked improvement have
been noticeable. Instead, the complaints
against the management have increased in
number. In September, the florists who met in
convention at Guelph appointed a committee
to wait upon the government and urge that
more work of value to florists be undertaken.
More recently a committee of practical vege-
table growers who visited the college has re-
ported that but little is being accomplished
that is of value to vegetable growers, and that
some of the work that is in progress is being
conducted in a manner that is not a credit to
the institution. Fruit growers, as yet, have
not taken any public action calling for improve-
ment. We have long been aware, however,
that a strong feeling is general among them
that improvement in the department is needed.

In defence of the department, it has been
stated: First, that the number of lectures given
yearly has increased greatly without a propo-
portionate increase in the staff; second, that
in addition to teaching, the department has
to furnish fruits and vegetables to the college
boarding-houses and flowers for decorating
purposes, as well as to maintain over forty

acres of lawn and grounds in a condition to be
above criticism; and third, that with all its
other work it has not the time to undertake
investigation work, nor the funds.

This defence reduces the matter to a ques-
tion of men. The professor of horticulture at
Guelph should be a man of outstanding abil-
ity, able to see the horticultural needs of the
province and to take steps to satisfy them.
Work of minor importance such as the furn-
ishing of vegetables and fruit for the college
tables, and even a considerable proportion of
the lecture work would be relegated, by such
a man, to a capable foreman or foremen, and
to an assistant professor. In this way he
would leave himself free for the more important
research work. Around him he would gather
the various fruit, vegetable and other horti-
cultural organizations of the province, and
through and with them he would see that he
was furnished with the funds needed by his
department.

Canadians are proud of the Agricultural
College at Guelph. It has professors on its
staff who are a credit to the Dominion. Its
graduates have risen to prominence both at
home and abroad. It is because we desire
to see the splendid reputation of the college
maintained that we feel it our duty to draw
attention to the absolute necessity for a decided
improvement in the horticultural department.

HAS BECOME A NECESSITY

The Ontario Horticultural Exhibition has
reached the point where it is looked upon as a
necessity. Should anything occur to stop it or
to mar its progress it would be a calamity. Peo-
ple have become accustomed to looking for it,
not only that they may attend the conventions
and hear the important discussions that take
place, but, also, that they may profit from the
valuable educational lessons that may be gained
by a study of the splendid exhibits of fruit,
flowers and vegetables. These exhibits, each
year, illustrate the latest developments in all
three of the allied industries. The improvement
that has taken place during the past two years
in the packing of fruit alone, as shown by each
succeeding exhibit, justifies the expenditure by
the Ontario Government of every cent it has
given the exhibition. Fruit, vegetable and
flower growers now appreciate the fact that the
exhibition affords an opportunity to learn
things. Were it to be stopped, the result would
be an injury to the province.

The excursions on the railways at low rates
benefit the members and friends of the organiza-
tions that assemble at the time of the exhibition.
Were it not for the rates made possible by the
exhibition the conventions would be poorly
attended. It is gratifying to feel that the show
has come to stay. Its complete financial suc-
cess cannot be long delayed, as it is growing
rapidly and assuming larger proportions each
year.

Lovers of horticulture who wish to make
progress must keep themselves informed on the
methods and ideas of those who have made a
success of the art. While practical experience
in fruit growing and gardening is a great teacher,
yet the perusal of a good class of literature on
the various subjects pertaining to the work is
necessary to broaden one's conception of things
horticultural. It gives one a better idea of the
viewpoint of people who have made this or
that branch of horticulture a special study.
That the desire to learn is prevalent among the
readers of THE CANADIAN HORTICULTURIST is
evident from the many requests for books on
horticultural topics that reach this office. These
requests have become so numerous, we have
decided to extend our business by adding a
book department to the paper. A catalog,
with titles and descriptions of books written by
well-known horticultural authorities, has been
prepared. It will be mailed free to any person

who is interested and who makes application to THE CANADIAN HORTICULTURIST. We will be able, in future, to furnish our readers with any of the standard books on horticulture.

The Ontario Horticultural Association should not only help the various horticultural societies of the province in their work, but should serve to protect and advance their interests in other ways. This association is the missing link that the societies have long needed. By its means they will be kept informed in regard to different lines of work that have succeeded with the various societies. It will serve, also, to more thoroughly advertise the good work that is being done by them and thus prepare the way for a larger government grant when the increase in the number of the societies warrants such action. The success of the association will depend upon the cooperation of the local societies. It will pay the latter well to do everything in their power to aid the provincial organization.

A number of fruit growers in Canada are using carbolic acid gas as a source of power for their spraying machines. Many more would do so were it not for the duty imposed on the containers in which the gas is imported from the United States. At the recent convention of the Ontario Fruit Growers' Association, a resolution was adopted asking the Dominion Government to admit the containers, subject to some system of registration, so that they may be admitted free, duty to be levied on the gas only. This is a matter of much importance to our fruit industry. It is to be hoped that the request of the growers will be given an early hearing, so that a new and satisfactory arrangement may be effected before the beginning of spraying operations during the coming winter.

While THE CANADIAN HORTICULTURIST is not in favor of the general introduction of the Spencer Seedless Apple into Canada until it has been tested at our experiment stations, it has not been our intention to say anything that would cast a reflection on the business integrity of the Canadian company that is offering the trees for sale. We have no reason to believe that the company is other than honorable and commercially sound. In fact, at its head are some of the leading business men of Toronto. Our remarks in recent issues have been directed at the apple, not at the company. We wish this to be understood. Further comments, in this issue, on the apple are unnecessary. The Ontario Fruit Growers' Association has dealt with it and found it wanting.

It was with regret that we heard of the death of Mrs. Juliet McNeill on November 18. She was the wife of Mr. A. McNeill, Chief of the Fruit Division, Ottawa. Mrs. McNeill had not been well for several months, but only during the three weeks previous to her decease did her illness assume a serious character. THE CANADIAN HORTICULTURIST and fruit growers all over the Dominion condole with Mr. McNeill in his sorrow. Only a few months have passed since he lost a son.

Farmers' Institute speakers assembled at the O.A.C., on Nov. 20-23, for special instruction in the various branches of their work. Among the fruit men who delivered lectures were Robt. Thompson, St. Catharines; D. Johnson, Forest; J. E. Orr, Fruitland; A. E. Sherrington, Walkerton, and Prof. H. L. Hutt, of the O.A.C.

Before going to the store for that article you want, get a catalog from the advertisers of similar articles in this paper, and then when your dealer makes his estimate, you make your comparison. It will end in your recognizing the advantage of securing the article direct from the manufacturer at the ground floor rates. Be sure, when answering an advertisement, to mention this paper and thus take advantage of our Protective Policy, as outlined on editorial page.

The Ontario Horticultural Association

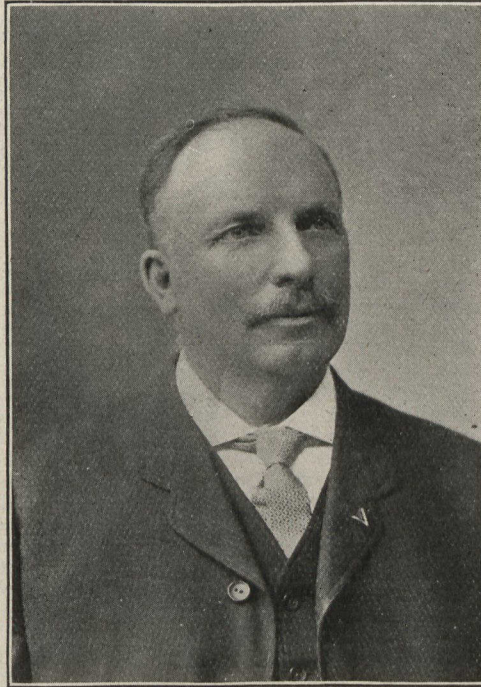
ENTHUSIASM marked the convention of the delegates from the various horticultural societies of the province, which met in Toronto, Nov. 9, at the time of the Ontario Horticultural Exhibition. About one-third of the societies in the province were represented. The main features of the convention were the final adoption of a constitution prepared by a committee appointed at the last convention, a discussion of the new Act governing horticultural societies, and the election of officers.

In his annual address, the pres., Mr. W. B. Burgoyne, of St. Catharines, reported that the govt. had agreed to give the assn. an annual grant of \$100 to help defray the expenses connected with the bringing of speakers to the convention. This will do much to place the assn. on a sound basis. The govt. had consented also to secure a shorthand report of the proceedings

In the afternoon two interesting discussions were held. The first related to the holding of garden competitions by hort'l societies and was led by Mr. S. Short, of Ottawa, who described the benefit that has followed from the Lady Minto and Lady Grey competitions in that city. Work of a similar kind conducted in Hamilton was described by Messrs. J. O. McCulloch and A. Alexander of that city. The second discussion referred to the giving of seeds to school children and the holding of exhibitions of flowers grown by the children. It was led by Mr. J. Thos. Murphy, of the Simcoe society, and by Mr. Walter Brooks, of the Brantford society. Reports of these discussions will be given in THE HORTICULTURIST later. They were taken part in by a number of the delegates.

The election of officers resulted as follows: Pres., W. B. Burgoyne, of St. Catharines; 1st vice-pres., Maj. H. J. Snelgrove, of Cobourg; 2nd vice-pres., R. B. Whyte, of Ottawa; directors, Messrs. Rev. Mr. Scott, of Perth; H. Jeffers Diamond, of Belleville; H. R. Frankland, of Toronto.

Among the resolutions passed was one expressing pleasure over the great improvements that had been made in THE CANADIAN HORTICULTURIST. The feeling of the meeting was that THE HORTICULTURIST is doing much to promote the interest of the hort'l societies of the province and that the societies should support it in every way possible.



Pres. W. B. Burgoyne

of each convention and to publish these as a govt. report and to send copies to the officers of the various hort'l societies throughout the province. This means that the societies all through the province will be benefited by the discussions that take place at the annual conventions.

The constitution adopted explains that the objects of the assn. are to assist the various hort'l societies of Ont. The fee for membership of each society was placed at \$2 a year. Eleven societies joined at the convention, and the delegates from other societies promised to send their fees as soon as possible. Every society in the province will have a right to send delegates to the convention, but only those societies who join the assn. can vote through their delegates.

A lengthy discussion took place over the new Act governing hort'l societies. The discussion was led by H. B. Cowan, supt. of hort'l societies, who explained the disadvantages under which the societies had worked in the past and the objects of the various provisions of the new Act. Several clauses in the Act were discussed at considerable length, but no important amendments were suggested. The unanimous opinion of those present was that the societies throughout Ont. will be greatly benefited by the new Act, and that a great increase taken in the work of hort'l societies may be expected.

The Need for Cold Storage

R. J. Cochrane, Colborne, Ont.

The question of cold storage for fruit is an important one. The need for cold storage buildings at various points in Canada is plainly evident. If such were located in every apple section of the country, it would make it possible to hold the fruit and sell when the market is most favorable.

Cold storage supplants spraying in that, if a small percentage of fungi escape the spray-motor, or if a small percentage of codling moth enclosed in the apple in the springtime succeeds in finding its way into the barrel, a low temperature prevents development. Cold storage assists the packer in conforming to the Fruit Marks Act, in that when apples are properly packed and cooled they do not ripen or decay. The apples retain that rough, bright, lustreful appearance that fills the eye, the snappy texture and quality that satisfies the palate, and that brings money to the pocket of the producer. They will not be wet, slack or wasty. Cold storage is of still vastly more importance in the marketing of apples. Our harvest apples, fall apples and winter apples are hurled onto the market almost simultaneously, the harvest apples overripe, the fall varieties and winter varieties not ripe enough, and many in bad condition. With cold storage within a wagon haul of the farmer he can pick each variety and place it in cold storage when it is properly ripened and properly colored. With local cold storage each variety goes onto the market in its proper season and in good condition, and the market will last the year round. The fruit business will be as safe and reliable to the producers as is the cheese business to-day. The consumer will have apples the year round that will be a credit to the Dominion of Canada.

A movement is on foot whereby these advantages may be secured to the Canadian farmer. The government can assist the farmers and place cold storage within their reach. Before this will be done, the people must show some interest in the proposal. They must realize the enormous loss and waste that is taking place annually in the fruit industry. Every newspaper should give this matter close attention, so that the fruit growers may feel that they have the press behind them.

The Horticulturist for 1907

THIS being the season when our readers and others are making up their reading lists for next year, we are going to take a little space in which to tell you of the many new features we are planning for THE CANADIAN HORTICULTURIST. During 1907 every department of THE CANADIAN HORTICULTURIST will be vastly improved. The 12 issues of the paper will far surpass any we have ever printed. Already a splendid list of special features have been secured that will be of unusual value to Canadians, and that will make the paper of great interest to fruit and vegetable growers, and to amateur flower growers, including members of horticultural societies.

A number of the best known horticultural authorities in Canada, both professional and amateur, have agreed to contribute articles, and series of articles, each of which will be worth to those interested our full price of subscription. The following are some of the good things we are preparing for our readers:

In our fruit department during the winter months will appear articles on "Pruning Tree and Bush Fruits," "Spraying for Scale and Other Orchard Pests," "The Selection of Varieties Best Suited to the Various Provinces," "The Care of the Vineyard," "The Markets of the West," and others of equal value. Next spring and summer some of the fruit articles that you may look for will be entitled: "Does it Pay to Thin Orchard Fruits," "The Principles and the Practice of Orchard Cultivation," "The Profits of Fruit Growing," "The Culture of the Apple," "Plums and How to Grow Them," "Marketing the Stone Fruits," "Picking, Packing and Selling Apples," and many timely articles on cultural directions. Besides these, accurate crop reports from all sections of Ontario and from the various provinces will be a leading feature of THE HORTICULTURIST for 1907.

GARDEN DEPARTMENT

Our Lawn, Garden and Flower Department will be replete with valuable information for the amateur gardener. Each month will be published a page or two of seasonable reminders—50 pointers or more in one article. This feature alone is worth the price of subscription. There will be seen also articles on "The Care and Management of Lawns," "The Culture of Hardy Shrubs," "Landscape Gardening for Amateurs," "The Best Perennials and How to Grow Them," "A Garden of Old-Fashioned

Flowers," "All the Wild Flowers Worth Growing," "Flowers for the Million and for the Millionaire," "Native Ferns and their Culture in the Home Garden," "City Garden Troubles and What To Do," "Grow Vegetables at Home and Save Money," "Hardy Annuals for the Suburban Garden," "Fruit Trees Worth Growing on the Lawn," "The Real Thing in Home Decoration," "The Window Garden," "All the Tulips Worth Growing Inside and Out," "How to Have a Succession of Fruits in the City Garden," "How to Grow Many Plants from a Few," and a score of other topics that will please.

FOR VEGETABLE GROWERS

The vegetable gardener will find special pages for him. Some of the subjects to be dealt with are: "Forcing Lettuce and Radish under Glass," "A Simple Experiment with Fertilizers: It Teaches Something," "Growing Greenhouse Tomatoes," "Onion Growing," "The Culture of Celery for Profit," "Melons and Melon Growing," "All the Garden Greens Worth Growing," "Growing Tomatoes for the Canning Factory," "Asparagus for Market," and numerous others. Each month, also, accurate and complete reports of vegetable crop conditions in Ontario and elsewhere in Canada will appear in our columns. Do not miss the opportunity to get such information.

OUR SUBSCRIPTION OFFERS

As our aim is to make THE CANADIAN HORTICULTURIST of special value to Canadians, and as we desire to make the paper a publication of which every Canadian can be proud, we hope to receive the support of every Canadian interested in fruit, vegetables or flowers. Not only should our readers renew their subscriptions, but they should introduce the paper to their friends. Here is our schedule of subscription rates. One full year's subscription, 50 cents; One new or renewal subscription for three years, \$1.20; Three new full year subscriptions, \$1.00; Two new and one renewal subscription for one year, \$1.00; or, send us two new full year subscriptions at 50 cents each and we will renew your subscription for a year free. A liberal commission is offered for new subscriptions at 50 cents each.

Will not our readers help us, not only by renewing their subscriptions, but also by getting us new subscribers? We desire your help and will give you good value for your money.

The Ontario Vegetable Growers' Convention

THE second annual convention of the Ontario Vegetable Growers' Association was held in the City Hall, Toronto, Nov. 8-9. President F. F. Reeves, Humber Bay, occupied the chair in a dignified and business manner.

The meetings were well attended, and the papers and addresses received the greatest attention, and drew out considerable discussion, showing that the association is a live one, almost every member present taking part in the discussion. The address by Prof. R. Harcourt, O.A.C., Guelph, on "Fertilizers in Relation to Vegetable Growing," was so well appreciated, that a standing vote of thanks was tendered him.

Thursday morning's session was devoted to an address by the president, who congratulated the members on the growth of the association, and stated that the future looked very bright. Already there were branch associations at Toronto, St. Catharines, Brantford, Tecumseh, Kingston, Chatham, Sarnia and

Ottawa. Mr. Geo. A. Robertson, of St. Catharines, followed with an interesting paper on "Experiments with Tomatoes." He advocated careful selection of seed from year to year to increase the yield. Nitrogen would increase the crop, but at the expense of earliness. Mr. C. Gibbard, of Todmorden, followed with a paper on "Growing Tomatoes Under Glass." To make this profitable, he said that glass houses must be used for other purposes as well, such as lettuce, radishes, and so on. Tomatoes require careful and strict attention. Mr. Eugene Davis, of Grand Rapids, Michigan, was not present to read his paper on "Lettuce Forcing and Bean Growing." It was a very pithy paper, and full of practical points.

At the afternoon session Professor Harcourt gave his address on "Fertilizers." He advocated the use of barnyard manure, aided by different chemical fertilizers for different crops. Potash and phosphoric acid for fruit, and nitrogen for leafy growth. Lime would check the acidity of some soils, which is due to the

acid-forming tendency of decaying vegetable matter. The reading of the prize essays occupied the rest of the afternoon.

At Friday morning's session, Mr. E. E. Adams of Leamington gave a paper on "Forcing Early Vegetables," *i.e.*, starting them under glass and transplanting to the open field. Mr. Adams makes this pay, and his paper demonstrated how to do it. "Onion Growing" was ably illustrated in the paper read by Mr. E. G. Malcolm, of Scotland, Ont., a most successful onion grower. Mr. T. Benstead, of Strathroy, told the association how he grows prize celery, and Mr. McInnes, of London, gave an address on "Storing Celery for Winter Use." This was followed by a paper on "Melon Growing" by W. G. Horne, of Clarkson, Ont. Mr. Horne advocates planting the seed in pieces of sod under glass. The meeting was closed by a short talk on other vegetables by Mr. A. McMeans, O.A.C., Guelph.

Among those who took a prominent part in the various discussions were W. W. Armstrong, Queenston; Robert Bushell, Kingston; A. McInnes, London; Geo. Syme, Jr., Carlton West; James Gibbard, Sr., Todmorden; Professor Macoun, Ottawa; Thos. Delworth, Weston; Robert Thompson and Geo. A. Robertson, St. Catharines; E. Purdy, Kingston; F. Shuter, Jos. Rush, Humber Bay; and George Nicholson, Orangeville.

Christmas Gifts for All

Have you some friend you would like to remember this Christmas by a practical but inexpensive gift? Something that would be of practical value to him, and that would keep. We have a splendid list of books which could be given as Christmas gifts to all your friends. Here are a few of them:

FOR THE FRUIT GROWER

"Fruit Harvesting, Storing, Marketing, etc.," F. A. Waugh, \$1.00. "The Grape Culturist," A. S. Fuller, \$1.50. "The Grape Grower's Guide," William Chorlton, 75 cents. "Peach Culture," James A. Fulton, \$1.00. "Practical Fruit Grower," S. T. Maynard, 50 cents.

FLOWERS AND ORNAMENTAL PLANTS

"The Beautiful Flower Garden," F. Schuyler Mathews, 40 cents. "The Chrysanthemum," Arthur Herrington, 50 cents. "Garden Making," L. H. Bailey, \$1.00. "Home Floriculture," E. E. Rexford, \$1.00. "Pictorial Practical Gardening," Walter P. Wright, 75 cents. "The Window Flower Garden," Julius Heinrich, 50 cents. "Your Plants," James Sheehan, 40 cents.

MARKET GARDENING

"Asparagus," F. H. Hexamer, 50 cents. "Cabbage, Cauliflower and Allied Vegetables," C. L. Allen, 50 cents. "Gardening for Profits," Peter Henderson, \$1.50. "Market Gardening and Farm Notes," Burnet Landreth, \$1.00. "Vegetables Under Glass," Henry A. Dreer, 25 cents.

OUR SPECIAL OFFER

We will give any of the above books to any of our subscribers who will send us one new subscription for each fifty cents on the price of the book. For example: "Garden Making," by L. H. Bailey, is sold for \$1.00 a copy. We will give a copy of the book free for two new subscriptions. If the price of the book were \$1.50, as in the case of "Gardening for Profits," by Peter Henderson, then we would send it free on receipt of three new subscriptions. For each 50 cents, or fraction thereof, in the value of the book, send one new subscription.

This is a good way in which to secure a library on any horticultural subject. Besides the books we have named above, we have a large number of others. Our catalog will be mailed free to all who are interested.

The Missouri State Hort'l Soc. will hold its annual meeting on Dec. 4, 5, 6 at Boonville, Mo.

Ontario Fruit Growers in Convention

A COMPLAINT of fruit growers respecting the purchasing of nursery trees that have not proved true to name brought about the adoption of an important resolution at the recent convention of the Ontario Fruit Growers' Assn., held in Toronto on Nov. 7 and 8. Mr. George A. Robertson, of St. Catharines, brought the matter up and a considerable discussion resulted. A committee appointed to report on the matter did so as follows:

1. That it is a fact that considerable of the nursery stock planted in years past has been of inferior quality and untrue in name, and as a result the growers who planted such stock have suffered in many cases severe financial loss as well as great inconvenience.

2. That a considerable quantity of the stock which has proved untrue to name has been purchased from irresponsible agents and unreliable firms, but that the self-styled reliable nurserymen are not all exempt from this practice.

3. That much of the blame and dissatisfaction caused has been shouldered on the nurserymen situated in the United States, but that geographical situation is not wholly accountable for this, as there are reliable as well as unreliable nurserymen in the U.S. as well as in Canada.

4. That trees be produced true to name and sold to those growers who desire such trees under a written guarantee, and that this guarantee mean that the nurserymen be held responsible if the trees are not up to the guaranteed standard.

5. That the nurserymen may supply to those who desire them trees which, on account of their cheapness or first cost, will satisfy the demands of intending purchasers, but that for the quality of which, as now, the nurserymen will not be held responsible.

6. That in case of a dispute between any grower and nurseryman, if action be taken, the matter be settled in the court nearest the home of the fruit grower so wronged.

7. That the matter of propagation of nursery stock from the proper root stock, budded or grafted with buds or scions from healthy trees of good bearing quality, of the true type of the true variety, be left at present in abeyance, and that this association procure a competent speaker from the U.S. or elsewhere, to give an illustrated lecture on this subject at our next annual convention, and use every effort in the endeavor to inform the fruit growers of the advisability of such a method of propagation which will in time create a demand which the up-to-date nurseryman will supply.

IMPORTANT RESOLUTIONS

At the convention a number of other resolutions, more or less important, were adopted. Among them the following:

We desire to place on record an expression of our warm approval of the action of the Dominion Government, in having, in response to the request of this and other organizations, procured the passing of legislation placing the control of express rates in the hands of the

We trust that the action of Parliament in giving a legal definition to No. 2 grade of apples will have the effect of giving to the produce of Canadian orchards a still better standing in the markets of the world.

We desire to express our thanks to the Hon. Sydney Fisher in calling a Dominion conference of fruit growers last March, a conference which resulted in harmonizing many little antagonisms between the provinces, in bringing fruit growers from all parts of the Dominion together for united action, and in giving a still further impetus to what has become a great national industry.

We believe that the thanks of every commercial fruit grower in Ont. are due to Alexander McNeill, Chief, Ottawa Fruit Division, for the remarkably full and correct reports issued by him during the present growing season in regard to fruit conditions and prospects—reports that place growers, in a measure, on a footing of equality with buyers in regard to factors governing market conditions.

We would, however, strongly recommend that fuller information than now be given in regard to crop conditions and market prospects in other countries, and that to this end the Dept. of Agr. at Ottawa be asked to secure the cooperation of the Dept. of Trade and Commerce in securing the reports from Canadian commercial agents in Great Britain, Australia and South Africa in regard to probable production before crop maturity, also that the cooperation of the hort. assns. in the U.S. be secured, and an exchange of timely information with these be arranged for. We do this because even the fullest reports as to Canadian conditions are of comparatively small value unless we have information from other countries approaching that of our own in regard to fulness.

We would strongly urge that the Dept. of Agri. for Ont., in addition to what is now being done, and in addition to what also has been asked in the resolution adopted on the motion of Mr. Peart, arrange for obtaining special reports after fruit has set, from the most reliable growers from the sections in which fruit is largely grown.

We strongly approve of the main point in the Robertson resolution, namely, that legislation be asked for which will provide that nurserymen shall guarantee their stock as true to name, and that where the promise is not fulfilled, an adequate penalty be imposed.

We regret that aside from the action taken at Ottawa, resulting in placing of express rates under the control of the Railway Commission, comparatively little has been done in regard to transportation during the present year. We most strongly urge that action be taken by the Transportation Committee during the coming year, looking to a material reduction in freight rates on apples, and a sweeping cutting down in express rates.

We are delighted to note the extension of the cooperative movement among fruit growers in the province, and regret that comparatively little has been done to aid in the extension of this movement by this association, and strongly urge that an officer be appointed whose duty it shall be to give his whole time to the encouragement of organizations now formed, and to the creating of new ones.

We desire to place on record our warm appreciation of the invaluable services rendered by the directors of this association, many of whom have served long terms in office, frequently at serious inconvenience to themselves. We recognize also the splendid spirit shown by these same directors, now that a new stage of development is called for, in so frankly joining in the movement to make the organization more representative than it is at the present time.

That this association would urge the Minister of Trade and Commerce for the Dominion to amend the Act respecting staple commodities (that re fruit baskets), in accordance with the resolution passed by the fruit associations, and that the government make, and stamp the forms and issue them to the basket manufacturers to ensure uniformity of fruit packages.

That inasmuch as a large number of fruit growers are using carbonic acid gas as a source of power in their spraying operations, and as

a great deal of difficulty has been experienced in securing a satisfactory supply in Canada, we would respectfully urge upon the Dominion Government the desirability of some system of registration of the containers, so that these containers might pass freely to and from the U.S., duty being levied upon the gas only. By this means a satisfactory supply might be available, and spraying operations greatly facilitated.

That the Government of Ont. be asked to publish yearly in the report of the Bureau of Industries further details regarding the fruit industry of the province, that the government be asked to add columns on the assessment roll providing for the gathering of information regarding fruit statistics.

That we desire to show our unbounded gratification at the splendid public spirit shown by Mr. M. F. Rittenhouse of Chicago, in giving a farm for experimental work in tender fruits, and in the prompt action of the Ontario Department of Agriculture in providing equipment for the same.

THE SPENCER SEEDLESS APPLE

The Spencer Seedless Apple was the subject for considerable discussion. Its dissemination in Canada means something of more than ordinary importance to our fruit industry. If it were what it is claimed to be, it would supplant all the standard varieties now grown. Fruit growers think it is not. A committee consisting of H. H. Groff, Simcoe, chairman; D. Johnston, Forest; E. Morris, Fonthill; W. H. Dempsey, Trenton; and W. T. Macoun, Ottawa, was appointed to look into its merits and demerits. They reported as follows:

"We secured specimens from the exhibit at Massey Hall, which showed the following objectionable characteristics in apparent contradiction to the printed description. Although the core is smaller and less distinct than in the average apple, there is still sufficient to make the process of coring a necessity. The practical absence of the calyx tube leaves an abnormally large and deep opening reaching to the core, thereby involving loss of flesh nearly equal to a normal core, as well as affording a harbor for injurious insect pests. The specimens examined by us showed this space to contain an objectionable mold-like accumulation. They also gave well-developed seeds, though fewer than the normal apple. As to size, the specimens seen by us were about equal to our Fameuse, or Snow, and those tested for quality and flavor were about equal to Ben Davis. We believe that our inspection warrants the advice that trees of this apple should only be purchased as a curiosity."

In the course of one of the sessions, a representative of The Spencer Seedless Apple Co., of Toronto, addressed the convention. He protested against the report of the committee and intimated that such was biased. He claimed that the fruit in flavor was similar to that of the Baldwin, that apples from the latest generation of trees do not show any more opening at the calyx than an ordinary apple, that the core found by the committee vanishes as the apple becomes more mature, and that the apple is well worth planting in Canada. In the face of the aforementioned report and of the general disfavor in which fruit growers look upon the apple, these explanations, while presented to the meeting in a kindly way, are not acceptable to practical men—men who know what is what in a variety of apple for commercial purposes.

REVISION OF CONSTITUTION

One of the most important items of business transacted was a revision of the constitution. As was pointed out in the Sept. number of THE CANADIAN HORTICULTURIST, the time seemed ripe for a change. It has been felt that the

assn. has been managed somewhat as a "close corporation." This feeling has been general, not only among the members of the assn., but also among the larger body of fruit growers in the province. In another column we publish in full the clauses that have been amended. The following 13 directors for the various divisions, as numbered, were elected by ballot: 1, A. D. Harkness, Irena; 2, A. A. Wright, M.P., Renfrew; 3, Harold Jones, Maitland; 4, W. H. Dempsey, Trenton; 5, W. Rickard, Newcastle; 6, Elmer Lick, Oshawa; 7, A. W. Peart, Burlington; 8, Geo. A. Robertson, St. Catharines; 9, H. H. Groff, Simcoe; 10, A. E. Sherrington, Walkerton; 11, A. O. Telfer, Ilderton; 12, D. Johnston, Forest; 13, C. L. Stephens, Orillia.

According to the new arrangements, the assn. in future will finish its financial year on Dec. 31. An extra business meeting will be held each year in Jan., when the newly-elected board of directors will take office and appoint from among themselves a pres. and vice-pres., and from among themselves, or otherwise, a sec.-treas.

THE DOMINION CONFERENCE

The immediate results and the possibilities of the Dominion Conference of fruit growers were discussed respectively by W. H. Bunting, St. Catharines, and A. W. Peart, Burlington. In the course of Mr. Bunting's remarks he graciously referred to the work of Mr. Alex. McNeill in bringing about the conference. By his efforts in this direction, Mr. McNeill has brought about a feeling of harmony between fruit growers in the various provinces. Among the results of the conference, Mr. Bunting mentioned that the discussion there on fruit statistics, while excellently presented by Mr. Peart, went to show the need of more accurate data in that respect. The establishment of a definition for No. 2 apples, and of a new grade "Fancy," were important changes in the Fruit Marks Act. The feeling of the conference regarding pure food products has been the means of doing good. The discussion on fruit packages and the proposals made have gone a long way towards bringing about uniformity. The express companies operating in Canada have been placed under control of the Railway Commission.

When discussing the value and possibilities of the Dominion fruit conference, Mr. Peart also said that it tended to break down provincial prejudice and to make the fruit men more united. Many important matters were discussed, among them the question of transportation in various phases, such as, putting the express companies under the Railway Commission, railway facilities, ocean transportation, and cold storage for tender products. Mr. Peart referred also to markets and marketing and to insect and fungous pests, as discussed at the conference.

When speaking of Dominion fruit statistics, Mr. Peart said: "The value of our fruits and vegetables are lumped at \$12,994,900 for 1901. In acreage all orchards are lumped together. Vegetables and small fruits are lumped also. Vineyards are separate. The Ont. statistics gives information on fruit as follows: (1) Acreage of orchards and gardens lumped by counties and province; (2) acreage of vineyards by counties and province; (3) number of apple trees 15 years old and over, number under 15 years, and bushels per tree by counties and province. I would suggest that Ont. be asked to give further fruit details as follows: Acres of apple, pear, plum, and peach orchards; acres of other tree fruits, of small fruits and of vineyard, all by counties and province; also, acres of garden truck, such as tomatoes and so on, by counties and province. It would be well, also, to continue to give the number of apple trees by counties and province, and the average yield per tree by counties and province."

FRUIT STATISTICS

The question of fruit statistics was discussed, also, by Mr. C. C. James, Ont. Dep. Min. of Agr. He spoke of the difficulty and cost of compiling accurate and extensive statistics. The dept. finds it hard to secure reliable estimates of the

crop yield. The yield per acre of farm crops can readily be estimated, but it is a different matter in the case of fruits. So many influences come to bear on the crop between the time of blossoming and the harvest, that it is practically impossible to state at any one time what the crop will be when matured.

In Ontario there are about 7,000,000 apple trees in bearing according to the census of 1901. When one estimates the probable yield of these trees in a normal season, and then notices the number of barrels that are actually marketed, it is surprising to contemplate the tremendous waste and loss to the farmers in this country that occurs. An interesting discussion followed Mr. James' remarks.

It was suggested that crop statistics could be secured by the assessors. Others thought that the information could be secured from school teachers and pupils. Professor Parrot, of the Geneva Exp. Sta., said that crop estimates and values made before maturity are only approximate at the best. A knowledge of the crop outlook in one province or state is of little value without similar information regarding the conditions in others. The opinion was general that even accurate information regarding crop conditions in Ontario and in Canada is of small value unless a knowledge of the crops in the U.S. and in Europe is also known.

REPORT ON NEW FRUITS

In a report on new fruits, Mr. W. T. Macoun said: "There were fewer good, new fruits brought to our notice this year than usual, but some interesting and promising seedlings have fruited at the Cen. Exp. Farm, most of them for the first time. The cry from the colder parts of the province of Ont. for a winter apple with high quality and fine appearance may still go on unsatisfied, but we believe that it will not now be long before we shall have an apple which will fill this long felt want. The extremely severe winter of 1903-4 killed out many varieties of apples at Ottawa, but the lessons learned from that winter have been of the utmost value, and should save many thousands of dollars to those who are planting apple trees in those parts of the country where the climate is similar to what it is at Ottawa.

"One of the facts that was brought especially to our notice after that winter was that it was the trees of the varieties which ripened their wood early which came through in the best condition. An early ripening tree means, in our experience, a tree which ripens its fruit early, hence most of the hardy varieties prove to be summer and fall sorts, but there are exceptions, and we found that in some cases the trees mature early and the fruit is in condition for eating in late fall or early winter, yet the fruit will keep practically all winter. In other words, the texture of some apples does not break down as soon as others, even though they become fit to eat at the same time. It is this early maturing but long-keeping apple which will give us the tree hardy enough to withstand a test winter. Some varieties of this character which withstood the test winter at Ottawa are Winter Rose, Stone, Calumet, Scott's Winter, Milwaukee, La Victoire, and Baxter. The Winter Rose is an apple of good size, of fair appearance and good quality, but has not sufficient acidity for a winter apple. The Stone is of much the same character. The Calumet is an attractive looking apple, but not even enough in size nor quite good enough in quality. The La Victoire comes nearest being an apple of the desired type, but lacks juiciness. The Baxter is a very large, handsome apple, but somewhat coarse. Since the winter of 1904, however, when it proved so hardy, we consider it a desirable apple for planting in the North.

"As was stated last year, we have at Ottawa a collection of very promising seedlings which have been sent in by persons who have originated them. As these are being tested as standard trees rather than top grafts, they are longer coming into bearing, but our own seedlings, raised from the best apples fruited at Ottawa, are

not fruiting in considerable numbers. Out of 84 which we have described, consisting of seedlings of Fameuse, McIntosh, Swazie, Wealthy, Scott's Winter, Winter St. Lawrence, and Dorkham Russett, 21 have been considered sufficiently promising to propagate for further trial, so that if this proportion, which is 25% of promising apples, is maintained through the 2,000 apple seedlings which are being grown, we should have about 500 promising varieties to select from.

"A number of promising crosses have fruited, and many Russian seedlings also. There is a temptation to disseminate some of the best of these, but we believe that even though it takes a long time it is best to thoroughly test a variety before recommending it, as there are too many kinds on the market already. It is interesting to note among the seedlings which have fruited, the more or less resemblance in most cases to the female parent and to the probable male or the tree growing near that from which the fruit was taken in the orchard. This is particularly the case in regard to the seedlings of Wealthy and Swazie Pomme Grise. Near the original tree of Swazie seedlings and the large dots on the skin show the Baxter blood, and in one instance a large Swazie seedling looked very much like Baxter in outward appearance. The Wealthy seedlings nearly all have that smooth, symmetrical surface peculiar to the parent, and in some instances the seedlings have been quite crab-like, showing the crab origin of the Wealthy as claimed by Peter Gideon, the originator.

"Some good grape seedlings fruited this year, the seedlings of Brighton being particularly promising. One of these, a black seedling, almost identical with Brighton in flavor, but a finer grape, will, we believe, be an acquisition.

"There are 2 new apples which have been fruiting at Ottawa for several years which we would like to draw your attention to. These are the Walter and the Hoadly. They are both about the season of the Wealthy, but have proved very hardy and have merits of their own.

"WALTER.—Originated by the late P. C. Dempsey. Fruit, roundish, rather irregular, very large; cavity, deep, open, medium width; stem, short, moderately stout; basin, deep, medium to open, almost smooth to moderately wrinkled; color, greenish yellow, splashed and streaked with red, with dots, few, small, white, distinct; skin, moderately thick, moderately tender; core, small; flesh, yellow, rather coarse, juicy, melting, sub-acid; flavor, pleasant, high quality, good; season, October.

"HOADLY.—Originated in Wisconsin. Fruit, oblate; size, above medium; cavity, deep, moderately open, slightly russeted; stem, short, slender; basin, medium depth and width, almost smooth to slightly wrinkled; calyx, open; color, yellow, splashed and streaked with carmine, with dots, few, yellow, indistinct; core, medium; quality, above medium; season, Oct. Tree, an upright grower, hardy and productive. Sections obtained from the late J. L. Budd, Ames, Iowa."

In the report by Prof. H. L. Hutt, O.A.C., which was a verbal one, he mentioned the work that is being done at the college in developing new varieties by plant breeding. They had 125 varieties of strawberries and 100 varieties of raspberries fruiting this year, many of which appear to be quite promising. They do not intend to give any of them names or disseminate them for cultivation until they have been given a more thorough trial, as they do not wish to send out any new varieties until they are satisfied, after thorough trial, that they are in some way superior to those already in general cultivation.

Among the promising new fruits which are not much grown in this country, Prof. Hutt referred to Cox's Orange Pippin, one of the most popular apples in the Old Country, because of its excellent quality. Where it has been fruiting here, it has borne heavily, but the fruit is apparently subject to rot, and probably would not prove valuable for shipping. It is, however,

worthy of trial in southern sections of the province as a choice dessert apple. Another variety mentioned was Minkler, originated a number of years ago in Ill. This is apparently a very productive variety, of medium size, and good quality, and is a long keeper. On account of its lateness in taking on color in the fall and its dull red color when matured, it probably would not compete in the market with higher colored varieties.

Reference was also made to the Spencer Seedless Apple and the statement made that in our province, where we have so many fruit expt. stas. to thoroughly test such new varieties before they are offered to the public, it would be folly for growers to invest in new varieties of this kind until they have been tested and reported upon.

THE COOPERATIVE MOVEMENT

Representatives from the various cooperative fruit growers' assns. in the province, reported on the progress that is being made in the movement. The character of the reports gave evidence of the value of cooperation. Arkona reported that the assn. started 2 years ago with 8 members and shipped 1 carload. This year, they shipped 1,400 bbls., and realized satisfactory returns. The members of the assn. are well pleased with their success. The Burlington assn. has had good success, and has done good work for its members. Belleville, a new assn., is well pleased with the progress that has been made during its first season.

The assn. at Forest has been in existence for 3 years and has a membership of 30. Much progress has been made in the growing, packing and marketing of fruits. A change in orchard methods through cooperating has made it possible for the members to produce in quantity, fruit of superior quality. Forest has received satisfactory returns for fruit this year. They have consigned principally to the Old Country. The Ilderton F. G. A. reported by letter and stated its satisfaction with the cooperative movement.

The assn. at Newcastle has had a successful season. The fruit was sold to a dealer who was erecting a cold storage warehouse. It averaged \$2.25 a bbl. By cooperation, the orchards of the members have been well cared for, the quality of the fruit has been improved. It is proposed to increase the membership and probably to form a joint-stock company. A storehouse will be built in which the assn. intends to place its apples if a satisfactory price cannot be secured early in the season.

The Oshawa assn. reported that its first object is to secure a reasonable price to the grower for his fruit. During the past season, a good example of the value of cooperation was furnished. Some orchards of the members netted \$1.30 to \$1.70 a bbl., while neighboring orchards not in the assn. sold for 50 cts. a bbl. Oshawa has received returns from 800 or 900 bbls. The sales have been satisfactory. The consignments have brought practically the price asked for sales. The cooperative movement is not without its troubles. A few growers picked their fruit before it was ready. Another difficulty is the persistent efforts of apple operators to buy from members of the assn. with a view to breaking up the organization.

During the past season, the assn. at St. Catharines shipped about 160 cars, of which 60 were sold f. o. b., and netted a little over \$30,000. Many of the cars were sold to commission men in the west. Members of the assn. cooperate in purchasing baskets, spraying materials and other supplies. They bought one car of fruit packages from B.C.

The Simcoe assn. comprises about 20 members and has done excellent work. They refused admittance to growers who would not agree to spray 4 times during the season. The result has been a marked improvement in the orchards and fruit of that vicinity. Some men who refused to comply with the requirements are now sorry. Fruit of the assn. has brought good

prices. They intend building a storehouse and evaporator.

Many members of the Trenton assn. are now getting as much for their early fruit as they used to realize on their whole crop. One man who formerly got no more than \$20 for his orchard, received \$50 for it since he joined the assn. Another grower who had never realized more than \$50 for his orchard, received \$70 this year for his early fruit and still has 100 bbls. in storage. The assn. assigned one lot of fruit that netted \$2.55 a bbl. Most of their winter fruit is in storage.

The secretary of the Ont. Cooperative F. G. A. referred to its recent organization. Cooperation among the cooperative assns. is a movement in the right direction. Through the central organization, the various local assns. are kept continually in touch with each other. They are given information each week regarding what the others are doing. From the central office, reports on crop conditions and prices are disseminated. As the provincial assn. is comparatively new, it has not attempted anything radical in the way of improving the conditions of the affiliated assns. It has been moving slowly, with a view to looking into the possibilities. Next year, through the provincial organization, it is possible for the local assns. to have a man placed in the West and another in England, to look after their interests.

MISCELLANEOUS ADDRESSES

Many interesting addresses were delivered, full reports of which will be published in the next issue of THE CANADIAN HORTICULTURIST. Among them were "Low-headed Peach Orchards," by Chas. F. Hale, Shelby, Mich.; "The San Jose Scale," by Prof. P. J. Parrot, Geneva exp. sta.; "Future of the Apple in Ontario," A. McNeill, Chief, Fruit Div., Ottawa; "Markets of the North-West," Robert Thompson, St. Catharines; "Protecting Trees from Mice and Rabbits," W. T. Macoun, Ottawa; and "The Strawberry," W. F. W. Fisher, Burlington.

The Min. of Agr. for Ont., Hon. Nelson Monteith, addressed the convention and spoke of the apparent decadence of the apple industry in various sections of the province, due largely to lack of care and attention. He said that the O. F. G. A. should do a little missionary work in the way of teaching the owners of such orchards how to improve them. Fruit growing makes farm life more attractive and should be encouraged. Its influence tends to keep the boys and girls on the farm. Ont. should be the banner province in fruit growing. The maintenance of her reputation depends upon cooperation. The minister pointed out the fact that quality counts for more to-day than ever it did in the past. The moral is, produce the best.

At the evening meeting, Nov. 7, Prof. H. L. Hutt, of the O.A.C., Guelph, took the audience on an imaginary trip throughout the length and breadth of the province to the homes of many prominent fruit growers. By means of lime-light views and appropriate remarks, the Prof. showed scenes and described in an interesting way the homes and orchards of leading fruit men from the Niagara River and the St. Lawrence Valley to Algoma and the Muskoka Lakes.

Fruit Packages in B.C.

W. J. Brandrith, Ladner

A meeting of B.C.F.G.A. delegates from the various sections of the province was held in Vancouver on Nov. 2, to discuss the fruit package question. It was unanimously agreed that the 4-5 qt. box should be $5\frac{1}{2} \times 5\frac{1}{2} \times 2$ inches, and that the 2-5 qt. box should be $5\frac{1}{2} \times 5\frac{1}{2} \times 1$ inch, and that the crates to hold these sizes should be the only ones manufactured. It was also decided that the box known as the "Oregon Cherry Box" be adopted for sweet cherries, and that the 4-5 qt. berry crate be adopted for sour cherries; that the plum

crate now in use be adopted, and that a box $18 \times 11 \times 8\frac{1}{2}$ inches be adopted for pears, and that a half box for pears shall be $18 \times 11 \times 4$ inches; and that the pear and $\frac{1}{2}$ pear box be used for crab apples. A resolution was passed, also, asking the Dom. Govt. to legalize the apple box for home use, as well as for export.

At a meeting of the executive committee held on Nov. 3, it was decided to hold the annual meeting in Nelson, B.C., on Jan. 23 and 24. The secretary was instructed to procure a sufficient quantity of spraying materials for the coming season.

Nova Scotia Convention

The annual convention of the N. S. F. G. A. will be held at Wolfville, on Dec. 12, 13 and 14. An interesting meeting is expected. Mr. A. McNeill, Chief, Fruit Div., Ottawa, will speak on "Horticulture in Nation Building" and "Orchard Management." Mr. W. T. Macoun, Horticulturist, C.E.F., Ottawa, will discuss various horticultural questions. Prof. F. C. Sears, Truro, will discuss "Spraying" and other topics of interest to fruit growers. Cooperation will receive full attention.

An exhibition of winter fruits on plates and in barrels and boxes will be shown. This will add much to the general interest of the convention. Fruit growers, not only in N. S., but from the other provinces, are invited to attend.

Montreal Fruit Trade Notes

E. H. Wartman, D.F.I.

The handling of fruits from boats and railroads is not yet perfect. Barrels and boxes are not only broken by careless handlers, but are "pilfered"—leaving the barrels slack. Think of a barrel of Kings landing at steamer sheds for export, head broken to pieces and $1\frac{1}{2}$ pecks of the fruit taken out. This barrel, if landed in sound condition, would have brought 24s., but as it is 16s.—a loss of \$2. The checkers at steamers would sign teamster's check 1 bbl. slack"; but, who should pay to the shipper the \$2 loss? I would like to carry a rubber stamp and have the authority of the Dominion Dept. to brand such broken, pilfered packages, "Pilfered and broken—not to go forward," and to notify shipper of same, so that he might collect for packages so rascally used.

Apples in our standard export boxes are thrown down instead of being laid down. Inspectors soon stop such work when on the spot. They have saved shippers hundreds of dollars, but, there are times when these goods are arriving at 3, 4, or 5 o'clock a.m., that we cannot be expected to be around after a hard day's work up to 12 o'clock the previous night.

Our shipments from this port are probably 75,000 bbls. short of last year to date. The fruit is in the country yet. Before the beginning of navigation next May the aggregate will total a large number.

Shippers are wise in not filling the last steamers full of apples. As the season for this fruit is a long one and the apple is a general favorite, we may look for good profits by keeping the ball rolling not too fast.

In a few cases No. 1 Fameuse have sold in 5 bbl. lots in this city already at \$6 a bbl.

Important Announcement

In the House of Commons, on Nov. 26, the Hon. Sidney Fisher, Min. of Agr., intimated that an item would be placed in the estimates to encourage the establishment of cold storage warehouses throughout Canada. The proposition is to secure the equipment and establishment of cold storage plants where the conditions of trade seem to justify.

Mr. Fisher asked his colleagues to put in the estimates an item which would bring about the desired results. In a few days the estimates will be placed upon the table of the House.

The Ontario Horticultural Exhibition

LOVERS of flowers, fruit and vegetables in Canada have reason to congratulate themselves upon the success of the third annual Ontario Horticultural Exhibition held last week, Nov. 6-10, in Massey Hall, Toronto. The attendance, in spite of one rainy day, was considerably more than twice as large as last year. The total number of entries in all departments was some 2,000 greater than ever before. The quality, also, of the exhibits was much ahead of previous years.

The increased attendance was due to two reasons: the running of half-rate excursions to Toronto from all parts of the province and the presence of the Black Dike Band. This latter feature proved a costly attraction, but it went far to make the exhibition enjoyable to "the indifferent public," and thus to place the exhibition on a better footing for the future.

There will be a deficit, how large has not been ascertained. It is believed, however, that it will be little, if any, larger than last year, and that it will be possible to pay everything in full, as was done a year ago. There is reason to believe that the exhibition, at last, has been placed on a permanent basis. In time it may rival, in its way, even the famous Royal Horticultural Exhibition of London, England.

Visitors were lavish in their praises of the different exhibits. They were equally as enthusiastic over the large cauliflowers as they were over the American Beauty roses. The fruit excited as much interest as did the decorated dinner tables. The fruit and vegetables appealed to the inner man, while the flowers were a feast to the eye and mind. Combining the different branches of horticulture in one grand show has proved to be a movement in the right direction. It has met with the approval of the public. From now on, no florists are likely to even suggest the holding of a flower show of their own. This is a day of combines, and this combination has proved a success.

The arrangement of the exhibits was different from last year, and proved more attractive. The decorated dinner tables were placed in front of the stage, with a partition dividing them. The chrysanthemum groups were at the top of the stage, in the same position given the orchid groups last year. The latter were placed at the east side of the hall and showed up to excellent advantage. The mixing of exhibits of fruit and flowers on the same tables, which last year was not liked by many, was omitted. Each table was devoted to one class of exhibits. The box fruit was displayed in the basement, as also were the vegetables and the made-up floral work. Exhibits from the Ontario Agricultural College were placed both in the main hall and in the basement.

PLANTS AND FLOWERS

The arrangement of the chrysanthemum groups was not equal to former years. This was owing to the place in which they were located not being adapted to the displaying of groups of this nature. The palms and decorative plants used in these banks were better than in former years. Many of them were exceptionally well grown. The judge had no easy task to pick the winner.

In the orchid groups the judge again pronounced for quality as against quantity. There has never been as grand a display of orchids seen in Canada. The public probably did not realize how rare the collection was.

Some fine specimens were exhibited in the classes devoted to palms, ferns and decorative plants. The chrysanthemum bush plants were not as good as is usually seen, owing to the bloom not being developed. Had the exhibition been 2 weeks later, some fine plants would have been shown. One of the plants measured over 6 feet through. The single stem chrysanthemum plants were a surprise to many. Such good bloom was not expected for the season.

The decorative plant* class brought out some splendid specimen plants of better quality than those usually seen.

In the cut bloom classes there was a fine display. The quality of the chrysanthemums was high for the season. The exhibits in the carnation sections were not as numerous as last year, and the quality of the bloom was not up to the usual standard. The competition in the rose sections was keen. The quality of the bloom shown was much above the average.

The entries in the "made-up-work" were not so numerous as last year, but the class of work shown was an advance. The skill of the floral designer was made manifest in the keenness of the competition.

DECORATED DINING TABLES

The decorated dinner tables were judged by a committee of ladies selected by Mrs. Mortimer Clark. Their decisions were a surprise to some of the exhibitors. J. S. Simmons won first prize, A. Jennings second, Thos. Manton third, and J. H. Dunlop's table, set up by H. G. Dillemeuth, fourth. After the decisions were made THE CANADIAN HORTICULTURIST interviewed the ladies to find the reasons for the decisions. The ladies said that all of the tables were overdone; there were too many flowers used and they were arranged too high, so much so that they would obstruct the view of the guests. The principal objection to Mr. Simmons' table, outside of the flowers being too high, was the tying of the ladies' corsage flowers with a silk cord. This is only a matter of opinion. On the Jennings and Manton tables were bon-bon dishes that were not in keeping with the other dishes. They should have been either cut glass or silver. The fourth prize table evidently had a large amount of time and thought expended to produce the results but, in the opinion of the ladies, it was overdone. The shades on the candelabra did not harmonize with the other colors on the table. The fish knife and fork were incorrectly placed. There was too much space between the cutlery. A table cloth should have been used, and not lace mats, as, in serving a dinner, the top of the table would have been damaged by the hot plates. The setting was more suited for a fruit luncheon. A guest seated at the table for one and a half hours, they thought, would find the electric lights very trying on the eyes. The proper method of lighting a table is to have the lights on a level or just below the eyes. There was, they thought, too much ribbon used on this table. By many of the general public, who did not take note of these points, this table was liked the best of all. The dishes on the tables were minutely examined by the judges, even to the salt dishes, and the unanimous opinion was that the tables were not equal to those of last year. The judges were surprised to find so many of the tables decorated with orchids. A greater variety of flowers would have been better. They found it difficult to judge the tables in the afternoon owing to the tables being set for an evening effect. The judges recommended that next year the exhibitors should produce a simpler effect in their decorations.

THE FRUIT EXHIBITS

The show of fruit was an advance on anything of the kind held in Canada. The competition was closer both in plate fruits and in commercial packages. A. McNeill, Chief, Fruit Division, Ottawa, said that Ont. is the pupil of B.C. in packing, but at the recent fair at New Westminster, B.C., there was no packing that equalled some at the Toronto show. It is fair to say, however, that the general run of box fruit from B.C., seen in our markets, is much better than that put up in Ont.

While the packages at the show were a superior lot, a number of defects were noticed. The sides of the boxes, in many instances, were too thin: the best thickness is from $\frac{3}{8}$ to $\frac{1}{2}$ an inch. The tops and bottoms were too heavy; these

should be not more than 5-16 of an inch. The ends of the boxes, as a rule, were correct, which is $\frac{3}{8}$ to no more than $\frac{3}{4}$ of an inch thick. Some boxes had cleats running up and down on the ends; this is unnecessary and adds to the cost. A few boxes were roughly sawed. Smoothness is necessary to good appearance; fine saw-cut or planed material is best. On the whole, the finish of the boxes was good, but some exhibitors forgot to put cleats across the top and bottom at the ends. This is a grave defect as, though not detracting from strength, it does not protect the bilge. The kind of material used was fairly good; elastic woods, like spruce, are better than basswood.

The character of the pack-system showed a great improvement over past efforts. In a few boxes inferior packing more than offset the quality of fruit. A number of exhibitors failed to pack with due regard for the proper bilge. There was not a great variety of styles in packing. Evidently packers spent their energy in selecting apples of suitable size, rather than in selecting a pack to suit the size of apple. On many boxes, lace paper added to the appearance, but packers should see that it is placed only on the sides and not continuous around the box. In some boxes were found apples that had defects sufficient to disqualify them; among these, considerable "ink spot" or "fly spot" was noticed.

Some poor branding was noticed. The judges discriminated against lead pencil markings. None of the branding was quite up to the standard. In many cases the stencil was used when the steel die would have been better. The latter is neater and the printing can be done when the boxes are made, except the grade and tier marks. Mr. McNeill suggested that Ont. growers should mark the number of tiers on the box as well as the grade.

The pears in boxes were put up equal to the best California pack. The peaches, also, were well packed. They had been wrapped and kept in cold storage. The way in which they came out showed the value of both the storage and the wrapping. Some growers had neat labels on the wrappings, that showed the fruit to good advantage.

In the competition in barrelled fruit, every feature of good barrel packing was illustrated. It is believed there will not be found in any part of the world better barrel packers than in Ont. Most of the barrels used were 8-hooped and, other things being equal, these scored a point or two more than those with only 6 hoops.

A feature of the fruit shown on plants were the county exhibits. Among the most noticeable were the counties of P. Edward, Durham, Northumberland, Lambton and Norfolk. Oxford Co. sent some beautiful Baldwins; Norfolk and the united counties of Northumberland and Durham, a fine display of Spys. While the county exhibits were good, they did not give a fair comparison of what each county can do. The size of the exhibit from a particular county does not count for much in estimating the fruit industry of the county. A county, unimportant in fruit matters, might send an exhibit larger than those sent by more important counties. The prize list should be arranged in a manner that will bring out more exactly the comparative capabilities of the different counties.

There was a large and excellent display of table fruit. A noticeable feature to the observer was the way in which the immense red apples, like Wolf River, appealed to the general public, when otherwise such varieties are of no particular value. There were some Cayugas that measured $14\frac{1}{2}$ inches in circumference. Most of the apples were highly colored and well finished.

Considerable dissatisfaction was expressed over the decisions of the judge on plate apples. Wrong judgment was shown in many classes. In Spys, the awards seem to have been made with eyes closed. First prize Fameuse were scabby.

In the class for cooking varieties, Mann, Fallawater and Baxter were given preference over Fall Pippin, Ontario and Bellfleur. In class III, dessert apples, Baxter received a prize as "any other desirable variety," and in class IV, cooking apples, the same variety was given a place as "any desirable seedling." These are a few of the many inexcusable mistakes that occurred. It is evident that the judge, who is not an apple man, did not know his business. He should not have been given the responsibility of deciding on fruit that he doesn't know much about, and he should not have accepted it.

The class devoted to pyramids of fruit brought out many entries. The display was good. The fruit was high-class, although a few defective specimens were noticed that should have been left at home. Showing apples in pyramids is a good feature. It is the most attractive form of table decoration. Peaches, pears and grapes on plates added much to the fruit section of the show. Fine specimens of each class were shown.

CENTRAL EXPERIMENTAL FARM

As usual, the C.E.F. had an exhibit that was a credit. It showed the character and progress of the work being done by Mr. W. T. Macoun, the horticulturist. When the C.E.F. first showed fruit, the apples were nearly all fall varieties. Since then the proportion of winter varieties has increased each year. Out of 57 varieties on exhibition this year, 23 were late keepers. This is evidence that the work is progressing in the right direction.

Among the leading varieties exhibited and recommended for planting in northern sections were: Milwaukee, early bearer, productive, hardy tree, very acid in flavor—now being crossed with McIntosh to improve flavor; Baxter, good, early to midwinter; Forest, good quality, late keeper, hardy—also being crossed with McIntosh; Winter Rose, mild flavor, hardy; Scott's Winter, good but small; and Stone, large, hardy, originated in Vt.

The display of grapes was grand. One wonders that such delicious flavored, well-bunched grapes can be grown out of the grape belt. Every variety grown in the Niagara district was in the C.E.F. collection. All were well ripened. Besides these, a number of other varieties were shown. Mr. Macoun is working on the production of early ripening varieties for planting in semi-northern districts, where now grape growing is not a good commercial proposition. Among the best varieties for the home garden in those districts are, in red, Moyer, Brighton, Lindley and Delaware; in black, Moore's Early, Campbell's Early, Worden and Wilder; in white, Moore's Diamond.

EXPERIMENT STATIONS' EXHIBIT

The Ont. Exp. Sta. had a nice exhibit, but not up to the standard of some others in past years. It was in charge of L. Woolverton, Grimsby. Eight stations sent contributions. The arrangement was good, the main feature being central pyramids of the best varieties for growing in the various districts. Mr. Woolverton showed the "Princess Louise" apple that was originated on his own farm. It is a New Year dessert variety, valuable for the home garden, but not productive enough for market. For the first time an exhibit of vegetables grown at an experiment station was shown. Work in this line has been commenced at Leamington and is in charge of E. E. Adams. The exhibit was a creditable one, containing 30 varieties, all good stuff, including sweet potatoes.

The exhibit from Algoma, the station farthest north, contained 17 varieties. Those best suited to the section are Wolf River, Colvert, Winter Arabka and Longfield. The St. Lawrence Sta. sent 23 varieties, including Scarlet Pippin, Snow and Baxter. Milwaukee, also, was shown, and is recommended by the station this year for the first time. In the Lake Huron sta. exhibit there were 24 varieties, including Wealthy, Bottle Greening and W. Arabka. As would be expected, the Bay of Quinte sta. sent an excellent

exhibit, comprising 25 varieties. Fine specimens of the leading varieties were shown.

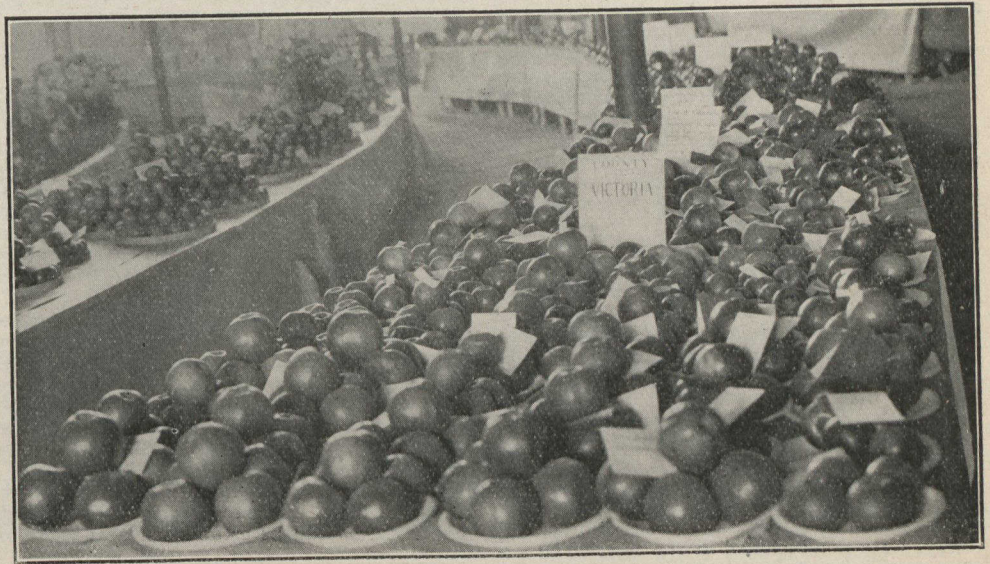
The most attractive exhibit came from the Burlington sta. It included 50 varieties, among them a number of southern kinds seldom heard of here. Repeated tests with such varieties show that they do not succeed well in our climate. We require apples that have originated in Canada or on similar latitudes, such as Minnesota. The Burlington exhibit included 38 varieties of fruit in bottles, put up in antiseptic solutions. A showy exhibit was shown by the station in Simcoe Co. It contained 40 varieties, among them the immense Wolf River apple that attracted more attention than any other apple at the exhibition. A new apple from Wisconsin called "Peerless," a seedling of the Duchess, was shown; it promises to be worthy of further trial in this province.

O. A. C. EXHIBIT

The O. A. C. biol'l dept. put up an exhibit of educational value. Many of the insect and fungous pests that trouble the fruit and vegetable grower were shown either mounted or in antiseptic solutions. A good display of material

prize list called for only 25 varieties in each collection, there were shown, in some, about 50 varieties. Had the prize list called for 25 classes rather than varieties, the requirement would have been more comprehensive. One of the best collections was that of Mr. Thos. Delworth, Weston, Ontario. It was the most artistically arranged, but, as celery was lacking, it did not receive the consideration that it otherwise would. The first prize collection, put up by W. Harris, Humber Bay, was a credit to the grower.

In the other classes, competition was close. White artichokes were extra fine. Beets, both long and globe, were good. The Brussels sprouts were the finest ever shown in the province. The public should know and use this delicious vegetable more than now. Cabbages were excellent, but one or two entries crept into the flat class that did not belong there. In the cauliflower classes there were 26 entries, any one of which was a credit to the producer. Some excellent celery was shown, but in the red class, pink varieties were given preference over the red. The carrots were good and clean. Egg plants were good for the season. The endive



The County Exhibits Were a Feature of the Fruit Department

So numerous were the entries that it was impossible to display them to best advantage. There was not enough room to avoid crowding

used in the teaching of nature study, as well as some work of pupils, was on exhibition.

The hort'l dept. had an exhibit of fruits and vegetables. There were 78 varieties of apples, among them 7 varieties that have been held in cold storage since the season of 1905. Those that came through best were Stark, Lawver, Salome, Ben Davis and Gano; the others were Blenheim and Ribston. A new apple was shown called "Champion." It was originated by the Stark Nursery Co., of Mo. It is a late winter variety of medium size, fair color—a little better in most points than Stark.

Among the vegetables were 43 varieties of beets, including the standards, Eclipse and Meteor. There were 23 varieties of carrots, including nice specimens of Shantenay, Rubicon and Scarlet Nantes in intermediates, and English Horn in short. Among the onions was a new one that is large, productive and even in size; it is one of Sutton's and is called "Ailsa Craig." Some nice winter radishes were in the collection, including some white varieties that are milder in flavor than the other types; a good one is Osaki

VEGETABLES

The vegetable exhibit was larger in number of entries and superior in quality to that of last year. The display of cauliflower was grand. The various collections were good. While the

specimens were all right in size, but they should have been more bleached.

There were shown some extra large specimens of khol-rabi; in fact, size was produced at the expense of quality. The leeks were extra fine. Lettuce was good, but there was not enough competition. The onion exhibit was a superior one; those in ropes attracted much attention. Some nice parsnips were shown; one of the finest in size and smoothness did not win a prize on account of the crown being too coarse and large in proportion to the rest of the specimen. Peppers were good. There were some nice winter radish, but the competition was small. The same may be said of turnip radishes. The salsify exhibits were good, also the squash and citron.

There was not a large competition in the potato classes, but the entries shown were clean, smooth and creditable. The collections of vegetables grown in York County comprised specimens that could not be beaten anywhere.

MISCELLANEOUS

The exhibit of honey and apiary supplies was good in quality and fairly well arranged. It could be improved by the adoption of brighter and more attractive labels on the bottles and jars.

The Biggs Fruit and Produce Co., Burlington, were on hand with a display of choice, wrapped

apples in boxes. The exhibit was attractive, the apples being of high quality and neatly packed.

An exhibit of Spencer Seedless apples attracted much attention. A number of specimens were cut and given to fruit growers and others interested. Information regarding the variety was disseminated by members of the company.

A standard Wallace Sprayer was on exhibition.

Important to Vegetable Growers

THE horticultural department at Guelph, the holding of vegetable growers' meetings throughout Ont., the increasing of the government grant of the assn. and the advisability of urging the establishment of vegetable expt. stations at central points throughout Ont., were 4 important matters discussed at the meeting of the directors of the Ont. Vegetable Growers' assn., held in Toronto, Nov. 7, at the time of the Ont. Hortl. Exhibition.

A special committee, composed of Joseph Rush, of Humber Bay; T. Delworth, of Weston, and W. C. McCalla, of St. Catharines, who had been appointed to visit the college to find what work was being done there for the benefit of the vegetable growers, and to make suggestions for new lines of work, presented their report.

The committee reported that at the time of their visit the crops at the college looked well, especially the onions and a few rows of asparagus planted the past spring. An exception was the early cabbage, which had been almost entirely destroyed by root maggot. In view of the fact that the O.A.C., in Bul. 122, gives remedies for this pest, the committee reported that they were surprised to find that these remedies were not in use. In the opinion of the committee, the value of the work done at the college would be much increased if the remedies suggested in the bulletins were found in actual operation there, so that visitors would be able to judge their work. So far as they were able to learn, no attempt had been made at the college to combat the root maggot.

On the trial grounds, a number of different varieties of vegetables were found to be under test. Some vegetables, such as beans, peas and celery, were not included in the test. The department of entomology had issued a bulletin on "The Common Fungous and Insect Pests of Growing Vegetable Crops." Experiments have been conducted this year with remedies for the radish root maggot, but no definite conclusions have been reached so far. Prof. Harcourt has been doing valuable work through experiments with fertilizers. Prof. Zavitz has conducted experiments of great interest in the growing of potatoes. In their recommendations, the committee expressed the opinion that it was a mistake for the dept. of horticulture to devote itself almost exclusively to variety tests. Many of the varieties under test are inferior, and were discarded long ago by gardeners. In the case of lettuce, out of the 91 varieties under test at the college, growers have found that only 6 or 8 are worth growing. The committee believes that the rest should be discarded and that in future the college might confine itself to testing the novelties introduced each year by reliable seed firms. It believes that this plan would much reduce the work of the college without impairing its value.

They suggested that work be attempted along the line of improvement, by seed selection or otherwise, of the best known varieties. The conducting of experiments to determine the best methods of fertilizing and preparing the ground, of planting, of cultivating, and of protection from insects and fungous enemies and of handling the mature vegetable crops; that these experiments should be conducted with a view to their value to the commercial grower. The initiative, they believe, belongs to the dept. of horticulture. In conclusion, the committee ex-

Mr. W. H. Brand, Jordan Station, was in charge and expounded upon the many merits of this well-known and well-tried machine.

Horticultural manures in variety were exhibited by The Arnott Chemical Co., of Toronto. An exhibition of fruits, flowers and vegetables would not be complete without the presence of the fertilizers that produced many of the first prize specimens.

pressed the opinion that the college and growers should keep in close touch with each other.

In a discussion that followed the reading of the report, the members of the committee made statements that were stronger than any contained in the report. The view was expressed that the hortl. dept. lacks a proper conception of the work it should undertake. Instead of branching out along new and important lines of work, it apparently has been content to do about as little as possible. Some of the directors stated that when they had asked for the appointment of a vegetable expert at the college, they thought that this expert would be given considerable power of initiative, but, apparently, he has been treated as but little better than a hired laborer. It was finally decided to lay the matter fully before the Minister of Agriculture. Later, the full board of directors waited on Hon. Mr. Monteith and presented their views to him fully. The assn. made application to the Dept. for an increase in its grant from \$600 to \$1,000. The assn. has 150 more members than any other assn. in the province. Its grant is only one-third of that of the Ont. Fruit Growers' Assn., and \$400 less than the grant to the Bee Keepers' Assn.

A report was read from a committee composed of representatives of the Kingston and Ottawa branches, who had been appointed to visit the Central Experiment Farm at Ottawa to ascertain what work is being done there. The report merely mentioned lines of work being undertaken at the farm, and did not offer any criticisms or suggestions for new work. Mr. Bushell, of the Kingston branch stated that the growers in the vicinity of Kingston feel that a vegetable expt. sta. should be established near there and

he asked for the cooperation of the Ont. Assn. in securing such a station. While the matter was being discussed, it was suggested that vegetable expt. stations might be established throughout the province on the same lines as the Ont. Fruit Exp. stations. This suggestion met with considerable favor. It was felt, however, that the assn. has been moving rather rapidly, and that it would not be wise for it to press for these improvements all at once.

A committee composed of Messrs. McCalla, Macoun and McMeans, who had been appointed to judge the essays in the essay competition, presented its report. The winners are as follows:

Potato culture—4 essays received.—1, W. A. Broughton, of Sarnia; 2, F. F. Reeves, of Humber Bay; 3, H. A. Blunden, Sarnia.

Cauliflower culture—4 essays received.—1, A. Knight, Cataraqui; 2, T. Delworth, Weston; 3, J. N. Watts, Portsmouth.

Tomato culture—2 essays received, one of which was received after the competition had closed and therefore was ruled out.—1, J. N. Watts.

(Continued on page 320)

THE POST OFFICE DEPT. saves you money, labor and worry. Take advantage of it by ordering your requirements through the mail direct from the advertisers in this paper, and thus save the middleman's prices. Mention this paper and thus insure prompt and courteous treatment. See our Protective Policy on the editorial page.

The Arnott Chemical Co., whose advertisement appears on another page, are now manufacturing their special manures in Canada. These fertilizers are carefully made from the best ingredients, as proved by their crop producing powers. The advantage of growers being able to obtain such high-class fertilizer manufactured in Canada, thus saving the import duty, cannot be overestimated. One specialty, their Concentrated Soluble Odorless Horticultural Manure, we can highly recommend to amateurs, especially ladies, as it is clean to handle and free from objectionable smell. It is invaluable for plants in the house, keeping them healthy and vigorous during the winter months.

The Sovereign Bank of Canada

Chartered by Dominion Parliament

A NEW CANADIAN RECORD

31st October	Capital Paid-up	Reserve Fund and Undivided Profits	Sovereign Bank Notes in Circulation	Deposits	Excess of Assets over Liabilities to the Public
1902	\$1,173,478	\$ 240,000	\$ 759,995	\$ 1,681,730	\$1,413,478
1903	1,300,000	362,838	1,237,650	4,309,432	1,662,838
1904	1,300,000	420,373	1,284,840	7,196,741	1,720,373
1905	1,610,478	523,461	1,550,790	10,134,209	2,133,939
1906	3,942,710	1,335,847	2,850,675	15,578,920	5,278,557
31st October	Cash on Hand and at Bankers	Bonds, Debentures, etc.	Loans at Call	Commercial Loans and Discounts	Total Assets
1902	\$ 383,097	\$ 439,363	\$1,630,199	\$ 1,358,469	\$ 3,855,203
1903	622,774	713,397	1,747,342	4,074,048	7,209,920
1904	1,214,822	672,034	1,179,540	7,014,123	10,201,954
1905	1,491,398	791,153	1,566,144	9,578,850	13,818,938
1906	3,916,842	1,612,831	4,614,067	14,640,510	25,343,401

SAVINGS DEPARTMENT AT ALL OFFICES

Deposits of \$1.00 and Upwards Received

Interest Paid Four Times a Year

Mention The Canadian Horticulturist when writing.

The Sovereign Bank of Canada

OFFICE OF THE 2ND VICE-PRESIDENT AND GENERAL MANAGER,

MONTREAL, November 10, 1906.

To the Shareholders, The Sovereign Bank of Canada:

WE have pleasure in enclosing herewith statement of the Bank's position as at the close of the fiscal half-year, ending 31st October, together with comparative statistics for the past five years. The figures require no special explanation, and we feel sure the progress and stability which they indicate will afford the proprietors and friends of the Bank complete satisfaction.

The Bank's American and Foreign business has now attained considerable importance. Our connections abroad, as well as our facilities at home, enable us to handle British, Continental and American transactions entrusted to us on a favorable basis, and the results so far have been satisfactory to all concerned.

Our principal business is, of course, confined to Canada, and is concentrated in the provinces

of Ontario and Quebec, which long experience has proven to be the safest territory in the Dominion for the conduct of a general and commercial banking business. In these two provinces the Bank has 55 branches and 22 sub-offices, the latter being managed from central points, and in some instances open only two or three days a week. We have not yet opened any branches in the North-West, as competition there seems to be unusually keen, but with the undoubted progress which the country is making, these conditions will probably right themselves later on, and in the meantime we have very satisfactory banking arrangements for the conduct of business throughout that territory.

The capital of the Bank (\$4,000,000) will be fully paid up in a few months, and it is a source of great satisfaction to know that our sharehold-

ers number nearly 1,200 and include some of the most powerful financial people in the world.

The Sovereign Bank is at present the eighth largest chartered bank in Canada in point of capital. Its assets amount to \$25,343,401, a large part of which are "liquid," and the continued growth of deposits testifies to the popularity of the institution throughout the country.

The Note Circulation shows an advance of 83% over last year, and both the Circulation and Deposits have increased materially since the present statement was compiled.

The past half-year is the best the Bank has ever had, and we have every reason to think that the current half-year will be at least as good.

Your obedient servant,

D. M. STEWART,
General Manager.

Half-Yearly Statement 31st October, 1906

LIABILITIES

Capital Stock paid-up.....	\$3,942,710.00	
Reserve Fund and Undivided Profits.....	1,335,847.22	\$5,278,557.22
Notes of the Bank in circulation.....		2,850,675.00
Deposits Payable on Demand.....	\$5,685,321.09	
Deposits Payable after Notice.....	9,893,598.66	15,578,919.75
Other Liabilities.....		1,635,249.15
		<u>\$25,343,401.12</u>

ASSETS

Gold and Silver Coin on hand.....	\$ 538,989.58	
Dominion Government Notes on hand.....	1,121,447.00	
Notes and Cheques of other Banks.....	1,155,304.99	
Balances with Bankers.....	1,101,101.00	
Cash Assets.....	\$3,916,842.57	
Cash Deposited with Dominion Government for Security of Note Circulation	80,000.00	
Provincial Government and other Securities	1,612,831.16	
Call and Short Loans Secured by Bonds, etc.	4,614,067.00	\$10,223,740.73
Commercial Loans (less rebate of interest)	\$14,640,510.40	
Bank Premises, Real Estate, Safes, etc...	473,837.57	
Other Assets.....	5,312.42	15,119,660.39
		<u>\$25,343,401.12</u>

D. M. STEWART,
General Manager.

Comparative Statistics

LIABILITIES

31st October	Capital Paid-up	Reserve Fund and Undivided Profits	Sovereign Bank Notes in Circulation	Deposits
1902	\$1,173,478	\$ 240,000	\$ 759,995	\$1,681,730
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1905	1,491,398	791,153	1,566,144	9,578,850
1906	3,916,842	1,612,831	4,614,067	14,640,510

GENERAL

31st October	Total Assets	Excess of Assets over Liabilities to the Public	Branches and Sub-offices	No. of Shareholders
1902	\$3,855,203	\$1,413,478	17	757
1903	7,209,920	1,662,838	28	819
1904	10,201,954	1,720,373	42	854
1905	13,818,938	2,133,939	53	1,004
1906	25,343,401	5,278,557	78	1,195

N.B.—This Bank commenced business 1st May, 1902.

D. M. STEWART,
General Manager.

Apple Yield Less Than Anticipated

WHILE some apple districts report yields up to, or above, expectations, the crop on the whole has proved to be less. Many adverse conditions decreased the percentage of No. 1 fruit. Prices f.o.b. have been fairly good. Many consignments to the Old Country have given excellent returns. Most growers who sold their apples by the lump in orchard, failed to realize full value for the crop. Advices from various points indicate that fair quantities of apples are still in the country, being held in storage. Correspondents of THE CANADIAN HORTICULTURIST report as follows:

GREY COUNTY

Meaford.—Between 25,000 and 35,000 bbls. of apples will be the output from this point. The yield is above expectations. Large quantities have been shipped to the West.—J. D. Hamill.

KENT COUNTY

Chatham.—Yield has been light. Codling moth and San José scale ruined a large percentage of the crop. Canning factories paid 50c. a cwt., and evaporators 25c. a cwt. for good stock. Good returns are expected for apples consigned to the Old Country.—Milton Backus.

LAMBTON COUNTY

Arkona.—Crop is above the average. No apples stored. Prices fairly good. Some cars sold for \$2.50 for No. 1, \$2 for No. 2. Consignments have netted about \$2.—W. J. Seymour.

NORFOLK COUNTY

Simcoe.—No apples stored. Sprayed orchards yielded well, some netting \$200 an acre.—W. Olds.

WENTWORTH COUNTY

Fruitland.—Crop short of anticipations. Codling moth, winds and frosts did much damage. Buyers report 75% of crop to be No. 2. Prices ran from \$1 to \$1.25 picked in orchard. Prices

now quoted by dealers are variable, some as high as \$3.50 for No. 1 Spys. Fair prices may be expected for good No. 1 or Fancy stock. Large quantities have been placed in cold storage in Hamilton.—Joseph Tweddle.

OXFORD COUNTY

Ingersoll.—Yield above the average. About 2,000 bbls. stored in town. Prices have been satisfactory, ranging from \$1 to \$1.75 a bbl. picked from trees.—J. C. Harris.

MIDDLESEX COUNTY

Ivan.—Prices have been satisfactory. Not many bbls. are in storage here. Quality is good from sprayed orchards.—E. T. Caverhill.

HALTON COUNTY

Oakville.—Crop $\frac{1}{2}$ less than predicted. Not many bbls. stored. Prices ranged from \$1 a bbl. on trees to \$1.25-\$1.40 a bbl. picked. Apples sold, packed, f.o.b. or consigned gave better returns.—W. H. MacNeil.

Burlington.—Few apples are stored. Prices have been good. Nos. 1 and 2 averaged \$1 a box, some much higher. No. 3's brought \$1 a bbl. net.—W. V. Hopkins.

HASTINGS COUNTY

Belleville.—Crop only medium; less than early predictions. About 6,500 bbls. stored. Prices have been fairly good. Spys have realized 19s.; Snows, 17s.; Greenings, 17s. 6d.—F. S. Wallbridge.

LEEDS AND GRENVILLE

Maitland.—Crops not up to early expectations in quantity or quality. Codling moth did much injury. No. 1 Fameuse are selling at \$3 to \$4.50 a bbl. in local markets.—Harold Jones.

DURHAM COUNTY

Newcastle.—Prices have been fairly good. A number of orchards were sold at \$2.25 a bbl., tree run, Nos. 1 and 2, f.o.b. and netted the

growers about \$1.60 for the apples. One grower sold for \$2 a bbl. tree run. Small orchards were sold at \$1 to \$1.25 a bbl. on the trees. About 10,000 bbls. have been stored in this vicinity.—H. C. Bowen.

MONTREAL DISTRICT

Westmount.—Crop above expectations. Coopers report that growers underestimated the yield, as evidenced by additional orders for bbls. In Montreal No. 1 Fameuse are bringing \$4, and No. 2, \$2.25 to \$2.75 a bbl; Mackintosh red, \$5 to \$6 for No. 1 and Fancy. Montreal wants apples in barrels, not boxes. Apples for export rushed in before close of navigation in large quantities. More apples are being held in cold storage in the country than last season. Probably prices will drop for a time; towards spring they will pick up.—R. Brodie.

Henrysburg Centre.—20,000 bbls. of apples were sold to speculators at 90c. to \$1 a bbl. They are now selling in Montreal at \$2.50 to \$3.50. Who made money?—John Spencer.

A large company of fruit growers and others has been organized in N.S. to be known as Hillcrest Orchards, Limited, with headquarters at Kentville, N.S. Mr. Ralph S. Eaton is the pres. and mngr. The authorized capital is \$75,000 and subscribed, \$55,000. If you are interested, send for the prospectus, with accompanying booklet of views.

The cut of the 1st prize decorated dining table, on page 301, was exhibited at the Ont. Hort'l Exhibition, by J. S. Simmons, Toronto. The 2nd prize table, on page 302, was shown by A. Jennings, Toronto. The White Globe onions, on page 303, were the product of the gardens of J. N. Watts, Portsmouth, Ont., and won a special prize.

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Prince Edward Island Letter

Rev. Father Burke, Alberton

Looking over the year's operations in fruit growing in this section, there is nothing too cheerful in the retrospect. We came out of winter conditions well last spring; so well, indeed, as to have high hopes as to the result in crop. The blossoming period rather buoyed up these hopes; there was an abundance of flowers everywhere, except on plums. The fixing time opened our eyes to the possibility of only a moderate return in fruit. Even the prospects of those days were not to be maintained; a further falling off occurred. All through the summer season, with its excessive drought, there was a continuous dropping. Worms, despite the regular sprayings, were more numerous and persistent in attack than usual, and contributed to the abnormal amount of falling apples. When all were gathered in, therefore, we had not $\frac{1}{4}$ of a crop. "Too many blossoms exhaust trees as badly as too much fruit," say the knowing; and this largely is given as the cause of the shortage.

Well-attended orchards are satisfying their owners even this year. A few hundreds of barrels of good apples are worth as much as twice the quantity in full years. The samples put on the markets from our own orchards are very creditable. Gravensteins from N.S. are smaller and scabbier than usual this fall. There is nothing like rigid inspection to elevate the moral standard.

We have had a severe loss to our horticulture in the death of our inspector-instructor, Mr. Richard Burke. He was in his 76th year, but nobody would have thought him half so old. He had taken a deep and more than ordinary interest, in fruit-growing from his early days; indeed, he belonged to a family with a peculiar taste for the studies which horticulture imposes. He was at the beginning of all association work here, and contributed his full share to the spread and maintenance of the sane ideas it inculcated.

Who can take his place with the same acceptance? He had knowledge and could impart it; he had unbounded faith in the fruit interests here, and could inspire others with it; he understood his official duties and fulfilled them scrupulously; and still did not bother himself unduly with the letter which killeth, but never interpreted the spirit of the ordinances under which he worked, and, therefore, helped the community he served and the administration whose servant he was. He was a model man, a lovable scientist, an honest official, a public-spirited and self-sacrificing citizen, and a model husband and parent. Representing the horticulturists of P.E.I., we are glad to acknowledge his worth before our fellows of the Dominion. May he sleep well!

The winter meets are on for this month. Amherst leads off, Dec. 3-6; P.E.I. F.G.A. meeting is posted for Dec. 10 and 11 at Charlottetown; and N.S. F.G.A. at Wolfville on 13 and 14. Those meetings are likely to be the most important in the history of the assns. holding them. The work done and left undone, at Ottawa, will likely occupy an important place on the Agenda paper. It is well that a strict reckoning be kept of all these conventions.

Nova Scotia Letter

G. H. Vroom, D.F.I., Middleton

Nearly all apples are safely housed. Shipments continue brisk from Halifax to the Old Country markets, and satisfactory returns are coming back for good clean fruit. The famous N.S. Gravenstein is in disgrace in the foreign market, due to the fact that it is badly spotted this season; consequently, the price is low.

There is an improvement in the N.S. pack this year. The better thinking dealers and growers realize the importance of getting their fruit on the market in good condition. There are a few, however, who are slow to learn.

Several fines have been imposed for violating the Fruit Marks Act.

Up to Nov. 17 about 140,000 bbls. of apples have been exported. The steamship people handle the barrels carefully at the docks, and few packages are broken or damaged. Prices in the local markets range from \$1.25 to \$2 for No. 2, and from \$2.50 to \$3.50 for No. 1, according to variety.

British Columbia Letter

C. P. Metcalfe, Hammond

Orchard trees are going into winter quarters in good shape. Light frosts some weeks ago ripened the wood and defoliated the trees. It is a good sign in this province to see the foliage drop early, as it usually hangs on till late in the season, indicating that the sap circulation is still going on, and that the wood is not ripened and prepared to withstand the sudden advent of winter weather.

The first winter spraying with double-strength Bordeaux will soon be in order, to catch the spores of fungous diseases; viz., "dead spot" or "bark canker" (*Gloeosporium malicortis*) on apple trees, and the "brown rot" (*Monilia fructigena*), in plums and cherries. Previous to the spraying all mummied and decayed plums should be gathered, and either burnt or buried, to prevent the spread of the spores. Spraying is not generally practised in this province, but is coming to be recognized more as the benefits to be derived become more apparent. If thorough inspection of the orchards were made by the provincial fruit pest inspectors, backed up by practical and systematic demonstrations of spraying, covering 2 or 3 years, on the part of our Provincial Govt., it would assist greatly in the education of fruit growers.

A special meeting under the auspices of the B.C. Fruit Grs. Assn., was held in Vancouver, on

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Nov. 2, for the purpose of determining the shape or form of baskets for the coming season. It was a representative gathering of delegates from the different fruit growing sections of the lower mainland and Vancouver Island. For strawberries, a shape 2 inches deep by $5\frac{1}{4}$ square, holding 4-5 of a qt. and for raspberries, blackberries and Loganberries, the half size, 1 inch deep by $5\frac{1}{4}$ square, holding 2-5 of a qt., were agreed upon. In addition, they agreed to use the $\frac{1}{2}$ size of the standard apple box for crab-apples and pears in addition to the full sizes. A committee was appointed to interview the Supt. of the Dom. Ex. Co. here with a view to obtaining a lower billing weight on crates and also a lower rate to Winnipeg and other points.

Items of Interest

A successful orchardist is Mr. H. Curen, Huron Road, Ont. He advocates the fall cleaning of orchards to destroy insect and fungous pests. A recent issue of *The Goderich Star* gave an account of Mr. Curen's methods and achievements.

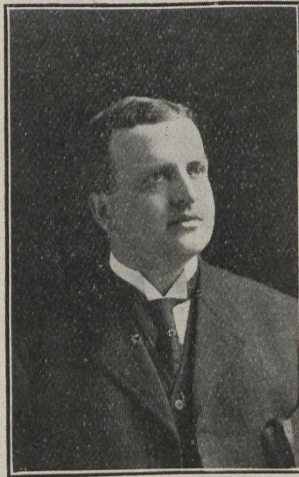
Recently Mr. M. F. Rittenhouse of Chicago, who donated a farm for fruit and vegetable experiments in the Niagara district, had a conference with Hon. Nelson Monteith and Hon. W. J. Hanna. He purposes building a model piece of macadam road from the G.T.R. at a point where a station eventually may be established to the lake, passing the farm.

At a recent meeting of the Toronto branch, Ont. Veg. Grs. Assn., Mr. Jas. Stevens, Todmorden, discussed "Growing Early Vegetables," particularly as affected by the tariff. He said that he cannot grow early cabbage and cucumbers and compete favorably with similar products from the U.S. Canadian growers should have more protection, he claimed, so that they can have the full benefit of the home market. At the next meeting of the branch, Dec. 1, H. E.

Reed, Danforth Road, will discuss "Growing Lettuce under Glass," and J. W. Rush, Humber Bay, "Growing Radish under Glass." The annual election of officers will also take place.

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Changes in Constitution

Some important changes were made in the constitution of the Ont. Fruit Grs. Assn. at their recent convention. The following clauses now read as follows:

7. The directors shall be elected at the morning session of the last day of the annual meeting, and shall be 13 in number, representing the 13 agricultural divisions as set forth in Schedule "A" of the Ont. Agri. and Arts Act. Those 4 directors who have occupied positions on the board for the longest period shall not be eligible for re-election. It is provided, however, that these directors shall be eligible for re-election at the end of one year.

The clauses 24 to 28 are substituted by clauses 24 to 27 as follows:

24. Fruit growers in any section of Ont. may form a local assn. which may become affiliated with the Ont. Assn. when it has a membership of 10 or over upon the payment to the treasurer of the Ont. Assn. of \$5 for the first 25 members or fraction thereof above 9 and 25 cents a member for every additional member, which payment shall entitle the members to all the privileges and advantages of membership in the Ont. Assn.

25. It shall be the duty of the officers and directors of the provincial assn. to encourage the formation of such local associations.

26. Fruit growers who are members of 2 or more local assns. shall be accepted as members of the Ont. Assn. from that affiliated association only which is the first to forward their membership fee.

27. Such affiliated assns. may appoint 1 delegate to the annual meeting of the Ont. Assn. for the first 25 members or fraction thereof, and an additional delegate for every 25 members or major portion thereof above the first 25. The actual railway fare of such delegates in attending the annual meeting shall be paid by the Ont. Assn.

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For Vegetable Growers

(Concluded from page 314)

Celery culture—3 essays submitted.—1, J. Friendsnip, Kingston; 2, Geo. Syme, Jr., Carleton West; 3, J. N. Watts.

Onion culture—2 essays submitted.—1, T. Delworth; 2, J. N. Watts.

The sec. was authorized to watch closely any legislation that may be introduced at the approaching session of the Dominion House of Commons, in regard to the tariff on vegetables. As soon as the intentions of the Govt. are known, the various branches of the Provincial Assn. are to be written to that they may consider the Govt.'s proposals. Later, if necessary, a full meeting of the provincial board will be called to consider them. It is possible that a committee from the assn. will be sent to Ottawa to canvass members of the House for or against the proposals of the Govt.

It was decided to hold a series of meetings by the different branches during Jan. and to ask the Supt. of Farmers' Institutes to supply speakers to address these meetings.

A statement presented showed that there were 509 members of the assn., divided as follows: Toronto, 200; Hamilton, 81; Ottawa, 39; St. Catharines and Sarnia, 29 each; Kingston, 27; Scotland and Chatham, 26 each; Brantford and Tecumseh, 16 each; and odd members, 20. The sec's of the local branches will send reports to the sec. of the Provincial Assn. showing the work their branches have done during the year. These reports will be published in the annual report of the assn. Those present at the meeting were: Messrs. F. F. Reeves, pres., Humber Bay; W. A. Emery and R. H. Lewis, of the Hamilton Branch; R. Lankin, Jos. Rush, T. Delworth, G. Syme, Jr., and A. Shuter, of the Toronto Branch; W. C. McCalla, of the St. Catharines Branch; W. A. Broughton, of the Sarnia Branch; Denis Rocheleau, of the Tecumseh Branch; Wm. Bushell and Mr. Purdy, of the Kingston Branch; A. McMeans, of the Ont. Agri. College; Peter Carstesten and Wm. Tricks, of the Ottawa Branch, and the sec

The American Carnation Soc. will hold its annual convention and exhibition in Toronto on Jan. 23 and 24. Florists from all parts of Canada and the U.S. are expected to be present. On Jan. 15 *The Canadian Florist* will issue a special convention number that will include a history of the floral industry in Canada.

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Conducted by
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Mature pullets and yearling hens, required for the laying pens, should be separated from the rest of the fowls and placed in the quarters they are to occupy through the winter. The remainder, consisting of the old hens, spare cockerels and very late chicks, should be used for table as soon as they are fit. Any birds that are to be fattened should be confined in a comfortable pen and given plenty of food suitable for flesh-forming. The windows of the pen should be darkened except at feeding time. This keeps the fowls quiet and they put on flesh much faster than if running loose.

Experiments carried on for 3 years with the view of comparing the maturing qualities of White Wyandottes with those of barred Plymouth Rocks, show that White Wyandottes make as much growth in 6 months as the barred Rock in 7. For the last 3 seasons the White Wyandotte pullets have been the first to begin laying. The parentage (an important factor with all stock) of both breeds, were as nearly similar as regards health and outbreeding as could be arranged. The chicks were hatched, in some cases, under the same hen. They were fed and yarded together. The flesh of the Wyandotte is quite as good as the barred Rock. As I keep both breeds, and having no prejudices, I can fairly say that the White Wyandotte is the better breed.

THE CHRISTMAS TURKEY

The Christmas turkey being an important subject at this season, the writer asked the manager of the cooking plant in our leading cooked meat establishment a few directions for the preparation of the fowl before cooking; that is, the dressing and how to choose the best

turkey. The following directions were received: Give the preference to a turkey that has no food in its crop. The food sours and causes a taint to the flesh. Dry picked fowls are better than scalded ones. Clean, smooth legs and feet indicate a young fowl. Hang the bird several days after killing and before cooking. Do not open or draw the turkey until immediately before cooking, as much of the flavor is lost through the air drying out the interior of the fowl. In drawing the bird, try and remove the offal intact and then only wipe with a cloth the interior in preference to using water. The juices of the flesh run away with the water. If the above directions are followed and a thick slice of fat pork laid over the breast of the fowl when roasting, the result should be satisfactory to the most fastidious.

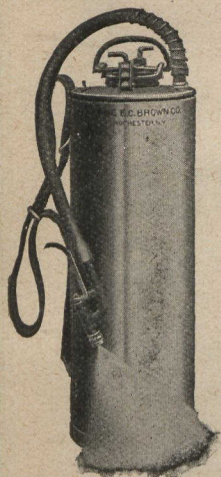
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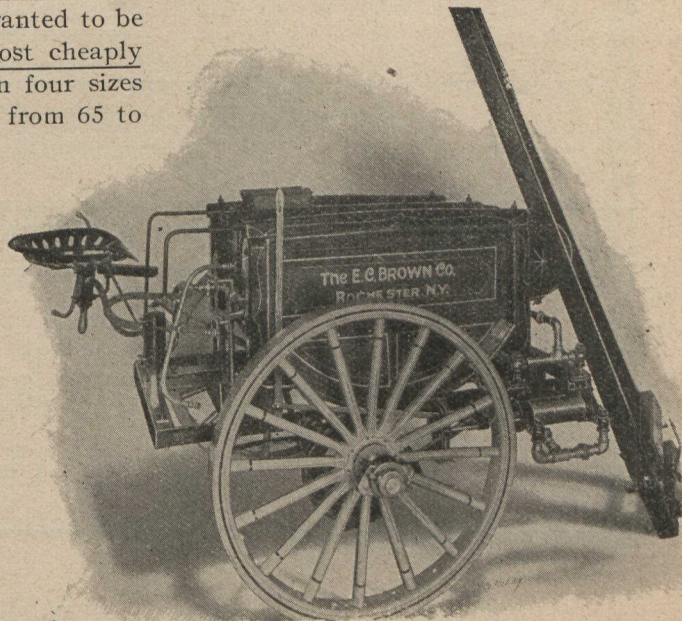
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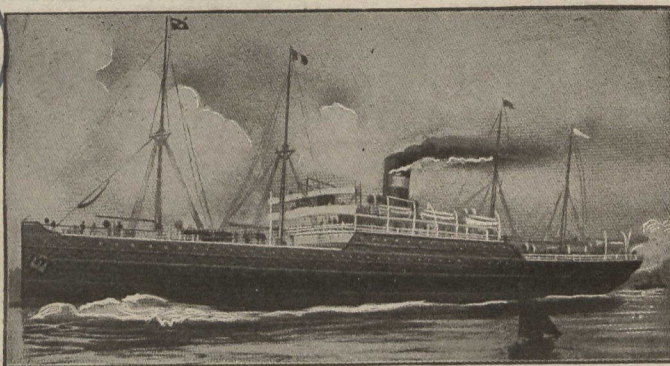
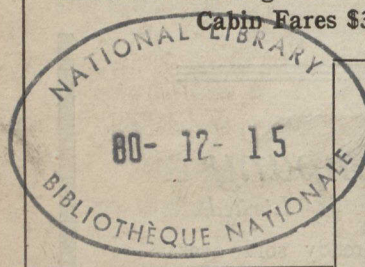
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