

The Fruit Marks Act

Lawn and Garden Hints

A Fertilizer Experiment

The Canadian Horticulturist

NOVEMBER, 1907

Volume 30, No. 11

TORONTO

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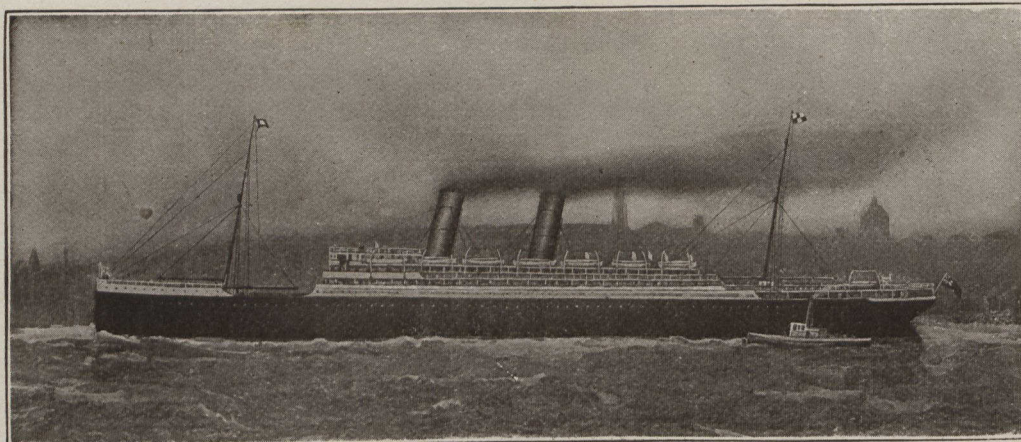
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Sat. " 9	Lake Champlain	Wed. " 23
Fri. " 15	Empress of Britain	Fri. Nov. 1
Sat. " 23	Lake Erie	Wed. " 6

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Fri. " 13	Empress of Britain	Fri. " 29
Fri. " 27	Empress of Ireland	Fri. Dec. 13
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Description of the Herbert Raspberry

By Prof. W.T. Macoun
of Ottawa

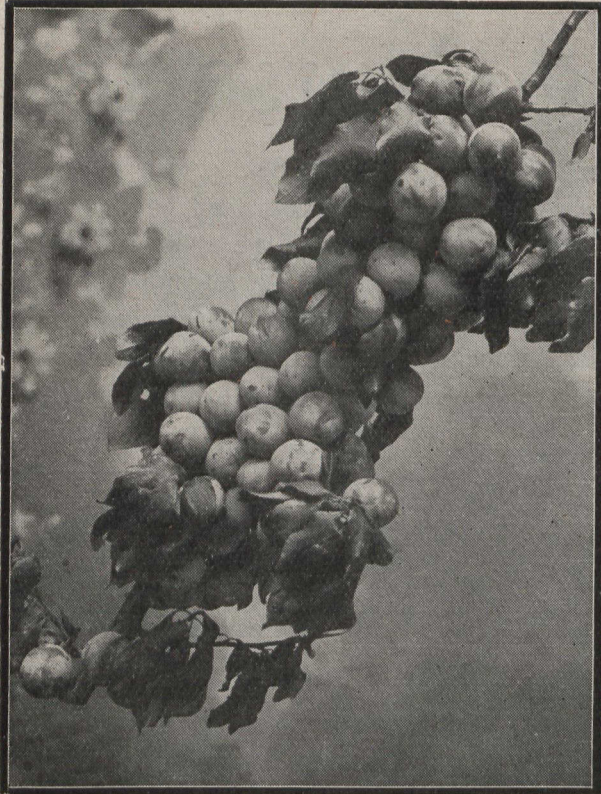
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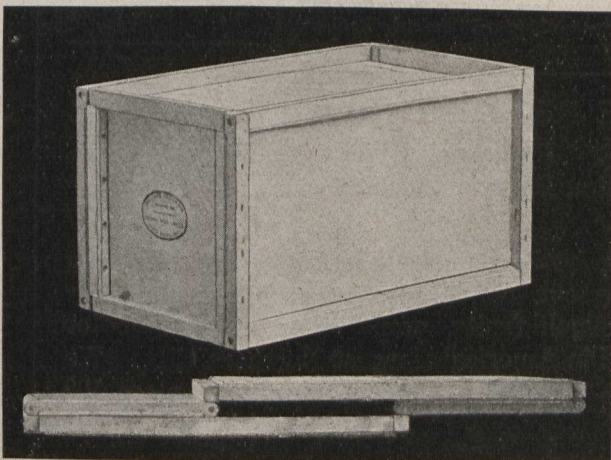
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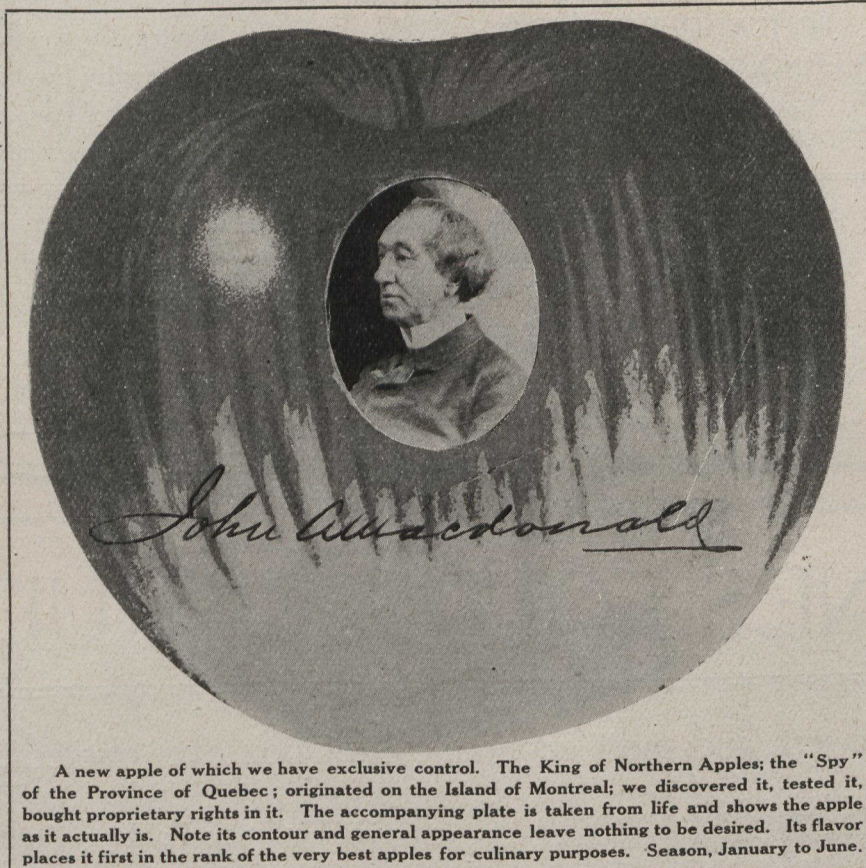
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Something to be Thankful For Cover
Photograph by Pringle and Booth.

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The Canadian Horticulturist

Vol. XXX

NOVEMBER, 1907

No. 11

The Operation of the Fruit Marks Act*

Alex. McNeill, Chief, Fruit Division, Ottawa

THE Fruit Marks Act has been in operation in Canada for six years. This is long enough to develop the weak and the strong points of the Act, though it may not be long enough to secure all the advantages that may arise from such legislation.

The Act prescribes that all closed packages, boxes and barrels shall be marked, first, with the name and address of the owner of the fruit at the time of packing; second, with the variety of the fruit, and third, its grade. One of four grade marks must be used, namely, Fancy, No. 1, No. 2 or No. 3. Any one of these grade marks may be used, together with any other designation that is not contradictory to or more prominently marked than the prescribed grade mark. The Act also declares that all packages, whether opened or closed, must be so packed that the face or shown surface fairly represents the grade of fruit all the way through the package.

Three grades are defined. The Fancy grade consists of fruit practically perfect. The No. 1 grade allows ten per cent. of imperfect fruit; ninety per cent. must be practically free from serious defects and of good shape and color. No. 2 grade consists of eighty per cent. free from defects that would cause material waste; and all the apples, whether defective or not, must be nearly medium in size for the variety. No. 3 grade is not defined.

The rest of the Act is taken up in naming the penalties and in providing machinery for its enforcement. The fine for violations is not less than twenty-five cents, nor more than one dollar per package.

The workman who packs and marks fruit contrary to the provisions of the Act, is subject to a fine not less than \$5, nor more than \$40. Anyone changing the marks upon packages after inspection is subject to a fine not less than \$40 nor more than \$500.

The Act is enforced by a staff of ten permanent inspectors assisted by eight

temporary inspectors. These are distributed over the whole Dominion; but special attention is paid to the export points, particularly Montreal, St. John and Halifax. In the enforcement of the Act it has been found necessary to make an average of about fifty prosecutions a year; and it is noticeable that only in a comparatively few cases is the same man fined twice.

COOPERATIVE ASSOCIATIONS

There are now between fifty and sixty cooperative apple selling associations in operation in the Dominion of Canada, and in no instance has a cooperative association been fined. The

The Best of its Kind

THE CANADIAN HORTICULTURIST is the best publication of its kind in America. It should be the property of every man who calls himself a fruit man.—E. H. Wartman, Dominion Fruit Inspector, Montreal.

interpretation of this fact is that the cooperative system removes very largely all temptation to mark or pack fraudulently; but perhaps even a more potent influence is in the closer supervision which can be given to the workmen by those in authority under the cooperative mode of work. Instead of sending out gangs of men into isolated orchards, the cooperative associations are gathering the fruit into packing houses, and having the work done under the supervision of competent and responsible men.

The success or failure of the Act must be judged by the evidence which is forthcoming from those who have watched the working of it, and who are affected by its results. The presumption is, of course, that the Act was framed for the benefit of the producers, middlemen and consumers. These three classes, therefore, should be heard from. The law was enacted primarily for the benefit of the Canadian people, but as the export feature of the Canadian apple trade is a most

important one, the success or failure of the Fruit Marks Act has to do with the foreign countries using Canadian apples. Testimony, therefore, of those who buy Canadian apples in foreign countries will be of value.

ACT HEARTILY ENDORSED

The opinion of the Fruit Marks Act held by Canadian growers may be gauged very accurately by the criticism of the provincial associations of each of the provinces of Canada where fruit growing is an important feature. Without exception the provincial associations have expressed their hearty approval of the Fruit Marks Act and the way in which it is enforced. It would not be hard to make a list of many hundreds of growers who have during the past six years expressed individually their approval of the principles of the Act.

The retail fruit merchants represent perhaps more nearly the consumers. They have almost without exception expressed their approval of the principles of the bill, and they are at present engaged, through their Dominion Association of retail sellers, in introducing new features for the purpose of more effectively enforcing the Act locally; but there is no dissenting voice with reference to the principle of the Act itself, and there is no difference of opinion with reference to the very great improvement that the Act has made in the local fruit trade as well as the export trade.

OPINION OF THE MIDDLEMEN

The apple operators, who are the true middlemen, are not quite so unanimous. There are, indeed, among them a few who are not favorable to the Act, though I know of no one who objects to the principle of the Act, the objections being urged against special features or against what they deem the indiscreet enforcement of it. The fact that there is no one who criticizes the Act would be sufficient reason for an explanation of this want of perfect unanimity. The explanation is found, in the nature of the business and the character of many of the men who

* A resumé of an address delivered at a meeting of the American Pomological Society held at the Jamestown Exposition.

follow the employment of buying and selling apples. This business is largely speculative as usually conducted. The buying is done comparatively early in the season, before the volume of the crop or the market values can be estimated with any degree of certainty. Under such circumstances it is easy to see that sanguine buyers are frequently tempted to pay higher prices than the markets ultimately justify. When the time for marketing comes, the temptation is almost irresistible to so pack and mark these apples that the buyer can finish the transaction without serious loss. This is done by overfacing and overgrading. It will be readily understood that dealers of this unscrupulous type are not seriously in favor of any restrictions being placed upon their actions.

On the other hand, many of our merchants, and the best of them, look forward to the apple business as a permanent feature of their work, and so conduct it that they may continue in it from year to year. Such men do not find it necessary to secure a profit on each particular deal, but are willing in this, as in other commercial transactions, to average up the business of the season, and are satisfied if out of a large number of contracts the balance is upon the right side for them. They are, therefore, not tempted to practise the arts of the buyer who is in the apple business in such a way that he must secure practically a profit upon each transaction. Of course, there are a large number of itinerant buyers who have no status whatever in the country and who are willing to do anything in order to make a profit, having no reputation to sustain. The last two classes of buyers are not friendly to the Fruit Marks Act.

THE ACT IN FOREIGN LANDS

The reception of the Act in foreign countries has been even more enthusiastic than in Canada itself, inasmuch as the law with reference to the export trade is more effectively enforced than for the local trade. The following extract is from the London, England, *Fruit Grower*, dated February 11, 1904:

"The United States Consul in Edinburgh records the fact that Canadian apple imports are gaining a very strong position in the Scotch markets, in some cases supplanting the United States supplies. Mr. Fleming states that the system of inspection adopted in Canada and subsequently renewed at the British ports, has served as a guarantee to the buyers of Canadian apples, and has in this way proved useful to seller and purchaser."

Extract from letter of Thomas Russell, fruit dealer, Glasgow, Scotland: "In reference to the packing of apples in barrels there can be no doubt the

passing of the Fruit Marks Act, 1901, has had a most beneficial effect in improving the grading and marking of the fruit."

Extract from an interview with Mr. Dennis, a broker of Covent Garden, London, Eng.: "I think the Act is a very great advantage, and if the trade on each side cooperate with the Fruit Department, I am sure it will be to the benefit of all concerned. There has undoubtedly been a vast improvement in the packing and grading."

SOME ADVANTAGES

It might be remarked here that the advantage accruing to the Canadian grower does not consist simply in the consciousness that he has not cheated anyone, either in the marking or packing of his apples. In fact, the Fruit Marks Act is in no sense of the word an attempt to make people honest by legislation; but, though it does not do this, it certainly does make them "act as though they were honest," as one of your college professors said when writing to me regarding the Act. The advantages accruing to the buyers of apples are evident. They are fairly sure that they are getting exactly what they have paid for. The advantages to the Canadian grower appear in the strongest light in the market reports of Great Britain.

In recent years, since the passing of the Fruit Marks Act, trade journals, and the brokers who furnish market reports, distinguish between Canadian apples and American apples. This can be seen in the case of the quotations furnished by Woodall & Company and James Adam & Son, Liverpool. A comparison of their reports for the season will show that Canadian apples now range about two shillings higher on the average than American apples; the difference being higher on some varieties than on others. It would not, however, be correct to credit the whole of this increased price to the Fruit Marks Act. In keeping qualities, at least, it is generally conceded that frequently the Canadian apple has somewhat the advantage and, too, the Canadian barrel is larger than the American; but the combined fact of the quality of the fruit and the size of the barrel still leaves a large margin that can only be accounted for by the uniform marking and packing that comes as the result of the enforcement of the Canadian Fruit Marks Act.

INSPIRES CONFIDENCE

That such excellent results can be secured with so small a staff is naturally a matter of surprise. The explanation lies largely in the fact that the great majority of the apple growers and apple packers prefer to pack and mark as prescribed by the Fruit Marks Act because it is the simplest and

most direct method of securing a perfect understanding between the buyer and the seller. If the buyer wishes to look at the fruit, the face shows the quality of the whole barrel. If he does not wish to examine the fruit, the marking upon the outside will indicate with a fair degree of definiteness and accuracy the kind and quality of the fruit included in the barrel.

Due allowance being made for the honesty and straightforwardness of the Canadian apple packers, it is still found necessary to use the utmost discretion in distributing the time of the very few inspectors detailed for this work. The chief reliance is placed upon inspection at export points. A very large proportion of the fruit is shipped from the three ports, Montreal, St. John and Halifax. The inspectors are, therefore, concentrated at these points, the size of the staff at each port varying according to the volume of trade going forward at any particular time.

THE UNCERTAIN PROTECTS

In addition to this work, one or two travelling inspectors in each province are detailed to work in the fruit districts in such a way that any of the large packers are liable, at any time, to be visited by an inspector; and, though these visits are not likely to be made more than once or twice in a season, yet special information, which the inspectors may receive, results in closer attention to any particular packer who may need it. But, whether the inspectors are working in the orchards or packing houses or at the port of export, it is not the actual number of packages which they inspect that forms the safeguard so much as the fact that the packers throughout the whole Dominion know that there is always the possibility that their fruit may be opened and examined.

INSTRUCTION

Incidentally the travelling inspectors give a great deal of information with reference to grading and packing in the course of their visits from orchard to orchard, and from packing house to packing house. Not infrequently meetings are called where packers are numerous, and a special effort is made to secure uniformity in grading as well as the highest excellence in packing. Advantage is taken of such meetings as fall fairs and general meetings of farmers in fruit districts to give special instruction in grading and packing. The speakers at farmers' institute meetings are supplied by the department of agriculture with special literature regarding the apple trade, and copies of the Fruit Marks Act are distributed as widely as possible among growers and packers.

How to Pack Apples in Barrels*

IT is probable that a large part of the apple crop of Canada will be packed for market in the orchard, and excellent work can be done there, if proper provision is made for both picking and packing. The most convenient packing bench for orchard use is made on the same principle as the ordinary stretcher couch, or like an enlarged saw-



Lubsk Queen

A Russian variety of apple, promising on account of its beauty and hardness.

horse, with a bolt where the supports cross each other. The upper points of these supports are joined with a two by two strip, as long as it is required to make the table, and on these pieces of timber a sheet of stout burlap is fastened securely. When this is opened and braced with light pieces below, it makes a very convenient packing bench, which can be carried about from point to point by a single workman, and which will not bruise the fruit in any way. A heavy plank should be provided for the barrels to stand on and upon which the racking can be done during the process of packing. Good work cannot be done if the racking is attempted directly on the ground, and even if it were possible, it would be likely to render the barrel unsightly with soil.

The barrel should be prepared for packing as follows: The quarter hoops should be forced down firmly, and three nails driven in in a slanting direction and clinched upon the inside. The face end of the barrel should be nailed and the headlines placed in it. The fruit for the face should then be placed neatly in the barrel. For this purpose it is well to support the barrel a few inches from the ground while performing the operation. The grade of the apples should be precisely the same in the face as in the rest of the barrel, and there should not be the slightest attempt to

get high-colored or specially-perfect fruit for the face. Each apple is laid with the stem end down, the stem having been previously cut off with a stemmer. Upon no consideration should a very large or very small apple be used to finish up in the centre of the face. If the apples are colored, the second layer should be placed so that the color of the apples will show through between the apples for the first layer. After this second layer is laid the apples may be turned in from the round-bottom baskets in which the graded apples have been placed. Never use any device that will require the apples to fall any distance into their place on the grading table or in the barrel. The presumption is that the grading has been done off the grading table, and that fruit of a perfectly uniform grade is put in each barrel. As each basketful is placed in the barrel, the barrel should be shaken (racked) slightly, not so as to throw the apples against each other or against the side of the barrel violently, but just sufficiently to settle them into place. It must not be supposed that this racking can be done successfully if it is delayed until the barrel is nearly full. When the barrel is full to within two or three layers of the top, a "follower," a round piece of plank slightly smaller than the head of a barrel, is placed on the apples, and the packer holds this firmly in place while he continues to rack or shake the barrel. The effect of this is to make a comparatively level surface upon which the last process or "tailing up" can be done. It is well to note here that the "follower" should be covered with heavy felt, such as is used by harness makers for pads.

TAILING

The process of "tailing" a barrel of apples is the severest test of a good packer. It consists in arranging the last two or more rows of apples so that they will project slightly above the barrel.

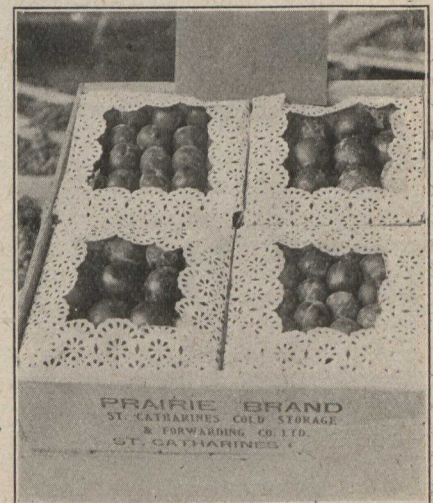
The characteristics of good tailing is to have the apples of the last two rows placed solidly and evenly, so that when finished the head will touch with the same pressure each apple exposed. This is a very difficult thing to accomplish, even where considerable time is taken in the operation, and it is only a skilful packer who can perform this operation quickly and well. It is a common fault with unskilled packers to allow one or more apples to project above the general surface. When pressure is put upon the barrel, these apples take the whole pressure at first, and are frequently crushed before the head is in place. It is advisable for young packers to take off the head of a barrel

of their tailing occasionally and note the number of apples which have been touched by the head at the pressed end. If it should appear that a number of apples have not been touched by the head, and others are severely pressed, then they may rest assured that they have made a poor job of the tail. The aim should be to have equal pressure upon every apple in the last row.

It is not of material consequence whether the stem end or the blow end is placed up. It injures the apple somewhat less to have the blow end up, but the apples can be placed in a better position by having the stem end up. All stems showing either on the head or the tail should be removed with a stemmer. Do not attempt this work with a knife. This operation is frequently neglected, and long stems are pressed into the flesh of the apple, giving entrance to disease germs. Heads cut from heavy paper or from light pulp board are very desirable on both ends of the barrel.

PRESSURE

The exact pressure which must be given will depend somewhat upon the variety of the apple. If they are packed for storage, or for a short trip, then the pressure need not be so heavy. If they are packed for export, it will be better to press them heavily, but not so as to break the skin of any particular specimen. It has been the experience of the fruit inspectors, who open a great many barrels during the season, that slackness



Well-Packed Plums

in barrels is as often caused by overpressing as by underpressing. Overpressing will break the skin of the apple, or bruise it severely, inducing decay in one or more specimens, which very quickly causes slackness. Certain varieties, too, will require and stand more pressure than others. The Spy has to be pressed very moderately, as the

* Extracts from Mr. McNeill's recent bulletin on packing apples in barrels and boxes.

apple splits readily under pressure; Russets, on the contrary, will stand much heavier pressure without breaking the skin, and appear to require heavy pressure to prevent slackness from evaporation.

FINISHING THE HEAD

In finishing the barrels, six nails in each head, if properly driven, are sufficient. Liners should be used invariably, and should always be kept damp. Few packers appreciate how much is added to the strength of the barrel by the use of the head liner properly placed. There is no excuse for nailing the second end hoops. It invariably spoils some of the apples and adds nothing whatever to the strength of the barrel.

Orchard Manures

The proper use of fertilizers and manures on orchard soils is a question of importance in successful fruit growing. Progressive growers know the value of keeping the soil fertile. Some men use commercial fertilizers; others prefer stable manures; many rely on cover crops alone; a few use a combination of all. THE CANADIAN HORTICULTURIST is desirous of publishing the experiences of its readers on this question. Letters are requested for publication. In our October issue a number of letters were published. The following are equally as valuable:

The well-known nurseryman and fruit grower, Mr. E. D. Smith, Winona, Ont., wrote: "My faith is pinned largely on cover-crops or green manuring. An orchard in good soil can be kept in good condition by turning under annually, a cover crop, and the one I would prefer would be the hairy vetch. One of the advantages of hairy vetch is that the seed will germinate where clover will not. Hairy vetch fills the bill in full. It is an excellent cover crop and affords the largest addition of nitrogen to the soil of any plant I know of, and when turned under like any other green crop fills the soil to a certain extent with humus. This enables the soil to absorb moisture, which is as necessary for the successful growth of fruit trees as the fertilizers themselves. Rye answers as a cover crop and makes humus, but adds nothing to the soil in the way of nitrogen. Clover is like hairy vetch, but the seeds germinate with difficulty in the summer time and you do not get the amount of nitrogen in the same space of time. We sow our cover crops in July."

The following information was taken from a letter received from Mr. I. E. Van Duzer, of the same place: "I have always had good results from using stable manures, but although I have experimented with a number of different kinds of chemical fertilizers, I have not received much benefit from any of

them, and so have stopped their use entirely. I have found wood ashes as a fertilizer for fruit growers to be the

best. One wagon load of good hard-wood ashes is as valuable as four times the quantity of chemical fertilizers."

Fall Cleaning in Orchard and Garden

Prof. W. Lochhead, Macdonald College, Ste. Anne de Bellevue, Quebec.

INTELLIGENT fall cleaning of the orchard and garden is now recognized as a most important factor in successful fruit culture. After the rush of the shipping and storing of the fruit, there is usually a week or two of fine weather when rubbish can be raked up and burned, and the necessary late-plowing done. The value of careful fall cleaning lies chiefly in the fact that many of our most destructive insects and fungi are destroyed in the process. A few observations during the fall and winter will show how many insects pass the cold period of the year. The egg masses of the tent caterpillar, for example, will be found encircling the smaller branches. If these bracelets of eggs be removed, whenever seen, much serious injury will be averted the following spring, for each bracelet of eggs destroyed means the removal of 200 to 300 caterpillars. The egg masses of the fall canker worm also may be found in small flat masses near the forks of the smaller branches and twigs.

LESSENS CODLING WORM

The codling worm of the apple passes the winter in a cocoon under bits of bark and boards and in crevices.

Birds destroy many of the cocoons concealed on the trunks, but it is always advisable to scrape off the scaly bark, especially that near the ground, and to cut out all dead and cracked limbs. Codling worms are often carried into fruit cellars and store houses in the autumn. In the spring such cellars should be cleaned out thoroughly and the debris burned before the moths escape to the orchard.

Many species of cutworms pass the winter under old boards, clods, or other protection. A thorough cleaning in late fall will reveal many of these cutworms. Poultry are valuable helpers at this time. If these are not available, a poisoned bran bait scattered over the soil will produce good results.

White grubs, when present in the soil, may be destroyed in large numbers by late fall plowing. Tarnished plant bugs, the various leaf-hoppers, squash bugs, the cucumber beetles, Colorado potato beetles, grape vine flea beetles, plum curculios and others pass the winter in or under vegetable trash, and a thorough cleaning often works wonders in ridding the garden of these undesirable guests.

A thorough cleaning of the orchard and garden in late fall will also destroy many of the fungi which remain on the ground in diseased leaves and fruit. It is a well-known fact that many injurious fungi produce winter spores, and though the leaves decay, the spores do not. In early spring these will produce other spores, which soon spread to the early leaves. The various mildews, cankers, leaf-spots, and rots and scab are reproduced in this manner. The diseased fruit, plants and leaves should be gathered together and burned. They should not be thrown on the manure pile, for then the spores will be able to survive the winter and reproduce the disease the following season. Moreover, many fungi persist in the leaves as delicate threads, which develop rapidly in the spring, and produce spores. These spores are soon blown by the wind to the leaves, where they germinate and produce disease.

If a cover or mulch is desired to lessen root injury and prevent winter-killing, it can be applied after the cleaning has been done. If more care were taken in the annual fall cleaning of gardens and orchards, there would not be that urgent need for summer spraying to control the insects and fungous diseases. Another important factor in successful fall cleaning is to convince our neighbor that he also must clean his garden and orchard. Then what is left undone by the careful gardener will often be done by the winter birds. The chickadee, the nuthatch, the golden-crowned knight, and the woodpeckers, are most valuable agents in the destruction of insects. All winter long they hunt diligently over every limb for hibernating insects and insect eggs.

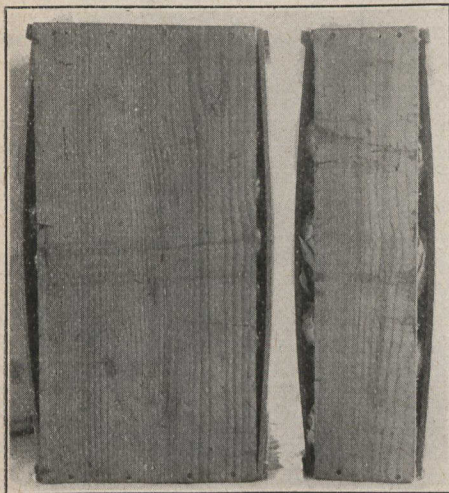
Every fruit grower should make an effort to entice the birds to the orchard, by tying refuse meat and suet in the tree-tops. He would be rewarded abundantly for his pains.

Apples should be harvested while they are still firm. In this way only can the finest flavor and keeping qualities be obtained. It is poor economy to store bruised fruit because it not only fails to keep but it will decay other fruit that is put away sound. The keeping qualities of apples can be greatly prolonged by wrapping them in ordinary paper, with wax paper outside.

Some Enemies of the Plum*

V. R. Gardner, Macdonald College, Ste. Anne de Bellevue, Quebec

WE have often heard it said that "the poor are always with us." Equally true in the experience of the fruit grower is the statement that "insects and fungous diseases are always with us." There is hardly a cultivated tree, shrub or vine that is not subject



Fruit in Boxes, Showing the Proper Bilge

to the depredations of some pest. The annual loss occasioned by a single insect or single disease often is enormous.

There are few fruits more subject to the ravages of insects and diseases than the plum and, unfortunately, its leading pests are among the most difficult to control. In discussing the enemies of the plum, I shall mention but one insect and three diseases. There are other insects and other diseases that occasionally cause serious damage, but these are the most common and most important.

PLUM CURCULIO

By far the most destructive insect attacking the stone fruits is the plum curculio. This insect is the cause of most of our wormy plums and cherries, and also does some damage to peaches, apples, pears and quinces. The adult insect is a small beetle, an eighth to a fifth of an inch long and half as broad. These beetles appear in the spring about the time the buds begin to swell and for a while feed upon them. Spraying with Paris green or some other arsenite at this season is sometimes recommended but generally gives little satisfaction. Few of the beetles get enough poison to kill them. Soon after the fruit has set they commence to lay their eggs in the young fruit. The female beetle first punctures the skin with its long bill, then deposits an egg in the hole thus made, and finally completes the opera-

tion by making a semi-circular or crescent-shaped incision about the wound, this incision being a sixteenth to an eighth of an inch from tip to tip. Because of this crescent-shaped incision made in egg-laying, the curculio is often called the "Little Turk." This incision prevents the tissues of the fruit from swelling and crushing the egg. After "stinging" one fruit, the beetle goes to another and repeats the operation. The egg hatches in a few days and the young larva, or grub, burrows about and feeds within the fruit.

REMEDY FOR CURCULIO

As the eggs are laid inside the fruit and the young larvæ feed there, no spray can be made to reach them. It is possible, however, to prevent the eggs being laid in the first place; and this has been proven to be the only efficient method of control. At night the beetles become dull and sluggish, and if a tree infested with them is tapped or jarred in the early morning, many will drop to the ground. If sheets are spread under the trees before jarring, the beetles may be collected and destroyed. Where many trees are to be jarred it is most convenient to stretch sheets or canvas on a frame that may be carried from tree to tree. With an apparatus of this sort mounted on a wheelbarrow or other truck, it is possible to jar quite a number of trees in a short time. The work should be done in early morning while it is still cool, as the beetles are less active then, and jar off much more readily than later in the day.

Jarring must be kept up during the entire egg-laying season of the insect. This usually lasts from three to four or five weeks. It is a tedious, troublesome task, but it is the price that has to be paid for worm-free plums in regions where this insect has become serious. Fortunately there is only one brood during the year. The affected plums usually drop to the ground in the course of a few weeks and the larvæ crawl out and burrow into the soil. Here they remain for some time, later emerging as full-grown beetles, to spend the winter hidden in rubbish and in the spring lay eggs for another year's crop. As they enter the ground after leaving the wormy fruit cultivation at this season of the year, buries them so deeply that they cannot get out, and thus materially aids in their control. Clean culture, to deprive them of their winter quarters, is also advised.

Where a central packing house is used, the fruit all being graded and packed by experienced men, a more uniform grade is obtained, and at much less cost, than

can be got by packing in the orchard. Another great advantage is that a larger quantity of one variety can be got together. All apple shippers recognize the fact that long lines or the larger number of packages of one variety always sell for more than broken lots or mixed varieties.—A. E. Sherrington.

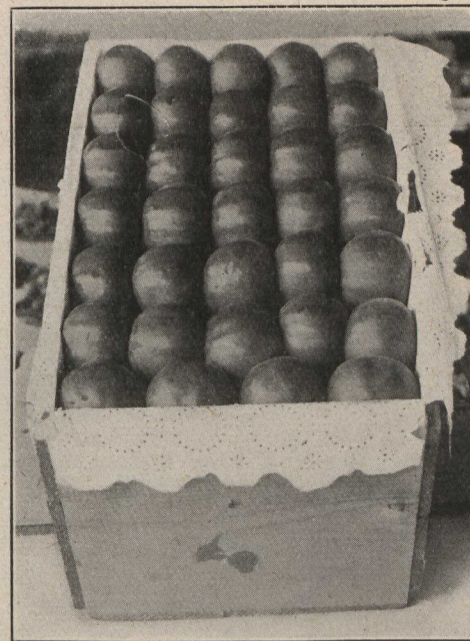
Packing Apples in Boxes

J. A. Webster, Sparta, Ont.

Our apples are picked in bags and emptied into boxes, which are hauled on large, low, spring wagons to the packing house at the corner of the orchard. There they are packed. Canvas stretcher sorting tables and a cushioned packers' table for four packers are used. A box press and a nailing bench completes the outfit.

As the apples come from the orchard, the boxes are piled at one side of the packing house. Sorters empty the apples on the sorting table and grade them into No. 1's, No. 2's and No. 3's. The culls are placed to one side in baskets. The baskets of No. 1's and No. 2's are emptied on the packers' cushioned table in different compartments.

The packer wraps the apples and places them in the boxes in tiers. When



A Well Packed Box of Apples

full, he marks on the box the grade and the number of apples that it contains. The box is then taken to the press. The press-man puts on the cover and cleats and nails it. The variety of apple is then stamped on the box. The boxes are piled on the other side of the packing house, where they are ready to be hauled to the station.

* A portion of a paper read at the summer meeting of the Quebec Pomological Society.

Hints on Dahlia Culture*

Max Moineau, Toronto

DO not dig dahlia tubers until several days after the first frost has blackened the bush. Then, on the first fair day without frost, carefully dig the tubers and leave them two or three hours in the sun to dry. About mid-day is the best time to do this, as it is warmer. When sufficiently dry, shake off all the earth, and store the tubers in boxes of sand or sawdust, in a dark place in the cellar, in a temperature just high enough to prevent freezing in the coldest season. Be careful to label your clusters as you take them up, as a dahlia without a name is of little interest.

THE STORY OF THE DAHLIA

The dahlia is a most remarkable flower. Its history extends back beyond the year 1657. It is a native of Mexico, and many an Aztec descendant has made food of its tubers. In its original country it was called "acocotli," and "chichipatli." In Germany it is called "Georgina," after Professor Georgi, a distinguished botanist of St. Petersburg. In England and America, however, it is called "Dahlia," after

Professor Andreas Dahl, a Swedish botanist, who did much toward its development. About the year 1789 it was recognized in Madrid as an eight-rayed flower. Twenty-five years later it bloomed in about a dozen well-defined colors. Then it began to double, and for another twenty-five years its development was of the many petaled form. In 1841, there were over 1,200 varieties. In 1872, the cactus variety was introduced, and since then the number of varieties runs up into the thousands. The very latest development is of the peony-flowering type, introduced in 1903 by Mr. Hornsveld, of Holland—a gorgeous decorative dahlia, that bids fair to become very popular.

HAS MANY VALUABLE FEATURES

Than the dahlia, perhaps no other flower varies so greatly in form and color, or has so many possibilities. It can be propagated from seed, from tubers and from slips. It can even be grafted, in a certain way. It will also sport on its own bush, throwing several different shapes and shades of color from the same parent stalk. It can be

grown as beautiful as the peony and as delicate as the rose, the secret of this remarkable achievement being enveloped in its culture.

Dahlias will grow almost anywhere, and in any kind of soil, but to get the best results, everything must be made congenial. Open sunlight and a sandy soil is imperative for the most ideal culture, while a proper fertilizer at the proper time will enhance the beauty of each bloom.

RESPONDS TO CARE AND ATTENTION

It is surprising how little is known of the character and habits of the dahlia by the many, aside from professionals, who pretend to cultivate it. The purchasing of a tuber and the planting of it in some indifferent way, at any time after the danger of frost has passed, seems to be the general idea among a certain class of amateurs. This, however, is not conducive to the best results. The dahlia well repays any attention expended upon it, and the best of care in its cultivation will be rewarded tenfold. It should be given a prominent place in the gardens of all amateurs.

What Amateurs Can Do in November

EARLY this month is a good time to prepare for winter. Make everything in the outdoor garden snug and secure. Gather and burn all diseased leaves and roots. Rubbish affords excellent hiding places for insects.

If you have not already applied a top-dressing to the lawn, do so at once. Manure may be used or an earth mulch as recommended in these columns many times. Another excellent dressing that is permanent in its effect, and one that gives particularly good results on light and dry limestone soil is prepared as follows: Finely sifted or screened earth, five parts; sulphate of ammonia, one part; Kainit or wood ashes, one part; bones reduced by acid, two parts; soot and fine coal ashes, one part. Supposing each part to equal twenty pounds, we get here 200 pounds of a mixture that forms a good, active and lasting manure for one acre of lawn. It must be used in proportion to the extent of the ground.

Many plants on the lawn and in the garden will require protection in winter. Do not apply it until the ground is frozen. Plants often are injured by being covered too early.

Probably the best mulch for peren-

nial borders is well-rooted stable manure, because it can be spaded to feed the plants next spring when they need it most.

Fall plowing or digging, where practicable, is well worth while, even if nothing is to be planted. It aids in pulverizing the soil, which will be found in excellent condition in spring. It is a good plan to dig the garden spot each year to turn under the weeds.

There is still time to plant bulbs. Better results are secured by planting earlier in the season, but the work can be done now if the beds are covered as recommended in an article on bulb planting on another page.

FALL WORK WITH FRUIT

Few varieties of strawberries are capable of withstanding the hardships of our winters unless protected. It is not so much the heavy freezing that does damage; it is the alternate freezing and thawing of early spring. Do not apply the protection until the ground is frozen. Give a top-dressing of from four to six inches. Stable manure may be used. It will not only protect, but will furnish fertility to the soil. There is one disadvantage, however, and that is the fact that it is apt to contain many weed seeds. For this reason, most gardeners prefer to apply

clean straw or hay. Do not put on too heavy a cover. Work it in the bare places between plants and place sufficient on top of the plants to hide them. Light straw can be used in greater quantities than some of the heavier mulches.

It is well to place a few forkfuls of manure around raspberry and blackberry bushes and young fruit trees. Old blackberry and raspberry canes may be removed, but it is not well to cut back the new canes until spring, as in the event of winter-killing, the work would have to be repeated. While fall pruning can be done often with success, it is better, as a rule, to leave the work until the spring. The more canes left over winter, the better will the snow be held. Snow is the best protection that the roots can have.

Currants and gooseberries may be planted in November. They are hardy. Prune them any time after leaves fall.

As a preventive against the ravages of mice and other vermin, remove all rubbish from among the fruit bushes and trees. Such material, if left, will serve as a harboring place. Young trees should be protected by wrapping the trunks with building paper, and a small mound of earth should be thrown around the bottom to prevent the mice from gaining entrance.

*In our next issue the author of this excellent article will give information on cultural directions and on the origination of new varieties.

Attention should be given to work with vegetables. Dig the celery and store it in cellar. Place the stalks upright and close together with the roots in sand. If necessary to water, which is indicated by the tops showing signs of wilting, apply the water at the roots. Do not sprinkle the tops. It induces decay.

post will be ready for use next May, or earlier.

For potting plants this fall and winter, use a compost composed of three-fourths turfy loam, equal parts of cow manure and leaf mould, with a little bone meal and sand added. Mix well together, and it is ready for use, and is suited for all free-growing plants.

kept growing all summer. A fairly moist cellar is the best place for them.

Keep oleanders in a light, fairly warm room or basement. A temperature of forty-five or fifty degrees and a moist atmosphere suits them. Sponge the leaves occasionally during the winter with water or soap and water.

Old plants of geraniums can be taken from the bed or border, cut back and potted in sand or sandy soil, and be kept with very little trouble. Do not break the roots when digging. Cut back the tops to two or three inches of the main stem. Shorten the roots a little if long. Plant in four-inch pots, water once and stand the pots away. Renew the watering only when the soil gets quite dry. Keep in a temperature of fifty degrees.

Increase the temperature in the window garden as the weather grows colder. Give the plants an occasional draught of fresh air. Do not water every day, as much water tends to sour the soil, and prevents satisfactory growth. Sometimes it induces disease. Water only when the plants need it, and then do not postpone the operation.



The Plant Groups at the Canadian National Exhibition in September

All garden roots should be stored with a view to keeping them fresh and juicy until required for use. Beets, carrots, parsnips, salsify, celeriac and winter radish keep best when buried in light earth. Provide a cool, dark place with good drainage and with air dry enough to prevent rotting but not so dry as to cause shrivelling. See that the roots are protected from the light or they may grow. Parsnips need not be pulled right away. They are improved by a touch of frost. In fact, they can be left in the ground all winter. Turnips and potatoes can be stored on the cellar floor without covering.

After gathering the crops, remove and burn all weeds, especially those that bear seed pods. Then spade or plow the garden and turn under all the manure you can. Every hour's work put on the garden this fall means just that much less to do next spring.

THE WINDOW GARDEN

Make a compost of soil for next season's potting. Obtain sod about four inches in thickness. It should be of a loamy nature. Avoid taking soil where weeds, such as couch grass, has been growing. Stack two layers of sod, with the grass downwards, and cover this with a five or six-inch layer of stable manure. Continue successive layers of these materials until the pile is large enough. Make the pile outdoors. Cover with branches of trees to keep off chickens and animals. The com-

Before placing tender pot hydrangeas in cool winter quarters, be sure that their growth is well ripened. To insure this, leave the plants out as late in the season as possible. Bring them in before they are exposed to more than six or eight degrees of frost.

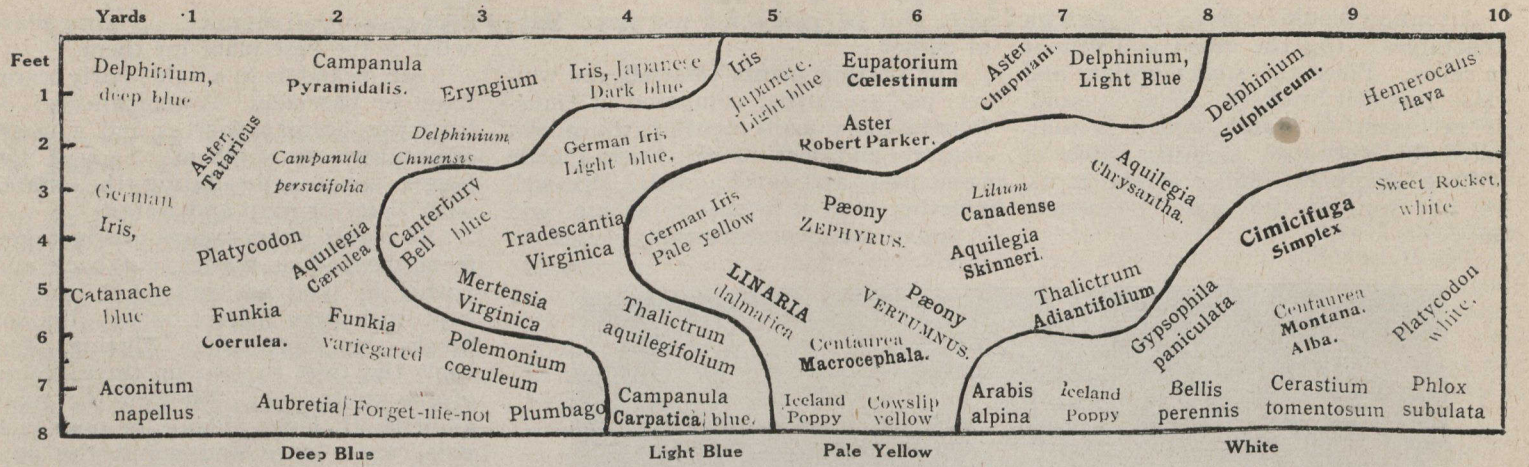
A short period of rest is necessary for fuchsias and pot roses that have been

Chelone—Turtle Head.—*Chelone Lyonii* is the best and showiest variety, being a perennial of great merit, a very profuse bloomer, producing large aggregate flower heads of a nice rich violet-purple. It blooms during September and October. It is a gem for the border and for cutting for large vases. It blooms to a height of four feet.



Great Results on a Small Area

This garden was made and cared for by Mr. Jas. A. Wiley, of St. Catharines, Ont., and his wife, both of whom are enthusiastic horticulturists and active workers in the St. Catharines Horticultural Society.



An Arrangement of Plants for a Hardy Border

E. Byfield, Toronto

THE accompanying plan of a perennial border is intended to be a suggestive arrangement of plants which will ensure harmony of color and continuous bloom in all parts of the border throughout the entire season. Although in four parts, the plan represents one border only. Each part is separate but is intended to blend in order so as to make one continuous

border. The border is forty yards long by eight feet wide, and is filled with plants found to winter over successfully in our climate. Hardy spring-flowering bulbs, such as tulips, narcissi, crocus and so forth, should be planted in liberal masses among the plants, the bulbs remaining permanently in the ground. The entire ground should also be carpeted with low growing and creeping

plants similar to those at the front of the border. Tender bulbs and tuberous rooted plants, such as gladioli, tritomas, dahlias, and so forth, may, with advantage, be planted here and there, in appropriate places, also showy annuals, such as asters, *Salvia splendens*, *Phlox Drummondii*, pansies and so forth, care being taken to place these extra plants among the hardy ones of similar colored bloom.

Some Pointers on Window Gardening

NOT all plants do well in north or north-east windows. Ferns and begonias, callas, *Primula obconica*, Chinese primroses and asparagus will flourish. The Pierson fern is another excellent subject. If you want some vines to train about the upper portion of the window, use one of the ivies. Plants having richly colored flowers require more sunshine than such a location affords.

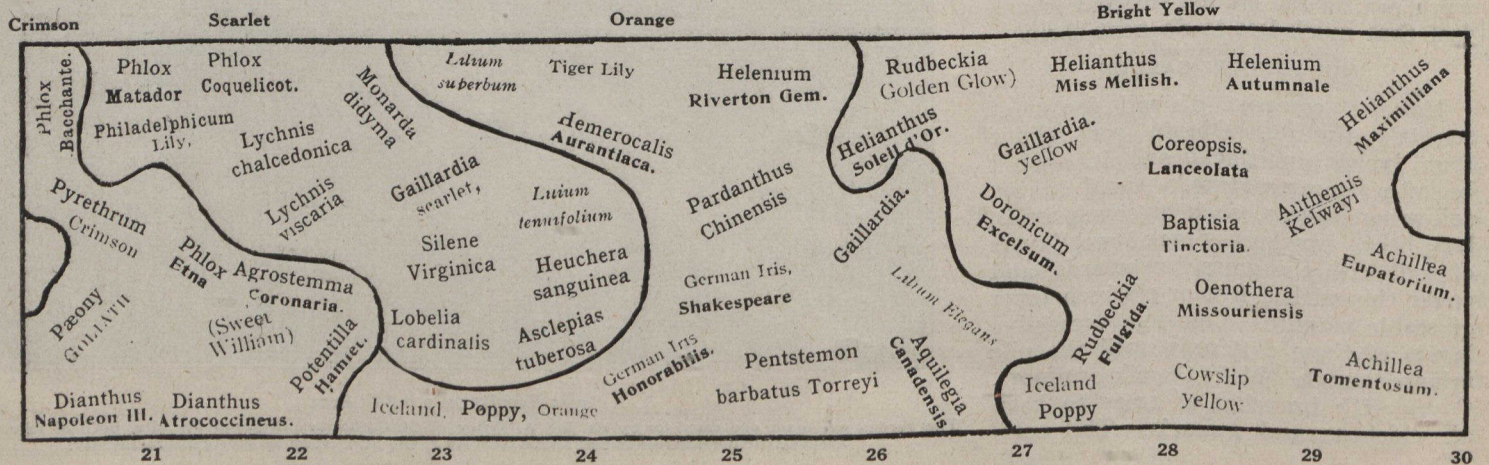
In a window of this kind, *Asparagus plumosus nanus* can be grown to perfection. It will furnish charming material for decorations for the table. There is no better plant for the purpose. Its

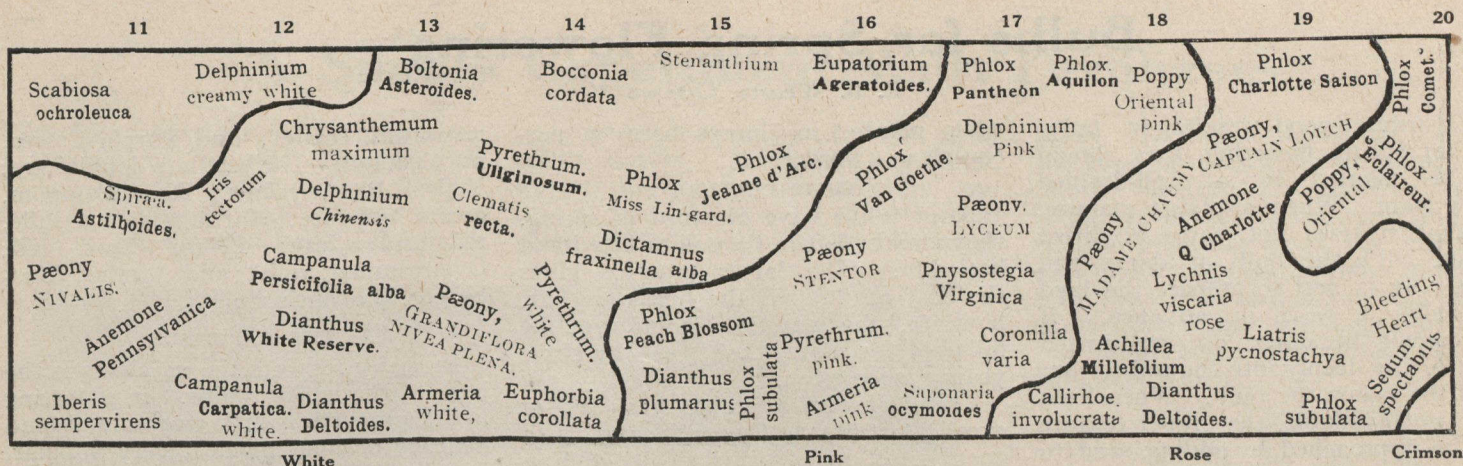
dainty, delicate foliage and its exceedingly graceful habit of growth make it an ideal table plant. It is ornamental in itself, but if a touch of bright color is desired, it can be supplied by thrusting the stems of a few carnations or roses among the wealth of airy foliage. Grow it in a soil of sandy loam, well drained. Shower frequently to keep down red spiders. It is best grown in six-inch pots until the plants become too large for table use, then separate them and make several plants out of each old one. When using for table decorations, keep a plant on the table only for a day or two, then

return it to the window and let a fresh one take its place.

REX BEGONIAS

Among the many excellent subjects for window gardens are Rex begonias. There are various ways of growing and handling them. If grown in a soil of leaf mould and sand with good drainage, if watered moderately and kept somewhat back from the light, they will do well. Plants that do not have good drainage are almost certain to lose their foliage. The important point is to let them alone after they are started. Do not experiment with them. They will





take care of themselves when kept moist—and moist only—at the roots. It is important to see that the soil never gets really dry. It is advisable, also, never to allow any water to get on the leaves. When sweeping or dusting it is well to throw a thin cloth over the plant.

WATERING PLANTS

At this season of the year, care should be taken not to over-water plants of any kind. Give enough to saturate the soil throughout. Wait until the surface appears dry before applying more. An over-supply has a tendency to sour the soil, thus bringing about a diseased condition of the roots.

Plants in hanging pots and baskets should get all the water they need and no more. They will dry out much more quickly than ordinary plants, because they are near the ceiling where the temperature is much higher than at the window-sill. Evaporation is accelerated, also, by the plants being exposed on all sides. Hanging baskets may be watered by the use of a simple device. Take a small can or cup and punch holes in the bottom of it. Make the holes small at first. Fill the can and place it on the surface of the soil. Vines can be so trained as to hide them. Observe the effect carefully. It will be necessary to make the holes larger if not enough water passes through to keep the soil moist.

ARRANGEMENT OF PLANTS

In the window garden, it is a good plan to arrange the smaller plants in front near the glass, and the larger ones at the sides and rear. This enables all of them to get the benefit of the light. Do not allow the plants to become one-sided by being drawn towards the light. Turn them at least once a week, so that all sides may have a chance at the sunlight.

USE OF FERTILIZERS

Fertilizers should be used with care. Because a plant is not growing, many amateurs will feed it with rich manure or fertilizers. This is a mistake. When a plant is not growing, it needs no fertilizer, because it is not in a condition to make use of it. Fertilize only those plants that are already in or have begun active growth. When a plant begins to grow, weak applications are in order. Increase the strength as the plant develops. Forcing rapid growth means weakness, from which there is almost sure to be a re-action sooner or later.

The following will be found to be a good selection: *Veronica apicata*, three feet, July to October; *Veronica maritima*, three feet, September and October; *Veronica gentinoides*, 12 inches, May and June; *Veronica gentinoides variegata*, the same as last, but variegated foliage; *Veronica incana*, 12 inches, deep blue flowers, grayish foliage, July and August; *Veronica longifolia*, three feet high, one of the best of this genus introduced, blue flowers in spikes a foot long; *Veronica rupestris*, four inches high, creeping habit, one of the best, June. All of the above varieties are good for cutting.

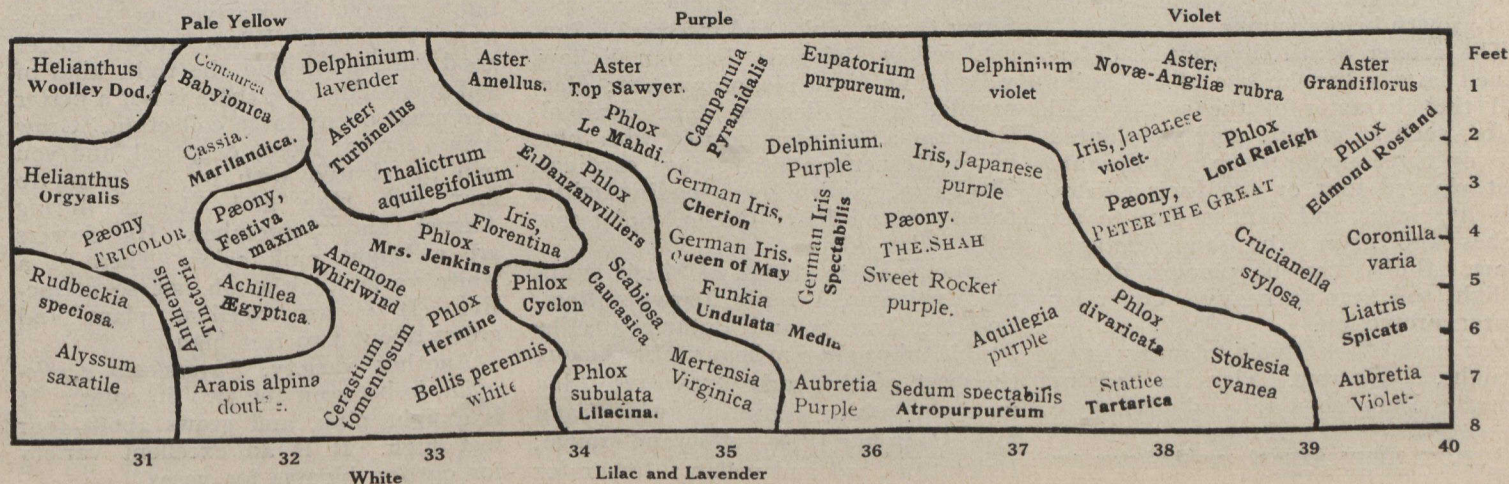
Japanese Bell Flower.—These plants are generally included among the campanulas, which they resemble, and are among our choicest perennials. There is nothing better as a cut flower. They grow to two and three feet high. *Platycodon grandiflora* has large, deep blue flowers. The variety "alba" is the same, except that the color is white. There are also semi-double forms, flowering during August and September.

Veronica—Speedwell

Roderick Cameron, Niagara Falls, Ont.

There are many varieties of this excellent genus of plants. Some of them are the most persistent blooming plants that we have blooming from early summer to late fall. They grow from six inches to three feet high.

Heliopsis—Ox Eye.—*Heliopsis* *Pitcheriana* grows from three to four feet high and blooms all summer, making it doubly valuable as a means of keeping the border bright. The flowers are yellow, and about two inches across.



Bulbs for Spring Flowering*

R. B. Whyte, Ottawa

TO secure good results in bulbs for spring flowering, they should be planted in a well-drained sandy loam. When applying manure, see that it does not come in direct contact with the bulb or decay will result. It is best to prepare the land for bulbs a year in advance. If this cannot be done, use well-rotted manure, dug deeply into the soil so that it will be below the bulb. When light soil is not available, the proper texture may be approached by adding sand to heavy soil.

PLANTING

It is best to plant bulbs as soon as

when planted in clumps between perennials in a border.

TULIP CULTURE

After tulips have bloomed in spring, they may be left in the soil or lifted and heeled-in. The latter practice gives the best results. If the bulbs are left, however, the practice should not be followed for more than two or three years in succession.

There are innumerable varieties of excellent tulips. The following is a good selection of singles: Joost Van Vondel, white; Cottage Maid, white and pink; Jacht Van Rotterdam, white and violet; Standard Silver, white and red;

rubrorum, scarlet; and Purple Crown, purplish red. The best late doubles are: Yellow Rose, yellow; Rose Pompom, cream and rose; Marriage de ma Fille, red and white; Peony Rose, red; Ovenwinnaar, violet; and Admiral Kinsbergen, brownish violet.

THE NARCISSUS

In many respects the narcissus is the best of the spring bulbs. It is lasting in its properties. Its gracefulness and delicacy of color make it very popular. Its planting and treatment is similar to that recommended for tulips. An excellent general list of varieties for amateurs is as follows: Emperor, light yellow; Victoria, early perfumed, yellow and white; Sir Watkin, yellow; Barri Conspicuous, yellow, with orange scarlet cup; Frank Miles, yellow; Leedsi Amabilis, sulphur white; Von Sion, double yellow; Sulphur Phoenix, white with sulphur centre; Monstrosus, very large yellow; and Poeticus, Ornatus and Biflorus in variety.

HYACINTHS

Hyacinths are used chiefly for bedding. They should be taken up every year. Among the best white varieties are La Grandesse, Queen Victoria and Mina; pink, Fabiola, Norma, Gigantea and G. a. merveille; blue, Grand Lilas, Czar Peter, La Peyrouse and Grand Maitre; red, General Pellissier, R. Steiger, Lord Macauley and Roi des Belges; yellow, La Pluc D'Or, La Citronien, King of Yellows and Sonora.

In addition to the foregoing, there are many early flowering small bulb flowers, such as *Bulbocodium vernum*, snowdrops, crocus, scillas, *chionodoxas*, *puschkinnias*, *erythroniums*, grape hyacinths, *fritillarias* and *trilliums*.

False Dragon Head

Roderick Cameron, Queen Victoria Park, Niagara Falls, Ont.

I grow three varieties of this plant, but I prefer the native one, *Physostegia Virginica*. When grown under good cultivation and the right kind of soil and conditions, there is not a better perennial in my large collection. Grow it in a damp, loose, deep soil, and you will be pleased with it. It grows to four feet high and blooms during August and September. Its flowers are a bright pink color. There is a white variety, although not so attractive. It is an excellent plant and grows about two feet high.

Another variety, *Physostegia denticulata*, is between the two in color. It is a light pink, and grows about four feet high. It is an excellent variety for cutting blooms for vases.



Narcissi, Tulips and Hyacinths in Spring—Prepare Now for a Similar Showing

This illustrates a portion of the bulb borders and clumps in garden of Mr. R. B. Whyte, Ottawa. In the background is a rear view of the residence of Sir Wilfrid Laurier.

the bulbs can be secured in the spring. By so doing, they will have a chance to become established before freezing. When it is not practicable to plant early, it is necessary to mulch the bed with a heavy dressing of strawy manure. This will prevent the soil beneath being frozen as early in fall as it would be if left bare and it will allow the bulbs to make some root-growth before winter.

The proper depth to plant is determined largely by the size of the bulbs and the character of the soil. Small bulbs, such as crocus, may be planted two or three inches deep. Tulips are best planted four or five inches deep, and hyacinths and narcissi five to six inches and about the same distance apart. Bulbs may be planted deeper in light soil than in heavy. Cover for winter protection.

For best effect, avoid planting in a straight, single row. Plant in beds or groups. Bulbs show to good advantage

Chrysolora, yellow; Keizer Kroon, yellow and red; Thomas Moore, orange; Duchess of Parma, orange and red; Proserpine, rosy carmine; Vermillion Brilliant, red; and Vanderneer, violet.

An excellent class of late tulips are called the "Mayflowering or Cottage." Among the best of them are: Snowdon, white; La Panachei, white and red; Silver Queen, white and rose pink; Sunset, yellow and red; Parisian Yellow, yellow; La Merveille, orange red; Macropsila, red; Elegans, dark cardinal; Gesneriana, crimson scarlet with blue base; Gesneriana rosea, rosy cardinal; The Fawn, reddish fawn, shading lighter to edge; and Fairy Queen, violet rose with yellow edge.

Among other classes of single tulips are Byblooms, Bizards, Darwins, Rembrandts, Parrots and Botanical. The double tulips also are beautiful. Among the best of the early ones are: Alba maxima, white; Murillo, white and rose; Couronne D'Or, yellow and orange; Helianthus, red and yellow; Imperator

*From an address delivered recently before the Toronto Horticultural Society.

A Simple Experiment With Fertilizers

It is probable that the problem most troublesome to the average gardener is the proper use of fertilizers. In a general way, most growers agree on the value of fertilizers, but in

or crop productiveness is made up of many factors—mechanical condition, warmth, ability to retain moisture, content of bacterial life and so forth—and these are influenced by the amount of

terest. The work was done not with the idea of presenting anything new, but to illustrate the action of a few fertilizing materials, complete and special, on vegetable crops. It may serve as an object lesson to those gardeners who hear and read about the action of fertilizers and are not convinced. The crop chosen was radish; the soil, light sandy loam.

PLAN OF EXPERIMENT

The plan of the experiment was simple. It could be duplicated easily on the home soil of any professional or amateur gardener. In August a plot of ground about fifteen feet long by eight feet wide was staked and made into a good seed bed. Ten rows were marked, each eighteen inches apart, and numbered. Those with odd numbers were not fertilized and served as checks. The even-numbered rows received applications of fertilizers. Row No. 2 was treated with nitrate of soda at the rate of 100 pounds an acre. Row No. 4 was given superphosphate at the rate of 400 pounds an acre. Row No. 6 was intended to be fertilized with muriate of potash at the rate of seventy-five pounds to the acre, but, by mistake, an application of potassium chlorate ($KClO_3$) was given instead, with the result shown in the accompanying illustrations. Row No. 8 was treated with Arnott's Garden Manure. Row No. 10 received a good dressing of well-rotted barnyard manure. All the fertilizers used in the work were kindly furnished gratis to THE CANADIAN HORTICULTURIST by Dr. Arnott-



Fertilizer Experiment with Radishes. Appearance of Plot One Week After Sowing Seed

actual practice satisfactory results are not always attained. So many factors enter into the proper methods of application that oftentimes one is at a loss to know what to do. Soils and crops vary so widely in their demands for fertilizers that random applications are of little or no avail. It is necessary to consider the use of artificial manures from all viewpoints before they can be applied with economy and intelligence.

For general use it is usually advisable to apply one of the so-called complete fertilizers, such as barnyard manure or one artificially prepared. If a luxuriant growth of stalk and leaves is wanted in the crop rather than roots and fruit, an application of nitrogen in some form usually is needed. Should the soil be producing leaves and stem at the expense of fruit and root, nitrogenous fertilizers should be withheld or used sparingly, and potash or phosphoric acid, or both, used instead.

Rightly used, artificial fertilizers are a valuable means of furnishing more or less immediately available food for crops. It must be remembered, however, that plant food alone does not completely solve the problem of soil fertility. Supplying plant food is only half the battle. In addition to the presence of available plant food, fertility

humus present. Believing this, and desiring to assist those gardeners who are not acquainted with the character of fertilizers and their use, THE CANADIAN HORTICULTURIST conducted a simple experiment that may be of in-



Same Plot From Another Viewpoint. Two Weeks After Sowing Seed

The method of applying each fertilizer was similar. The seed, which was supplied by J. A. Simmers, and of the variety Early Scarlet Turnip, white tip, was sown in each row at an even depth. The plot was kept free of weeds and in a state of tilth by hand hoeing.

phate to produce radishes of the best shape, size and quality. The barnyard manure produced radishes that averaged rough and irregular in size. Arnott's Manure gave results almost equal to the superphosphate; the radishes were slightly smaller in size, but even,

affected by the fertilizers. That produced by barnyard manure and nitrate of soda was luxuriant, long and spindly—produced thus at the expense of body in the roots. The foliage in the check rows was somewhat of the desired character. That grown on the superphosphate and Arnott's Manure rows was more stalky and more in accord with what is wanted. These observations would seem to show that the heaviest and tallest growth of leaves does not always spring from the choicest roots.

Readers of THE CANADIAN HORTICULTURIST are requested to conduct a similar experiment with this or some crop on their own soils, and to tell, through our columns, their experiences. Record the results as accurately as possible, and publish them for the benefit of others. A few illustrations would serve to make the articles more interesting.

Wintering Cabbage

A good cool cellar will keep cabbage through the winter with but little loss. In putting cabbage in the cellar for use in early spring, leave the roots and most of the leaves on, set together as close as possible with roots on the ground and heads upward.

For pitting out of doors, select a dry place for the pit, dig out a few inches deep and two feet wide, as long as will be required to hold the cabbage. In placing in the pit put heads down, letting roots extend upward and close together. Cover with clean straw or other material and then with sufficient earth to prevent freezing.



How the Plot Appeared at the End of Third Week

SOME RESULTS AND WHAT THEY TEACH

Before recording the results of this simple experiment, we must bear in mind the fact that similar results would not be secured in all localities. Differences in climate, soil, local conditions and manner of performing the work, would produce different results. It is possible also that, with rows only eighteen inches apart, even though alternate rows were unfertilized, fertilizers on adjoining rows may have influenced the results. Even the hoeing of the ground may have caused some spreading. Knowing this, and the fact that this experiment was performed but once, we would not presume to advise gardeners to act on the conclusions that may be drawn. The chief reason for mentioning the experiment and its results is to create a desire among gardeners to conduct similar experiments with their own soils.

At the end of the third week after sowing the seed, average specimens of the radishes grown in each row were selected and photographed as shown in one of the accompanying illustrations. Bunch No. 1 was taken from the row fertilized by barnyard manure; No. 2, Arnott's; No. 3, superphosphate; No. 4, nitrate of soda; and No. 5, unfertilized. On comparing them, it would seem that this particular soil required an application of superphos-

and the texture was excellent. Nitrate of soda made the growth too rapid and, as may be seen in the illustration, the radishes assumed a shape undesir-



How Average Bunches From the Different Rows Appeared

The fertilizers that gave these results were as follows: 1, Barnyard Manure; 2, Arnott's Garden Manure; 3, Superphosphate; 4, Nitrate of Soda; 5, Unfertilized.

able and foreign to the variety type. The radishes grown in the rows that were unfertilized were fair but did not average nearly so good as those fed with superphosphate or Arnott's Manure.

A glance at the foliage in the illustrations will show that it also was

When wishing to get at the cabbage, open the pit at one end and when enough has been taken out for present needs, close up the end with straw or other material to prevent freezing. This is practised in our most favored districts.

Market Gardening on Up-to-date Principles

FEW classes of people work as long hours and as hard as market gardeners. Many gardeners work harder than is necessary. They have got into ruts. Because they have been brought up to grow their crops in a certain manner and trained to perform most, if not all, of the work themselves, they have come to believe that it is the only thing for them to do. Were they to use a little more judgment, were they to devise methods of economizing labor and saving time, their work would contain more of pleasure and less of drudgery.

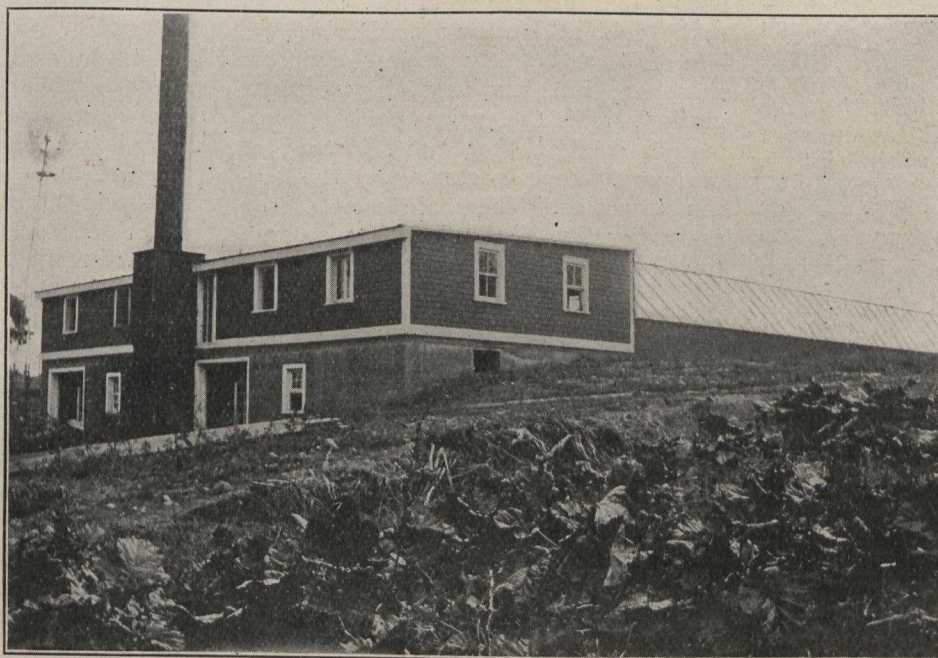
Few market gardeners have as up-to-date methods or better establishments than Mr. Frank Williams, of Ottawa South, a former president of the Ottawa branch of the Ontario Vegetable Growers' Association. A representative of THE CANADIAN HORTICULTURIST, who spent a morning with Mr. Williams, was much impressed by what he saw and heard. Mr. Williams is a thinker. He has introduced many new ideas into the management of his market garden. The unusually fine establishment he has, bears evidence that his ideas have been both practical and a success.

In the first place, Mr. Williams has a nice house with pleasing surroundings. Flowers and a neatly kept lawn add to the attractiveness of the home. In the second place, Mr. Williams believes in marketing his goods in respectable and up-to-date express wagons and with good horses, and above everything else, a clean, neatly dressed, obliging driver. "There is no sense in going around in dirty old clothes and with ramshackle wagons," said Mr. Williams. "The public will value us just as we value ourselves. Unless we show the public that we respect ourselves and our business, you can depend upon it that they will not respect us. There is no reason why the average vegetable grower should not be able to go into a bank or business office and make as favorable an impression as any business man."

A LARGE ESTABLISHMENT

Mr. Williams' establishment com-

prises thirty acres of vegetables. During the busy season he employs ten to fifteen men, and in winter five and six. While Mr. Williams is able to use a hoe as well as any of his men, he does not consider it advisable to do so any more than he can help. He believes that his time can be spent to better advantage in directing the work of his men. His father was the first market gardener in the vicinity of the city of Ottawa. "I can remember," said Mr. Williams, "when there were log fences on Maria St." Maria Street, it might be explained, is now one of the most central streets in the city of Ottawa. Its name has been changed recently to Laurier Avenue.



Boiler House and Greenhouses on Mr. Williams' Establishment

The most striking feature of Mr. Williams' establishment is his new boiler house and greenhouses. These are the finest owned by a vegetable grower that our representative had ever seen. One of the houses is 30 x 176 feet, and runs east and west. A second house that has been up three years, is 40 x 165 feet.

The new boiler house is at the end of the greenhouses and is situated on the side of a hill. It is twenty-six feet by sixty feet and two stories high. The walls in the foundation are one foot thick and twelve feet high and are made of concrete. It is possible to drive into the basement, where there are two boilers that are used to heat the greenhouses. This enables Mr. Williams to handle the coal and ashes and perform other work incidental to the management of boilers,

to the best possible advantage. In winter, a market wagon is driven into the basement and loaded with vegetables in a warm room without danger of the vegetables being injured by frost.

One of the boilers in the boiler house is forty horse power and the other eighty horse power. "Many growers," said Mr. Williams, "make a mistake by putting in small boilers. A few years later, their business has grown and they are forced to tear them out and replace them with larger ones. Our boilers are so arranged that we can add more easily and without much expense."

A REPUTATION FOR QUALITY

Owing to an effort having been made at one time to force Mr. Williams out of business because he would not agree to have his vegetables sold by a company, he was forced to adopt new methods of disposing of his crops. He decided to establish a reputation for quality. With that object he made it a practice to grade his vegetables and fruit. The poorer grades were sold across the river in Hull among factory employees and mill hands. The better grades had a card attached to them, bearing the words, "Frank Williams, Rideau Gardens, Ottawa South," and were sold in

Ottawa. It was not long before there was such a demand for his produce he had little difficulty in disposing of all he could raise, and at high prices. Mr. Williams makes a specialty of melons. He sells melons in Toronto to a fancy trade at higher prices than the Toronto market gardeners receive.

"There is no use," said Mr. Williams, "in a man trying to grow all kinds of vegetables, because no man can do it successfully. He should pick out a few of the crops which are the most profitable, and for which his land is best suited, and specialize on them. In all other lines of business, men are specializing more and more. It is time that the vegetable growers did the same."

In setting out his lettuce, Mr. Williams sets the plants six inches apart. His lettuce weighs from one pound up

to two pounds a head. "We set our lettuce that far apart," said Mr. Williams, "because we get healthy plants and they have room to mature. There is also less danger of disease, and the plants have room to breathe. Boston head lettuce is set nine inches apart."

ECONOMIZING GLASS

At one time Mr. Williams had 1,000 three-foot-square glass frames that he used early in the season in the raising of melons and cucumbers. They were used for only four months in the year, being stored from the first of July to the first of March. Feeling that he was losing money by having all this glass stored idle so long each year, he decided to try and make a double profit out of it. With that object, he put up an extra greenhouse and set the rafters to suit the size of the sash. A crossbar was provided for every sash. A button is attached to each sash which projects from the end. This button catches on the crossbar, and with a piece of wire serves to hold the sash in place. Last summer a crop of tomatoes was grown in the house. Two crops of lettuce are taken out of the house from February to May, the best season of the year. The second crop is a little more than half matured

when the glass is taken off. At that time of the year, the sun is too strong for lettuce without shading, and he finds that the crop matures even better with the glass off.

TOMATO GROWING IN SUMMER

Believing that there should be money in raising tomatoes in the summer for sale from the middle of October to Christmas, Mr. Williams last year experimented with such a crop on a small scale. His first tomatoes sold from fifteen to twenty cents a pound. The results were so satisfactory, he planted a much larger crop of tomatoes last summer for sale early this winter. The objection to growing tomatoes in the greenhouse in the spring is the fact that high prices are realized for only the first tomatoes. The remainder of the crop competes with early cauliflower and other vegetables, and has to be sold at low prices. During the late fall and early winter months, there are but few vegetables on the market, and the price paid for tomatoes sold at that time, instead of dropping, keeps increasing as the season advances. The main winter crop grown by Mr. Williams is lettuce, and the out-door crops, asparagus, straw-

berries, tomatoes, early cabbage, late cauliflower, winter celery and melons.

IMPORTANT WORK TO BE DONE

As a member of the Ontario Vegetable Growers' Association, Mr. Williams is convinced that the association has a great future and important work to perform. "The Government," said Mr. Williams, "does not realize the extent of the vegetable industry. Vegetables are grown everywhere, not only around small villages, but on the farm. Fruit, on the other hand, is not grown to anything like the same extent. The main fruit sections of Canada are limited. Fruit is a luxury, vegetables are a necessity. It is the duty of the Ontario Vegetable Growers' Association to awaken the people from the belief that vegetable growers do not amount to anything, and to educate the country regarding the importance and possibilities of the industry. The trade of the average mechanic can be learned by putting in two or three years at the most. Such is not the case in the growing of vegetables. I have been in the business for forty years and am learning yet, and this is the case with every wideawake vegetable grower."

OUR QUESTION AND ANSWER DEPARTMENT

Readers of The Horticulturist are Invited to Submit Questions on any Phase of Horticultural Work

Marketing Citrons

Where can I find a market for citrons? I have a large quantity; would preserve them if necessary.—A.C.R., Goodwood, Ont.

There is a demand for citrons, but it is not large. Any reliable commission man in Toronto or Montreal could sell them. When they have to be shipped any considerable distance, however, it would scarcely pay, as they are so heavy. The freight charges consume a large part of the price. Recently citrons were selling in Toronto at from forty cents to eighty cents a dozen. There is no general demand for home-preserved citrons. It is probable, however, that such could be sold to special customers or to hotels.

When Plants Should Bloom

When should plants of *Datura cornucopia* flower? A specimen in my garden this year grew well, but the leaves curled and flowers did not appear. Would like to know also when a prickly pear cactus should bloom.—Mrs. J. D. M., Lardo, B.C.

I am sorry that your first letter did not come to hand. *Datura cornucopia* is an annual and should bloom the first year from seed, but the plants must be

started early. The fact of the leaves curling up, as referred to, would seem to indicate the presence of insects or disease. The prickly pear cactus should bloom in three years from cuttings or joints, if conditions are favorable to its growth. If grown from seed, it would take probably four or five years.

Wants Redress

We bought thirty pounds of Yellow Flat Danvers onion seed indirectly from one of Toronto's leading seed houses this spring. We also bought some Yellow Flat Danvers onion seed from a firm in the United States in 1906. After planting the seed purchased here, we planted what seed we had left over from last year of the American seed. The American seed produced good saleable onions. The seed purchased from the Toronto house, alongside of the American seed to the very row where it was planted, has grown what are called "thick necks", or "scallions"; in fact, it is a question in our mind if they are not Egyptian or Pyramid onions. Now, we planted seven acres of this seed, and it means a loss to us of \$2,000. In addition, all these onions had to be gathered off the land. We would like to know if there is not some way of obtaining compensation for this loss, as in our opinion it is entirely the fault of the seed, which variety must have been known by the man that grew it.—S.B., Collingwood, Ont.

The foregoing letter was submitted to a prominent law firm in Toronto, who replied as follows: "Your subscriber's letter is rather indefinite. What do they mean by 'bought....indirectly'? Only a general answer can be given to the enquiry because of the lack of necessary detail. The right to recover will depend upon the representations made by the vendor of the seed. If the vendor sold to the purchaser seed represented by the vendor to be of a certain kind and quality, intending the purchaser to rely upon such representations, and the purchaser does rely upon the representations and purchases the seed, and, as a matter of fact, it is not of the kind and quality represented (and in the case under consideration the purchaser is unable by an ordinary examination of the seed delivered to him to see that it is not of the kind and quality represented), and the purchaser plants the seed, and, as a direct result of it being of a different kind or quality from what it was represented to be, suffers damage, he can recover that damage from the vendor of the seed."

A Well-Known and Reliable Nursery Concern

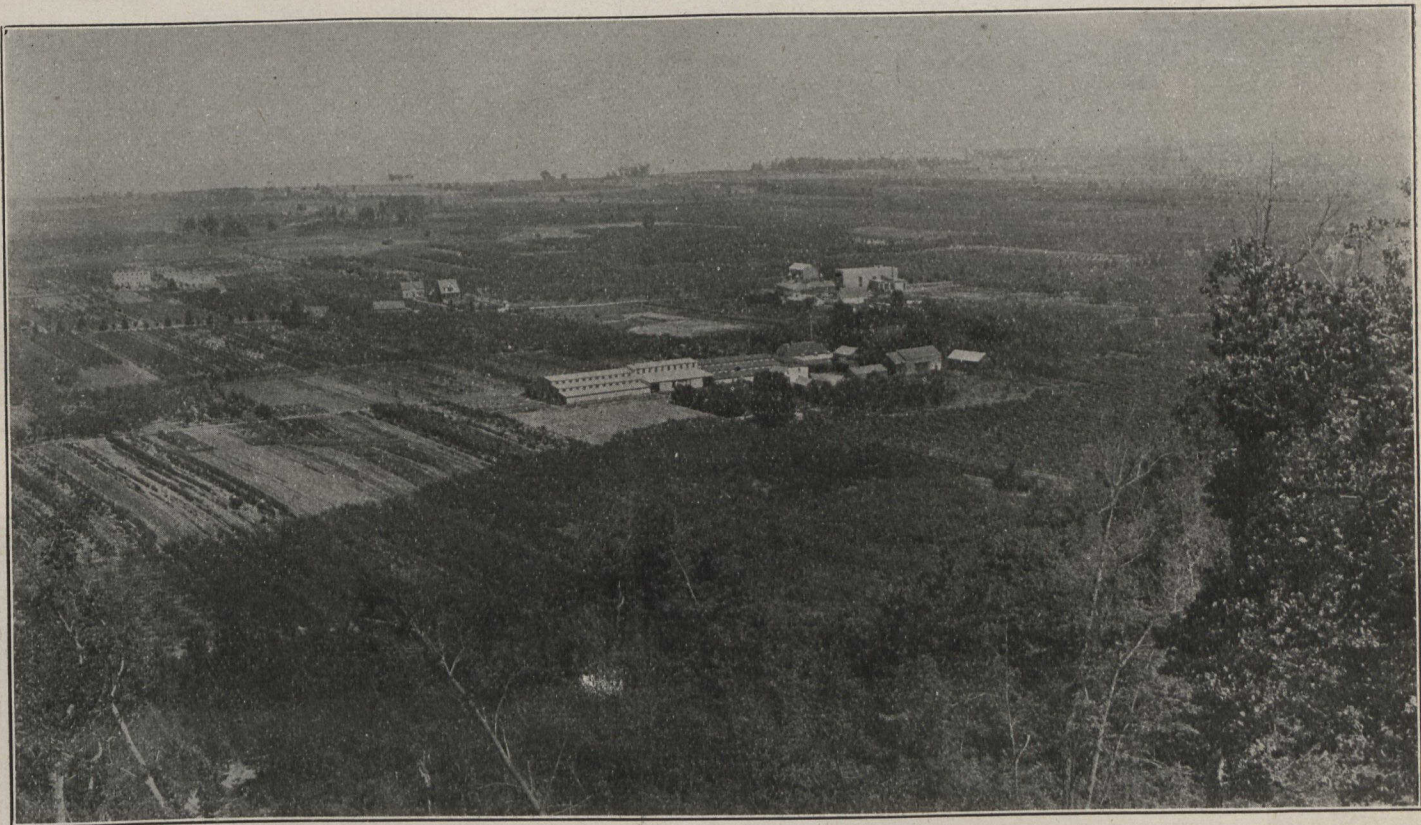
SUCCESS in growing fruit trees and ornamental plants depends largely upon the care and attention given the stock in its young days, that is, while in the nursery. To grow good fruit or to produce ideal effects on the home grounds or in parks, good trees, bushes or plants must be available with which to start operations. To purchase these with confidence, the grower, amateur or professional, must feel that he is getting stock that has been grown by a nursery firm that knows how to accomplish desirable results and does it.

good faith and skill with which everything is conducted.

STOCK TRUE TO NAME

Special attention is given to the character of the buds and scions used for propagating purposes. As Mr. Smith grows fruit on an extensive scale, he is able to use scions and buds from bearing trees. As a fruit grower he not only is in a position to be sure of the scions used for propagating, but also he is in a better position than most nurserymen to give advice in the matter of selecting varieties and planting. Mr.

in the columns of *THE CANADIAN HORTICULTURIST* that Canadians should grow Canadian grown stock. This is a point that is emphasized by Mr. Smith, who said Canadians should buy stock that has been produced in our climate, not only because such will do better than stock that is imported, but because they can come back on the nurserymen if the stock purchased does not turn out as expected. There is no redress for Canadians who buy from United States firms. Canadians should consider the patriotic aspect as well. By purchasing



Bird's Eye View of the Home Farm, "Helderleigh"

The illustration shows cellars, packing sheds, fruit packing house, jam factory, cold storage plants, and so forth

Many visits to the combined fruit and nursery establishment of E. D. Smith, M.P., Winona, Ont., known as the Helderleigh Nurseries, have convinced an editorial representative of *THE CANADIAN HORTICULTURIST* that this firm takes the greatest possible care and endeavors to grow only the best and most reliable stock.

Helderleigh Nurseries were established twenty-five years ago. From a small beginning, they have grown and extended from year to year until at present the area of the establishment under cultivation is 800 acres. It comprises seven farms, of which 250 acres are planted with fruit trees. The business is growing rapidly. It is probable that within a few years' time this establishment will be the largest of its kind in Canada. The secret of its success is the

Smith has been in the business for twenty-five years and is able to judge the value of the different varieties of fruit trees that he grows in his nurseries.

NEW VARIETIES WELL TESTED

It is well known that many new varieties of fruits prove of little or no value. Before new sorts are disseminated from the Helderleigh Nurseries they are tested thoroughly. As Mr. Smith is always looking for new things that will be of value to fruit growers, he does not hesitate to try all new varieties that are promising. After testing them and comparing them with the best standard varieties, those that are worth while are offered for sale; the others are discarded.

PLANT CANADIAN GROWN STOCK

It has been mentioned many times

from Canadian firms, the buyer aids and increases the employment of Canadian labor. On an average, 100 men are employed on Mr. Smith's farm, and in the spring the number is increased to about 125.

For the growing of nursery stock, only the choicest soil is selected. Two crops of apple trees are never grown on the same soil and location. All nursery lands on Mr. Smith's farm are manured heavily to produce rapid, vigorous growth. The young stock is cultivated at least once a week all spring and summer till August. Cultivation is then stopped so that the wood may have a chance to harden. Mr. Smith claims that the location of his nurseries is superior to most other places. He has a longer season and, as a consequence, his stock makes a better growth in the

same time and the wood becomes more matured and harder than that of stock grown in less favored localities.

ADVANTAGES OF EARLY PLANTING

The advantages of early planting are recognized by all up-to-date planters. The growth of a tree planted in April

specialty is being made of crossbred apples, suitable for planting in Manitoba and the Northwest Provinces, and in New Ontario. Mr. Smith is propagating and growing the valuable hybrids produced by Dr. Wm. Saunders, of the Central Experimental Farm, Ottawa,

and are well grown. Particular attention was paid to having them true to name. During the past summer, all of them were gone over by an expert and tested for "rogues." They are true to variety. By purchasing from this stock growers may expect the best of results.

VARIETIES RECOMMENDED

As already mentioned, Mr. Smith is in a position to give expert advice on the proper varieties to plant. Being the proprietor of probably the largest wholesale fruit business in Canada, he knows from experience the varieties that mean money. Fruit growers in all parts of Canada would do well to consult Mr. Smith in this respect. He is always willing to give the benefit of his experience to others. In conversation with the representative of THE CANADIAN HORTICULTURIST, Mr. Smith stated that he is looking for a great demand for Spys, and is preparing for it. He will have for sale a heavy stock. At present, however, growers are asking for Stark, Ben Davis and Baldwin, and on these nurseries they can be supplied with all they require.

In plums, Mr. Smith recommends Monarch, Reine Claude, Grand Duke and Black Diamond. Among the leading pears that he would suggest for planting are Bartlett, Doyenne, Bussock, Anjou and Bosc, the two latter on Kieffer stock. It is claimed that by growing these two varieties on Kieffer



A Corner of a Block of 50,000 Spruce Trees

will be worth three times that of a tree planted in May. Not only are there less losses but the growth is better and greater. In the future of a tree, it is important that it makes a vigorous growth the first year. A tree that is stunted during the first year never recovers. It is believed that a tree planted dormant and early will grow more in two years than one planted late and partially in leaf will in three.

By the use of tree cellars on the Helderleigh Nurseries, they are able to ship stock two weeks earlier in spring than where no cellars are used. Although such buildings on nurseries are called "cellars," they, in reality, are not cellars but stone buildings without floors. In the fall the trees are dug and placed in immense cellars. They are not simply stored there as is done by some nurserymen, who have cellars, but they are heeled in. The roots are buried deeply in the ground, the trees standing upright. There is no piling up like cordwood with roots exposed in winter. The roots of trees in Mr. Smith's cellars, being in contact with mother earth all winter, are protected and they come out in the spring as fresh as when dug in fall. These cellars are well constructed. A system of waterworks has been installed by which the soil is saturated when the stock first is heeled in. Water is used again in spring if needed. There is a great advantage in securing trees sound and unfrosted two weeks earlier than can be done from places where the trees have to be dug in spring. All the packing is done under cover and behind closed doors, where no warm winds can reach the stock and injure it.

All kinds of fruit trees and bushes, as well as ornamentals, are grown. A

by crossing various hardy varieties of apples and crabs on the Siberian crab, *Pyrus baccata*. According to reports issued by the Central Experimental Farm, varieties of this type have been planted in the most exposed situations on the Northwest experimental farms and have shown no indications of tenderness. They are hardy and should be



Part of a Block of 300,000 Three-year-old Apple Trees

welcomed by all persons who wish to grow apples and cannot grow the standard varieties. Mr. Smith's stock is particularly fine.

WELL-GROWN GRAPE VINES

On these nurseries, there will be 500,000 grape vines for sale next spring. They comprise all the leading varieties

stock, a bearing head is secured much sooner than when grown on their own roots. The trees, also, are said to be freer from blight.

When speaking of peaches, Mr. Smith said: "There was an enormous crop of Elbertas this year, and it brought the growers large sums. An acre of full-

grown trees brought the owner between \$1,000 and \$2,000. As a consequence, there will be a great demand for Elbertas next year, and we are in a position to meet the demand."

When the trees are eighteen or twenty feet high, which size is attained after being planted four or five years, a picket of wood to the desired height of the fence is nailed on to the trees. The

its civilization. The planting of trees along the roadside and around the farm homestead is something that should not be neglected. Many varieties and classes of trees for the purpose are grown at the Helderleigh Nurseries, among them Norway spruce, of which some 100,000 will be ready for sale next spring.

There is a good line of ornamentals on the nurseries. In roses, Mr. Smith thinks a great deal of Dorothy Perkins. It is a rapid grower, handsome, and a good mate for Crimson Rambler, the old reliable, of which they have a good stock. Strong field-grown roses of all varieties, both budded and on their own roots, are grown. There is a large stock also of self-clinging Virginia creeper, *Ambelopsis Hirsuta*. Like the Boston ivy, this is a hardy vine and clings to any smooth surface. It is just the thing for northern districts where Boston ivy is too tender.

STAFF OF AGENTS

On the staff of employees are 300 agents. Mr. Smith makes unusual efforts to secure reliable men. Applicants are required to furnish as references the names of four responsible men in active business. Of the large number of men who apply for work as representatives of this nursery, fully seventy-five per cent. are refused, as they do not meet the strict requirements demanded. These nurseries have rightly gained a wide reputation for reliability. This is evidenced not only by thousands of testimonials from individual growers, but also from the fact that for a number



In this Block there are 100,000 Seedling Peach Trees

THE HERBERT RASPEERRY

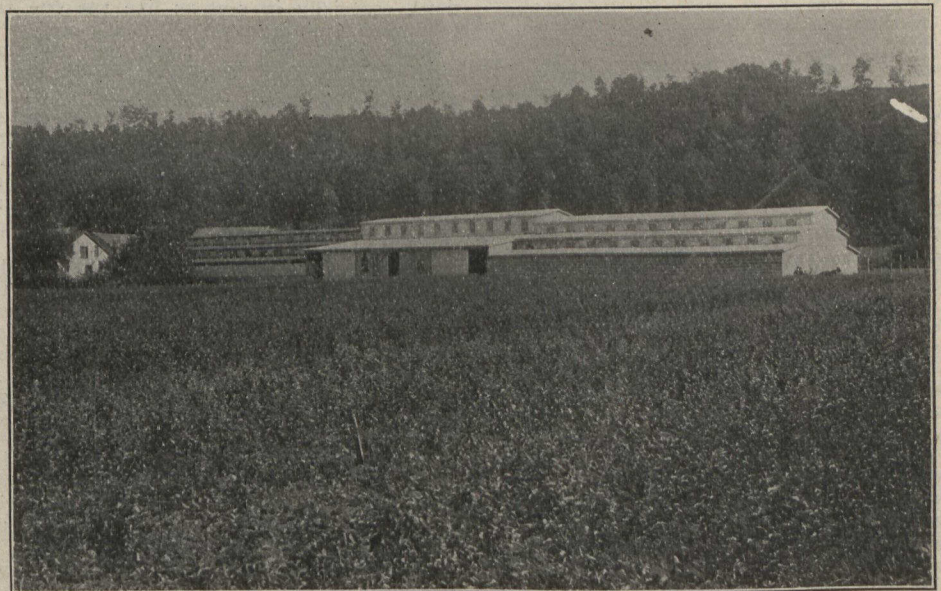
In small fruits, a large acreage of a general assortment was seen. All the leading varieties of raspberries, blackberries, currants and gooseberries are grown in innumerable quantities. Particular attention has been paid to the propagation of the Herbert raspberry, which is rapidly coming into popularity. The results of experiments at Guelph and at Ottawa show it to be the most productive of all red raspberries. Having been originated at Ottawa, it is extremely hardy. It is of particular value, therefore, to planters in the colder sections of our country. The fruit is of excellent quality. Raspberry growers would do well to give it a trial. It will make good. The stock of plants of this variety growing on the Helderleigh Nurseries appeared in the prime of condition.

CAROLINA POPLARS

Not only are fruit trees grown extensively, but ornamental and shade trees as well. A particularly fine block of Carolina poplars was noticed. It contains 40,000 young trees. This tree is becoming very popular. Last year, Mr. Smith sold 20,000 within a radius of twenty miles of the nurseries. It is an extremely vigorous grower. It is upright in habit and handsome. Its use for street planting is unsurpassed. For windbreaks, it is especially valuable. Its chief value, however, is as a fence post. The trees are planted in a row where the fence is required to be erected.

wires are strung thereon and secured by staples. Carolina poplar fences are the strongest, cheapest and most beautiful tree fence that can be erected.

There is an outstanding feature of country or rural improvement that is not emphasized or recognized as it



The Packing Shed and Cellars for Wintering Stock

Capacity—250,000 trees and 300,000 vines. In the foreground is a solid block of Ben Davis apple trees

should be, and that is the advertisement that it affords the community. Rural improvement certainly is a striking advertisement of the progress of a country's refinement, and of the height of

of years E. D. Smith has been supplying the Government experiment stations in New Brunswick, Nova Scotia and Ontario. This would indicate that every confidence can be placed in the firm.

The Canadian Horticulturist

Published by The Horticultural
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in the Dominion

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Managing Editor and Business Manager
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6. Articles and Illustrations for publication will be thankfully received by the editor.

Circulation Statement

Since the subscription price of THE CANADIAN HORTICULTURIST was reduced from \$1.00 to 50 cents a year, the circulation has grown rapidly. The following is a sworn statement of the net paid circulation of THE CANADIAN HORTICULTURIST for the year ending with July, 1907. The figures given are exclusive of sample and spoiled copies and of papers sent to advertisers. Some months, including the sample copies, from 8,000 to 10,000 copies of THE CANADIAN HORTICULTURIST are mailed to people known to be interested in the growing of fruit, flowers or vegetables.

August, 1906.....	4,220
September 1906.....	4,300
October, 1906.....	4,330
November 1906.....	4,775
December 1906.....	4,814
January 1907.....	4,947
February 1907.....	5,520
March 1907.....	6,380
April 1907.....	6,460
May 1907.....	6,620
June 1907.....	6,780
July 1907.....	6,920

Total for the year..... 66,066

Average each issue..... 5,505

August, 1907..... 6,880

September, 1907..... 7,078

October, 1907..... 7,210

Sworn detailed statements will be mailed upon application.

Our Protective Policy

We want the readers of THE CANADIAN HORTICULTURIST to feel that they can deal with our advertisers with our assurance of the advertisers' reliability. We try to admit to our columns only the most reliable advertisers. Should any subscriber, therefore, have good cause to be dissatisfied with the treatment he receives from any of our advertisers, we will look into the matter and investigate the circumstances fully. Should we find reason to believe that any of our advertisers are unreliable, even in the slightest degree, we will discontinue immediately the publication of their advertisements in THE HORTICULTURIST. Should the circumstances warrant we will expose them through the columns of the 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 that you include in all your letters to advertisers the words "I saw your ad. in THE CANADIAN HORTICULTURIST." Complaints should be sent to us as soon as possible after reason for dissatisfaction has been found.

Communications should be addressed:

THE CANADIAN HORTICULTURIST,
506-7-8 Manning Chambers,
TORONTO, CANADA

EDITORIAL

WANT A FRUIT MARKS ACT

The value of the Canadian Fruit Marks Act is becoming recognized more and more as its benefits become known. At the recent meeting of the American Pomological Society at the Jamestown Exposition, Mr. Alex. McNeill, Chief of the Fruit Division, delivered the excellent address that is published as the leading article in this issue. The information given impressed the members so favorably that the following resolution was adopted by the society:

Resolved, That a committee of five be appointed by the chair to confer with the United States Department of Agriculture with the object of securing the enactment of national regulations intended to secure for us the substantial benefits conferred upon the Canadians by their "Fruit Marks Act."

They were also requested to secure the cooperation of state horticultural societies and trade organizations.

It would seem that, while each state in the Union can enact a bill of this nature, the national government lacks that power. This illustrates one of the defects in the constitution of the United States. Each state legislates for itself on questions of national importance. The result is that such legislation does not effect its purpose. The people of the United States are beginning to discover the defects of their national constitution in this as in other particulars. They would like to follow up-to-date Canada, but constitutionally they cannot.

PILFERING IN FRUIT ORCHARDS

Much annoyance and loss are occasioned to fruit growers by the petty pilfering to which they are subjected. In the aggregate, the loss amounts to a considerable sum. Where travel is not large and where orchards are enclosed with fences, the loss may not be so great, but in the Niagara district and some other fruit sections where few fences are maintained along the highways, it is assuming serious proportions, especially in seasons like the one this year, when fruit is scarce and high priced.

Some people seem to think that they are justified in helping themselves to fruit that is growing close to the highway. They do not take the trouble to consult the owners so that they may find out whether they are welcome or not. The generosity of Canadian farmers is well known, but there is a limit to their patience. Owners of orchards or vineyards seldom refuse a request for a few peaches, grapes or other fruit, but the pilferers do not think it necessary to ask. They prefer to pilfer. Stolen fruit, they think, is the sweetest. Often the presence of the owner does not deter them. Should a protest be made, the trespasser offers some slight compensation, and considers himself injured.

Probably the most aggressive foragers are boys. When passing along the highway, they cut a wide swath which includes in their wanderings a few trees, bushes or vines on either side. The attack is made alike upon immature or ripe fruit. They are not satisfied with consuming what they take, but must use countless specimens as convenient missiles to hurl at anything that may attract their aim. A favorite field of endeavor for boys is a strawberry patch. As they care not where they place their feet, they destroy much more fruit than they eat or carry away. Scores of other illustrations and instances could be cited.

In cities, towns and villages, people do not think of helping themselves to a single specimen of fruit when they are passing a grocery store or a fruit shop. Much less do they plan to carry away the property of others by handfuls and basketfuls. Why then should the fruit grower be placed at the mercy of every

passerby and called on daily to furnish a feast to scores of persons whom he does not know and in whom he can have nothing more than the most general interest? The remedy for this practice is readily available. There is legislation in this country that meets the situation. It is easily applied. It is interesting to note in this connection that twenty men, women and children were up in the police court at Belleville recently charged with stealing fruit, they having stripped two orchards in the vicinity. They were given a severe reprimand and fined amounts ranging from \$1.50 upwards and costs. A few arrests like this would soon check the evil. If followed up, it would not be long before people came to have a wholesome respect for highway boundaries.

TAKE A FEW SHARES

A few months ago we announced in these columns that The Horticultural Publishing Company, Limited, which owns THE CANADIAN HORTICULTURIST and The Canadian Florist had decided to increase its subscribed capital from \$10,000 to \$20,000, by issuing \$10,000 worth of new stock. A large part of this new stock was bought by our shareholders. Every director of the company increased his holdings. Our readers were given an opportunity to subscribe for the remainder of the stock. A considerable number did so, with the result that the \$10,000 in stock was all subscribed by people interested in the growing of fruit, flowers or vegetables. This was what we desired. Recently, however, a couple of persons who took some of this stock have found it necessary, for private reasons, to ask to be relieved of a portion of their allotments. Their requests have been granted. Thus we are able to offer our readers one more opportunity to secure an interest in this company, and a chance to become a part owner of THE CANADIAN HORTICULTURIST.

The past year has been the most successful in the history of the company. This issue will be mailed to almost 7,500 paid subscribers. A glance at the sworn circulation statement, published on this page, will show the phenomenal increase that has taken place during the past year in the circulation of THE CANADIAN HORTICULTURIST. The receipts from advertisements have increased to an almost equally gratifying extent. The September and October issues and this issue of THE CANADIAN HORTICULTURIST have each carried over twenty-five per cent. more advertising than any previous issue, although the spring months are the best for advertising. Each of the issues mentioned have contained more advertising than was carried in all twelve issues of the magazine in 1903. In other words, we are carrying over twelve times as much advertising now as we did only four years ago. On the first of this month our advertising rates, owing to the great increase in our circulation, were advanced twenty per cent. Soon, this publication should prove one of the most profitable of the kind on the continent.

All the stock of the company is held by people who are interested in horticulture. This is as it should be. We hope that the small amount of stock that still remains to be disposed of will be subscribed by our readers. This is the last chance they will have. The shares are fifty dollars each, and only twenty dollars is being called on each share. Those of our readers who are interested are invited to write us for a prospectus that gives full particulars.

In the leading article of this issue, Mr. Alex. McNeill's paper on the Fruit Marks Act, reference is made to the fact that our cooperative fruit associations have not yet been fined for violating the act. This is something for the associations to be proud of, yet nothing more than would be expected. One of the chief reasons for their existence is the fact that

growers individually found it difficult to maintain a grade uniformly in accordance with the demands of the act. By organizing and packing collectively, uniformity is comparatively an easy matter. Furthermore, the leading cooperative associations demand that the orchards of its members be sprayed a number of times each season—fruit from unsprayed orchards being refused. This regulation has done much to decrease the percentage of defective specimens. Fruit growers in parts of Canada where associations have not yet been formed, should recognize the value of cooperation and organize at once. Cooperation means increased profits.

The fruit growing industry of British Columbia is worth more to the province, or will be in the future, than all other industries combined. In view of this fact, it is surprising that the British Columbia Department of Agriculture has few greater facilities for original investigation and for the dissemination of knowledge on fruit growing and kindred subjects than it had when the industry was only in its infancy. The department has done excellent work in some lines, but not enough. A fuller inspection of the orchards of the province should be made and a more thorough inspection of fruit as it goes upon the market. The department as well as the fruit growers would benefit by a better equipment in the way of a library and of collections of biological specimens. By such means, the questions and difficulties of the fruit growers could be answered and treated promptly and with satisfaction.

This season, some fruit growers in Ontario asked the Fruit Division at Ottawa for a reduction in the standards of apples. The request was brought about by the drought of the past season, which threatened to result in smaller-sized apples than usually is looked for. The Fruit Division decided that the request could not be granted. As British Columbia and Nova Scotia fruit is quite up to the average, it was felt that if an exception were once made, it would lead to an annual demand from one province to another. The Government inspectors were instructed to see that the law is carried out. If the good reputation for packing that Canada rapidly is acquiring is to be maintained, the requirements of the Fruits Marks Act must be observed to the letter. The action of the Fruit Division in this matter is to be commended.

In another column of this issue an article entitled "Have a Grievance," points out the lack of proper facilities for transportation on the Grand Trunk Railway from Niagara to Toronto. For some years, it has been disgraceful and particularly this season. It is suggested that a conference of fruit growers between Clarkson and Niagara Falls be held in the near future to discuss the matter. No time would be more opportune for the purpose than during the days of the Ontario Horticultural Exhibition, which will be held in Toronto on November 12-16. Advantage may be taken of the low rates offered by the railways. Hundreds of fruit growers will be in Toronto attending the exhibition and the convention of the Ontario Fruit Growers' Association. It would seem, therefore, that a mass meeting of all persons interested in the transportation question could easily be arranged.

At a recent meeting of the Toronto Horticultural Society, an excellent address was delivered by Mr. R. B. Whyte, of Ottawa, during which he suggested ways and means by which horticultural societies may increase the number and interest of their members. One of the features referred to was the value of a question box at meetings. This affords the members an opportunity for gaining information in respect to any difficulties that may confront them. Another factor in building up a society, and a

most important one is the holding of flower shows and exhibitions in connection with the meetings. This can be done, however, only when the meetings of the society are held during the summer months, as is the practice at Ottawa. Societies that are not progressing as rapidly as the members would wish should consider these two points if already they are not features in their work.

That the spirit of patriotism should be fostered in the schools of Canada is recognized by all true Canadians. It is interesting to note, therefore, the plan formulated by the Ontario Department of Education, to supply rural schools with ensigns—Union Jacks, with the coat-of-arms of the Dominion of Canada. An appropriation of \$5,000 was voted by the legislature as a beginning. Each rural school will receive a flag, which must be displayed in the class-room at the discretion of the trustees. The ensigns are to be flown on high days and holidays from the flagstaffs. No provision has been made for presenting them to the urban schools. That step may be taken later. The step taken will do much to infuse in children a keener love for their native land, and for the greatest empire on the face of the earth.

Recently THE CANADIAN HORTICULTURIST received a letter from a gentleman in the United States asking for information regarding fruit farms that are for sale in Southern Ontario. This is not an unusual occurrence. Frequently we receive similar letters from England and elsewhere. This would indicate the advisability of owners of fruit land in the Niagara district and other fruit localities advertising in our columns. No better medium can be found for disposing of fruit farms than THE CANADIAN HORTICULTURIST. The circulation of this publication is not confined to Canada. It includes readers in most countries of the world.

In our last issue we referred to the action taken by the Board of Control for Toronto in the appointment of a local fruit inspector for that city. Ottawa probably will do likewise in the near future. At a meeting of the grocers of that city early in October it was decided to ask the city council to appoint at once a fruit inspector. It was pointed out that in Winnipeg and some other Canadian cities there is an inspector and provision whereby, if the railway companies delay in delivering carloads of fruit to big dealers, they have to foot the bill when the fruit is bad. Other cities should follow this example.

In the October issue, two errors occurred. On page ix, first column, eleventh line, the word "Bonne" should have been "Pomme," and on page x, third column, seventh line, the word "vegetable" was printed for "apple."

Have a Grievance

Editor, THE CANADIAN HORTICULTURIST: A suggestion was made at the last business meeting of the Clarkson Fruit Growers' Association, that the fruit growers and shippers residing between Clarkson and Niagara hold a convention in the near future to discuss matters respecting the conveying of our fruit and vegetables to Toronto market via the Canadian Express Co. Our grievances are decidedly obvious, and have been for years, to any person or persons who have their eyes open. The company is well aware of it. We have lodged complaints repeatedly, but instead of them treating us with consideration, they tuck on more charges, which are out of all reason. It costs us more to ship a hundredweight of fruit from Clarkson (I might say by freight, for that is practically what it is), than it costs us to travel in a first-class coach. I was requested to ask you whether you would publish this suggestion

in THE CANADIAN HORTICULTURIST. One of your prominent advertisers was present, and told us we could not do a better thing, as he had found it most profitable to advertise in THE CANADIAN HORTICULTURIST.

One matter that was talked of was to ask for a uniform charge of three cents for the 11-quart basket. We hope that all the growers and shippers will show a united front and take action. "In unity there is strength." Clarkson growers have been scrapping alone long enough. The company laughs us down every time. The commission men are with us to assist all they can. I might say also that some of our men are considering the feasibility of forming a syndicate re the purchasing of a motor car for the carrying of freight. This convention should be brought together as soon as possible. Any correspondence concerning this matter should be addressed to R. Shook, Secretary Clarkson Fruit Growers' Association, Clarkson, Ont.—W. G. Horne.

Lindsay Aster Show

What has proven a very successful and gratifying innovation was undertaken last spring by the Lindsay Horticultural Society. With the cooperation of the public school teachers of the town, packages of aster seed were distributed to all school children who would undertake to plant the seed and care for the plants.

To test the success of the scheme, and also to give to the children increased interest in the growing of flowers an Aster Show was held in the Town Hall on Sept. 26. First, second and third prizes were given for competition by the children of each of the 10 schools of the town. Also three special prizes were given for general competition. The competition was limited to asters grown from seed distributed by the Horticultural Society. Ninety-two entries were made and the display arranged in bouquets and placed on tables was most pleasing and beautiful. The show was arranged for the children's benefit, and they took full advantage of it. During the afternoon and evening large crowds of excited and happy children filled the hall, and almost every child in Lindsay came to see the show of asters, grown by their school mates. In the evening large numbers of older boys and girls, and parents were present. Seldom has any show created more interest or drawn so large a crowd.

The success of the show was gratifying to the members of the Horticultural Society, and to Secretary Frampton and President Chambers. Already requests for more seeds are coming in, and the society feels that not only will more asters be grown next year, but also that the interest created will be far-reaching, and that the children who this year learned how to grow asters will next year grow many other flowers.—F.H.Reed.

Two snapshots of asters were sent to THE CANADIAN HORTICULTURIST. Will the reader who favored us kindly send his name and address?

I read THE CANADIAN HORTICULTURIST from beginning to end and some of it two or three times. It is the best publication of its kind that I ever saw and I have subscribed for all the leading Horticultural papers on the continent.—J. C. Black, Truro, N.S.

Kettle Valley, B.C., through Mr. Martin Burrell, took 29 out of 37 prizes at the Nelson fair, and also won the district prize. This shows that the Kettle Valley Irrigated Fruit Lands Company, Limited, of Midway, B.C., of which Mr. W. O. Wright is manager, is making no mistake in launching its fruit lands enterprise that was advertised in recent issues of this paper.

The Apple Situation and Crop Reports

EXPORT apples are moving freely. It is probable that the movement will be even more brisk until the close of navigation at Canadian ports. Returns from early shipments on consignment have been disappointing, the shippers netting, in the majority of cases, less than \$2 a barrel, and in some instances, as low as \$1.35. This would seem surprising in this season of high prices if the cause were not looked into. The chief reason is the fact that the fruit had been picked immature and as a result a large part of it arrived in bad condition.

Growers generally are securing good prices for apples f.o.b. Various instances of excellent sales are known to THE CANADIAN HORTICULTURIST. A cooperative association in western Ontario sold some thousands of barrels at the high price of \$3.50 for No. 1, and \$3 for No. 2, the fruit to be well selected. Many sales have been made at \$3 for No. 1's and No. 2's, and many at \$3 for No. 1 and \$2.50 for No. 2. In one locality, a sale of 5,000 boxes has been made at \$1.25 for No. 1's and No. 2's.

American buyers are still on the ground and are ready to pay high prices for good stock. It is important that individual growers and cooperative associations pay particular attention to the grading of their fruit this year. Nothing questionable should be allowed to pass.

LAMBTON COUNTY

Arkona.—Winter apples have been bought mostly by the orchard at from \$1 to \$1.25 a barrel, the grower to do the picking. Some orchards were damaged by hail in August.—J. Seymour.

HALTON COUNTY

Oakville.—Buyers have paid as high as \$2.25 in the orchard for apples.—W. H. MacNeil.

MIDDLESEX COUNTY

Ivan.—Buyers of apples are offering \$1.25 to \$1.75 in the orchard, picked.—E. T. Caverhill.

BRUCE COUNTY

Walkerton.—Since early fall rains, apples have almost doubled in size. Buyers are offering \$1.50 for No. 1's, picked, and \$1.25 for No. 2's.—A. E. Sherrington.

WENTWORTH COUNTY

Stony Creek.—The fruit is now nearly all harvested. Grapes have been an abundant crop; \$30 a ton was paid and 16 to 20 cents a small basket. The peach crop was rather light in this locality; prices ranged from 80 cents to \$1 a basket. Plums and pears were very scarce with prices at from 50 to 70 cents a basket.—J. B. Smith.

HALTON COUNTY

Burlington.—Fruits on hand at this date are winter apples and pears, with a few grapes. Winter apples have been bought readily at \$1.75 to \$2 on the trees. Evaporating apples brought 30 cents and canners 70 cents per cwt. The pear crop is medium and of good quality. A large part of the grape crop is cut; late varieties are not ripening fast.—W. F. W. Fisher.

LINCOLN COUNTY

Jordan Harbor.—Fruit, with the exception of grapes and apples, is nearly all gathered. Grapes have been an exceptionally heavy crop and of excellent quality—the best for several years. Prices ranged from 15 to 20 cents a basket. Apples are only a fair crop. Winters are selling at from \$1.50 to \$2 a barrel. Packing has not yet become general. Tomatoes are about done. Frosts have been prevalent.—Wm. Fretz.

PEEL COUNTY

Clarkson.—With the exception of apples and grapes, fruit of all kinds has been gathered. Apples are turning out fully as well as was anticipated and are exceptionally free from scab and spot. The codling moth played havoc with Greenings. Other varieties are fairly free from scab. All varieties are well colored and will

pack a good sample. Prices range from \$1.50 to \$2.25 a barrel. Grapes are a good crop. Nearly all have been gathered, but some of the late varieties have been damaged by frost.—W. G. Horne.

Small Fruit Plants

Through an oversight we inadvertently omitted from our article in the October number, on the nurseries of Stone & Wellington, the fact that this concern are specialists in the growing of small fruit plants. They make a specialty of supplying strong, two-year transplanted plants, in place of the ordinary sucker or one-year tip plants usually supplied and dug from the rows of bearing canes, which not one nursery firm in a hundred does.

Their reputation as specialists in the growing of berry plants enables them to sell annually from 150,000 to 200,000 plants, and they inform us that they are finding an increasing demand yearly. In one block of small fruits, they have at the present time over 300,000 healthy, vigorous-growing plants of raspberries, currants, gooseberries, blackberries, and so forth, amongst which is included the famous new *Herbert Raspberry*, of which so much has been said lately, and is so highly recommended by the Government experiment stations, having proved itself the finest and hardiest red raspberry ever introduced for Canadian culture, and which they are already able to offer in these specially grown, two-year transplanted plants.

Since our last number they have acquired 50 acres of new land, on which they intend growing nursery stock, which now increases their total acreage to over 850 acres. The firm of Stone & Wellington use the greatest judgment in selecting new lands for the growth of nursery stock, never acquiring lands which have previously grown nursery stock or orchards, and in this way have been able to maintain their high reputation of furnishing stock that is clean and healthy. Particular attention is paid also to selecting lands well drained and well protected, which insures their trees being free of black heart.

Fruit Growers' Program

The forty-eighth annual meeting of the Ontario Fruit Growers' Association will be held in Toronto on Nov. 13 and 14. The following is a preliminary program. Some changes may be made:

WEDNESDAY MORNING, NOV. 13

9.30 a.m., President's annual address, Harold Jones, Maitland; 10.15, Reading of correspondence and appointing of committees; 10.30, Reports of standing committees. New Fruits: W. T. Macoun, C.E.F., Ottawa, and H. L. Hutt, O.A.C., Guelph.

WEDNESDAY AFTERNOON

2.00 p.m., "Influence of Stock and Scion upon Varieties," Prof. H. A. Surface, Harrisburg, Pa.; discussion led by Prof. W. T. Macoun, Ottawa; 3.30, "Market Conditions in Great Britain," J. A. Ruddick, Dairy Cold Storage Commissioner, Ottawa; 4.30, "The Ontario Horticultural Farm: Progress of the Year," H. S. Peart, Supt., Jordan Harbor. Suggestions for Its Future: C. L. Stephens, Orillia; J. L. Hilborn, Leamington; Murray Pettit, Winona; F. S. Wallbridge, Belleville—Five-minute addresses.

WEDNESDAY EVENING

8.00 p.m., "Five Common Insect Enemies of the Fruit Grower" (illustrated by limelight views), Prof. S. B. McCready, O.A.C., Guelph. This address will deal with oyster-shell bark louse, San Jose scale, codling moth, canker worm and flea beetle; 8.45, "The Outlook for the Fruit Grower," E. D. Smith, M.P., Winona;

discussion led by Prof. H. L. Hutt, Ontario Agricultural College, Guelph.

THURSDAY MORNING, NOV. 14

9.00 a.m., "The Place of the Fall Apple in Future Planting," Alex. McNeill, Chief, Fruit Division, Ottawa; discussion led by Jas. E. Johnson, Simcoe; 10.00, election of directors; 10.30, "Nursery Control and Legislation in Other Countries," E. C. Morris, Brown's Nurseries (from the nurseryman's standpoint), and G. A. Robertson, St. Catharines (from the fruit growers' standpoint)

THURSDAY AFTERNOON

2 p.m., "Express Rates in Relation to the Fruit Industry," speakers yet to be secured; 3 p.m., "Business systems for co-operative Associations."—From the practical side: W. D. A. Ross, Chatham; D. Johnson, Forest, and W. H. Dempsey, Trenton; from the expert's side, by an expert; 4.00 p.m., "The Necessity for an Improved Fruit Market and Terminal Facilities in Toronto."

New Canning Factories

Niagara Falls has built one of the finest canning factories in the province. The company will be known as the Niagara Falls Canning Co., with a capital of \$60,000. The plant is located on the Michigan Central Railway. The buildings are good ones. One of them, the storage building and warehouse, is 50 x 100 feet and two stories high. Another, the process building, is 50 x 150 feet and two stories high. The mechanical cold storage plant has a capacity of 60 carloads of fruit.

One of the most important strides made by the Canadian fruit and vegetable canning and preserving industry is the establishment at Niagara Falls of the Sanitary Canning Co., Ltd., the Canadian branch of the Sanitary Canning Co., Ltd., of New York. This company manufactures the latest things in cans. It rents to canners machines to seal the cans automatically, doing away with spirits, acids, solder and cappers. They also make the most up-to-date can on the market, an enamel can for fruits and vegetables with granite enamel inside. This prevents acid in fruits from rusting the cans and removes all danger of ptomaine poisoning. Fruit can be opened from these cans in better flavor and condition than from glass cans or jars, with no risk of breakage. The mouth of the can being the same size as the can itself, fruit can be packed by hand in perfect condition, which the small mouth on ordinary cans prevents. The fact that the cans are much cheaper than the present cans in use, and machines for capping the same are rented to companies at a very low figure, will greatly stimulate the canning industry and cause new factories to be erected. The company has several large buildings now in course of construction at Niagara Falls, where Niagara power will be used to turn out the cans. The company will start operations at once for this season's trade.—T.R.S.

A Marked Difference

The drought of the past season brought out the relative merits of sod and clean culture. It is quite a common remark with crop correspondents reporting to the Fruit Division, Ottawa, that the fruit upon the well-cultivated orchards is much better than the fruit upon orchards in sod.

One of the Dominion fruit inspectors, who was asked to procure some extra fine samples, reports that he had difficulty in finding fruit of the very high class required anywhere, but said it was useless to look for this high-class fruit in any but cultivated orchards. No doubt had the season been wet there would not have been this marked distinction between cultivated and sod orchards.—A. McNeill, Chief, Fruit Division.

NOTES FROM THE PROVINCES

By our Regular Correspondents and Others

British Columbia

By a Staff Representative

The carload of grapes shipped from the St. Catharines district to Oscar Brown Co., of Vancouver, arrived on Oct. 14, in excellent condition. The consignees report everything satisfactory. They sold almost the entire car within three days of its arrival. The retailers have the fruit prominently displayed and marked, "Ontario Grapes, Special, at 60 cents and 65 cents a Basket."

California grapes retail for 15 cents a pound, or two pounds for 25 cents. A comparison of the retail prices will show that the Ontario grapes are selling for less than the California fruit. There is a desire on the part of the wholesale fruit men in Vancouver to import larger quantities of grapes next season. The splendid condition in which the fruit arrived this season would indicate that it should be a paying venture to ship Ontario grapes to British Columbia. The representative of THE CANADIAN HORTICULTURIST, who is visiting British Columbia, was asked to obtain a list of growers who would be willing to ship their grapes to the coast next year.

The prices being paid for apples in Vancouver this week range from 75 cents to \$1.50 a box of standard size. The fruit is of excellent size, color and quality, and retails from five cents each to four cents a pound. The fruit exposed for sale appears to be of a high quality. I have not seen any poor fruit since my arrival, and the flavor of apples I have sampled compares very favorably with apples grown in Ontario.

An Undeveloped District

E. C. Miller, Fort Steele, B.C.

We have lands available for fruit raising of the berry species in the vicinity of Fort Steele that may be equalled but not excelled. Strawberries, raspberries, currants, and gooseberries, where cultivated, have gone to waste for want of transportation, and hands to gather the crops. These fruits are indigenous to the country—and can be produced to great perfection.

As soon as this overlooked district, comprising the choicest portion of British Columbia, is opened up by the Kootenay Central Railway, the Fort Steele district may be counted upon to provide fruit and vegetables to any extent. The prospect for apple cultivation, plums and cherries, promises good. There are not many fruit-bearing trees at present, but these show excellent crops of apples of hardy varieties, and of splendid quality. The young stock, planted during past two or three years, are mostly thriving, with little care or knowledge of proper cultivation being given.

Quebec

At the 15th annual summer meeting of the Pomological and Fruit Growing Society of the Province of Quebec, many valuable papers were read. Mr. R. Brodie, of Westmount, gave an interesting paper on "Retrospect and Prospect of Fruit Growing in Quebec." This paper was published in THE CANADIAN HORTICULTURIST for October. Mr. Auguste Dupuis, of Village des Aulnaies, delivered an excellent address on "Orchards in Eastern Quebec and the Sale of Fruits." Mr. Luc Dupuis, government lecturer on agriculture, addressed the meeting on two subjects of interest to fruit growers. Mr. G. Reynaud, of La Trappe, read a paper on the three most common ques-

tions asked him in connection with fruit culture. Mr. V. R. Gardner, of the Macdonald College, discussed the best means of controlling plum enemies. A portion of this address appears in this issue of THE CANADIAN HORTICULTURIST.

An exhibition was held in connection with the convention. The fruit, especially the plums, brought forth expressions of praise from the judges and the spectators. On the concluding day of the meeting, the delegates drove to the home of the president, Mr. Auguste Dupuis, where some 30 varieties of plums were discussed and tested. After a luncheon tendered to the party by the worthy president, one of the most instructive and enjoyable meetings of the society was brought to a close.

Montreal

St. Lawrence apples are still going forward at this date (Oct. 19) on London ships. This tells a story to the fruit man—that the season is a very late one. Even to-day this apple is in sound, hard condition for this variety. This has been a remarkable season for coolness. We inspectors know it as we are testing the temperature of apples and sheds many times each day. We have found very few dangerous temperatures all through the season. Apples that have gone forward have been more free from rot than for many years. Upwards of 70,000 barrels went forward last week. This is a record for the past four years.

There is only one thing to be regretted. Several cars have been left open to allow the circulation of cool air. In two cases where this was done, we found the ends of the barrels broken in and the apples all gone. It is to be hoped that the shippers get paid for these apples. I think that the evil-disposed persons locate the cars in the day time and rob them at night, as cars of apples lay around for several days before they are unloaded. It is a pity that some of them were not caught and locked up for three months where they would not get a taste of apple sauce.

Another scene that was amusing occurred at one of the docks recently. Six barrels of apples slipped off the wharf and fell into the water. Three of them burst open from the force of striking the water and apples were seen floating all over the water. One sailor jumped in and swam around for the fruit. He got a good many. Another man let a pail down into the water and soon filled it. I also hope that the owners in this case will be paid for their loss by the company to blame.

Some of the new steel sheds are nearly completed. The cars run so close that they can be unloaded quite easily into sheds. This is much better for shippers than the old way of loading on wagons and drawing sometimes over a mile.

New Brunswick

J. C. Gilman, Fredericton

The condition of the fruit crop in this province was indicated at the provincial exhibition held at Fredericton, some favored localities having exhibits that indicated a fairly good crop, while others showed a scarcity. Hail storms early in the season left their marks in many orchards.

The red raspberry crop was a good one, although an excess of rain at picking time interfered somewhat with the gathering of the fruit. Tomatoes were late and scarce. Potatoes

rotted badly. The year 1907 will not be remembered as a successful one by the average New Brunswick farmer and fruit grower.

Fredericton Exhibition

The recent exhibition at Fredericton, N.B., brought out an exceedingly creditable display in all branches of horticulture, notwithstanding the unfavorable season experienced by the growers. The several classes of exhibits evoked most favorable comments from the judges.

In floriculture, most of the sections in the open classes were for plants and flowers which can only be successfully grown under glass. In the majority of instances there was no competition, as few people in the district, other than the professional florists, have properly equipped houses. Notwithstanding this, Messrs. Bebbington & Son put up a fine display, and one which would have stood a good deal of competition had there been any. Mr. Alward, another local grower, who has not the facilities which Messrs. Bebbington have, had a good showing. In those instances in which they were in competition, the honors were about equally divided. In the class for amateurs only, Miss Edith Gregory had what the judge described as "a most creditable display" of potted and cut flowers, and one which was much admired.

In the fruit division, the bulk of the exhibits were apples, there being only about half a dozen entries in pears and plums. In the 43 sections devoted to apples, practically all were filled and the various exhibits, being nicely staged, made a most tempting display. Unfortunately, a large share of the premiums went to Nova Scotia growers, the season in New Brunswick having been unfavorable for fruit. Of the local men, Messrs. J. C. Gilman, S. B. Hatheway, I. W. Stephenson, Geo. McAlpine, and J. N. Hallett, managed to capture a fair share of the prizes, and some of their exhibits were, in the opinion of the judge, quite equal to, if not better, than the same varieties from Nova Scotia. This clearly showed that certain sections of New Brunswick are well adapted to the growth of apples and that apples should be more largely cultivated.

The proposal to construct a railway along the valley of the St. John River will, if it materializes, open up a section of country than which there is no fairer in the whole Dominion, nor one more suitable for the planting of orchards, rivalling as it does the Annapolis Valley in Nova Scotia. With the fact now clearly established that New Brunswick grown apples can compete successfully in the markets of the Old Country, and elsewhere, with those grown in any other part of the world, it is greatly to be hoped that the opening up of this district will result in a very large increase in the number of orchards, care being taken, however, that only those varieties which have proved hardy and profitable to grow and have good marketable qualities are planted.

In the vegetable classes, the entries were "great" both in number and quality. In many instances, competition was keen. The various exhibits formed quite an object lesson to the visitors. Although some of the varieties were not up to that standard of perfection usually seen at horticultural shows, owing to the bad season, the display was in the words of the judge, "a credit to any province."—G. Bidlake.

I have been highly pleased with THE CANADIAN HORTICULTURIST, and enclose my renewal subscription. It is a valuable paper to any one engaged in horticultural pursuits. I have perused every issue with much interest, and have gained considerable information. I would not be without the paper. It is worth much more than the subscription price.—E. G. Cooper, Halton Co., Ont.

The Canning of Fruits

Mrs. Colin Campbell, Windsor, Ontario

CANNING is an improvement upon the old-fashioned way of preserving, pound for pound, in sugar. It retains more of the fresh and natural flavor, is far less troublesome to prepare, and more economical.

Choose only perfectly sound and fresh fruits. If you have your fruit to buy, it is false economy to purchase fruits on the verge of decay, even at reduced rates, as they quickly ferment after canning, and you not only lose fruit, sugar and labor, but very often the jars as well.

Before commencing work, have all the requisite utensils and vessels perfectly clean and at hand. If the family is small, select pint jars, which allows a can of fruit to be used up before one tires of it. If there be six or eight to be catered to, a quart jar is none too large. When purchasing new jars, look them over carefully to see that there are no defects and that the covers fit perfectly.

Never use old rubbers with the old jars. At five cents a dozen, rings are a cheap insurance of fruit keeping. No matter how good an old rubber looks, it is sure to have become porous and will allow the air to enter. Pour water into each jar, seal and invert, and if it leaks ever so slightly, do not use it.

When you have picked out perfect jars, wash individually inside with a dish mop and hot soda water. Then sterilize by setting in cold water letting it come to the boiling point, and boiling for a quarter of an hour. Fit each jar to a ring, cover and leave in the hot water.

When the fruit is ready to be canned, remove a jar from the boiling water in which it has stood and set it in a soup plate, wrapped in a towel wrung from hot water. Into the jar drop a silver spoon, silver being a good conductor of heat, absorbs the heat from the fruit and lessens any danger of the jars breaking.

Dip the rubber in boiling water and put it on firmly. Set a fruit funnel in a jar and gently fill in the fruit with a ladle, moving the handle of the spoon gently about to allow air bubbles to escape. Fill the jars until the syrup overflows, lift out the spoon, put on the cover and screw it as tightly as possible. Screw the lid on so tightly that when the jar is inverted, not any juice will ooze out.

Leave the jars of fruit lying on their side, turning over frequently until cold. This method will prevent the fruit rising to the top of jar when cold, as is often the case, especially with canned strawberries.

After leaving the jars in this position for 24 hours, wrap in thick paper or place in paper bags to prevent the light bleaching the fruit, and set away in a dark place. Choose the early, cool morning for putting up the fruit ripened under a hot sun. If your berries are to be picked, instead of from the market, gather them the night before.

Fruit which has been picked on a rainy day or when the dew is on will not keep well. Select fruit which is under ripe rather than when ready to drop with luscious ripeness. It will be much nicer when canned and keep more readily. If fruit is very juicy, avoid adding water to it when canning. The less water that has to be used, the finer the flavor of the canned fruit and the more beautiful its color. Never touch cooking fruit with a spoon or fork which is of any material except silver, wood, or granite. A tin spoon may ruin the color and flavor of a whole kettle of fruit.

Try a little of your sugar to make a syrup before commencing the canning process. If a bluish-grey scum gathers on top after the boiling, send the sugar back to the grocery man with an order for a better quality. The best sugar obtainable is a necessity for fruit preserving.

The syrups used for canning or preserving vary according to the kind of fruit you wish to preserve and the richness desired. The following list may be used as a guide: For preserving, use three-quarters of a lb. of sugar to one pound of fruit; for making jam, use one pound sugar to one pound fruit; for canning, use one-third pound sugar to one pound fruit; for jelly, use one pound sugar to one pint fruit.

Lady Grey Garden Awards

The Lady Grey garden competition, in conjunction with the Ottawa Horticultural Society, has done much to improve the appearance of the city of Ottawa, and particularly of the homes of the citizens. The past year proved the most successful in the history of these competitions. The gardens were very creditable in spite of the backward spring and the dry weather during summer.

The committee appointed to examine and judge the gardens was composed of Messrs. W. T. Macoun, chairman; S. Short and H. N. Bate. In a recent report submitted to Her Excellency, the committee made some suggestions for governing the tests in future. As

an encouragement to greater effort in the future, the committee suggested that a certificate of entry for the garden awards be given those four persons who failed to qualify for first and second classes. Other suggestions in respect to methods of offering and placing awards were mentioned.

Potato Scab

"Potato Scab," by W. J. Morse (Bull. 141, Maine Agric. Exp. St.)—Aroostook County, Me., bordering on the great potato-growing section of New Brunswick, has long been noted for its fine crops of potatoes, but potato scab has been making rapid headway during the last two years. As a result, there has been a great loss. As scab is caused by a minute parasitic fungus, soil conditions, the application of lime, ashes, etc., may favor its development, but are incapable of causing it. "Alkaline soils, the use of stable manure, lime, ashes, and certain chemicals of an alkaline nature, favor the fungus. Acid soils and certain other chemicals are unfavorable to it." On clean soils only healthy seed tubers should be used. Manure containing uncooked, scabby potatoes or refuse, should be avoided. Small amounts of seed potatoes are best disinfected by soaking for two hours in a solution of formalin ($\frac{1}{2}$ pint to 15 gals. of water) or for $1\frac{1}{2}$ hrs. in a solution of corrosive sublimate (2 ozs. in 15 gals. of water).

"RURAL WATER SYSTEMS," devoted to the subject of the Deming Hydraulic Ram, is the title of a neat little booklet issued by the Deming Company makers of pumping machinery, Salem, Ohio. Its twelve pages illustrate the usefulness of the hydraulic ram in the country home, and, although the main points are covered, it may easily be read through in 10 minutes. It is explained that conditions of installations differ, and that it is therefore desirable to consider each by itself, and to offer suggestions bearing on that particular case. This method is bound to result more satisfactorily to the prospective purchaser than would a general set of rules applied to every case, regardless of conditions. We would advise any of our readers who are interested in this, to write The Deming Company for information, which they will doubtless be glad to furnish on request.

The 15th Annual International Convention of the North-West Fruit Growers' Association will be held in Vancouver, B.C., on Dec. 4-6. For particulars, write to the secretary, Maxwell Smith, Vancouver.

Every Person in Canada who is Interested in Horticulture

should attend the

Ontario Horticultural Exhibition

and take part in the

Conventions for Fruit, Vegetable and
Flower Growers

Toronto, November
12, 13, 14, 15, 16

Should Hold Another Conference

THAT the fruit growers of Canada are desirous of holding another Dominion Fruit Conference, and in 1908, is evidenced by the many letters to that effect that have been received by THE CANADIAN HORTICULTURIST. A conference every two years is necessary to keep pace with the rapid growth of the industry. In recent issues of this publication various letters from growers have been published. Our readers are invited to send letters stating their opinions. The following are from delegates to the last conference:

Mr. G. C. Miller, Middleton, N.S.: "It is beneficial for the fruit growers to meet and discuss the various subjects belonging to their business. I would not think once in three years too often for this purpose. Perhaps every two years would be better. This would depend on the amount and nature of material to be brought before the conference."

Mr. R. Brodie, Montreal: "There was a lot of unfinished work at the last conference. Our time was so limited the matter of transportation, for instance, did not receive enough attention. What is the good of inspection, if, by shunting and rough handling, our fruits are bruised and injured? Other matters of equal importance were overlooked. By all means let us have another conference."

Mr. Linus Woolverton, Grimsby, Ont.: "I am decidedly in favor of another Dominion Fruit Conference. Quick transportation and easy communication has made the world smaller, and we must meet the new conditions. Questions once affecting only one locality now affect

and interest the whole Dominion. In fruit, the whole world is our market, and we want to capture it for Canada in those fruits in which she excels. Cooperation is the cry; we must rally about this watchword."

Mr. D. S. Manson, Winnipeg, Man.: "The success that attended the conference held last year, together with the great advantages which were gained by the suggestions that were made, where they were acted upon by the Government, renders it necessary to have another convention next year. I can think of no better time than about the same date. I think that the subjects for discussion should be left largely to questions of growing and packing of the fruit. It would be inadvisable to ask for any change in the Fruit Marks Act. It is possible that I may change my opinion before the conference is called, but the one year's experience we have had with the Fruit Marks Act goes to show that it is almost as near to what is required as we can make it. When changes are made too frequently, there is trouble in getting the packers to keep pace with them, and it is a feature not to be lightly overlooked. With the Fruit Marks Act properly enforced, the dealers in Winnipeg are in a position to handle the outputs of Ontario and British Columbia growers, if they can put their goods on this market to equal the productions of Washington, California and other fruit producing sections of the United States. Transportation, packing and cold storage are questions that also can be dealt with to the advantage of the growers."

The Coldstream Valley

H. Gordon, Vernon, B.C.

THE premier position in the fruit growing industry of British Columbia is held, without a close rival, by the Coldstream Valley, which contains the largest commercial orchard of the province, and consists of a tract of land remarkably uniform in its adaptability to the raising of fruit. The valley, which lies in close proximity to Vernon, owes its development to the Earl of Aberdeen, who purchased the Coldstream Estate in 1891, and has since then consistently extended his holding, and spared no expense to prove the capabilities of the land. The estate, which is now controlled by a limited liability company, of which the Earl of Aberdeen is chairman, comprises some 13,000 acres, and contains at present 350 acres of orchard, of which 160 acres are in bearing. Surrounding the estate are numerous smaller orchards, ranging from 10 to 50 acres in extent, held by private owners, chiefly settlers from the Old Country and eastern Canada. The company offers irrigated land for sale, in lots of about 20 acres, at \$150 to \$200 an acre. The varieties of fruit grown upon the estate are apples, pears, prunes, plums and cherries; the apple is the chief product. In 1906, the estate shipped 563 tons of fruit. The chief market is found in the western provinces, but the Coldstream apple is becoming known and appreciated in England, and it is likely that the London market will in the near future absorb a large proportion of the produce of the valley. The estate has developed a system whereby owners of lots may have their orchards planted and cultivated for one, two, three or five years; this arrangement is agreeable to those who do not propose to enter into residence at first, and to those who may wish an object-lesson in fruit culture.

The debt which British Columbia owes to the Coldstream Ranch is great. The Okanagan Valley, in particular, probably owes the best part of its recent development to the en-

terprise and persistent energy of this estate. Commercial fruit growing has been established in British Columbia as a permanent and profitable industry; the absolute necessity for a complete system of irrigation has been proved; the right varieties of fruit to grow have been selected; excellent markets have been opened up—these are the accomplishments of the last 10 years, in which the Coldstream Ranch has borne the lion's share of the work, and from which the fruit growers of this decade are profiting. It is under the able management of Mr. W. Crawley Ricardo that these developments have taken place, and it is to his initiative that the Okanagan Valley, the Vernon district especially, owes the latest and greatest development, namely, the new irrigation scheme, the main canal of which was formally christened the Grey Canal at the time of the visit paid to it by His Excellency the Governor-General of Canada last year. Two lakes between the hills above the Coldstream Valley have been utilized as storage reservoirs, and their united capacity increased by means of dams to 20,000 acre-feet; that is, a capacity equal to a surface of 20,000 acres covered with water to a depth of one foot. The dam on the first lake, Lake Aberdeen, will be 16 feet high and 200 feet long, impounding water to a depth of 12 feet over 800 acres; the lower lake, Lake Haddo, will also be dammed, and will impound 10,000 acre-feet. The stored water, released through sluice gates, will flow in the bed of a creek for twelve miles, and descend gradually to an elevation of 2,200 feet above sea level, where it will enter the Grey Canal. This canal is 14 feet wide at the bottom and carries three feet of water at a velocity of four feet a second, or nearly three miles an hour. There is a settling basin near the inlet, and a Cippoletti Trapezoidal weir; in parts it has been found convenient to convert the canal into a flume 11 feet wide by three feet deep. A run of about six

miles altogether brings the canal to the south side of the Coldstream Valley, where it divides to water the north and south sides respectively. The southern system will amplify and extend the system at present in use upon the Coldstream Estate and its surrounding orchards. The main branch is carried across the valley to the north side in wooden pipes 6,300 feet long, and will enter the north canal at an elevation of 180 feet above the floor of the valley. This north canal will be 24 miles long when constructed as far as projected; it will convey ample water, not only over the Coldstream Valley, but also over the Spallumcheen Valley, seven miles north of Vernon, whence it will reach Okanagan Lake. A total area of 16,000 acres of the best fruit and farming land in the country will thus receive the necessary water for irrigation.

The entire system should be completed in 1910, but the upper portion of the country supplied will receive water next year. The cost of the scheme is estimated at \$250,900, the money being supplied by a company of British capitalists. The water will be supplied on a sliding scale of rates based upon the quantity used; it will be measured over Cippoletti weirs, a useful apparatus for the prevention of waste.

The effect of the scheme has been and will be to double and even quadruple the price of the land supplied with water. The soil and climate having been proved conclusively to be suitable for fruit growing, it is certain that large tracts of land will be converted into orchards. Already there is evidence that the inhabitants of Vernon and district appreciate the benefits to be conferred upon them by the scheme, which owes its conception to the foresight of Mr. W. Crawley Ricardo and its successful progress to the ability of Mr. A. E. Ashcroft, C.E., who is in charge of the work and to whom I am indebted for most of the facts which I have recorded.

Protect Birds from Cats

Editor, CANADIAN HORTICULTURIST.—Now that such an interest is shown in improving the appearance of our countryside, cities and towns, by planting hedges, bushes and vines, it seems but timely, in order to protect our birds, both from an economic and artistic standpoint, to ask the readers of THE CANADIAN HORTICULTURIST to keep only the cats that are necessary. Such birds as the little chipping-sparrow, yellow warbler, cat bird and robin are a source of great pleasure to all nature lovers, as well as of profit. The little sparrows in the vines by the house may seem troublesome at times, but that can be overlooked when the tender care of the young ones by the parents is observed, and how often they are fed. The same may be said of the robin. There is the disadvantage of the robin's liking for fruit, but who does not long for the robin's cheery note in early spring?

One of the most favorable times for the still hunting of the birds by the cats is after the birds have gone to rest, but when it is still light. Another is when the young commence to fly. It is estimated that a cat destroys 50 birds in a season, so keep them shut up as much as possible during the nesting season, from May to September.—Stuart W. Cody, Sweaborg, Ont.

We have received from Blackie Bros. of Halifax, N.S., a neat little booklet that tells the story of Campbell's Nico Soap, what it will do and how to use it. Many practical men have used this insecticide with much satisfaction.

I have been a subscriber to THE CANADIAN HORTICULTURIST for several years, and find its hints and articles most useful to an amateur gardener.—Mrs. F. T. Frost, Smith's Falls, Ont

Reports on the Vegetable Crop

IN spite of the lateness of spring and dry weather during summer, the vegetable growers of the province have had a satisfactory season, report the crop correspondents of the Ontario Vegetable Growers' Association. On the whole, prices have been good. Rains in early autumn caused rapid growth, although most crops matured later than usual. To offset the unfavorable weather conditions early in the season, the gardeners have been favored with excellent weather for harvesting. The outlook for prices during late fall and winter is good. With potatoes bringing fairly high prices, and high prices in some localities, all kinds of vegetables should sell well.

In many localities, potatoes are turning out better than was expected. They are more uniform in size than usual, and the quality is good. Garden roots, such as beets, parsnips, carrots and turnips, have yielded well, but, generally speaking, they will be scarce on account of the demand. The onion crop has not been much except in the Ottawa district; many growers complain of a large proportion of "thick-necks" or "scallions." It is probable that the marketable onions will not be hurried on to the market; a large percentage of them will be kept over winter. Celery has yielded a good crop, but the quality is not quite up to the standard. Lettuce and radish is fairly plentiful. Salsify, where grown, is plentiful and extra fine in quality. Late cauliflower and cabbage have yielded well, and are of fair quality.

TORONTO DISTRICT

Humber Bay.—Cauliflowers are heading well; there will not be many for winter use. Cabbage have done well since the September rains. Fall spinach is a good crop, but the sale is slow. Lettuce and radish are plentiful. There have been some enquiries for forced rhubarb. Tomatoes, both green and ripe, are plentiful, selling at 35 cents a bushel for green and 50 cents for ripe. Celery is very good, but is bleaching slowly; it will be cheap for a month or two. Parsnips are a heavy crop; carrots and beets, not so plentiful. Artichokes promise a good crop. Onions have not ripened very well, and there are a lot of green "thick-necks" left on the land. Some growers think poor seed is the cause of this.—Jos. Rush.

HAMILTON DISTRICT

Hamilton.—Not for many years have the gardeners had such an excellent year for the harvesting of their crops. In many places, potatoes are reported as a total failure, but not so in this district. The sample has never been any better, and the yield will be an exceedingly large one owing to the increased acreage sown. Present prices are from 90 cents to \$1 a bag. The tomato crop has not been very heavy, but the favorable late fall ripened all the tomatoes the canning factories can handle conveniently. The price outside of the factories has netted the growers nearly as much per 11-quart basket as the factories pay per bushel (25 cents). The writer has just learned that the growers in general throughout the tomato growing section purpose holding a meeting at an early date for the purpose of raising the price of tomatoes to 30 cents a bushel for canning purposes for the season of 1908. The onion crop is fairly good; prices are from 80 to 90 cents a bushel. Celery and cauliflower are of good quality, and the crop is very large; fairly good prices are being realized—40 to 60 cents per dozen for celery and 60 to 90 cents per dozen for cauliflower.—Jas. A. Stevens.

OTTAWA DISTRICT

Billings Bridge.—Crops in general are good; turnips, carrots and beets, good; parsnips, good but a little scarce. Cabbage is ahead of what was expected. Celery is a very large crop, but not quite up to usual quality; onions,

good with large crop, but growers are evidently holding them back as they are scarce on the market. Lettuce is scarce, but a lot of trash is on the market. Squash are a little scarce, but still there is enough for the demand. Tomatoes are just about done, but have been a heavy crop. Peppers and pickling onions are plentiful. Cauliflower has been a good crop, and of fine quality. Potatoes are a good crop; winter herbs, plentiful.—T. Mockett.

LAMBTON COUNTY

Sarnia.—The growing season for 1907 is nearly over and growers are busy marketing and storing roots and vegetables. Late potatoes are turning out good. Cabbage and cauliflower are good crops, but cabbage is not selling so readily; they will be wanted later, however. With potatoes a good price, all kinds of vegetables will sell well. Carrots and parsnips are a good crop. Turnips and celery are still growing in many places. Gardeners will have good reason to observe Oct. 31 (Thanksgiving Day). With good prices and good crops, we ought to feel thankful and make greater preparations for another year.—W. A. Broughton.

WELLAND COUNTY

Late cabbage, cauliflowers, Swede turnips and late celery are looking fine; they are the best crops here for several years. Beets, carrots and parsnips are a good crop, although very scarce. Late potatoes are being dug; on the whole, they are about an average crop, but in some cases large yields are reported. Onions are scarce. Fall lettuce, radish, spinach and salsify are plentiful. Salsify is very fine this year.—T. R. Stokes.

HALTON COUNTY

Burlington.—Tomatoes were badly frozen the middle of the month. The crop was anything but a profitable one. Onions are a fairly good crop; 40% of the crop will be kept over winter; the present price is 90 cents a bushel. Parsnips, table carrots, late cabbage and cauliflowers have been a good crop. Celery also has been fairly good and price fair. Late potatoes are a good crop in many places, especially those that were planted extra late. About \$1 a bag is the usual price.—J. A. Lindley.

Horticultural Exhibition

The directors of the Ontario Horticultural Exhibition have about completed arrangements for the exhibition to be held in the Massey Hall, Toronto, on Nov. 12-16. The exhibition this year promises to surpass in every respect all previous efforts. The number of entries will be far in excess of last year. For the fruit section, the following judges have been appointed: Commercial packages, Mesrs. Alex. McNeill, Chief, Fruit Division, Ottawa, and D. Johnson, Forest; plate apples, A. W. Peart, Burlington; grapes and pears, Murray Pettit, Winona; preserved fruits, a committee of ladies. Seventeen counties have made grants to encourage the making of county exhibits of apples at the exhibition.

For the vegetable section, the judges probably will be Messrs. Thos. Wistow, of London, and Frank Williams, of Ottawa. The vegetable committee is looking forward to a most successful exhibition in that section.

At a recent meeting of the general committee and management, it was recommended that steps be taken to have the same committee of ladies that acted last year, or any others that may be appointed by Lady Mortimer Clark, who honored the exhibition last year with her services as judge, to act as the judges of the dining tables. It was decided also to ask a committee composed of the editresses of the society columns of the Toronto daily press to act as the judges on baskets of cut flowers. It is probable that the other judges will be as follows:

Plants, roots and cut 'mums, Mr. W. Wilshire, Montreal, or Mr. Jos. Bennett, Montreal; carnations, roses, violets and funeral designs, Mr. W. C. Tidy, Toronto, or Mr. M. E. Anderson, Buffalo.

RAILWAY RATES

People from points in Ontario outside of Toronto who expect to attend exhibition or the conventions that will be held during the same week, will be able to do so at lowest one-way, first-class fare as follows: On Nov. 13 and 14, special excursions will be run by the railways to Toronto from all points in Ontario, at lowest one-way, first-class fare. Railway tickets bought on these dates will be good for return up to and including Nov. 16. People desiring to attend the conventions or exhibition on other dates will be able to do so at the same rate, but it will be necessary for them to obtain Standard Certificates from their station agent when they purchase their tickets to Toronto. One-way tickets to Toronto, with Standard Convention Certificates, can be purchased from Nov. 8 to 16 inclusive, and will be honored for the return journey free, regardless of the number in attendance, up to and including Nov. 20, 1907. These certificates must be endorsed by the secretary at the exhibition in Massey Hall before they will be honored by the railways for the return trip. A fee of 25c. will be charged for each certificate used.

Convention Programs

A few changes have been made in the programs published in the last issue of THE CANADIAN HORTICULTURIST. At the convention of the Ontario Horticultural Association, which will be held in Toronto on Nov. 14 and 15, the address on "How Are We to Expend Our Funds to the Best Advantage?" will be delivered by Rev. A. H. Scott, M.A., Perth, Ont., and the discussion will be led by Mr. G. A. Pearce, Park Superintendent, London, Ont. Mr. John O. Cheyne, of Windsor, Ont., will speak on "The Best Methods of Increasing the Membership of a Horticultural Society," and the discussion will be led by Dr. J. S. McCallum, Smith's Falls, Ont. An address entitled "Cities and Towns Beautiful," will be given by Mr. J. S. Pearce, London. Mr. John Dickson, of Hamilton, will speak on "Wild Flowers Worth Growing," and the discussion will be led by Principal Wm. Scott, Normal School, Toronto.

VEGETABLE TOPICS

One of the important subjects at the meeting of the Ontario Vegetable Growers' Association, on Nov. 14 and 15, will be "Greenhouse Construction for Vegetable Growers," by Mr. J. D. Fraser, Leamington, Ont. The discussion will be led by Mr. Robt. W. King, Toronto. A paper on "Greenhouse Management" will be read by Mr. T. Delworth, Weston, Ont., and the discussion will be led by Mr. A. McMeans, O.A.C., Guelph. Another important address that will be delivered is "The Vegetable Canning Industry," by Mr. T. B. Revett, B.S.A., Department of Agriculture, Toronto. This is a question of much importance to vegetable growers. Mr. Revett has spent some three years in investigating the situation in Ontario. It may be expected, therefore, that much valuable information will be gained from this paper and the discussion that will follow.

The annual meeting of the Entomological Society of Ontario will be held at the Ontario Agricultural College, Guelph, on Oct. 31 and Nov. 1. In the afternoon of the former day, it is expected that there will be a general discussion on the codling worm and other insects injurious to fruits. There will be public meetings on both evenings. Dr. Fletcher, of Ottawa, will preside over the meetings.

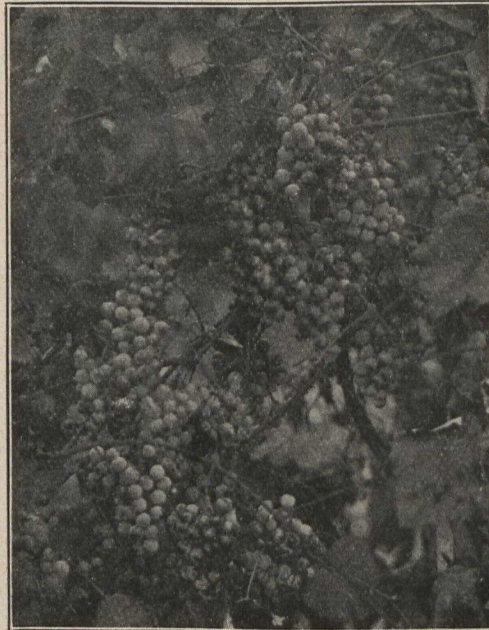
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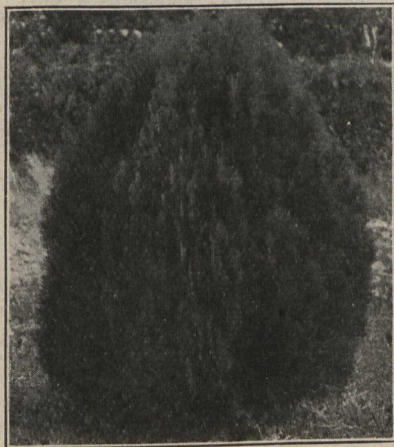
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Our Horticultural Societies

Mr. Wm. Hunt, of the Ontario Agricultural College, had quite a tour among the horticultural societies and fairs this season, having visited and made the awards at Fergus, Owen Sound, Stratford, Elmira, St. Catharines, Tillsonburg, Elora, Galt, and Brantford societies' annual shows, as well as at the Guelph Central and North Grey (Owen Sound) fairs.

One feature at all the societies' shows was the growing interest taken in the exhibits of plants and flowers made by the school children. It is a new feature introduced this season at several of the shows, and the directors of these were more than pleased at the interest shown by the children in the work, and still more from the fact that the exhibits made by the young people were the chief centre of attraction to the largely increased attendance of adults at the shows from that in past years. This fact was especially noticeable at Galt and Elmira. Mr. Brodie, president, and the executive of the Galt society, were much pleased at the success of the exhibits made by the school children, and the interest and attendance at the show of the citizens generally.

Mr. W. W. Livingstone, the energetic secretary of the Tillsonburg society, was more than repaid for his untiring efforts to make this, the first show of the Tillsonburg society, a success. The exhibit of cut flowers by the school children at this show was particularly noticeable, and attracted much attention and favorable comment from the large number of visitors at the show in the evening.

The children's section of the exhibit at Elmira was particularly good. One feature on the premium list was rather unique in character, being premiums offered for aster plants in pots having the largest number of buds and blossoms. The first prize was awarded to a plant that had over 150 buds and blossoms on it in some stage of development, the second

prize plant having over 120. Several other fine pot specimens of this popular annual came very near to the foregoing in point of size and number of buds. This speaks well for the attention and culture given them.

The Brantford society's annual exhibit was devoted entirely to a display of cut flowers grown by the school children. The exhibit was a pronounced success, as evidenced by the large turn-out of parents and citizens generally at the show in the evening. Several prominent citizens who were present were loud in their praises of the splendid exhibit and work being done by that society, and promised their hearty cooperation and assistance in the work during the coming season. Mr. Rose, the president, and Mr. Walter J. Brooks, the secretary, as well as the executive generally, received many compliments for the good work they are doing.

The Elmira and Tillsonburg societies are also interesting themselves in the beautifying of the town park lots, another very commendable and much needed line of work for our societies to take up in the smaller towns and villages. A few years ago, prior to this work being taken in hand by the societies in the places mentioned, there was little, if any, attempt made to have the park lots bright and attractive. During the past season the change in this respect has excited much favorable comment from visitors to the pretty little towns mentioned.

The exhibit of gladioli and asters at the Guelph Central Fair made by the children of the city and rural schools was very fine. The seeds and bulbs, as well as printed cultural directions, were distributed by the Guelph Horticultural Society.

The aim of all our societies should be to get the young people interested in floriculture and horticulture, as well as the older people. In doing this, the success of the society and the shows is assured, and a great and lasting good done in our homes and in the community.

Seedling Apples of Maine

Bulletin 143 of the Maine Experiment Station, "The Seedling Apples of Maine," is just being sent out. The purpose of this bulletin is to call attention to those varieties of Maine origin which are worthy of wider dissemination; and to record, as accurately as possible, the history of such varieties.

While Baldwin, Greening, and other standard varieties, mostly of New England origin, will doubtless remain for many years the leading market sorts, new and valuable sorts are continually appearing, and these will be most likely to excel near their native home, or in their native state. The wholesale injury to orchards by the cold of the past few years is also an incentive to search out the merits of native hardy varieties.

Among the most valuable of the 38 native sorts mentioned in the bulletin, are Deane, Dudley, King Sweet, Rolfe, Starkey and Stowe. Some of those described in pomological manuals are said to be wholly or practically extinct, though at one time of considerable importance.

An effort is being made at the Station to collect in a "Maine Orchard" such native seedlings as seem to merit attention, and owners of valuable seedling apples are requested to forward specimens of the fruit for examination.

There is a diversity of opinion among fruit growers on the question of the low-heading of fruit trees. For the benefit of the readers of THE CANADIAN HORTICULTURIST, fruit growers and nurserymen are invited to contribute letters on this subject for publication.

Your paper is certainly up-to-date, and has some good pointers in the fruit line.—H. G. Lawrence, Westminster, B.C.

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Affects Color of Apples

In a recent bulletin of the Geneva Experiment Station, Prof. U. P. Hedrick summarizes the effects produced on the color of apples by wood ashes and acid phosphate thus: Because of the condition of the growth of plant, manner of development of the product, and nature of both plant and product, the apple is difficult to deal with experimentally in the matter of fertilization. The apple growers in New York should give attention to the fertility of their soils, for the orchards are growing old; the soil of some orchards was not originally fertile, and double cropping has exhausted the fertility of many orchards. This experiment has to do with potash, phosphoric acid and lime as found in wood ashes and acid phosphate. It was begun in 1893 and was completed in 1904. The seat of the experiment is a 55-year-old plat on the station grounds. The location is a sloping upland with a heavy medium clay soil. The orchard has been in grass several years before the experiment.

Throughout the experiment the orchard was given clean cultivation until about August 1, and was then seeded to a cover crop of oats, barley or clover. The trees were 43 years old when the experiment was started. There were 94 trees in the test, representing the following varieties: Baldwin, Greening, Roxbury, and Northern Spy.

The effects of the fertilizer were measured by two standards, yield of fruit and color of fruit. From a financial standpoint, the results are practically negative. The estimated increase in value of the crop on treated plats for a hypothetical five acres is \$99. The estimated value of the fertilizers for the above area is \$74.50, leaving a gain of but \$24.50, which does not more than pay for handling the fertilizers. An interesting fact is that both treated and untreated

plats increased markedly in yield from 1893 to 1904. The results as to color of fruit lack uniformity, and were not decided enough to enable us to state that the fertilizers applied improved the color of the apples. The influence on color was most marked in the seasons when the climatic conditions were unfavorable to the development of the fruit.

This experiment showed that 57 years of orchard cropping has not reduced the soil of the station orchard to the condition where it needs a complete fertilizer. The fact that plowing under leguminous crops gives beneficial effects in the orchard, shows that the soil is having a one-sided wear. It needs nitrogen and humus rather than potash and phosphoric acid.

The great improvement in the class of ships using the St. Lawrence route to Great Britain has done much to encourage travelers to choose that route. The latest addition to the fleet is the S.S. Grampian of the Allan Line. This ship arrived in Montreal from Glasgow on Oct. 1. A representative of THE CANADIAN HORTICULTURIST, while in Montreal recently, inspected the cold storage apartments on this ship. They are in every way adapted for the successful carrying of fruit to the British markets. The passenger accommodation is better than that usually found on this class of ships.

POULTRY DEPT.

Conducted by
S. Short, Ottawa

Farm Poultry vs. Fancy

In the last issue of THE CANADIAN HORTICULTURIST it was promised that these subjects would be continued in this issue. The object in view in writing on the above question is to try to show the advantages of the latter phase of poultry culture over the former. With farm poultry, it is meant ordinary barnyard poultry, good layers, perhaps, and hardy, good-sized market fowl. The owner is restricted to two channels of revenue—the sale of eggs and the sale of dressed or live birds for table purposes.

In order to make a livelihood with farm poultry, a large number of fowls must be kept. Experts say \$1 profit per hen annually is a fair profit. To make that amount per hen, it would mean that 700 or 1,000 hens would need to be kept. It would require an active, intelligent person to look after that number, and no man of average ability, in the prime of life, would work for less than \$700 per annum, nor could he, when the upward price of the necessities of life are considered. My opinion is that 50 cents

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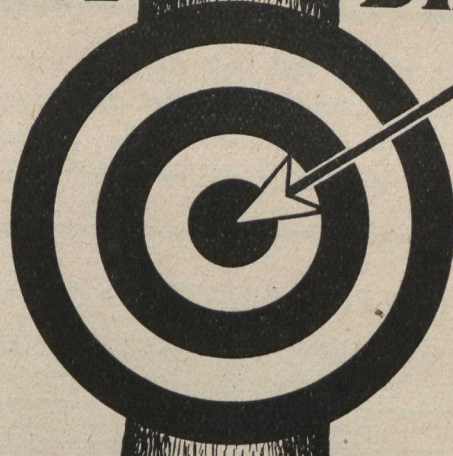
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profit per hen is a safer estimate when only farm poultry is kept. Something, of course, depends on the price of poultry food and the poultry market in the locality where the breeder lives. At the prevailing price of all grains, it is going to be a doubtful matter whether any profit will be made at all for the next four months.

With fancy poultry, the situation is quite different. The term "fancy poultry" may not appeal to a great many. It savors too much of prettiness without usefulness, style without utility. Such is not the case. I will admit that there are many breeds of fancy fowl that are more ornamental than useful. There are, also, many breeds that are eminently practical, such as the Wyandotte, Plymouth Rock, Orpington and Leghorn. With the same care as given to nondescripts, the females of the breeds mentioned will lay just as well; the males will make better table birds and the breeder knows where he is at. If he wants a hen weighing about six pounds, he chooses the Wyandotte; seven

pounds, either Rocks or Orpingtons will do; or, if a laying machine is required, the Leghorn. The fact is, that where pure-breeds are kept, more care is given and there is, consequently, better returns, for the owner is justly proud of his fine stock and leaves nothing undone that will add to their well-being.

The sources of revenue are two or three times greater than from farm poultry. There is no reason, if careful selection of the layers is made, why the egg returns should not be as large the season through from pure-breeds as from any other fowls. There is the winter egg revenue and then, in April, May and June, the months when eggs are more plentiful and cheapest for table, there is the revenue from the sale of eggs for hatching, the average price of which is \$2 per 13 in this province, the price being regulated by the quality of the stock. Again, in the autumn, when ordinary cockerels are sold dressed at 80 cents to \$1 a pair, \$1 up may readily be

obtained for good cockerels which are fair specimens of the breed to which they belong.

To become properly established in the production of fancy poultry, will require perhaps a little more outlay at the beginning. Good, high-class breeding stock should be procured. Handle one breed at first and make a careful study of it and show your stock at the best shows. This gives an opportunity to compare your stock with that of other breeders. It is the only way to obtain expert knowledge of the show points of your birds. If prizes are won, it will give your stock a good standing and good advertising. When business begins to come in treat customers honestly and generously and success is assured.

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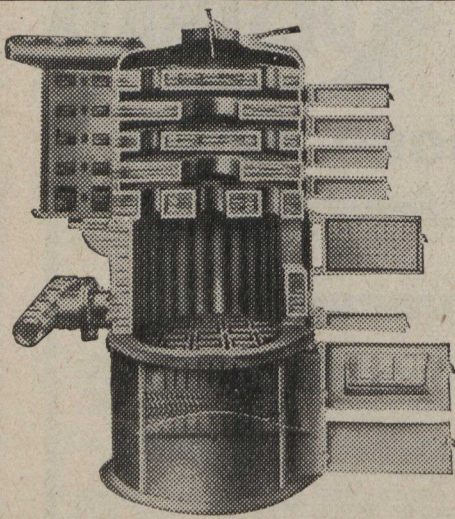
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The Canadian Horticulturist, Toronto, Ont.

A Healthy Growth

No better evidence of the growth of THE CANADIAN HORTICULTURIST can be shown than the comparison between the October, 1906, and October, 1907, issues. In October, 1906, we circulated 5,000 copies of THE CANADIAN HORTICULTURIST. This issue, November, 1907, we are circulating over 10,000 copies of THE CANADIAN HORTICULTURIST. A number of these copies are being sent to our friends whom we know to be interested in horticulture, but who are not regular readers of THE CANADIAN HORTICULTURIST. If you are one of these, and this copy of THE CANADIAN HORTICULTURIST contains matter of interest to you, we trust that you will help support Canada's only horticultural paper by subscribing. The subscription price was reduced one year ago from \$1.00 to 50 cents a year, and since then our circulation has increased by leaps and bounds.

This number is but one of twelve issues, each of which we try to make better and stronger than the previous issue. Here are a few of the opinions of our readers regarding THE CANADIAN HORTICULTURIST. They speak for themselves: "I believe that THE CANADIAN HORTICULTURIST is the publication I have long been looking for. Enclosed find two new subscriptions."—E. H. Toll, Ouvry, Ont.

"THE CANADIAN HORTICULTURIST has advanced wonderfully in the last two years. I believe that it is the opinion of the fruit growers of this province that the paper is the best fruit growers' paper now published, and that there is no longer any necessity of going to the United States for such a publication."—P. W. Hodgetts, Secretary Ontario Fruit Growers' Association.

"Enclosed find my subscription to THE CANADIAN HORTICULTURIST. I think your paper a most valuable one, especially to amateur horticulturists."—W. F. Bailey, Winnipeg, Manitoba

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cultural interests. It is published in Canada by Canadians, and it treats all Canadian horticultural affairs in both a timely and practical manner. We want every fruit, flower and vegetable grower in Canada to receive it regularly. If you are not already a subscriber, send in your subscription immediately, and take advantage of our special premium offer. Or, if you are a subscriber, send in your own renewal, together with one new subscription, and you will be entitled to a liberal premium.

Inspection at the Coast

Editor, THE CANADIAN HORTICULTURIST: I wish to answer part of your articles in the July and August numbers of THE CANADIAN HORTICULTURIST, re "Inspection at the Coast." It is quite evident that you have been "stuffed" by some party interested in the sale of outside nursery stock, and it is the same "ear marks" that I have had repeated to me from travelling agents, that "coast trees are sappy and soft"—any old story to sell their stock.

How is it that 458 trees out of one sale of 460 delivered to one Revelstoke customer, are reported alive and thrifty, while he reports about one-third dead out of an eastern shipment? This is in a country where four feet of snow is a common occurrence. Again, one customer at Lytton planted 640, and reports ALL alive and thrifty. I sell thousands of trees all over B.C., from Atlin to the prairie country, and no complaints of their being winter-killed.

Again, you say coast trees become black-hearted. I have a letter from our inspector, saying that "the only black-hearted trees he ever found was in eastern stock." I am quite well aware that our coast nurseries are not as large as the rented lands of some eastern firms, as land anywhere near the cities is worth from \$500 to \$2,000 an acre; even Chinese gardeners pay \$30 to \$40 an acre rental. But, we have the same facilities of purchasing stock from

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other nurseries that eastern firms have. A few years ago, while living in Ontario, I saw, while working in a prominent nursery, quite a number of boxes of trees from American growers being repacked and shipped out to the Canadian nursery's customers in Canada.

You say there are "some small concerns in British Columbia that have, probably, excellent stock, but only a small list to choose from," and that customers can get older and larger trees from the east. I have mailed you my catalog, listing 29 varieties of plums and prunes (including the "Maynard," which I have been propagating for several years), 20 varieties of pear, 11 varieties of peach, 16 of cherry, 78 of apples, and about all the leading varieties of small fruits suitable for this climate. If these are not enough we will produce more. As you will notice, I am listing these in one, two and three-year-olds, and as our one-year growth from the bud is from four to six feet, our two-year trees are larger than the so-called three-year eastern stock. Hence, that cry will not hold water.

As far as the inspection stations are concerned, quite likely the Board of Horticulture will attend to establishing more stations as soon as they see the need of it. As to "discrimination," I cannot believe it, as no favors are shown; but, where stock is infested with dangerous pests, or diseased, it is destroyed, irrespective of where it comes from or to whom consigned. Every British Columbia nurseryman is obliged to put up a bond and take out a license, the same as is required of outside firms.

I have been a member of the British Columbia Horticultural Society ever since it originated, but this is the first I have heard of any of those "indignation meetings." I trust that you will give this letter the same prominence that you gave your editorials.—M. J. Henry, Vancouver.

Send for our free book catalog.

Inspect at Revelstoke

Editor, THE CANADIAN HORTICULTURIST.—The establishing of an inspection station at Revelstoke for fruit trees and shrubs is a move in the right direction and something that is much needed. The Kootenay country is getting to be quite a fruit growing district, and the difference in transportation and freight will be great from eastern firms; whereas, at present the trees have to be shipped to Vancouver to be inspected and to be shipped back to these points. This makes a difference of about 1,000 miles, which often takes a couple of weeks' time. Fruit trees as a rule do not improve under this mode of treatment. The sooner they can be transplanted the better.

If an inspection station is started at Revelstoke, I presume that trees shipped from the east to Kamloops and Okanagan will also be inspected at Revelstoke. That will be quite a saving to this part of the country as well. It will make a wonderful difference to eastern firms, for they are almost prohibited from competing with the coast firms, and Oregon, for the up country trade. I have always been partial to eastern trees myself, for they are better adapted to the climatic conditions of our country. I have planted trees from both places, and eastern trees have given me the best satisfaction. I hope and trust that an inspection station will be started at Revelstoke, and the government will be commended for taking such action.—John T. Edwards, Kamloops, B.C.

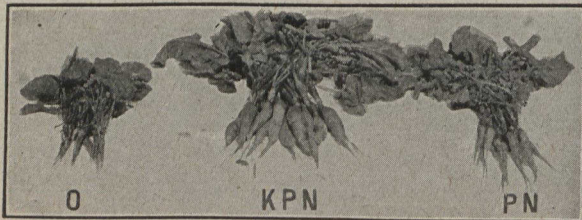
Hurry It Along.—Enclosed find \$1.20 for which please send me THE CANADIAN HORTICULTURIST for three years. This is just the magazine I have been looking for. It seems rather odd that it had not come to my notice before. I thought surely Canada should have at least one horticultural magazine. Start me at once and hurry it along.—Chas. H. Heidt, Field, B.C.

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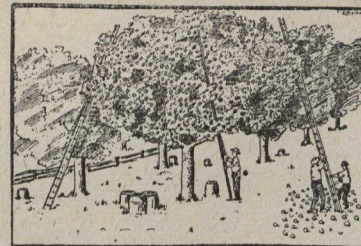
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Toronto Exhibition

Editor, THE CANADIAN HORTICULTURIST,—My first visit to the Toronto Exhibition has induced me to rush into print, and give you my impressions of the show. In introducing myself to your readers I may state that I am a British gardener of some 30 years' practical experience, gained in some of the finest gardens in the south of England, visiting the great flower and fruit shows in London, judging and assisting in some of the small shows, which are held in nearly every town and village throughout the old country. This being my second year here, I claim to know something of what I am writing about. I did not expect to find the exhibition to equal The Temple Show or the Fruit Show at the Crystal Palace. In writing these notes I have not the slightest wish of disparaging the show or to hurt any exhibitors' feelings, but, to raise the horticultural department to a higher standard by these comments.

On passing through, the question arose in my mind: "Have the arranging committee made the most of the beautiful hall, by placing the different exhibits to the best advantage, so that the gardener could set up his plants, could be judged correctly, and the visitors could see something beautiful in plant life?" I would suggest that the groups be placed in the centre of the hall, so that the gardener could show his skill in grouping, providing he covered the number of feet stipulated, placing the single exhibits along the sides, and not huddling them up as the dracenas and other plants were. The latter were not set fair to judge, and the public could not see to advantage. In this land of sunshine, it is quite an easy matter to get more color in the foliage plants, and the least that I can say of the flowering plants is that they were a disgrace.

Coming to the vegetable section. Cannot the collection of vegetables be set up in a more artistic way than merely dumping them on the bare tables, without a bit of green to set off

their merits? Are not tomatoes, cucumbers, and so forth, worthy of a plate or something to set them on, and why should the collection of peppers have two yards of bare table? Why does not the trade put up an exhibit, and show the visitors what they sell? Make it attractive. It is advertising and the reward will be forthcoming. Little fault could be found in the judging. One pointer, however, is not to award the first prize to a pair of yellow, thick, old greenhouse cucumbers, when a pair of slender, long dark green are near at hand.

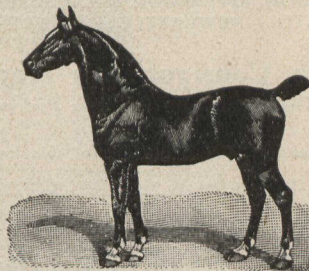
It is quite evident that the Toronto directorate have horticulture at heart, and wish for its prosperity, or they would not build a fine hall and furnish a substantial prize list. I think, as a matter of justice, they have a right to expect the assistance of the trade, and the general exhibitor in furthering its improvement. There are many fall fairs scattered through the Dominion now. The directors of the same look to Toronto for their cue on how to run a fair. Any improvement would be readily taken up. Set your standard high. If you do go slow, get there! Let every exhibitor put in his best and not simply fill a class to gain the awards.—Frank Gilbert, Simcoe, Ont.

A British Columbia Need

Editor, THE CANADIAN HORTICULTURIST,—As you invite expressions of opinion respecting the establishing of a fumigation station at Revelstoke, B.C., I ask for space for a little comment on this all-important question. As a pioneer fruit grower and a fruit tree agent for the past 10 years in the Kootenay district of British Columbia, I may say that I was salesman for the Pelham Nursery of Co., Toronto, then agent for Graham Bros., of Ottawa, and next for Brown Bros. Nurseries. All these are reliable nursery firms, but are handicapped to a large extent by the British Columbia law,

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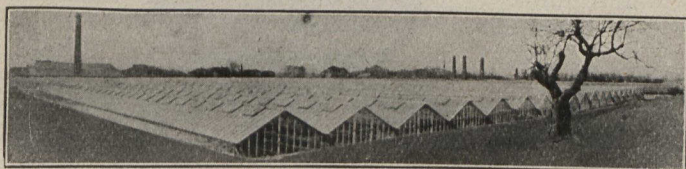
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which requires that all nursery stock entering the province must be inspected at Vancouver, which causes extra freight charges and much delay in delivering. In some cases, eastern grown stock consigned to the Kootenay country is leafed out before it arrives at its destination; as a result, it often fails to live.

Competition is what the planters invite; not a law that shuts such out. The effect of the present law in British Columbia is to shut out the nurserymen of Ontario and other eastern parts of Canada, and to divert the trade into Oregon and Washington. The nurseries of British Columbia are yet too young to fully supply the demand.

The fruit growers' associations of Canada should use their influence to have an inspection and fumigation station established at Revelstoke. Only a few trees arrived here this spring from Ontario, while two cars came from the United States. Revelstoke is on the main line of the C.P.R. and is the gateway to the upper country of British Columbia. It has railway and steamship connections for all points. Nursery stock for this large section of country is distributed from Revelstoke. The place to fumigate and inspect same is at Revelstoke.—R. Tapping, Revelstoke, B.C.

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The circulation of THE CANADIAN HORTICULTURIST has been steadily forging ahead. Each month, we add several hundred new subscribers to our lists. This is evidence of a good healthy circulation. Recently, we have been receiving many subscriptions from our agents. The paid circulation of THE CANADIAN HORTICULTURIST for October, was considerably in excess of 7,300 copies. Besides this we are sending out several thousand extra copies to names supplied by our readers. If you are not already a subscriber to THE CANADIAN HORTICULTURIST, we trust to have your full support by receiving your subscription.

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The Department of Agriculture at Ottawa recently published a bulletin on bush fruits by W. T. Macoun, horticulturist at the Central Experimental Farm, Ottawa. It is exceedingly well prepared. It discusses in a practical and thorough way the culture of the currant, gooseberry, raspberry, and blackberry, and outlines the experiments with the fruits conducted at the C.E.F., and the results.

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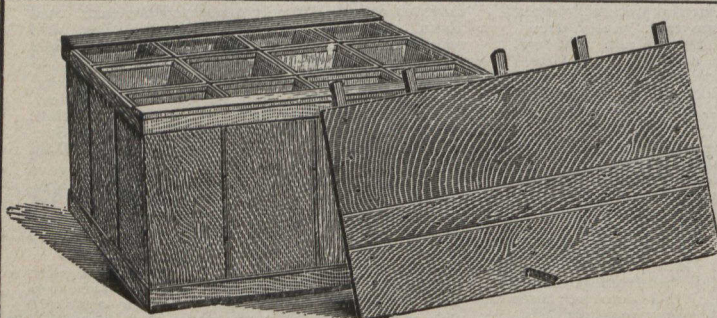
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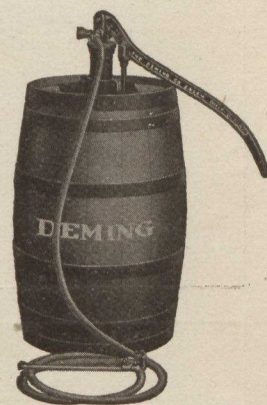
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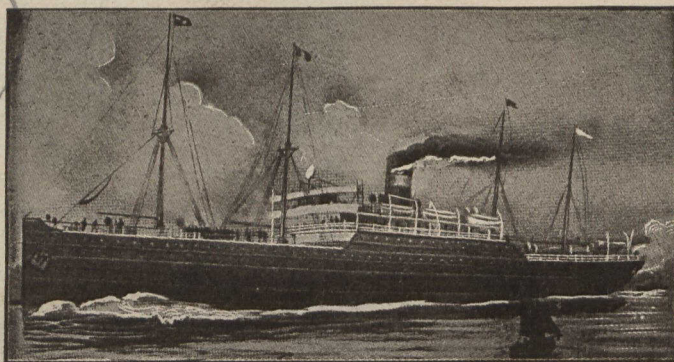
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