

The Canadian Horticulturist

Bethune Rev C J S O A C

DECEMBER, 1908

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THE CANADIAN HORTICULTURIST, PETERBORO, ONT.

The Canadian Horticulturist

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The Canadian Horticulturist

Vol. XXXI

DECEMBER, 1908

No. 12

Fungous Diseases of Ontario Orchards*

M. B. Waite, Pathologist in Charge, Investigations of Diseases of Fruits, U. S. Department of Agriculture

I AM called upon to discuss two very common and destructive diseases of the orchard,—peach yellows, the most dangerous and deadly disease of the peach tree; and pear blight, the contagious and destructive disease of pomaceous fruits. Neither of these diseases is preventable by spraying. I will precede this discussion with a short account of the treatment of some of the prevailing fungous diseases in this section and will tell something of sulphur as a fungicide, particularly the new self-boiled lime-sulphur mixture.

SULPHUR VS. COPPER AS A FUNGICIDE

Although both sulphur and copper have been known to possess the property of killing fungi for many years, sulphur antedates copper as a practical fungicide. It was, in fact, in use long before the year 1885 (?) when the word "fungicide" was coined. The discovery, widely published in 1885, by Millarde of Bordeaux, France, of the remarkable fungicidal properties of the copper-lime mixture, put copper far in the lead as a useful fungicide. Since that time it has been brought out that the practicability of this mixture depends not alone on the copper. It is the peculiar combination of copper and lime and its resulting properties that gives it its value. Since that time much experimenting has been done with other compounds, mainly of copper, yet to this day no compound of copper has been found approaching it in value. The peculiar properties of Bordeaux mixture are that it is harmless or nearly harmless to most plants when sprayed on them during active growth, it sticks tightly for weeks and even months on the plant after it is applied, it is nearly insoluble and yet will dissolve just enough in rain water to give this sufficient copper to kill most fungi. There is no trouble in finding poisons and chemicals that will kill the fungi; the problem is to find poisons sufficiently insoluble so as not to hurt the plant and yet continually to give off just enough of the fungicidal material to do the work when needed.

*A portion of a paper read at the Toronto convention of the Ontario Fruit Growers' Association, held last month. Pear blight and peach yellows will be dealt with in the next issue.

With sulphur that we have had available for use, either the extremely soluble compound, like the boiled lime-sulphur wash, which scorches or burns living plants, the liver of sulphur, which has to be used extremely dilute when applied to the foliage and which is readily soluble so that it washes off with rain, or else the comparatively insoluble flowers of sulphur. The latter substance is not sufficiently active as a fungicide to be used alone.

SELF-BOILED LIME-SULPHUR WASH

Recently, through the investigations of Mr. W. M. Scott, of the United States Department of Agriculture, the peculiar

A Suggestion for Christmas

Just now you are trying to think of suitable Christmas gifts for some of your friends. Why not send them a year's subscription to THE CANADIAN HORTICULTURIST? It is something that will interest as well as educate—a valuable aid to those interested in the growing of flowers, fruits and vegetables. Think about it. See our special Christmas announcement on inside front cover.

value and desirable properties of the self-boiled lime-sulphur wash have been discovered. This mixture is very simply made by adding the flour or flowers of sulphur to the lime before slaking. No heat is used except the heat produced by the slaking lime. The value of the preparation was discovered by Mr. Scott in seeking a remedy for brown rot of the peach. He found not only that this mixture was an excellent fungicide, preventing the brown rot and black spot of the peach, but when properly made with a small quantity of soluble sulphides, it could be applied to peach foliage with perfect safety. For the first time, then, we have a practicable fungicide, with fairly good sticking qualities, slowly soluble and not injurious to peach foliage. It may also be sprayed on the sensitive Japanese plums. This important discov-

ery was made in the season of 1907 and very satisfactory results were obtained. In the season of 1908 they were repeated by Mr. Scott and his assistants, and by some other investigators and great success was attained in the prevention of several of our leading diseases. This gives us practically a new fungicide which is in many ways a rival of Bordeaux mixture. It does some of the things that Bordeaux mixture will not do; on the other hand, it does not quite equal Bordeaux mixture as a fungicide, and unless a better form is discovered than we have available now, this mixture should not displace the standard Bordeaux, except where the latter is injurious.

The important point has been gained that in the treatment of peach diseases where the use of Bordeaux mixture or any other copper compound had to be abandoned we still have a most excellent and thoroughly practical fungicide. From the results obtained from recent experiments, it is quite probable that on the Ben Davis and possibly even on the Baldwin apple, where russetting by Bordeaux is a serious matter, we can still spray our fruit with a fungicide that will give satisfactory results.

Furthermore, attention should be called to the fact that this sulphur spray, while slightly inferior to Bordeaux mixture, is a most excellent insecticide, especially for certain types of insects. It is the deadly enemy of mites and scale insects. The self-boiled lime-sulphur mixture was tried as a scalecide on dormant trees and put in the background by the more active form of sulphur in the boiled lime-sulphur wash, but it looks as though we had here an excellent scalecide, thoroughly satisfactory for use when the trees are in foliage, in addition to its other merits as a fungicide. It is expected that the entomologists will work out the exact status of this spray as an insecticide. However, at the present time they do not advise its use as a dormant spray.

FACTORY-BOILED LIME-SULPHUR

Recently several of the chemical manufacturing firms have put on the market stock solutions of the boiled lime-sulphur wash. These are more perfectly pre-

pared, at least from a chemical standpoint, than the ordinary home-boiled wash. They remain in perfect solution and require only dilution with water to be ready for immediate application. Recent experiments have shown these preparations to give excellent results in the summer treatment of the more resistant plants, like the apple, cherry and others, in comparison with Bordeaux. If the factory boiled solutions can be put on the market with sufficient economy they may have very wide-spread use, not only in supplanting the self-boiled wash and the boiled wash, but also in competing with Bordeaux mixture.

APPLE SCAB

The principal fungous disease of the apple in Ontario, preventable by spraying, is the apple scab, caused by the fungus *Venturia inequalis*. This disease, which is very susceptible to the influence of wet weather, is only preventable in a moist season by thorough spraying. The first treatment should be made when the trees are in bud, the second when the last petals are falling, the third about two weeks later, the fourth two or three weeks later, and the fifth a month later, making the last treatment occur the last week in July or about August 1st. The fungicide giving the best results for this is the standard Bordeaux mixture, say the 5-5-50, or, if the spraying is done copiously, the 4-4-50 formula will answer about as well. (Note.—It is assumed that the author has reference to wine measure and not Imperial. Fifty gallons of the former are equivalent to about forty gallons of the latter. Editor.) The new self-boiled lime-sulphur wash gives good commercial results when sprayed on the same dates and if we had nothing better would be considered entirely satisfactory but the Bordeaux mixture slightly exceeds it in efficiency. It is slightly more persistent, sticks on the fruit and foliage more thoroughly, so that the longer intervals between the latter sprayings are slightly more effective. To either of these mixtures one-quarter of a pound of Paris green per barrel or from one to two pounds of arsenate of lead may be added for codling moth and other insect enemies.

PEAR SCAB

The pear scab, caused by a related fungus, is amenable to the same treatment. In both of these diseases, the factory-boiled lime-sulphur has been shown to give good results when diluted sufficiently so as not to burn the foliage immediately after application. One part to forty, or perhaps one part to fifty, concentrated stock solution is the dilution required. If these preparations can be brought to the standard and rendered non-injurious, they will make a very con-

venient spray mixture for this purpose.

CHERRY LEAF BLIGHT

Both the sweet cherry and the sour cherry over a large part of Michigan and New York states have been very severely defoliated by the cherry leaf blight fungus, *Cylindrosporium padi*. This disease seems to have increased in severity during the past few years until cherry growing without spraying is almost impossible. Further south some of the varieties of cherries have been killed off, or rendered worthless commercially, by the repeated attacks of this leaf blight. Some of the varieties of plums, notably the Lombard, are so badly defoliated by the same fungus as to require treatment. Fortunately two or three thorough sprayings with either the standard Bordeaux mixture or the self-boiled lime-sulphur give results in preventing this disease. Two or three treatments, the first made after the trees are in full leaf and the second and third following at intervals of three to four weeks, give most excellent results.

PEACH CURL LEAF

Probably the most important fungous disease on the peach in this province is the curl leaf. This is also perhaps the easiest of all fungous diseases to prevent. The plants can be rendered almost entirely free from it by a dormant spraying. From the fact that the trees are dormant when treated, almost any fungicide can be used with entire satisfaction. The treatment with standard Bordeaux mixture of the 5-5-50 formula is slightly superior to any other. Even the simple solution of copper sulphate, three pounds to the barrel, answers fairly well. Probably the best general treatment of the peach orchard is to spray it with the standard boiled lime-wash, since this will prevent not only the leaf curl but the San Jose scale and certain other insect enemies. The factory boiled lime-sulphur apparently answers just as well in this case. This single treatment can be made either in the fall or early spring. It can be given just before the buds begin to swell in early spring or, if this interval is too short and for other reasons it is more convenient, it can be applied in the fall after the leaves are off.

PEACH BROWN ROT

In certain wet seasons where the heat and moisture are unusually great, peaches are attacked by the brown rot fungus. This disease is especially prevalent and destructive in the humid Southwestern United States, from Pennsylvania southward, but occasionally it does bad work in the lake states and in Canada. Fortunately through the investigations of Mr. Scott with his self-boiled lime-sulphur in the season of 1907, this malady is now added to the list of commercial-

ly controllable diseases. On account of the entrance of the fungus through weather cracks, caused by moisture, and through insect punctures, it is rarely possible to control more than ninety per cent. of the disease, but to one who has seen the frightful destruction of a crop attacked by this fungus, ninety per cent. seems large.

The standard mixture for this disease is made by placing five pounds of stone lime in a barrel, pouring over it five pounds of flour or flowers of sulphur and slaking the lime with just sufficient cold water to do a good job and give a creamy, pasty mass. This should be stirred occasionally and the barrel kept covered for twenty minutes with gunny sacking, or some similar protection. At the end of that time it should be diluted with cold water to the capacity of the barrel. It can be used at once or kept for several hours diluted but should not be kept in concentrated form as it gains in soluble sulphides.

BLACK SPOT OF PEACH

The treatment for Monilia or brown rot fungus entirely prevents the black spot of the peach, often a serious disease. In fact one or two treatments for this disease alone will often pay a good profit. This treatment should be made about three weeks after the blossoms have fallen when the young peaches are, say, three-quarters of an inch long, and can be followed by a second one three or four weeks later.

Canadian Fruits

W. T. Macoun, Ottawa

Two out of the three best American gooseberries were originated in Canada. These are Red Jacket, or "Josselyn," as it is now called in the United States, and Pearl. The former is distinct from any other named sort, but the latter is apparently identical with Downing, although it is not so. Pearl has given better results at Ottawa than Downing. Both the Red Jacket and Pearl were originated by Dr. William Saunders. The former is a cross between Downing and Ashton's Seedling, and the latter a cross between Houghton and Warrington. Several other seedlings not so productive as Pearl resemble it very much.

There have been several strawberries of great merit originated in Canada. Of those in the trade at the present time the most noted is the Williams. Probably nine-tenths of the berries raised in the Niagara district are of this variety, which is of good size, very productive and firm. Its chief defect is a white tip.

THE CANADIAN HORTICULTURIST would like to learn the opinion of growers on low heading of trees.

The Handling of the Strawberry Plantation*

S. H. Rittenhouse, Jordan Harbor, Ontario

I START to prepare my land for a strawberry crop one year before the time for setting the plants, by manuring the field and planting a hoe crop, such as potatoes, roots, tomatoes or corn. The cultivation of this hoe crop during the previous year puts the land in excellent condition, destroys the weeds and otherwise makes the soil suitable for giving good results when the strawberries are planted. After the removal of the hoe crop in the fall, I plow and put on a heavy coat of manure. In the spring I start cultivating early, working the manure into the surface and getting the land into the best possible shape for the setting out of the plants. On my soil, which is a deep sandy loam, plowing is not necessary and, in fact, I never plow manure anyway.

When the field is thoroughly prepared, I mark both ways, making the rows three feet, six inches apart and the plants in the rows from eighteen to thirty inches apart, according to the variety. Some varieties make an excellent stand and form a splendid row when set thirty inches or even three feet apart.

PLANT SELECTION

I consider that one of the greatest elements that contribute to my success is my choice of the plants at the time of setting. The usual custom among strawberry growers is to take plants from the sides of the rows; this, of course, gives them the small and weaker plants.

In procuring plants, I take up the whole row, taking only the best and strongest plants. This plan is along the line of plant breeding, a subject which should receive greater attention by practical fruit growers. Plants should always be taken from a new row, a row grown the previous year and one that has never fruited. Some growers will sometimes take plants from the side of a row that has given a crop. This should never be done.

WHEN AND HOW TO PLANT

The time for setting plants depends upon the season. I do not favor too early setting, preferring to wait until the danger of heavy frost is over; in our district, from May 1st to 15th, and have had good results from plantations set as late as May 24th. Cool, cloudy days are preferred, but we do not wait, when the soil is in proper condition, only taking great care not to expose plants and roots to wind and sun.

After the plants are prepared by digging and selecting the best and trimming off dead leaves and runners and carefully straightening out the roots and placing them compactly in an ordinary eleven-quart basket, I use a man and a boy for setting. The man runs a spade into the soil, producing a cut of six inches, at an angle of forty-five degrees. Instead of drawing the spade out of the soil, he simply presses it away from him to raise the soil up, and then the boy places the plant behind the spade. The spade is withdrawn and the pressure of the foot completes the operation.

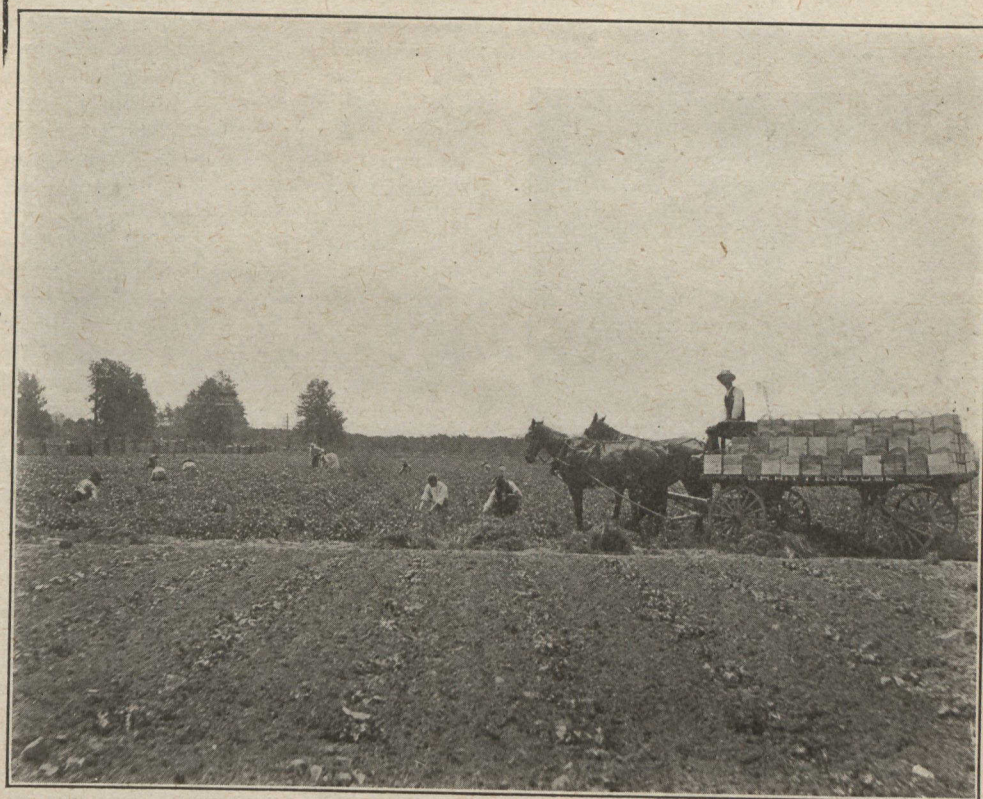
Great care is taken to get all the roots

same as if planted in the mark made by the marker.

CULTIVATION

As soon as the plants are set, we commence cultivating and hoeing, repeating this process every week or ten days until fall. We cultivate crossways just as long as we can do so without injury to the new runners.

While hoeing the first time, we invariably use the fingers around the plant, adjusting the soil so as to prevent any soil lying on the crown or leaves, and always keep the blossoms nipped off whenever they appear. It is strict atten-



Harvesting Strawberries in the Niagara District—New Plants in the Foreground

Plantation of Mr. S. H. Rittenhouse, Jordan Harbor.

the soil from covering the crown. I try to get the crown of the plant about on a level with the surface of the field.

Of late years, I have preferred not to set the strawberry plant into the little track or furrow made by the marker as it places the crown of the plant too low down and makes it difficult to keep the crown from being covered while hoeing and cultivating. Therefore, I plant in one corner of the angle formed by the marker and am careful to plant in the same corner of the angle all across the field. When I am through setting, the plants are in perfect rows both ways just the covered and at the same time prevent

tion to small details that makes the difference between a profitable crop and an unprofitable one.

Towards fall, when the runners have begun to spread, instead of dragging them with the cultivator to prevent the rows from getting too wide, I cut them off with a roller plow couler. It is quite a simple thing to attach a rolling couler to each side of the cultivator with clips and it does its work nicely and prevents the too thick setting of plants along the sides of the rows, which is not desirable.

I have had some trouble with cut worms but have not done anything to protect against them, except good culti-

*One of the papers read at the convention of the Ontario Fruit Growers' Association held in Toronto last month.

vation of the ground the year previous when under the hoe crop. I do not mulch nor use any protection whatever for the winter and have had little trouble with my plants winter-killing.

The following spring we do not cultivate before picking the crop, simply cutting the weeds between the rows with a hoe and pulling out of the rows by hand whenever they appear. Great care should be taken not to have many weeds to remove at time of blooming as much

damage may be done to the crop at this time by disturbing foliage and blossoms.

CROPPING

We invariably crop the plantation two years, simply preparing for the second year by narrowing up old rows after the first crop is picked and by continuing the cultivation and keeping the rows free from weeds by hand the remainder of the season. Spraying with Bordeaux mixture is very important, especially

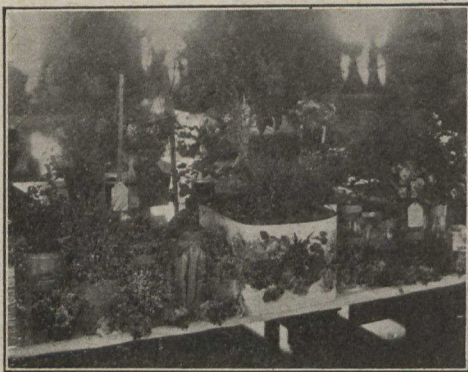
when the plantation is kept over for a second crop.

I have said nothing about varieties as it is impossible to lay down hard and fast rules. It is absolutely necessary that each grower study his own case, what is best suited for his particular district and market. The Williams is the great commercial strawberry at Jordan. But it would not be so well adapted for a grower who was catering to a fancy local market.

The Outlook for Horticulture in Saskatchewan

Angus MacKay, Superintendent, Experimental Farm, Indian Head

THERE need never be any doubt about the growing of vegetables, flowers and small fruits in Saskatchewan. In the early years of its settlement, whatever else failed vegetables never did,



Some Horticultural Products of Saskatchewan

Exhibited at Prince Albert Exhibition by G. T. Barley

and the myriads of bright native prairie flowers proclaimed the hope that the cultivated sorts when tried would equal, if not surpass, in numbers and beauty those to the manor born. Small fruits, also, in those early years, greeted the newcomer in every vale and valley in profusion, and to-day currants, raspberries, gooseberries and strawberries are found throughout the length and breadth of the land, unsurpassed in quality in the Dominion.

Large fruits, such as apples, plums,



Tomato Forcing in Saskatchewan

Greenhouses of Mr. Coster, Prince Albert

pears, peaches and cherries were not found in the early years, and are still conspicuous by their absence. For some years back, however, apple cultivation has assumed a more promising aspect from the fact that several very hardy varieties of crab apple from Siberia have fruited, and from this hardy stock, in time, equally hardy apples will be obtained, suitable for all parts of the province. With great care in protecting a few hardy apple trees have fruited in favorable localities, but a variety hardy enough to stand the summer's heat and the winter's cold in all districts, will require a large share of the Siberian crab apple in its composition. This has been well started by cross-breeding on the Central Experimental Farm at Ottawa, and the numerous small orchards on the Indian Head farm testify to the fact that time alone is required for Saskatchewan to grow apples, in part, at least, for its own use.

Manitoba native plums have for years been successfully grown in this province, but none of the Ontario or other cultivated sorts have ever stood the climate. Cross-bred sorts, like the apples, are more promising and in time these, too, will be in the settlers' gardens.

Peaches and pears are a decided failure, with little or no hope that our climate will ever permit these to grow outside glass houses. While we have the Ontario wild cherries (pin- and chokecherries) in all districts of the province in profusion, there seems very little progress towards much improvement in this fruit. We have, it is true, Rocky Mountain cherries and sand cherries, but these are very far from taking the place of the real fruit.

I need not take up space recounting what varieties of vegetables succeed in this province. Leaving out tomatoes as uncertain of ripening, corn, water melons and musk melons for the same reason, any one of Ontario's seed catalogues may be taken and from first to last the vegetables contained therein can safely and surely be grown in every district in Saskatchewan. Where early sorts are

chosen, and the soil prepared in accordance with the climatic conditions, Ontario cannot surpass in quality or quantity the vegetables of this western province.



Vegetables Grown in Saskatchewan

In flowers it is safe to assert that no Ontario garden can ever hope to equal in brilliancy a flower garden in Saskatchewan, with its long hours of sunshine and cool nights. Every known variety of annuals succeeds. Asters, petunias, verbenas, stocks, sweet peas, pansies, phlox, nasturtiums, are but a few of fifty sorts grown year after year on this farm, and all do equally well. Tulips, peonies, iris, columbine, pinks, delphiniums and other perennial sorts have bloomed year after year in the experimental farm garden, remaining in the ground all winter.



Other Side of Same Forcing House

The Civic Improvement Movement in Ontario*

Prof. H. L. Hutt, Ontario Agricultural College, Guelph

IT IS very evident to those who travel, or even to those who merely read the papers, that a strong movement has set in on this continent for civic and rural improvement. Just what it may result in, it is impossible to say at present; but it is safe to predict that the movement is going to have a marked effect on the appearance and character of our country generally.

ITS ORIGIN

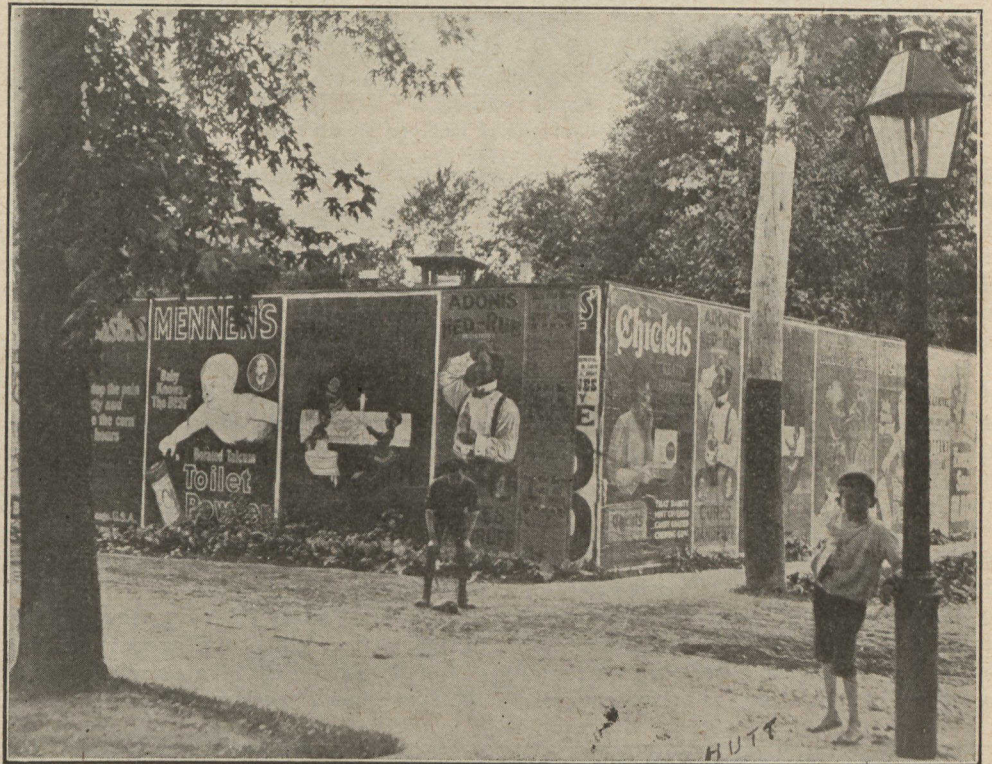
The civic improvement movement has been the outcome of a growing appreciation of art and a desire for real beauty, which has resulted from the prosperity of the times and the tendency to travel. Its origin might be traced to Europe, where many of the towns and cities have become centres of attraction for American tourists. From the old land we have learned much and have still much to learn. European travellers always speak with delight of the architectural and landscape beauties of Paris, Brussels, Vienna and Edinburgh.

Just when and where the civic improvement movement first made its appearance here cannot be stated definitely, but like many other movements, some good, and others not so good, its effects were first seen in the country to the south of us. The town of Stockbridge, Mass., claims the honor of having, nearly fifty years ago, the first organization having for its object the preservation of natural beauties and the general improvement of the village surroundings. In later years many organizations having similar aims have been formed in various parts of the country, but the one which has been the most active in giving a national impetus to the civic improvement movement has been the American Civic Association. This association was formed in 1904, by the union of two associations which had for years been working along somewhat the same lines, viz., "The American Park and Outdoor Art Association," and "The American League for Civic Improvement." The new organization was said at the time to represent 480 local improvement organizations.

Mr. J. Horace McFarland, whom many of us had the pleasure of hearing at some of our local society meetings last spring, has been president of the new association since its formation, and he has by judicious use of the press kept the work of the association prominently before the people of the whole continent. There are at present twenty-two members of the American Civic Association in

Canada. These are scattered here and there from Halifax to Calgary. In this connection, I may say I think it would pay all of our Canadian horticultural societies to get in as close touch as possible with this progressive national association, and make the work, at least, if not the organization, international in character. Our Superintendent, Mr. J. Lockie Wilson, and I expect to attend the annual meeting of the American Civic Association to be held in Pittsburg, Pa.,

The aim of the civic improvement movement put in a nutshell, is for "A better and more beautiful America." The scope of this improvement may be inferred from an enumeration of the departments of work undertaken by the American Civic Association. These are fifteen in number, with a vice-president at the head of each department, and include: arts and crafts, women's outdoor art league, children's gardens, school extension, city making, factory betterment, libraries, outdoor



The Bill-board is a Public Nuisance and an Obstruction to Civic Improvement

The unsightly display illustrated is to be found in St. Catharines directly opposite the residence of Mr. W. B. Burgoyne, honorary director of the Ontario Horticultural Association.

next week, and we hope to get many pointers that may help us in furthering the work in this country.

The organization of our Ontario Horticultural Association three years ago was in itself a result of the influence of the American association formed a year or two previous. For it was felt that we should have a Canadian organization with similar unselfish aims.

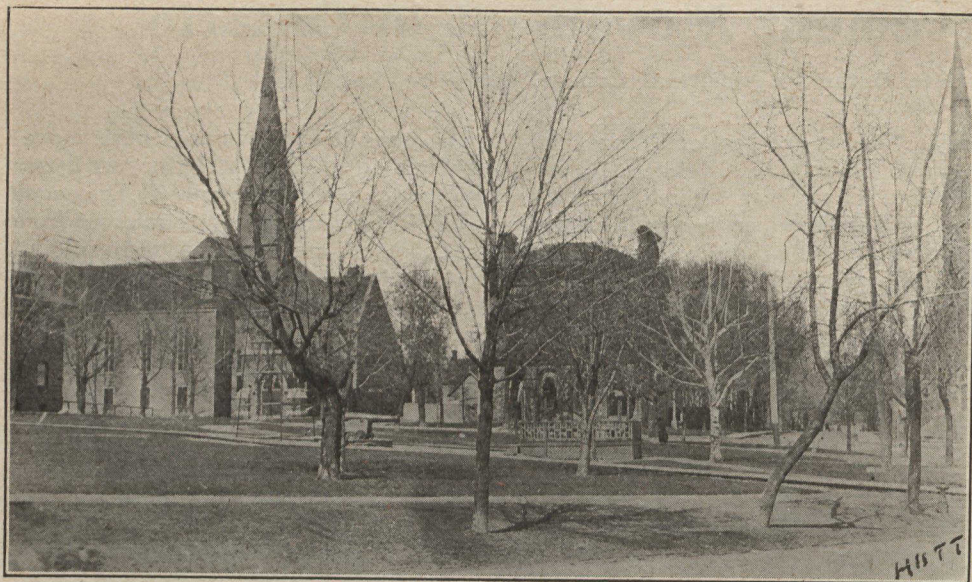
Attending this convention, we have delegates from a large number of the sixty-six local horticultural societies already formed in this province,—all interested in promoting local civic and rural improvement. It should be the duty, therefore, of this association to take the lead in assisting, directing and promoting such movements in all parts of the country. We have a big field for operations, and a splendid work to do.

art, parks and reservations, public nuisances, public recreation, railroad improvements, rural improvements, social settlement, and the press.

One of the strong features of the work of the American Civic Association has been its use of the press in educating public sentiment and spreading abroad information regarding what has been accomplished in different places and what may be done in others.

In Ontario we need not at present undertake so many kinds of work, but it would be well for us to begin at once to concentrate our efforts on a few lines which need most attention at present. To this end, I would suggest that our association appoint committees or departments this year to deal with such problems as: 1, The improvement of home surroundings; 2, the improvement

*One of the many excellent papers read at the convention of the Ontario Horticultural Association held at Toronto in November



A Park Plot in the Centre of the Town of Brockville

of school grounds; 3, care and management of streets and boulevards; 4, establishment of parks and playgrounds; 5, abatement of public nuisances; 6, promoting rural improvement; and 7, the press. Many others might be added, but this would make a good beginning. If the right person were put at the head of each committee and work was begun at once, this association would make itself a power for good in the country, and we should have valuable reports from each at our next meeting.

As a matter of encouragement to those who may be looking for more rapid changes, it may be well to call attention to the steady and even rapid progress that is being made in many parts of the province. There have been a number of agencies contributing to this progress

which may be used to still greater purpose in the future:

1. The more general use of cement in the making of pavements and sidewalks has had a marked effect on most every town and village in the country. In many Ontario towns cement has almost entirely replaced the old wooden walks during the past ten years.

2. Accompanying the laying of permanent walks has come the removal of street fences. In many up-to-date Ontario towns and cities we may now go block after block on the residential streets and see no fences, either in front or between lots.

3. Immediately following the removal of fences has come the proper grading of the lawns and boulevards to the line of the pavement, and more attention to



A Little Work and Expense Would Make this Scene Ten-fold More Beautiful

Many towns in Ontario have near them beautiful river banks which should be purchased now while the land is cheap and gradually improved for park purposes. The scene illustrated is within the town limits of Smith's Fall

keeping the grass nicely cut. A prominent citizen of Woodstock told me that it was not many years ago that he owned the only lawn mower in the town. Now it would be hard to find the citizen who did not own and use one regularly.

4. In some places where systematic tree planting has been done along the boulevards, there are now fine avenues of street trees. But just here is where so many towns have been spoiled because the street planting has been left to the individual property owners, no two of whom have the same idea of what kind of trees should be planted, or where they should be placed on the boulevard. This has rendered it impossible to make a uniform continuous row of trees, because of the great variety selected and the hap-hazard method of their arrangement. The street planting and care of the trees in every village, town and city, should be under the management of a park board or commission, which can adopt a definite plan for the regular planting of certain kinds of trees on certain streets and see that they are properly cared for.

5. In a number of our cities and most progressive towns, park boards or commissions have been appointed, as provided for by the Ontario Parks Act. This means that much greater progress will be made in such places, and other places will wake up to the necessity of similar action.

Within the last few years many of our Ontario towns and villages, to say nothing of the larger cities, have seen the advisability of making park reservations, and have purchased lands for park purposes. In some cases, the development of these has been undertaken by the town council, and in others by a park board, but experience has proved that greater continuity of action may be expected from a board or commission which is more or less permanent.

Evidences of progress in the establishment of parks may be seen in such places as Ottawa, Brockville, Havelock, Toronto, Brampton, Hamilton, Galt, Guelph, Berlin, Waterloo, Woodstock, Stratford, Barrie, Orillia, London, Leamington, and many other places.

For a town of its size, I know of no place making greater progress in the establishment of beautiful parks than the town of Galt. It has now three good sized parks and seven or eight small plots and squares about the town which help to make Galt a town beautiful.

(To be concluded in next issue)

If you have any photographs of your garden, orchard or lawn in winter, kindly send them to THE CANADIAN HORTICULTURIST for publication. An excellent article entitled, "Planting for Winter Effect in the North," will appear in an early issue.

A Beautiful Home Before and After Planting

Collier Stevenson, Hamilton, Ontario

IN the "Before and After" pictures of "Dalkeith Lodge," the home of Mr. Henry New, of Hamilton, Ont., shown on this page, we have a striking instance of how even the best of houses architecturally may be enhanced by skilful planting. The owners were fortunate in having the co-operation of their architect, Mr. Herbert H. New, of Hamilton, in the arrangement of the grounds.

A massive box of green shingles was placed on each side of the front entry and filled with glowing scarlet cannas, while geraniums of the same hue were massed along the front of the verandah, with a background of hydrangea and spiræa.

Unfortunately the illustration does not show the very effective trellis which was designed by the architect for the side of the verandah. These, however, were painted white, against which the cool green of the vines contrasted splendidly.

A hedge of scarlet dahlias lent brightness to the side boundaries, completing a most harmonious color scheme—the red walls of the house blending with the scarlet of the flowers, the moss green of roof and flower boxes harmonizing with the foliage, and the clear white of the woodwork being repeated in the trellises.

Fall Bulb Planting

Editor, THE CANADIAN HORTICULTURIST: As you have solicited questions for discussion in THE CANADIAN HORTICULTURIST, and as the practise of fall bulb planting has become so general and so extensive amongst our people, may I ask the question, "How long may tulips and other bulbs remain in the same place in the ground?" There is at present quite a difference of opinion among the people in this regard, some removing them annually and others leaving them in the same place for two or more years.

Our practice has been to leave them untouched for three years, but we find that the divisions have been so great that they are practically useless afterwards. For this reason, our planters are now adopting the practise of annual removals, and think that they have some advantages. But even this practice has contra considerations. First, it involves much labor and care in storing, and secondly, the bulbs are liable to become mixed and in a state of confusion, and ordinary planters "can't be bothered." Of course, this practice leaves the ground quite clean and free for all summer uses, but the three years course also allows the ground for other plantings by cutting the tops, raking all off and planting over the bulbs as though they were not



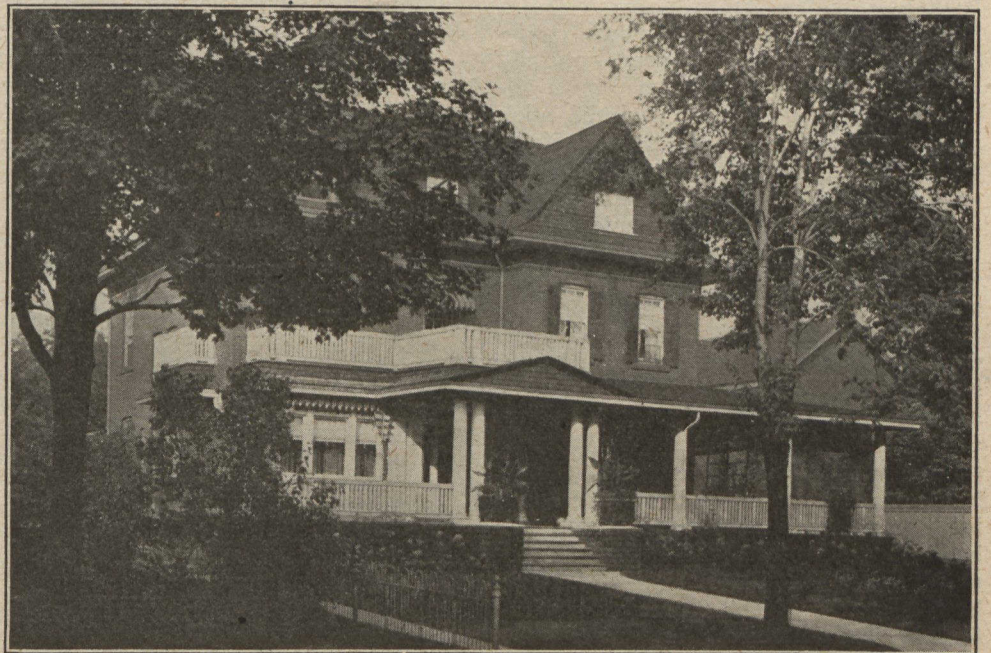
Before Planting—"Dalkeith Lodge," the Residence of Mr. Henry New, Hamilton, Ontario

there. Considering all the pros and cons, the use of the ground, the best interests of the bulbs and the finest and most abundant flowering of the bulbs, what would you advise?

Perhaps you will consider the question useless, as we ought to buy new bulbs and plant every season and so encourage the trade. You may also think the questions a little premature; but if we knew the consensus of opinion in this matter, we might be guided in our plantings

accordingly. Would like to hear also from other horticulturists, who are interested.—B. Gott, Strathroy, Ont.

(NOTE.—The question asked and discussed by Mr. Gott is important and interesting. For the present, we will leave the question open. Readers of THE CANADIAN HORTICULTURIST are requested to send short accounts of their experiences for publication in the January issue.—Editor.)



After—Much Taste and a Little Money Produced this Result

This is one of the many beautiful homes of Hamilton—It is a model for other amateur planters to follow.

Labor Saving Tools for Garden Work*

Hermann Simmers, Toronto

THE first and still the most important tool in the garden is the human hand, and probably at one time in ages past, it was the only one. Still, at a very early period, tools of some description had been devised, to lighten the labor of the gardener. In our youthful days—alas, further back than some of us care to admit—a conundrum was propounded. It ran thus: "When Adam delved and Eve span, who then was the gentleman?" The obvious answer is that Adam was the gentleman, and mark you he was the first man, he was a gentleman and he was a gardener—all of which is true. Our immediate interest, however, is to enquire what Adam delved with. No doubt he did much work with his hands—in many gardening operations still the very best of tools—but he could not delve very well thus, unless he had something to aid him. The cradle of the human race is in the East, and it is there, we can observe customs to-day

In explanation of my further meaning, you will find that among the first and last things to be done in almost any garden in spring or fall, is to have your garden dug in the spring and spaded again in the fall, and those who are not so fortunate as to employ a man for this work, will better understand the necessity of a pair of good, strong arms to do this work.

THE BEST TOOLS

I have not had the pleasure of attending any of the conventions of this association, and am not acquainted with the intention that you have, whether it is necessary, just to introduce the subject and after introducing, that questions are asked, as to this, that or the other matter, but I am going to give you a list of a good many articles that I have used myself, as well as some of the others that I know are "labor-saving tools," but which I may not have had occasion to use. The list approximately is as fol-

Now, to those who have a more pretentious vegetable garden, this more modern implement, is apt to encourage the amateur to extend his work.

I have seen many a fine garden in the smaller towns, which does credit to the man who attends to it and should be a credit to the town, if the towns would so take note of them. To these gentlemen, I strongly urge their using one of these implements. They were originally gotten up by some Yankee not overly fond of work, but let it be said to the credit of his genius, that he has bestowed on us an implement that will save the labor of an amateur gardener.

TAKE CARE OF TOOLS

I would also suggest that all the tools possessed by the amateur be properly hung up, neatly and systematically, and that they should not be thrown in a corner, in a careless manner. You might as well expect a woman working in her kitchen to throw her pots and pans in a heap in the corner and expect her to be able to find what she requires, quickly. I see no reason why man's labor-saving tools for garden work should not be kept in the same precise manner that a woman keeps her household utensils. The garden tools should also be kept clean and ready for use.



Some Pansies that Grew in the Yukon—Illustrated One-quarter Size.

which had their inception in Adam's time, or not long after. The soil there is so sandy and easily worked, that a very primitive stick sharpened, would be all the labor-saving appliance required. Irrigation is the great problem there. In lands under different climatic conditions, different circumstances naturally arise and in our own land, one must admit, that stirring with a pointed stick would not have much effect. Therefore, other labor-saving tools had to be invented. The king of all labor-saving tools, is still the spade. Spade culture is the most intensive and, per acre, produces more crops than any other form of culture.

In my opinion, the Creator, has endowed us with the best means of labor-saving appliances. I mean a pair of strong arms. To those who have been at the garden hobby for some years, their arms will have been strengthened by their use, an all-wise Providence having created man or woman with these handy appendages, and the man or woman who makes liberal use of them, will have as a result much the better garden, for his close attention.

*Extracts from a paper read at the convention of the Ontario Horticultural Association, held in Toronto last month.

lows: spade, shovel, lawn rake, steel rake, field hoe, Dutch hoe, spading fork, manure fork, garden reel, garden line, grass hook or sickle, pruning knife, pruning shears, pruning saw, half-moon edging knife, indelible pencil, labels tree or pot, appliances for destroying insects, hot-bed thermometer, garden trowel, tree pruner, watering can, wheelbarrow, lawn mower, hand weeders (such as Hazeltine's, Excelsior, etc.), wheel plow, and hand seed drill.

MAKE GARDENING A PLEASURE

This is about the list that would be necessary to complete a full stock of "labor-saving tools" for the amateur. Many might say that a spade, a hoe and a rake, is all he has used and found them satisfactory, but if they had picked out from this list any other special tools and used them at the proper time, they would have saved labor and made for themselves, the garden, more interesting.

THE COMBINATION SEED DRILL

It is almost useless to go into the detail and description of all the tools that I have listed and from which I will refrain, but amongst the list, I would like to draw more attention to the combination seed drill, which has the garden plow, wheel hoe and seed drill combined.

Flowers in the Yukon

The illustration of pansies that appears on this page shows one of the horticultural possibilities of the Yukon. These pansies were grown in Dawson City by Mrs. George Black from Giant Pansy seed, furnished by J. A. Simmers, Toronto. In a letter to J. A. Simmers, Mrs. Black said:

"I am sending the pansies to show how successfully we grow flowers from your seed. Many of the gardens here in summer are very beautiful. In a space only twenty-five by fifteen feet, that we devoted to flowers last season, we grew twenty-eight kinds, including pansies, English and shasta daisies, nasturtiums, musk plants, nicotiana, ice plants, poppies (Iceland, California and Shirley) sweet peas, canary vine, wild cucumber, stocks, asters, everlastings, gypsophila, mignonette, forget-me-not, lobelias, wild orchids and ferns."

Be sure and take some photographs of your potted bulbs in bloom and send them for publication.

What Amateurs Can Do in December

WHEN looking for Christmas gifts, do not forget that there are many horticultural products that will be acceptable. Flowering and ornamental plants will add cheer to the festive season. Make your selection early, and ask the florist to hold them for you. In flowering plants, select those that are not far advanced in bloom buds. They will be more appreciated because they last longer.

Among the many plants suitable for Christmas presents are Gloire de Lorraine begonias, Baby Rambler roses, cyclamen, Jerusalem cherries, hyacinths, narcissi, daffodils, primulas, azaleas, genistas, rubber plants, araucarias, poinsettias, screw pines, ferns and many others.

Other gifts that will be appreciated by amateur gardeners are books on horticulture. There are scores of good ones, well printed, illustrated and nicely bound. Write to THE CANADIAN HORTICULTURIST for our book catalogue. A nice gift would be a year's subscription to THE CANADIAN HORTICULTURIST. Read the special offer on the inside front cover of this issue.

Various kinds of fruits make excellent presents. What would be nicer than a box of No. 1 Spys, Fameuse, or of some other seasonable variety?

THE WINDOW GARDEN

While potted bulbs bought from florists would be appreciated as gifts, they would be doubly acceptable if the recipient learned that they had been grown by the giver. If you are growing some for Christmas, watch them closely. Keep them well watered. Keep them where it is not too warm but within reach of sunlight.

Avoid draughts of cold air on house plants. Ventilate on calm, warm days. Moist air and intelligent watering at the roots of plants are necessary to attain success in window garden work.

When re-potting plants, use pots only one or two sizes larger than those in which the plants now stand. Water well as soon as potted and do not repeat until the soil shows signs of dryness.

OUTDOOR WORK

If you have not mulched the bulb beds, do it now. Strawy manure or spruce boughs make good material. A covering of leaves with brush to hold them and to catch the snow is excellent for the purpose.

Protect the tender and half hardy perennials. Mulch the lilies, especially the Japanese varieties.

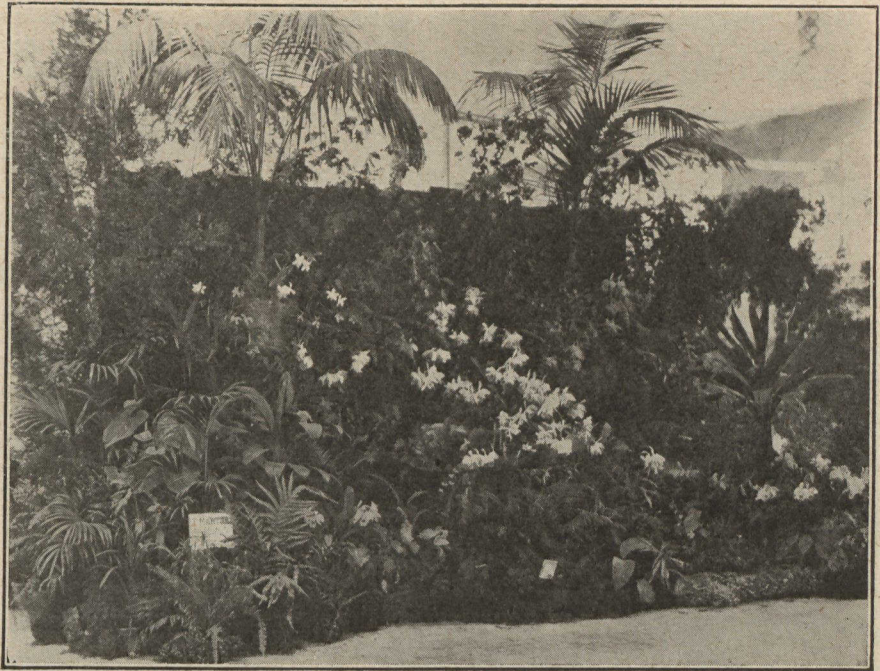
Make a compost heap of the fallen leaves. It will come in useful next year.

Wrap and protect tender vines and shrubs. Remove and burn garden rubbish. Saw dead limbs from trees. Seek

eggs and cocoons of insects and destroy them. Clean garden tools and cover the iron work with grease to keep them from rusting.

some photographs of the garden if you have them.

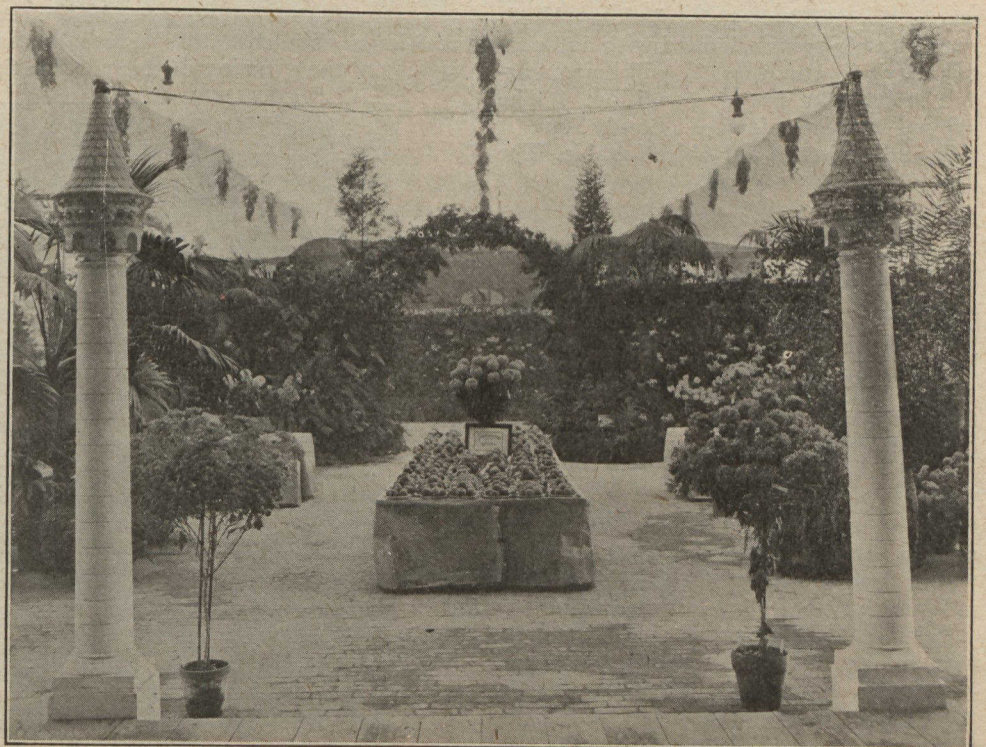
Watch the lawn and shrubbery for the time when the winter effect is most beau-



The First Prize Group of Orchids at the Ontario Horticultural Exhibition
Exhibited by T. Manton, Eglinton, Ont.

Were you successful this year with your garden? Did you try something new, and what was it? Did your garden teach you anything that you did not know before? What pointers can you give to other amateurs? Answer these questions in a letter for publication in THE CANADIAN HORTICULTURIST. Send

tiful. It will be a pleasant surprise to many persons who think that the lawn is of use only in summer. Take some photographs when the trees and shrubs are drooping beneath a weight of snow. Send them to THE CANADIAN HORTICULTURIST for publication with some description of the plants in the scene.



Some of the Flowers and Fruit at the Ontario Horticultural Exhibition held in Toronto last month.

How to Grow Ginseng

Wm. Gilgore, Peterboro, Ontario

THE conditions necessary for the successful culture of ginseng may be stated briefly as follows: A rich, cool, loamy, loose soil, natural or artificial shade, moisture and proper attention. Although there are many ways of

inches apart and fasten with staples. Over this, I put cedar boughs.

CULTIVATION

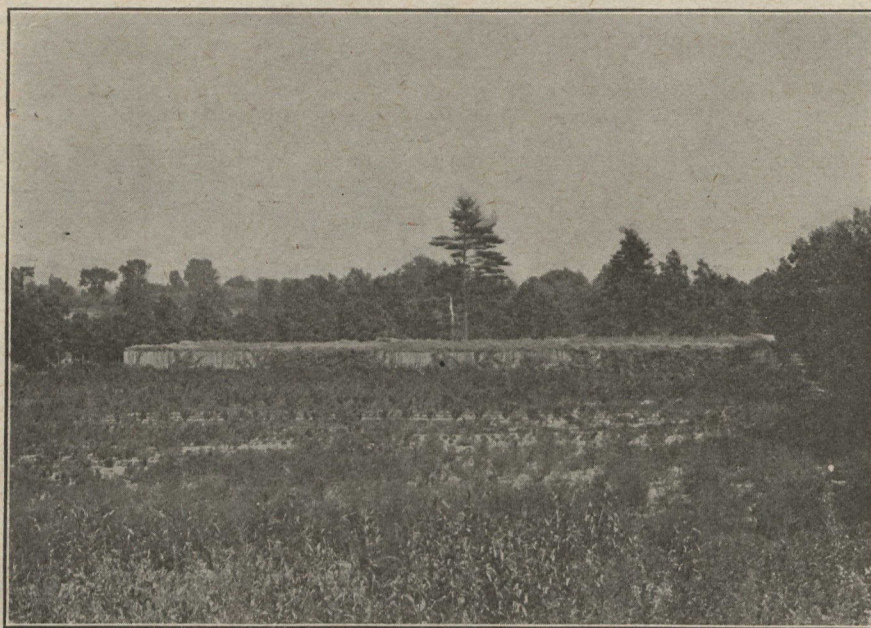
The cultivation of ginseng is as certain and as easy as that of any other garden root. Attention to a few simple but

or six years have passed. This is a mistake as the roots can be dried and sold in three or four years but the profit will be greater from larger roots. A very important point for the intending grower to consider is the securing of roots and seeds from the same latitude in which he is located if possible. Those from a few degrees farther south will not ripen the seed as well in cold seasons.

PROFITS

Profits depend upon the intelligence of the grower. Strict attention to details is as essential in this line as in any other. As an illustration, I may say that a plot of ground sixty-five feet long by five feet wide will hold 1,000 roots. At the end of four or five years, it will produce from fifty-five to sixty pounds of dried root. The present price ranges from \$6.00 to \$8.00 a pound, according to quality. Quality means large, clean roots. But that is not all. At the end of four years, you would have 1,500 seedlings and 8,000 seed in the ground, due to come up the following spring, and from 15,000 to 20,000 seed on hand,—all the product of the original 1,000 year-old roots. The revenue from the seed is enough to pay all expenses, leaving the proceeds from the dried root all profit. Follow the process for ten years and I will venture to say there is a profit of 100 per cent. per annum at present prices.

Ginseng is lavish in the production of seed so that the grower is his own seedman and nurseryman after the first two years. In making the above estimate, I am well within the bounds of probability. I often have been asked why farmers do not take up the culture of ginseng and



Outside View of Ginseng Garden Showing Lath Sides and Brush Top

One of the Gardens of the Saugatuck Ginseng Co., Michigan

applying these principles, there can be little doubt of success if they are followed.

When starting a patch, select a cool, moist piece of ground, preferably level, or nearly so where there is natural loam or where the soil is loose and rich. Well-rotted stable manure, mixed with an equal quantity of swamp muck, will bring garden soil to the proper condition. The ground must be fertile. Sandy soil, if rich and moist, is not objectionable. The drainage must be good.

PREPARING THE BEDS

Spade the ground to a depth of twelve or fourteen inches. My beds are five feet wide by sixty feet long. I put pine strips, six inches wide by one inch thick, lengthwise of the bed and drive in a few small stakes to hold them in position. I then spread a coat of well-rotted horse manure, mixed with black muck, well pulverized, over the bed to a depth of three or four inches. I spade it a second time and rake the bed level. The bed is now in the right condition to receive the young roots. I plant the roots six inches apart with eight inches between the rows.

For shade, I set up cedar posts, twelve feet apart, across the beds and about the same distance apart lengthwise of the beds and nail scantling across from post to post. I run wire along the top of the scantlings about eighteen

necessary points such as shade, drainage, and so forth, is all that is necessary to accomplish what was twenty years ago thought to be impossible.

The ginseng root is at its best age for commercial purposes after five or six years from seed. It seems to be the general impression that nothing can be realized from the growing of this root till five



Inside View of Same Garden—Brush Shade on Top—Seedlings of 1907 in Beds

have said in reply that this is work for the small plot owner, the same as bee-keeping, mushroom growing or any other specialty. It is the most profitable of all, however, if the grower observes the rules for successful culture and has patience to wait for three or four years. A quarter of an acre will produce enough to send his boys to college if he plants in a small way and faithfully reproduces from his own plot. The artisan, clerk or laboring man who has a small garden can make a success of ginseng growing and money for himself.

History of Ginseng

A. W. Twiner, Saugatuck, Mich.

The American ginseng is a plant closely related to the parsley family in which family are included the parsnip, carrot and celery. The wild root found in the forests of America is a near relation of the Chinese and Korean root (*Panax Ginseng*). Ginseng is a Chinese word meaning man-shape. It was found in Canada near Montreal in the year 1716 by Father Lafitan, a missionary among Iroquois Indians, after a description of the plant and samples of the root had been sent to Canada two years prior to that date by a brother missionary in China.

Soon after its discovery the French began to gather it and export it to China. It soon became a very important article of export, the roots costing forty cents a pound at Quebec, and selling for ten or twelve times that amount in China. At that time the Company of the Indies controlled the trade between Canada and China. In 1751, the company raised the price to \$10.00 a pound which caused the Canadian hunters to gather it out of season, to imperfectly clean and dry it and to send somewhat similar roots until the Chinese refused to buy it at any price. For several years the ginseng trade from America ceased, until a few years ago. Since then the root has been largely cultivated with a favorable market in China. The export for 1907, according to report issued by the United States Department of Agriculture, was \$1,268,658, this being mostly cultivated root.

Watch for the next issue of THE CANADIAN HORTICULTURIST. An article on foes of vegetables will appear.

One of the finest vegetables for the table is Brussels Sprouts. It should be grown more extensively, and the public should be taught its value.

The vegetable gardener, who has an abundant supply of water available, is fortunate. Sometimes a small amount of water applied at the right time, will make the difference between a good crop and a total failure.

Melons By the Ton

L. A. Hamilton, Lorne Park, Ontario

IF ONE can judge from the crop marketed in Toronto, the season of 1908 must be looked upon as one peculiarly fitted for the growing of melons. The warm copious rains of the early season pushed forward the growth of the plants. This was followed by a long period of dry weather, with hot days and warm nights which hastened the maturing of the fruit.

The conditions were somewhat similar to those prevailing in eastern countries where the melon is extensively grown. There, melon gardens are largely confined

Two difficulties present themselves to the melon grower in this locality: The transporting of this bulky crop to market and the low price obtained for it. So far, no practical or uniform package has been invented for shipping in. The product finds its way to market in eleven quart baskets, various kinds of berry crates and apple barrels.

The Island of Montreal has made a specialty for a number of years of growing melons of a certain type, and the growers by producing a good article and judiciously advertising it, have suc-



Harvesting Melons by the Ton in Ontario
Fruit Farm of Mr. L. A. Hamilton, Lorne Park

to the low lying margins of the rivers and the bars left dry by the falling waters. The writer has watched the natives on the banks of the Nile, and on the Ganges, following up the receding waters and planting the melon seeds as fast as the bars appear above the surface of the water. The ground is then completely saturated with water which, on being subject to great heat, causes the plants to grow with great rapidity, and to bring their fruit to maturity with little or no rainfall.

The rapidity of growth, and the generosity of the crop in the Lorne Park district, has not been confined to melons alone but to all others of the gourd family. Water melons and squash have been grown on contiguous ground, weighing as high as forty pounds for the former and 125 pounds for the latter; these results were obtained from seed sown in the open air and without the use of any artificial stimulants during growing period.

ceeded in establishing a market for their melons and disposing of them at a price that makes the Ontario grower turn green with envy. We have a soil that seems particularly adapted for the growing of this crop, but it is poor encouragement to the grower to get on an average five cents a piece for choice melons ranging in weight from two to eight pounds each. Is it not possible by means of cold storage to ship melons to England profitably, thereby enlarging the market and stimulating the industry?

Grow the best that can be grown, and the market is yours.

An error occurred in printing the article on "Ornamental Gardening in Southern British Columbia," that appeared in the November issue. In the third line of the third column, the word "forests" should have read "tourists."

The Canadian Horticulturist

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Circulation Statement

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|-----------------|-------|-----------------|-------|
| January, 1907 | 4,947 | January, 1908 | 7,650 |
| February, 1907 | 5,520 | February, 1908 | 7,824 |
| March, 1907 | 6,380 | March, 1908 | 8,056 |
| April, 1907 | 6,460 | April, 1908 | 8,250 |
| May, 1907 | 6,620 | May, 1908 | 8,573 |
| June, 1907 | 6,780 | June, 1908 | 8,840 |
| July, 1907 | 6,920 | July, 1908 | 9,015 |
| August, 1907 | 6,880 | August, 1908 | 9,070 |
| September, 1907 | 7,080 | September, 1908 | 9,121 |
| October, 1907 | 7,210 | October, 1908 | 9,215 |
| November, 1907 | 7,257 | November, 1908 | 9,323 |
| December, 1907 | 7,500 | | |

Total for the year, 79,525

Average each issue in 1907, 6,627

Sworn detailed statements will be mailed upon application.

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EDITORIAL

THE LATE DR. JAS. FLETCHER

The death of Dr. Jas. Fletcher, that occurred in Ottawa on November 8th, was learned with grief by the horticulturists of the Dominion. His genial personality, his practical worth and his fidelity to the interests of the country of his adoption endeared him to all persons who knew him, either personally or through his official work and writings. For many years he gave his attention to solving the biological problems of horticulturists and of agriculturists. He was an authority on entomology and botany, particularly on the former. His work will be chronicled in the annals of the history of biological progress.

The passing away of Dr. Fletcher is a distinct loss. It will be difficult to replace him. His position was one of great importance in the agricultural development of the country. His successor will have to be an expert and an alert servant of duty to maintain the standard of excellence achieved by Dr. Fletcher. To his bereaved family and to the staff of the Dominion Experimental Farms we extend the sympathy of the horticulturists of Canada as well as of THE CANADIAN HORTICULTURIST.

AN INCREASED INTEREST

The astonishing increase that has taken place during the last year in the membership of the horticultural societies of Ontario, as well as in their expenditures for horticultural purposes, is the best evidence that the new Act governing the work of the societies is proving a success. Before this Act was passed, the societies received what were practically fixed government grants, irrespective of their membership or of the work they were doing. Under the new Act, one-third of the government grant is distributed to the societies in proportion to their membership and two-thirds in proportion to their expenditures for horticultural purposes. Thus, the grants that the horticultural societies receive are in proportion to the effectiveness of their work.

It took the societies about a year to realize that unless they got out and hustled for new members and did good work along horticultural lines, their grants were going to be reduced. This year, however, the societies apparently have understood their position for the membership of the societies, according to Supt. J. Lockie Wilson, has increased from a little over 6,000 to about 9,000, or by about 50 per cent. The expenditures for horticultural purposes have increased in proportion.

Some societies have doubled and trebled their membership. The Ottawa society this year, secured a membership of over 1,000. In case any person might think that the Ottawa society must be favorably situated, to enable it to show such an increase, it might be stated that a number of the smaller societies in the province, increased their membership in proportion, the Grimsby society, for example, having doubled its membership.

Owing to this great increase in the membership of the societies, the present government grant of \$8,000 a year to the 60 or more societies in the province, has become inadequate. At the recent convention of the Ontario Horticultural Association, it was decided to ask the government to increase the government grant from \$8,000 to \$10,000 a year.

By passing the Act in its present form, the government made it necessary for the

societies to increase their membership to hold their grant. The societies have done this to the point where the present government grant is no longer adequate. The increase asked for in the grant is less in proportion than the increase that has taken place in the membership of the societies. In view of the splendid work that the horticultural societies are doing, and remembering the sympathetic interest that was shown in their work by the former Minister of Agriculture, Hon. Nelson Monteith, there is every reason to believe that the increased grant asked for will be favorably considered by the new Minister of Agriculture, Hon. J. S. Duff.

HORTICULTURAL EXHIBITION

The descriptive phrase, "It is larger and better than ever," is founded more often upon enthusiasm than upon truth. When it can be applied accurately, it embodies a compliment and gives encouragement. The management of the Ontario Horticultural Exhibition and the horticulturists of the province should be proud, therefore, of its frequent use in press reports of the show held in Toronto last month. In all truth, that exhibition was "larger and better than ever." It was a credit to the province.

While worthy of praise in all its departments, there is still opportunity for advancement. An exhibition must be better each year than the last to keep in the front rank. The defects, small or great, that each succeeding year teaches and the rapid development that is taking place in our horticultural pursuits require corresponding progress in our exhibitions. The Ontario Horticultural Exhibition may be broadened in its usefulness and in its importance by seeking some exhibits of a national character.

QUEEN VICTORIA PARK

Our editorial in the November issue in reference to appointments at Queen Victoria Park at Niagara Falls has been the subject of considerable comment. We have received letters endorsing our contention that only thoroughly competent men should be appointed to succeed Messrs. Jas. Wilson, and Roderick Cameron. The interests of the park demand this consideration and demand it soon. The value and horticultural eminence of the park must be preserved.

The people of Ontario who own this park and who are beginning to take a national pride in it will be indignant to learn that already many valuable plants at the park have been lost through incompetent management. Gardeners and not party workers, should be in charge of the work. If the Government does not take action soon there may be serious cause for regret in days to come over the impairment of a park that has been an object of national pride. Our Canadian and Ontario horticultural associations should assert themselves on this matter.

THE DOMINION CONFERENCE

The fruit growing interests of Canada require another Dominion Fruit Conference this winter. Growers in all parts of the country are anxious that such shall take place. Many written expressions of this feeling are in our office. It is surprising that, after the promises of the Dominion Minister of Agriculture, made at the conference held in 1906, that some move in this direction on the part of the Department of Agriculture has not yet been evident.

If the importance of the fruit industry

The Ontario Horticultural Exhibition

warrants it,—and it does,—a national conference should be held every two years. Three years are passing since the last one. It is time for another. Fruit growers individually and fruit growers in conventions should agitate the matter more strenuously. It is regrettable that, through an oversight or carelessness, no concerted expression of opinion was recorded, either by resolution or otherwise, at the recent convention of the Ontario Fruit Growers' Association. Most of the members of the organization are looking forward to another conference. An opportunity was lost to impress the authorities at Ottawa with this fact. Associations in other parts of Canada should not neglect the matter. Our growers are entitled to a national conference this winter. If our growers do not recognize the importance of their industry and press, in a concerted manner, for its proper recognition, the Dominion Government cannot be blamed for not giving the attention to these matters that their importance deserves.

Export Apple Trade

Ed., THE CANADIAN HORTICULTURIST:—I read with interest the letter of Mr. Eben James in your magazine for October and must join issue with him on several points therein mentioned. First, it is quite true that there are several undesirable receivers in Great Britain, but at the same time there are plenty of good firms outside the six who form the Liverpool Fruit Auction and there are also a number of firms who do their business quite as above-board as the aforementioned. I presume that Mr. James' letter is more or less aimed at the firms who do not sell in the Liverpool rooms.

As regards the bona-fides or otherwise of these firms I do not know, but I would like to point out that in selling by private treaty one is able to get quite as good, and in many instances better, prices and also to give buyers greater satisfaction. As an instance, my firm has only been in the apple business for the past two years, but last year we received and sold purely on commission between 30,000 and 40,000 barrels and so far we have not made a dissatisfied sender neither have we received a letter of complaint.

I do not want to argue about the merits of the closed room, but any man of common sense will agree that prices are likely to be better when competition is open to the whole of the customers in a market rather than when it is confined to a selected few.

We sell the whole of our apples by private treaty, and I maintain that a buyer is more likely to get satisfaction by purchasing in that way than he is by auction and at the same time the apples, being open to thorough inspection, the growers are bound to get the highest prices as everything is sold absolutely on its merits; whereas, when stuff is put up for auction, in numbers of instances, buyers have not the time or opportunity of examining before hand, consequently they are always more or less buying in the dark. Therefore, the man who has sent the best stuff is not at all unlikely to get the worst price.—T. J. Poupert, Covent Garden Market, London.

Are you wondering what you can give some of your friends for Christmas? THE CANADIAN HORTICULTURIST would make a nice gift.

I have received a great deal of useful information through THE CANADIAN HORTICULTURIST.—J. Carlson, Gardener, Maskinonge Co., Que.

THE horticultural products of Ontario were shown to great advantage at the fifth annual Ontario Horticultural Exhibition held in Toronto in November. The display of fruit, flowers and vegetables was a credit to the province. The total number of entries in all departments exceeded that of last and previous years. The manner in which the St. Lawrence Arena was decorated and the arrangements of the various exhibits received much praise. The show was of great educational value. It impressed the public with a keener appreciation of the horticultural possibilities of the province and it showed the growers themselves what others can do in the way of producing fruits, flowers and vegetables of superior quality.

In the fruit department, the exhibits of some co-operative fruit growers' associations were the objects of much comment and attention. These associations seemed

be a revelation to those unacquainted with the rapid progress that has been made in fruit growing and in fruit operations during the intervening time. While the character of the packing shown at the recent exhibition was almost ideal, room for improvement was noticeable in a few cases. In boxes, some exhibitors failed to pack with due regard for the proper bilge. Because of defects in fruit, packing or package, the judges were compelled, in some instances, to award prizes to exhibits that appeared inferior to the uninformed. In the barrel sections, the packing, with two or three exceptions, was all that could be desired. One of the exceptions had superior fruit on top and small, wormy specimens in the bottom. It was noticeable that most packers are becoming more expert and have learned how to handle and prepare a barrel for market properly. In a few cases it was noticed, however, that where four or five



[A Part of the Vegetable Display at the Ontario Horticultural Exhibition

to have a better idea of the requirements of the Fruit Marks Act and of proper packing and packages than did many of the individual exhibitors. The exhibit that received most praise was that put up by Mr. Jas. E. Johnson, of Simcoe, for the Norfolk Fruit Growers' Association. Sixty varieties were shown in this display. They were not exhibited in competition but were there to demonstrate the capabilities of Norfolk county in the production of high grade fruit. The St. Catharines, Oshawa, Trenton, and Chatham associations also showed fine fruit and their methods of packing were excellent.

The quality of the apples was almost perfection. The color and size of the specimens would compare favorably with those grown anywhere in the world. The apples in boxes and barrels were a superior lot. A comparison between this display and the package exhibit at the first Ontario Horticultural Exhibition held four years ago would

nails in a head liner would have been sufficient, some 15 or 20 were used. There were a few minor defects similar to this, but, on the whole the display was the best ever seen in this country.

While the apple was most in evidence, the more tender fruits were equally deceiving of praise in respect to quality, if not in number of exhibits. Some fine pears and grapes were exhibited on plates and in commercial packages.

The educational value of the fruit department was shown in many ways. The methods of packing were object lessons. The fruit itself showed what can be done by good cultivation, pruning, spraying, and so forth. The intermingling of exhibitors and visitors gave opportunity for learning the views of others and for disseminating practical pointers, and not the least for promoting a feeling of good fellowship between growers in all parts of the province.

The Central Experimental Farm at Ott-

wa, had a large exhibit of fruit of Canadian origin. The Ontario fruit experiment stations showed a variety of fruits in their natural state and preserved. The Ontario Agricultural College exhibited mounted specimens of insects and fungous diseases. The display of preserved fruits was interesting and well put up. It is pleasing to note, also, that some of our best firms who have to do with the manufacture of materials used by horticulturists put up displays of their wares. Among them were the Dominion offices of the Potash Syndicate, who showed fertilizers; William Cooper and Nephews, insecticides and fungicides; Harris Abattoir Co., fertilizers; Spramotor Co., power sprayers; Bissell Mfg. Co., orchard implements; and some others. These added to the interest of the show. It is hoped that other firms will do likewise at future exhibitions.

THE VEGETABLES

There was a grand showing of vegetables. There were more entries and the quality was better than in previous years. The cauliflowers were exceptionally good, the most successful exhibitors being the McKays, of Doncaster. The celery, onions, cabbage, carrots, beets, parsnips, turnips, citrons, squash, potatoes, peppers, salsify and horseradish were said by the judges to be the best that they have ever seen. The competition was keen. The general collections were admirable, the first prize being won by W. Harris of Humber Bay; second, Brown Bros., Humber Bay; third, F. F. Reeves, Humber Bay. Besides the exhibitors mentioned, other successful ones were: J. W. Rush, and J. Dandridge, Humber Bay; J. Guthrie and G. Watson, Dixie; T. Delworth, Weston; E. Brown, Wychwood, and C. Plunkett, Woodbridge. The judges were R. H. Lewis, of Hamilton, and Geo. Syme, Jr., of Carleton West.

THE FLOWER SHOW

Although the flower and plant show was an admirable one in point of quality the entries were not as numerous as last year. There was a shortage, especially in the chrysanthemum classes. R. Jennings, of Brampton, won the prize for the largest chrysanthemum in the show. The new 'mum, "W. R. Brock," shown by the Steele-Briggs Seed Co. was much admired. There were some excellent carnations and roses shown. The floral designs were well done. The decorated dining tables were much better than last year. The collections of orchids were splendid, first prize being won by T. Manton, Eglinton; second, E. F. Collins, Toronto; third, W. J. Potter, Toronto. Plans for next year's exhibition already are being made. The lessons learned at this year's show and at previous ones will be used in making next year's exhibition grander and better than ever.

National Apple Show

It is expected that the National Apple Show to be held in Spokane, Wash., Dec. 7-12, will be the greatest exhibition of its kind ever held in the world. The total value of premiums amounts to over \$35,000. The secretary is Mr. H. G. Neely, of Spokane.

A premium of \$1,500 calls for a carload exhibit of 210 barrels or 630 50-pound boxes of one or more varieties. A premium of \$1,000 is offered for exhibits of not more than two barrels, boxes, baskets or plates of one variety. The exhibitor of the largest apple of regular shape, with perfect stem and calyx and without disease or blemish, will receive a reproduction of the fruit in bronze, heavily plated in gold and mounted on a silver pedestal representing Adam and Eve in the Garden of Eden.

The Ontario Horticultural Association

THE great work that can be accomplished on behalf of the horticultural societies of the province by such an organization as the Ontario Horticultural Association was shown in numerous ways at the recent third annual convention of the association, that was held in Toronto, Nov. 10-11, at the time of the Ontario Horticultural Exhibition. Horticultural societies from all parts of Ontario were represented by delegates. The attendance at all the sessions was gratifying and demonstrated that the horticultural societies are beginning to realize how necessary it is that they should be organized through a central association.

A most important decision reached was that application should be made to the Ontario Government for an increase in the government grant from \$8,000 to \$10,000 a year. Supt. J. Lockie Wilson, in his annual report, announced that the membership of the horticultural societies this year, as compared with last year, would show an increase of about 50 per cent or, from a little over 6,000 to over 9,000 members. This great increase, he said, was due to the recent change in the Horticultural Societies Act, by which the societies are now offered inducements to increase their membership.

There would be, he reported, a similar increase of the expenditures of the horticultural societies for horticultural purposes. Mr. Wilson recommended that the Act be amended so that the officers of the societies will be required in future to give an affidavit in regard to the annual expenditures of their society, so as to prevent the annual reports of the societies from being padded. It was suggested by Mr. Wilson that action be taken to limit the grant that any society should receive to \$800, as there were a couple of societies in the province that would receive over that amount next year. The convention unanimously decided in favor of petitioning for an increased Government grant. No action was taken in regard to petitioning for power to limit the grant of any one society to \$800 a year. This matter has been discussed thoroughly at a meeting of the directors previous to the convention, at which it had been pointed out that the societies which were getting the large grants were getting them because of the hard work that had been done, that smaller societies who had put forth energetic efforts, had succeeded in doubling their membership and their expenditures for horticultural purposes, and that it would be unfair to limit the grant to a large society, simply because it had worked hard to make a good showing.

Prof. H. L. Hutt thought that a special effort should be made to organize new societies in the various towns of the province where there were none at present, and referred to the Stirling society, which was doing good work in a town where the population was a little over one thousand.

It was decided to petition the Ontario Legislature to give power to municipalities to tax bill boards and to urge municipalities to take such action.

Rev. A. H. Scott, of Perth, read a report for the committee appointed to consider the introduction of horticultural topics in the new school books of the province. The report urged strongly that this should be done. The Ontario Department of Education, while recognizing the importance of nature study, had stated that the books were readers only and, while the department would bring nature study as much as

possible to the front, it could not arrange to adopt special subjects.

The report of the secretary-treasurer showed a balance on hand of \$152.30, from which the expenses of the annual convention would have to be deducted. The report showed that the following societies had affiliated for the year 1908-09: Smith Falls, Windsor, London, Hamilton, Kingston, Oakville, Cardinal, Walkerville, Brantford, Kincardine, Port Dover, Toronto, Springfield, Belleville, Thornbury, Goderich, Cobourg, Perth, Ottawa, Seaforth, Elmira, Bowmanville, Hamilton, Grimsby, Picton, Galt, Owen Sound and Clinton.

The committee on nomenclature, that had been appointed at the last annual convention, reported progress and was re-elected. The report was presented by Mr. John Cavers, the secretary, who stated that the Ontario Vegetable Growers' Association and the Canadian Horticultural Association, had both appointed representatives to act on the committee.

The election of officers for the association for the ensuing year, resulted as follows: Pres., Major H. J. Snelgrove, Cobourg, (re-elected); 1st vice-pres., R. B. Whyte, Ottawa, (re-elected); 2nd vice-pres., Roderick Cameron, Toronto, (re-elected); sec., J. Lockie Wilson, Toronto; treas., H. B. Cowan, Peterboro; honorary directors, W. B. Burgoyne, St. Catharines; Prof. H. L. Hutt, O. A. C., Guelph; Prof. W. T. Macoun, C. E. F., Ottawa; directors, Rev. A. H. Scott, Perth; W. Jeffers Diamond, Belleville; Miss Blacklock, Toronto; A. Alexander, Hamilton; Jas. Mitchell, Goderich; G. W. Tebbs, Hespeler; and John S. Pearce, London.

During the different sessions, a number of valuable papers were read. Some of them are published on other pages of this issue and others will appear later. They are as follows: "Laying Out and Planting of Small Gardens," Roderick Cameron, Toronto; "Window Boxes, Baskets and Rustic Stands," Wm. Hunt, Guelph; "Some Flowering Bulbs and Tuberos Plants," J. McPherson Ross, Toronto; "Horticulture in Great Britain as Seen by a Canadian," R. B. Whyte, Ottawa; "The Civic Improvement Movement in Ontario," Prof. H. L. Hutt, Guelph; "Increasing Membership," J. F. Watson, Ottawa; "Scientific Plant Breeding," H. H. Groff, Simcoe; "Best Half Hardy Tub Plants," Roderick Cameron, Toronto; "Perennial Borders," W. T. Macoun, Ottawa; "Labor Saving Tools for Garden Work," H. Simmers, Toronto; "Notes on Some New Peonies," R. B. Whyte, Ottawa; and some others.

Three new subscriptions for \$1.00 if sent before Dec. 25th, 1908.

The work of the Stirling Horticultural Society is making that little town one of the most progressive and beautiful in the Dominion. An interesting meeting was held last month at which Prof. H. L. Hutt, O. A. C., Guelph, delivered an address on civic improvement and flower culture.

The Woodstock Horticultural Society held its annual meeting last month. Those present pronounced it to be the best held yet. Much enthusiasm was shown in regard to the work of the past year and that of the future. Photographs of the flower show held by this society last August have just been received by THE CANADIAN HORTICULTURIST. They will appear in a latter issue.

An Important Fruit Convention

THE control of orchard pests, the regulating by law of the sale of nursery stock and the questions of markets and marketing were among the important problems discussed at the convention of the Ontario Fruit Growers' Association, held at Toronto in November. While these topics have been dealt with many times in the past, they are always new. Much valuable information in respect to their solution was imparted by a score of authorities at this convention. A representative gathering of fruit growers from all parts of the province was present. The various addresses delivered and the discussions that they incited resulted in the passing of the following resolutions:

"That it is the opinion of this association that the disease known as 'little peach' should be added to the Act respecting 'black knot' and 'yellows,' and that the same regulation that applies to inspectors under the San Jose scale Act shall apply to the inspectors under the aforesaid Act.

"That this association ask the Ontario Government to pass legislation compelling orchardists to spray effectively for the codling moth and that same be incorporated in the present Act that has to do with the control of orchard pests.

"That this association forward its thanks to the Grand Trunk Railway authorities for renovating and enlarging the old Scott Street fruit and freight shed in the City of Toronto, all of which is greatly appreciated.

"That it is the desire of this association that the Dominion Department of Agriculture continue in future its assistance in the matter of arranging for cold storage services on certain steamship lines for the carrying of early and tender fruits to Great Britain, and that same be extended as conditions may warrant.

"Whereas, the announcement of the untimely death of Dr. James Fletcher, entomologist and botanist at the Central Experimental Farm has come as a grievous shock to his many friends, the Ontario Fruit Growers' Association, assembled in annual convention at Toronto, begs to convey to his sorrowing family and to Dr. Saunders of the staff of the Central Experimental Farm, this expression of its deep regret and of sympathy with them in the loss which they have sustained, a loss which is common to the whole Dominion throughout which the deceased gentleman was well known and highly esteemed."

The election of directors for the ensuing year resulted as follows: R. B. Whyte, Ottawa; Harold Jones, Maitland; F. S. Wallbridge, Belleville; W. H. Gibson, Newcastle; R. W. Grierson, Oshawa; A. W. Peart, Burlington; E. D. Smith, Winona; G. A. Robertson, St. Catharines; James E. Johnson, Simcoe; D. Johnson, Forest; F. Metcalf, Blythe; C. W. Gurney, Paris, and C. L. Stephens, Orillia. The officers will be elected at a meeting of the directors next January.

THE PRESIDENT'S ADDRESS

In his opening address, Mr. A. W. Peart, of Burlington, the president, called attention to the ravages of the codling moth in Ontario orchards. "There is great hope among our fruit growers," he said, "that the codling moth may be controlled. In some of the unsprayed orchards this year, the ravages were unprecedented. I saw one orchard of Baldwins where the ground was literally covered with fallen fruit, all the apples being wormy. The weather seemed to be particularly favorable to the pest." During the past season, the association issued hundreds of circulars embodying the

experiences of two or three of the most successful orchardists in the province. Extracts from one of these circulars were published in the March issue of THE CANADIAN HORTICULTURIST. The circulars were sent to apple growers in all parts of the province and resulted in the methods advocated being adopted in a number of cases, the results being satisfactory.

Mr. Peart referred also to the series of fruit institutes that were conducted by the association last winter and spring. It was a departure along the line of practical education. The programs were carefully prepared, embracing subjects that had to do with all branches of fruit culture. The results were satisfactory to the fruit interests of the province. It is expected that similar meetings will be held during the coming winter. All farmers and fruit growers should make it a point to attend the ones that will be held nearest to their places of abode.

Reference was made, also, to the efforts being put forth by the Ontario Department of Agriculture to place Ontario fruit before the public in this country and in Great Britain. Large exhibits were made at Winnipeg, at the Canadian National, Toronto, at the Franco-British Exhibition at London, England, and recently a large consignment of fruit was sent to the exhibition of the Royal Horticultural Society in London. At the conclusion of the latter exhibition, the fruit will be sent to various points in Great Britain so as to demonstrate the capabilities of Ontario in the production of high grade fruit. The greatest exhibition of fruit from an Ontario viewpoint was the one held in Toronto at the same time as the fruit convention. It was a splendid success.

"The weather conditions of the past season," said Mr. Peart, "were unfavorable to the development of fungous diseases but the Greening apple was a noted exception. In some districts, this variety is classed as a winter apple but with me at Burlington, it is a fall apple, being picked immediately after Ribston. After picking, I noted a greyish fungus adjacent to the stem of the Greening, which is an unusual place for it to appear. I packed some in boxes and some in barrels and shipped them to the Old Country. The result was very unsatisfactory, the fungus developing so badly as to almost wipe out the profit. I have been informed that this fungus is a secondary development from the black spot or scab. Whatever it may be, it appears to be a new visitor in the orchard. It is remarkable that the Greening was the only apple affected."

In regard to crops and prices, Mr. Peart pointed out that the apple crop of the past season was light so far as winter varieties were concerned. Pears, plums and peaches were from an average to a good crop. The gross tonnage of grapes was heavy, although the yield per acre was lighter than usual. Small fruits were a fair crop. Prices did not rule as high as last year. On the whole, however, fruit growers have done fairly well. Trade depressions account to some extent for the low prices. It behooves fruit growers to appreciate this depression and to reduce our expenditures to a minimum consistent with economical management.

"In regard to the problems that confront us," remarked Mr. Peart, "I am one of those who believe that fruit growing is still in an experimental stage. The conclusions we reach to-day are subject to revision in the near future as our experience and knowledge increases. One of the problems

that confront us is the question of the soil naturally best adapted to any good fruit. Another problem arises in connection with soil variations in regard to different varieties of the same fruit. The fringe of this question is scarcely touched. Take pears for example. The Kieffer pear produces best on a sandy soil but my experience with other varieties goes to show that a clay soil is the natural home of the pear. There are problems connected with the care and management of orchards. Others have to do with spraying. The problem of co-operation is important, also the problems of sorting, grading, packing and marketing. Altogether, the fruit grower should feel hopeful for the future.

"The ideals of this association," concluded Mr. Peart, "should be based upon integrity, intelligence and industry—three factors, moral, mental and physical. Upon these three principals rests the future success of the fruit growing industry of Ontario."

CONTROL OF NURSERY STOCK

The legislative control of nursery stock has been under consideration for some time by this association. There is a feeling that nurserymen should be compelled to guarantee stock true to name. During the past year, a committee appointed by the association to investigate the question went into the matter thoroughly, meeting on one occasion in conference with a committee of nurserymen. Its report presented at the convention by Mr. Robt. Thompson, of St. Catharines, took the form of a draft bill which will be published in next issue.

STRAWBERRY CULTURE

A practical paper on "The Handling of the Strawberry Plantation," was read by Mr. S. H. Rittenhouse of Jordan Harbor. It is published on page 259 of this issue. An interesting discussion followed. Mr. A. E. Sherrington of Walkerton said that he prefers a good clover sod for strawberries. He pointed out that the selection of plants for setting is very important. "Do not allow the rows to get too wide," said Mr. Sherrington. "I take only one crop from the plantation and then plow it down. It is cheaper to plant than to cultivate an old bed. The fruit should be picked when ripe, neither before nor after. Do not pick when the dew is on nor immediately after a rain; pick when dry. Grading the fruit can be done but it is not necessary when the fruit is well grown. Use clean packages. Local conditions have much to do with the success of strawberry culture."

"The preparation of the soil must be thorough," said Mr. W. F. W. Fisher, of Burlington, "and it must be well enriched. Select only the best plants for planting and when marketing, cater to the prevailing demand." Mr. L. A. Hamilton, of Lorne Park, pointed out that strawberries can be grown profitably between trees in young orchards. "Do not make the rows too long. The pickers will work more carefully on short rows. Start them at the end of the patch farthest from the packing shed. I take two crops from my plantation. After picking the first crop, I burn over the vines and cultivate between the rows. In dry seasons, care must be taken when burning or the crowns may be injured. I sprayed my plants this year with Bordeaux mixture and got a superior crop."

THE CO-OPERATIVE MOVEMENT

That the co-operative movement among fruit growers has been satisfactory and is progressing was pointed out in a report by Mr. Jas. E. Johnson of Simcoe. Excellent

work for the association has been done by the co-operative committee. A circular was issued, giving a full list of firms handling such supplies as spraying materials, pumps, hose, chemicals and so forth, together with wholesale prices for the same. This was gotten out with a view to lessening the cost of production to fruit growers connected with co-operative fruit associations. The committee investigated, also, various systems of bookkeeping for co-operative associations. It is hoped that some simple scheme will be adopted at an early date.

A pamphlet was issued, giving the names of co-operative shipping associations in the province and their secretaries and the probable output for 1908. This was circulated at the Winnipeg association and to various fruit dealers and other parties applying for same.

A recommendation was made to the department of agriculture that an instructor in barrel packing be appointed to visit various associations. This recommendation was adopted and Mr. Backus, of St. Catharines was appointed to look after this work. In connection with the spraying regulations carried out by the department of agriculture, the committee assisting in drafting a set of rules for this work which would be in advance of those of 1907. The grants were to be made payable on the basis both of acreage sprayed and the efficiency of the spraying.

Among the other reports read were those of the committees on "New Fruits," "Transportation" and "The Toronto Fruit Market." Some of these will be found in other columns of this issue. The others will appear later.

APPLE PACKING

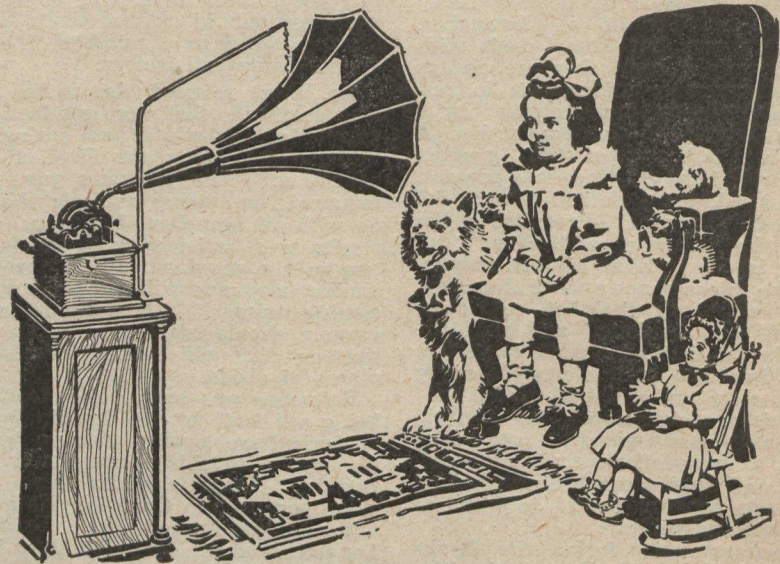
"Apple Packing and Packages" was the subject of an address by Mr. Elmer Lick, of Oshawa. He said that one of the problems of packing is to get men who are reliable and capable of doing the work. The Oshawa Co-operative Fruit Growers' Association, of which Mr. Lick is manager, is doing good work in its neighborhood in educating farmers and fruit growers in the matter of proper packing and grading. While a few years ago these operations were performed indifferently, great improvement is now noticeable. "One can pack more apples in a better way in a fruit house than in the orchard," remarked Mr. Lick, "and the cost is about the same. An essential is to have good barrels, well nailed. The heads should be of basswood. The hoops should be driven tightly. For each liner, only five nails are necessary and two of them should be clinched. The staves should be thick. When filling, place the barrel on a level place. Have the face right, even or with smaller rows around outside. Fill evenly and have the apples, as far as possible, interspersing with each other rather than directly one on top of another. This system does not bruise the fruit so much. Rack the barrel occasionally when putting in the fruit. When packing in boxes it is a good idea to place a wire around each one to strengthen it."

"Tender Fruit Packing and Packages" was discussed by Maj. H. L. Roberts, of Grimsby, and "Markets" by F. J. H. Pattison, of Winona. Both of these addresses will be reported in full in a later issue.

A number of other valuable addresses were delivered. "Prevalent Fungous Diseases of Ontario orchards," particularly fire and twig blight and peach yellows, were discussed by Mr. M. B. Waite, of the United States Department of Agriculture. A portion of this paper appears as the introductory article of this issue of THE CANADIAN HORTICULTURIST. The subjects of the other addresses are "The Apple Maggot, Blister-

Leaf Mite and Apple Tree Canker," by Prof. Wm. Lochhead, Macdonald College; "Observations on the Use of Fertilizers in German Orchards," by Prof. R. Harcourt, O. A. C., Guelph; "Results of Orchard Surveys in New York State," by Prof. Chas. S. Wilson, Cornell University; "The Ship-

ment of Early Apples and Tender Fruits to Great Britain," by J. A. Ruddick, Ottawa; and "The Western Provinces as an Outlet for Our Fruit," by J. W. Crow, O. A. C., Guelph. All of these papers will appear in subsequent issues of THE CANADIAN HORTICULTURIST.



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Vegetable Growers' Convention

THAT seedsmen should be held liable for the vitality and the naming of vegetable seeds that they sell was the opinion of the members of the Ontario Vegetable Growers' Association, who assembled in convention at Toronto last month. Mr. J. Lockie Wilson, the secretary, in his report, referred to the efforts that had been made by the executive committee to have some recourse at law against seedsmen who sell seeds untrue to name and of poor germinating qualities. The question was discussed, also, by Mr. Thos. Delworth, of Weston, who referred to the Dominion Pure Seed Act, which covers clover seed, and contended that purity and vitality in vegetable seeds was even more important than similar qualifications in clover. He pointed out that the Act should be amended to cover vegetable seeds. As is well known, on every package of seeds sent out by all seedsmen of the continent, there is printed a disclaimer as to liability. Vegetable growers, therefore, are at the seedsman's mercy. Mr. Delworth suggested that seedsmen should print on each package the percentage of seeds contained therein that will germinate.

A report on the onion industry in Canada and the United States was made by Mr. A. McMeans, O. A. C., Guelph. The leading states of the Union that ship onions in car-load lots are, in order of importance, Ohio, New York, Indiana, Massachusetts, Connecticut, Wisconsin and Michigan. The total onion area of the United States is 17,818 acres and the yield, 5,571,450 bushels. The greatest onion district on the continent is the Harden district of Ohio. Referring to the industry in Canada, Mr. McMeans said

that 65 cars of onions were shipped from Scotland, Ont., last year and 35 from Leamington. Mr. McMeans expressed the opinion that onion seed could be grown successfully in Essex county.

A discussion then took place on the kinds of vegetable seeds that could be raised successfully in Ontario. It was the general opinion that while most vegetable plants will produce seed of some sort, experiments would be necessary to determine whether or not local and climatic conditions would favor the production of the best strains of seeds true to variety type. It was moved that in the opinion of the association, the Dominion Government should institute a series of experiments to determine what varieties of vegetable seeds can be grown successfully in Canada. A motion was passed, also, requesting the Ontario Department of Agriculture to conduct experiments in the growing of vegetable seeds on the experimental farms at Guelph, Jordan Harbor, Driftwood and at all other points that may be deemed advisable.

IRRIGATION

A valuable paper on "Irrigation and Its Effects on the Growth of Vegetables and Small Fruits," was presented by Mr. W. T. Macoun, of Ottawa. The various methods of irrigating were mentioned as follows: 1. By means of the furrow system. This is of much benefit to potatoes. The garden hose may be used. Movable sprinklers are used in Nova Scotia for lettuce. 2. By the use of engine power. Experiments in irrigating vegetables have been conducted by the New Jersey Experiment Station and the results were beneficial. The benefits are more marked in certain years. Mr. Row-

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some of Burlington irrigated celery this year with excellent results. Irrigation is of advantage, also, to small fruits. Generally speaking, however, very little work in the irrigation of small fruits and vegetables has been attempted in Canada and the Eastern States. Mr. Weaver, of Chatham, stated that he had experimented successfully with irrigating potatoes and sugar beets, the potatoes being most benefitted.

"The Value of Commercial Fertilizers to the Vegetable and Small Fruit Growers" was discussed by Mr. A. McKenney, of Essex, the representative in that district of the Department of Agriculture. He said that growers must make individual experiments to have the best results with fertilizers. Some years better returns are had than in others. In 1907, results were favorable. This year, owing to drouth, the influence of fertilizers on crops was not marked.

THE TOMATO INDUSTRY

Some observations on the tomato industry in Ontario were mentioned by Mr. A. G. Turney, of Guelph. He pointed out that most tomatoes in the province were grown for canning purposes. The acreage for this purpose has increased from 800 in 1891 to 8,000 this year. There are 50 factories, the majority of which have been erected in the past five years. Most tomato seed comes from the United States. One ounce will supply plants for one acre. There is not much seed selection practised. It takes about 175 days from planting to ripening of the fruit. The average yield in Ontario is 175 bushels an acre. Four hundred bushels an acre would give a profit of from \$50 to \$60. For fertilizing the soil, about 20 tons of manure are used per acre. Mr. W. C. McCalla of St. Catharines calculated that a crop of 450 bushels of tomatoes an acre would cost from \$65 to \$75. The cost

of growing depends, however, upon local conditions.


A paper on "Combating Insect and Fungous Foes of Vegetables" was read by Mr. T. D. Jarvis, of Guelph. This will be published in a latter issue.

The president, Mr. R. H. Lewis, of Hamilton recommended a reduction in the membership fee to the association from \$1 to 50 cents. He pointed out that this would result in a large increase in membership. The recommendation was adopted. Among the resolutions passed was an expression of sympathy addressed to the widow of the late Dr. Jas. Fletcher, Ottawa. It was resolved, also, that the variety tests conducted last year by the members of the association should be continued and on a larger scale.

At one of the sessions, the Hon. Jas. S. Duff, Minister of Agriculture, was present and delivered a short address. He said that the association is one of the most important in the province. He advised the executive committee to distribute to all growers in Ontario, whether affiliated or not, information respecting the work of the organization, experiments that have been conducted, legislation that has been secured, and so forth. The minister promised the assistance of his department as far as practicable and as far as funds will allow. Mr. Seeley, of Hamilton, suggested that the association combine with the Ontario Fruit Growers' Association to bring influence to bear at Ottawa in securing legislation that would be in the interests of their respective industries in the province.

Ontario won the highest award (gold medal) for a general display of fruit at the Royal Horticultural Show in London, England, last month. All the British colonies entered the competition.

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NOTES FROM THE PROVINCES

Kootenay Valley, B. C.

Edgar M. Dynes

November was marked by the re-organization of the Kootenay Fruit Growers' Association. The shipping returns for the present season have not been very satisfactory and as a consequence the old management resigned. New methods will be adopted in future.

Fruit growers generally are agitating for an experimental fruit farm. Such a station would be of great assistance to the growers of the district in determining what varieties are the most valuable from a commercial standpoint.

Representatives of nursery firms report a record business. One home nursery reports being sold out of some varieties already, although they had a heavy stock. There has not been a large amount of fall planting but the indications are that next spring the Kootenay will again break all previous records in the number of trees planted.

The sale of government lands at Creston was most successful from every standpoint. The prices ruling were high, reaching \$300 an acre in one instance. Several blocks turned over at \$150 while, in every instance, the price obtained was 300 per cent. above the upset price. A most striking feature about the sale was the fact that two-thirds of the sales were made to local Creston men who have been on the ground for

some time and who know just what the land can be made to produce. Creston strawberry growers have been particularly successful, as averages of as high as \$1,000 an acre have been obtained.

The Doukoboors are making substantial progress on their colony at Waterloo and will have a sawmill running very soon. During the winter they will cut lumber for use in building houses and in the spring will move their families from Saskatchewan. They state that they are well satisfied with Kootenay and that other colonies will be brought out in the future.

Montreal

E. H. Wartman, Dominion Fruit Inspector

This sixteenth day of November we find cars of apples arriving from Ontario free from frost,—unusual so late in season. In fact, I have not seen a frozen apple in the hundreds of barrels I have examined so far. This must be a pleasant thought to the shippers.

The apples going forward in standard boxes put up by the co-operative packing associations are very satisfactory. The breakage in barrels this season has been very small, due to the strong eight-hoop barrels which are on the increase.

Wholesalers have made sales of strictly No. 1 Spys at \$5, which leaves a good mar-

gin. Of course, the Spy is the great local apple of our Dominion in its season.

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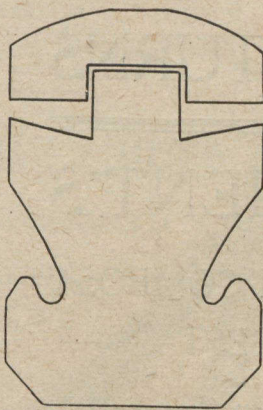
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Some Ontario men have visited our great steel sheds where we are inspecting apples and have found us on several occasions branding some "falsely marked" and "falsely packed." One man said, "I would not have believed it if I were told that such poor apples were going forward—and marked No. 1 at that." Although we have tried to discourage the sending of No. 3 grade, yet there are a few still sending them. On the whole, a very fine lot of No. 1's have gone forward and prices to-day, 25 shillings for a few varieties must mean that some dealers are in love with our Canadian apples still.

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Nova Scotia

Eunice Watts

This month ends one of the most bountiful years ever witnessed in Nova Scotia. The apple crop has exceeded expectations, and prices have been fairly good on the whole with prospects of a rise. The cranberry yields have never been so large, and the weather has been most favorable for harvesting them, so that the berries were gathered in fine shape and sold for equally fine prices.

In the apple belt under the North Mountain most orchardists have sold all their apples, while those who are holding them expect the prices to rise. Dealers are offering \$1.75 a barrel for ones and twos, for such apples as Fallwaters, but returns from England are much more satisfactory, as much as \$3.50 for Alexanders being received.

The annual exhibit for the Royal Horticultural Society's Show, in London, England, was sent from Nova Scotia in November. It consisted of 385 boxes, 100 glass jars and 11 barrels of plate fruit.

NOTES FROM INSPECTOR VROOM

The fruit crop was much larger than was expected in the early autumn, fully 100,000 barrels more. The fruit grew comparatively clean, thus making it easy for packers to be honest. Some men in Nova Scotia must have things very nice before they can be honest when they pack a barrel of apples. There are four co-operative packing companies in the Annapolis valley, and they are doing good work and getting fine prices for their fruit. Very few No. 3's are being shipped. These find their way into the evaporators and cider mills. The price for No. 1's started at \$1.25 a barrel for Graven-

steins, packed ready for shipment, and \$1.00 for No. 2's. To-day, the best packed fruit sells readily for from \$2.00 to \$2.50.

Contrary to the usual custom, large shipments of Nova Scotia apples are going to Liverpool and Glasgow, and larger quantities than usual are being sent to Bermuda, Havana and other West India islands. Kings and Ben Davis are the principal varieties sent to the West Indies. About 60,000 barrels more have been shipped from Halifax to all points this year to date than last. Several thousand packages, including barrels, half-barrels and boxes, have been shipped to South Africa.

The cranberry crop was good and the continued fine weather in September and early October enabled the growers to gather them without injury by frost. The price is \$5.50 a barrel. The barrels hold 80 quarts. The cranberry yield is about 8,000 barrels.

Read the special Christmas offer on inside front cover of this issue.

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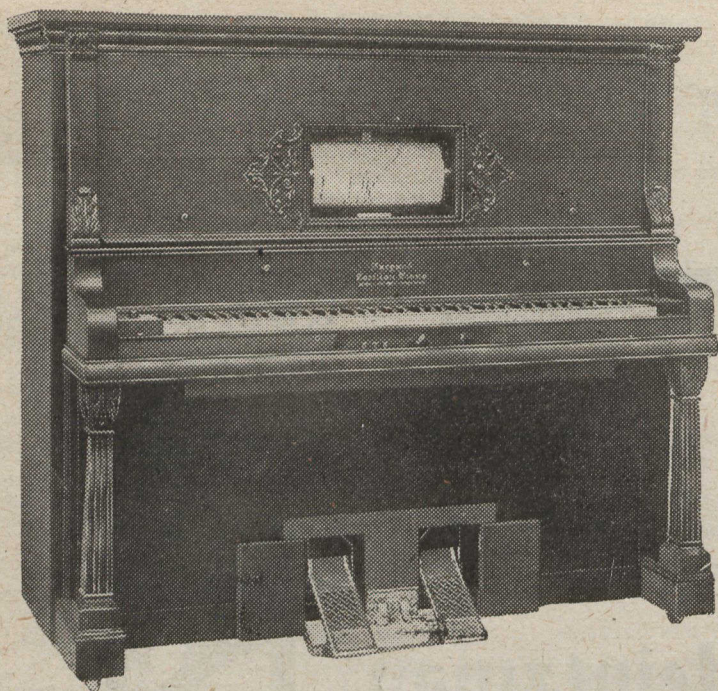
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POULTRY DEPT.

Conducted by S. Short, Ottawa

December is the most important month in many respects to the poultry-keeper. If eggs are to be expected in January and throughout the winter, regular and intelligent care must be given to the fowl from now on and, in fact, those who began a month ago to give their hens proper conditions for laying, are most likely to get the best egg harvest. Proper conditions in-

clude the whole situation, which may be divided into three parts; viz., the poultry house, the fowl, and feeding.

The house should be in thorough order in every respect. The windows should be sound and scrupulously clean. This is very necessary. The days are now very short. At the earliest, the fowl cannot see to eat before seven a.m. and after four p.m. at the latest. This means a period of fifteen hours between the last meal of the day and the first of the next, which shows the need of all the light that can possibly be given. In cities and towns this long gap between supper and breakfast is shortened by giving a fourth meal between eight and nine o'clock at night by electric light and, in some cases, the result has been very encouraging and successful. This can be done by lamplight but it takes from half to three-quarters of an hour each night, which may not be considered worth while unless large flocks are kept.

The fowls should be healthy, in good condition, and the pullets mature. There is a wide difference of opinion about the number of layers that should be kept in each flock or pen. Personally, I think twenty-five or thirty is plenty for each pen. One expert says: "When you think you have room for twenty layers only keep ten." This is good advice. If you have to lessen the number of fowl kept, begin by removing all the spare males, young and old, keeping only those needed for breeding next spring. Next, remove all hens over two years of age, except if the breed kept is Leghorn or any of the Mediterranean class, when they may be kept until three years of age. After the old hens, remove the very young pullets. This should leave only serviceable birds that, with proper food, should return eggs in profitable quantities.

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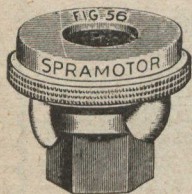
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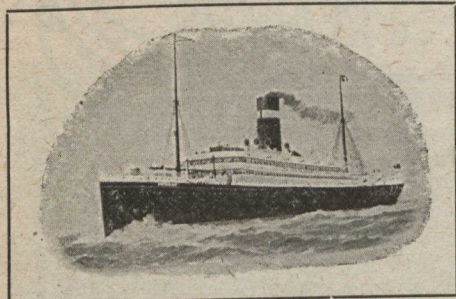
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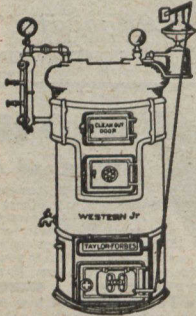
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food. Give the soft food whenever most convenient. Many breeders give it the first meal of the day, others at noon and others again, at night. There are arguments in favor of each method, so that, as far as now known, it is best to let convenience decide the point. Wheat and oats make a good grain ration—half of each. To this may be added a small quantity of whole corn, say one part to ten of wheat and oats. If white birds are kept and are used for exhibition do not add corn—it makes the plumage creamy. The soft feed may be made up of five parts bran, four parts whole grain provender and one part corn-meal, but omit the corn-meal if white birds are kept. This covers the main feeding. In addition, there should be in each pen, hoppers or boxes containing grit and oyster-shell. Cabbages, mangels, beets, or other green food should be fed in reasonable quantities.

For stimulating the egg supply green bone may be given three times a week. Feed this very lightly. If it is not convenient to feed green bone, use beef scraps or meat-meal. This may be mixed in the soft food, say about a tablespoonful to each fifteen fowl. It is far better to feed too little of either green bone or meat-meal than too much.

Mention should have been made at the beginning of this article that the floor should be covered with litter of any kind

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The exhibit shown by William Cooper and Nephews, of Toronto, at the Ontario Horticultural Exhibition attracted much attention. In conversation with a representative of THE CANADIAN HORTICULTURIST, Mr. W. Staley Spark, the manager in Canada for this firm, said that, while V1 Fluid has given excellent results, in most instances, on first tests, further alterations have been made in it which will ensure successful treatment for the San Jose scale. "The V2 Fluid also has been improved so much," said Mr. Spark, "that we are able to state positively that it will kill live scale and all insect life on the tree which it covers. We are going to work this year with a great amount of confidence in these fluids."

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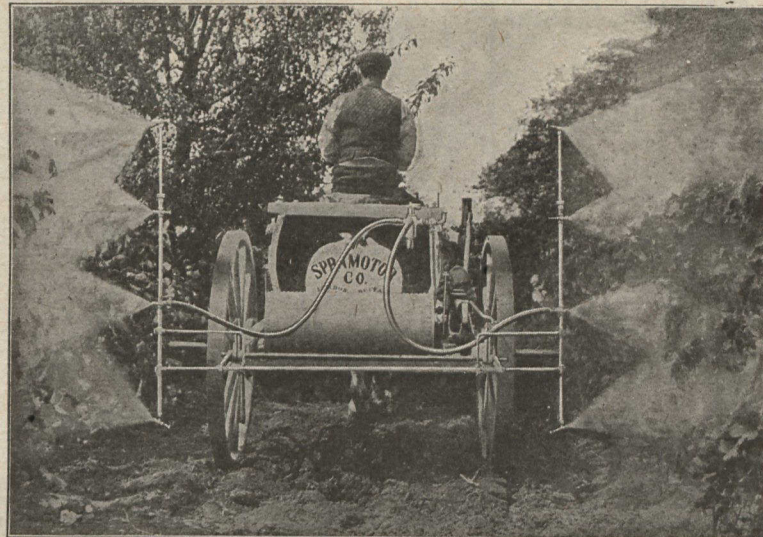
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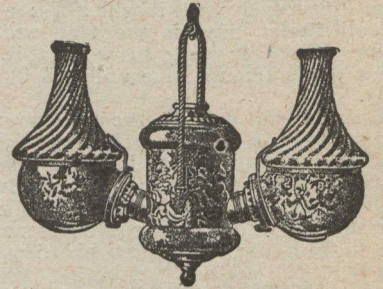
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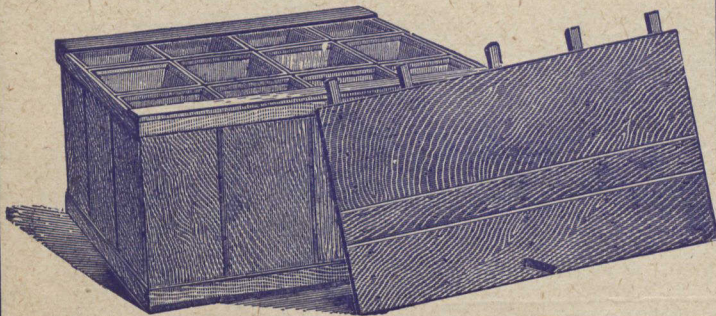
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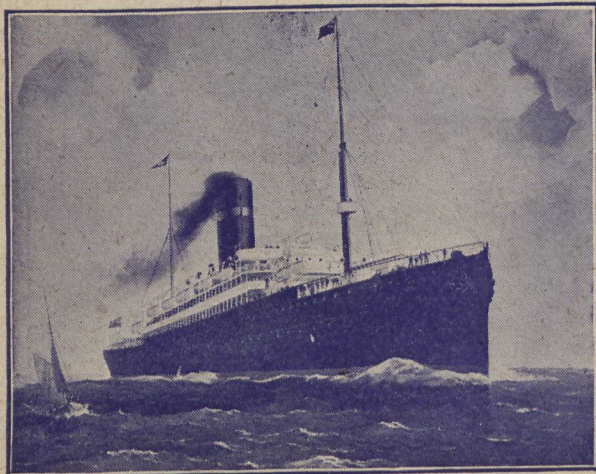
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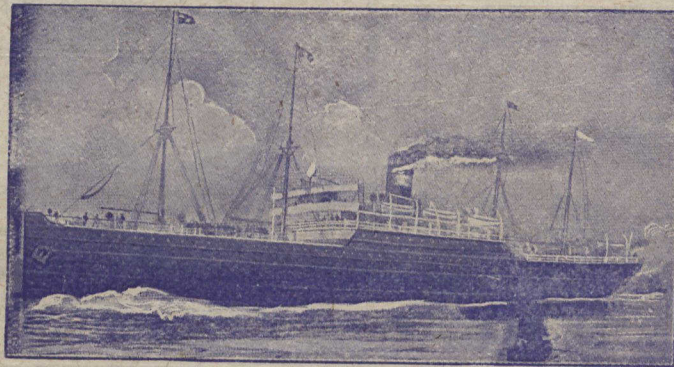
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