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# The Canadian Horticulturist

Vol. XXXV

DECEMBER, 1912

No. 12

## The Christmas Tree

W. T. Macoun, Dominion Horticulturist, Ottawa, Ont.

ALREADY children have begun to think of Christmas, and in those Canadian homes where the Christmas tree has become part of the annual celebration of this great children's day, happy memories of past excitement over trees laden with unknown and unexpected gifts crowd the youthful mind, while at the same time it tries to picture the tree as it will look this year and then counts the days until the great event will take place. While the Christmas tree is associated with that season of the year at which we commemorate the birth of Christ, it has grown out of a heathen custom. In early times, many centuries ago, certain trees were dedicated to a deity. Later, worshippers of this deity hid their gifts under these trees as offerings. The time when such gifts were made was, however, in the spring.

The Christians of Northern Europe finally adopted this heathen custom, but with some changes. They brought the trees into their own homes, or into public buildings, placing gifts under them for friends or for needy persons, and holding the celebration on Christmas eve. The custom spread from Germany to England, with slight changes, one being that the celebration is usually on

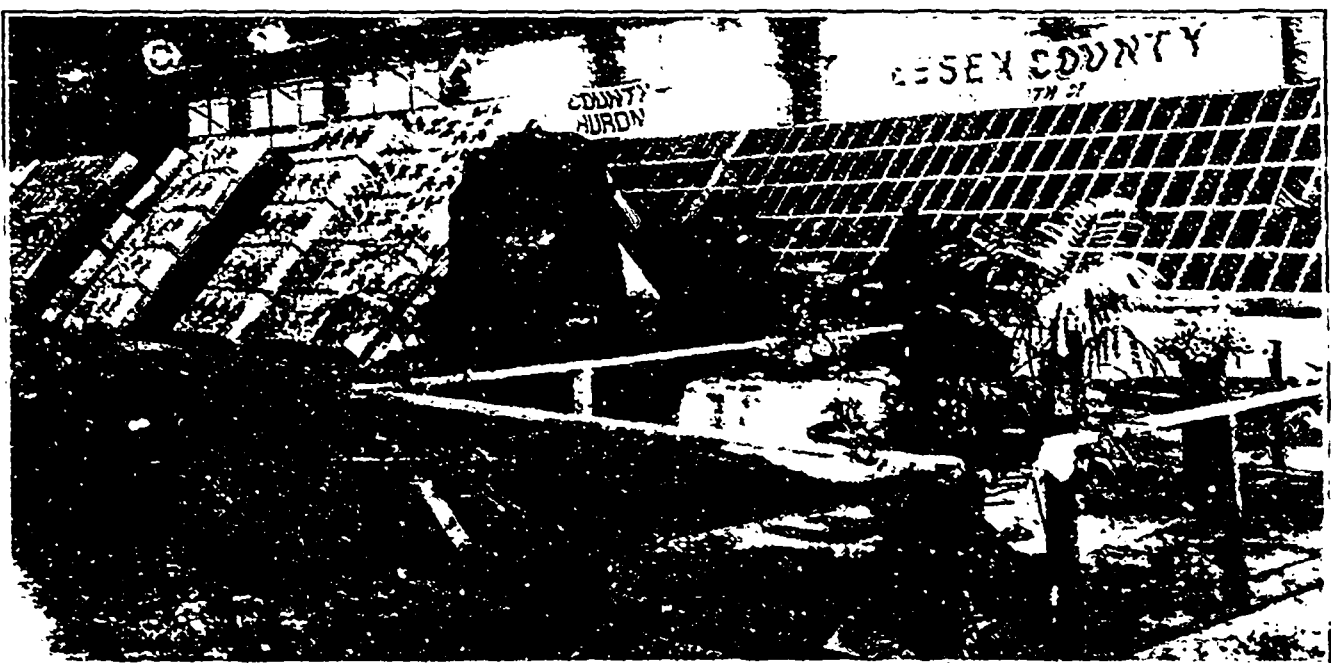
Christmas Day in England. In Canada, and in the United States, there are people of many nationalities, and the methods of decorating the trees and dispensing the gifts vary considerably.

It is not known how many trees are required in Canada each year for Christmas trees, but the number is very large. In the United States it is estimated that about four million trees are required annually. Of this enormous number of trees, of which many come from Canada, many, unfortunately, are cut without due regard to the effect such wholesale destruction may have on the future supply of timber in those districts where the trees are cut. As most people are willing to pay for trees, and the custom is so firmly rooted in this country, trees will, no doubt, in time be grown in large numbers especially for Christmas when they can no longer be obtained in the forests. New regulations in regard to evergreens shipped from Eastern Canada into the United States require an inspection of the trees for injurious insects before they are permitted to enter, which may be the means of preventing the export of as large a number in future from Canada. It is surprising what efforts people will make to obtain Christmas

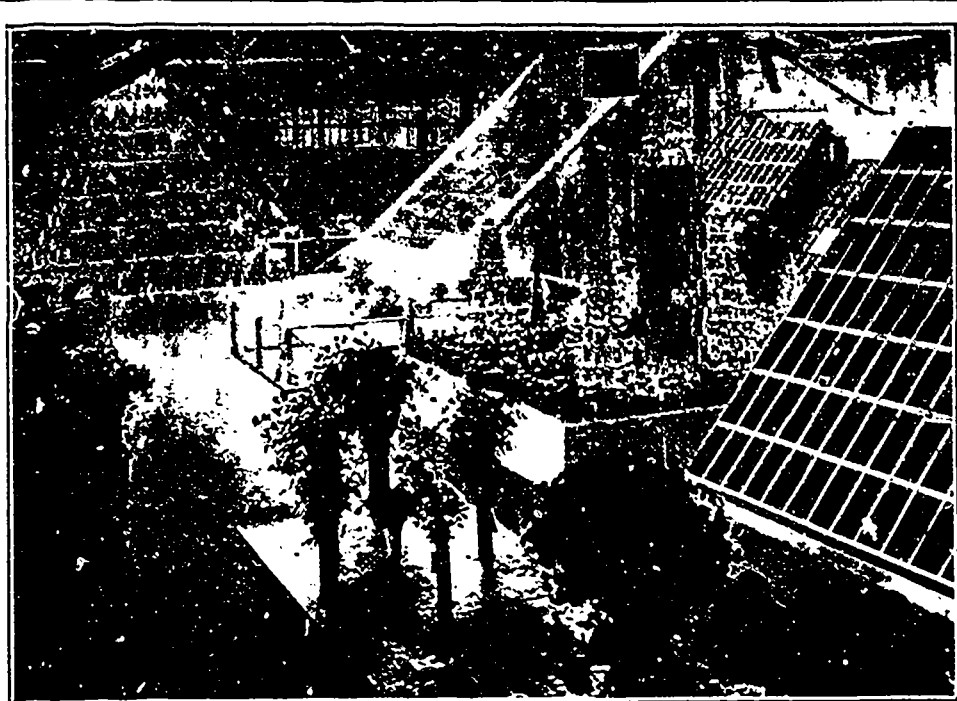
trees. Nearly every year several fine evergreens are cut down at the Central Experimental Farm and removed under cover of night. We can scarcely believe that these trees are taken by those who are going to use them. It is more likely that it is unscrupulous persons who take them to sell them.

The Balsam Fir is perhaps the most popular tree in Eastern Canada for a Christmas tree. Its branches bear the weight of presents very well and the leaves do not fall off when they become dry, which is the case with the spruces. The White Spruce makes a very good tree. It has many small, stout branches, which make it particularly useful. The Norway Spruce, while not as attractive in color, is a very rapid grower and more graceful, and no doubt will be grown in increasing numbers in the future, especially for Christmas trees. For Western Canada the Douglas Fir is perhaps the best tree. It is very graceful and the branches are sufficiently strong to make it bear its load well. Pines are used where Firs and Spruces cannot be obtained.

It takes from twelve to fifteen years for a tree to grow to the size desired for the average home if raised from seed,



Some of the Decorated Tables, and County and Wrapped Apple Exhibits of Fruit at the Recent Ontario Horticultural Exhibition



An Impression May Here be Gained of the Extent of the Fruit, Flower and Honey Exhibits at the Recent Horticultural Exhibition in Toronto

and trees for public places must be much older than this. But small nursery trees eighteen inches to two feet in height should make good Christmas trees in ten years. It will thus be seen that to grow trees especially for this purpose one must be prepared to wait some time, but there is much cheap, rough land which might be used in this way. Moreover, a very large number of quite small trees are used every year, both for decorative purposes and for Christmas trees for the younger children who amuse themselves for a long time by decorating them and by playing Santa Claus.

#### AVOID FIRES

A word of caution should be given to those who are about to have a Christmas tree for the first time. Beware of fire. While candles on trees make the latter look much more beautiful than they are without them, they are dangerous unless great care is exercised. I was at a Christmas tree once where the person who was dispensing the gifts in the guise of Santa Claus was dressed in a suit of cotton wool. In bowing to the people the wool caught fire. He rushed about and nearly set fire to some ladies' dresses, but fortunately a woollen shawl was thrown over him in time and the fire extinguished with but severe burns to himself.

Almost every Christmas one hears of fatalities, hence we prefer electric light if it can be obtained, and no light on the tree if it cannot be had. There are so many bright decorations made specially for Christmas trees nowadays that the tree can be made beautiful even with-

out candles. Small, red apples attached to the tree are used by the Germans in their decorations, a custom which may well be followed by Canadians.

### The Use of Fertilizers Defended

By Leslie Esalie C. D. A., Toronto, Ont.

While appreciating the desire of Dr. J. B. Dandeno, of Bowmanville, Ont., to contribute to our knowledge of the fertilizer question, as shown by his article on this subject that appeared in the November issue of *The Canadian Horticulturist*, we regret to note the tenacity with which he clings to old and almost entirely discredited theories. His statement that at least half the sum spent on commercial fertilizers in the United States and Canada is wasted, may be a slight exaggeration, but doubtless considerable waste results from ignorance of the meaning of fertilizer analyses and of the requirements of different crops and soils.

Dr. Dandeno undertakes to correct our misconception of what constitutes lack of fertility. This condition, he asserts, is not dependent on the lack of plant food he mentions in passing that he never met a man who could give a fair definition of "plant food." This being the case, we shall not make the attempt, believing that our efforts to do so to the satisfaction of Dr. Dandeno would be as futile as to undertake the definition of that popular dish of "human food" known as "boarding-house hash." We only know that plants draw on the soil and air for certain substances, entering into their composition, and if these

substances are not plant foods or constituents of the same, let them be called by any other name.

Dr. Dandeno says: "Plant excretions are the chief cause of infertility, and it is in the decomposition of such material that the application of fertilizers of any kind proves of value." It is gratifying to note that, in Dr. Dandeno's opinion, fertilizers may sometimes, if even in an obscure way, prove beneficial; we had feared to hear that their application, like a dose of salts, might only tend to aggravate the condition referred to.

Dr. Dandeno might state with equal aptitude that the "food which we eat does not nourish the body, but serves as an antidote to the effects of the previous indulgence of our craving for meat and drink." We should endeavor to dispel his concern regarding the ruthless destruction of bacterial life in the fertilizer manufacturing process, with the assurance that the majority of fertilizing materials are of mineral origin and have, therefore, no association with bacteria.

Those of organic origin will be taken care of by the favorable bacteria (including the nitrifying bacteria, mentioned by Dr. Dandeno) which are present in all well-tilled soils. We agree with the idea conveyed in the statement that "certain fertilizers are adapted to certain crops and to certain soils, and the only way to find out which is to try these by using them on part of the field so as to compare."

In concluding his article Dr. Dandeno states that "no mistake is made in applying barnyard manure or other excreta, but in buying commercial fertilizers 'patent medicine chances' are taken." From this statement one can readily infer to what he likens his own prescriptions. We find no fault with Dr. Dandeno's quite natural aversion to patent medicines, but with his inclination to relegate commercial fertilizers to the same class.

Not wishing to encroach too far, we conclude with the reminder that commercial fertilizers are not supposed to be a substitute for, but rather a supplement to, barnyard manure, and that the chief value of the latter, as Dr. Dandeno rightly infers, lies in its physical action on the soil.

**Peach Trees from Seed.**—Seeing an article in *THE CANADIAN HORTICULTURIST* about peach trees, I would say that I have eight strong, thrifty peach trees that came up from stones planted in the chicken yard. Three of them are fully five feet high and I hope to see them bear. If they are half as good as the ones my mother grew on the old farm near Paris, I will be well satisfied.—E. W. Moyle, Lanstaff, Ont.

The apple barrel is nature's medicine chest.

## Investigation Work on Little Peach and Yellows

Prof. L. Caesar, Provincial Entomologist, Guelph, Ont.

AS MOST of the peach growers probably know, I spent almost all this summer in the Niagara district in order that I might have a better opportunity to study Little Peach and Yellows and carry on investigation work on these diseases. As many growers no doubt would like to hear what line these investigations took and what results have been obtained, I have prepared the following account of my work.

In studying diseases one naturally tries to discover the cause, but I have not attempted to do so, because I know that if one were to endeavor to find this in the case of either Little Peach or Yellows, it would almost certainly mean years of the most careful laboratory and field work, with the probability of ultimate failure; for many good students of plant diseases have endeavored to find the cause of Peach Yellows and failed. Moreover, I learned in the autumn of 1911 that Dr. Duggar, formerly of Cornell University, but now of the Botanical Gardens, St. Louis, was working on these diseases and thought he had at last found a clue that might lead to the discovery of the cause. (For the sake of those who think that a powerful microscope would reveal the presence of some very minute causal organism I may state here that no microscope shows any organism to be present nor can any or-

ganism as yet be gotten to grow in any culture. So that, whatever the cause is, it is very different from that which produces Pear Blight or any of our other common diseases.) Feeling, therefore, that the study of the cause should be left to others better qualified for the work, I have devoted my whole attention to discovering if possible in what way or ways the diseases are spread and at what time or times of the year this takes place, and also how long a period may elapse from the inoculation of a tree until it shows clear symptoms of disease. If we get definite knowledge on these points we can then hope to simplify and improve our methods of control whether the cause is discovered or not, though we sincerely hope it will be.

In determining how the diseases are spread I have thought of the following: First, pits from diseased trees; second, buds from diseased trees; third, bees carrying pollen or nectar from diseased to healthy blossoms; fourth, rubbing or injuring healthy trees with diseased ones when removing the latter from the orchard or in any other way; and fifth, pruning tools used on diseased and then on healthy trees. Experiments have been planned, and carried out to test all of these possible methods of spreading Yellows and Little Peach.

In the autumn of 1911, with the assistance of Mr. Nelson, of Fonthill, and Mr. Harkness, of the Experimental Sta-

tion, six hundred and thirty-one pits from diseased trees were gathered. Mr. Harkness planted three hundred and thirty-one of these at the Experimental Farm; eight germinated and grew. I planted one hundred at Guelph; seven germinated and grew, thus making a total of twenty-one diseased pits in all that grew, or about three and one-third per cent. Of the healthy pits used as checks, Mr. Harkness got twenty and one-half per cent., Mr. Nelson forty-five and one-half per cent., and I got sixty-eight per cent. to grow. The seedlings from the diseased pits, though not quite so vigorous on the average as those from healthy ones, show no sign yet of disease but will be kept for several years to see whether it develops.

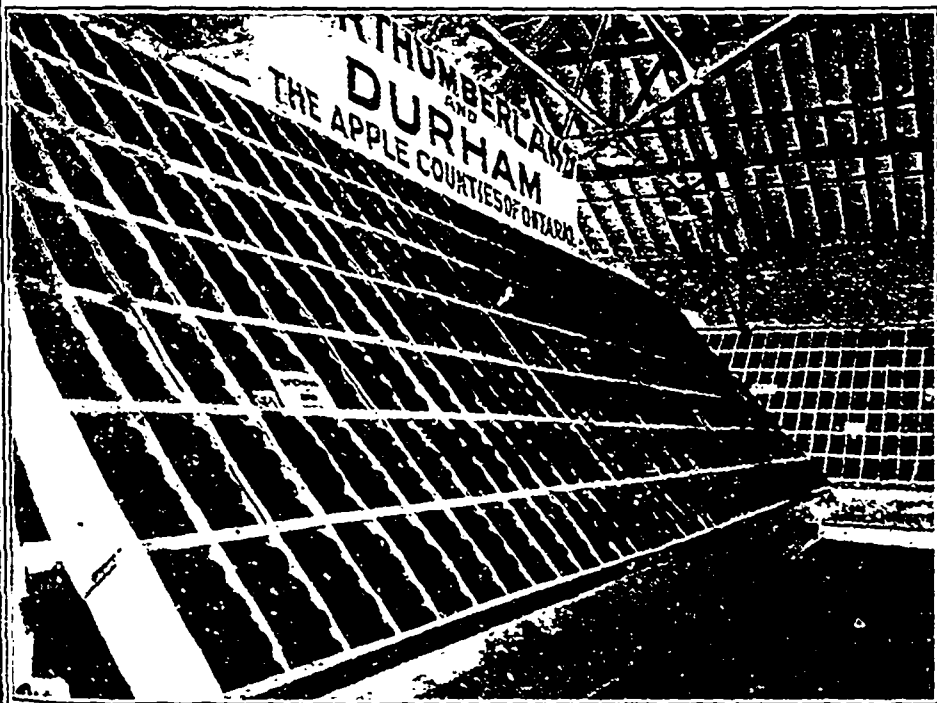
### OTHER TESTS

Believing that a further test of pits should be made, I have, with the aid of Mr. W. E. Biggar, the Provincial Inspector, and Mr. Spencer, of the Ontario Agricultural College, Guelph, gathered a few more than two thousand five hundred pits this fall from trees selected by myself in each case. A few of these trees showed symptoms of disease very distinctly, most of them only moderately so, and one tree from which four hundred pits were taken would have escaped the notice of nine out of ten inspectors. The pits were gathered in October and to make sure that there could be no mistake, the fruit in every case was collected directly from the trees. The four hundred pits mentioned above are being kept separate to see if any larger percentage of them will grow than of those gathered from trees showing the symptoms fairly clearly.

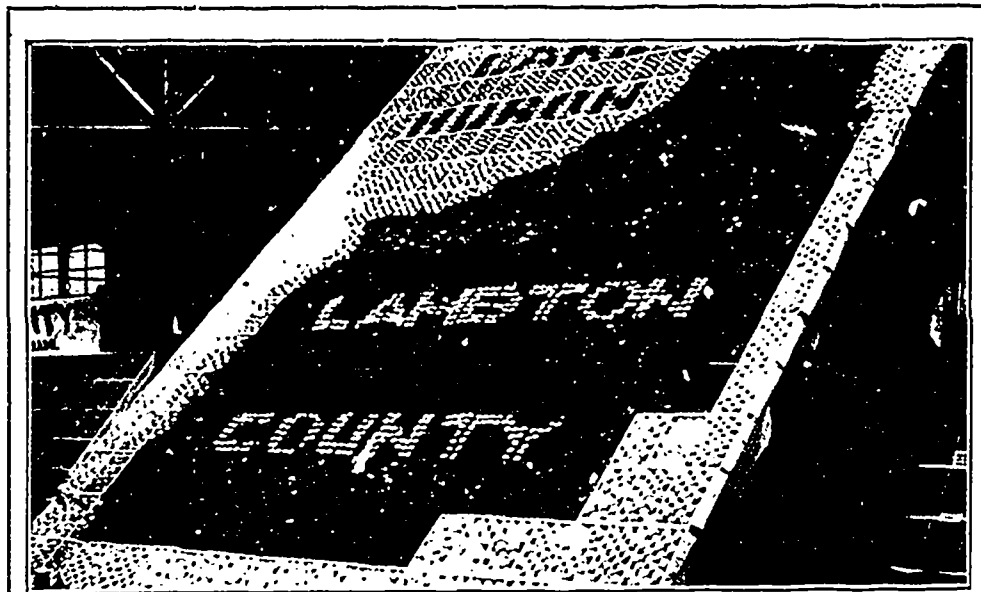
### BUDS

Several experimenters have proved that Yellows and Little Peach can be spread by using buds from diseased trees, but I thought that we should test this ourselves and see not only how long it would be before the seedlings or trees thus budded would develop the symptoms, but also what variation there would be in the length of this time. Accordingly, healthy trees, four years old, in a young orchard on the Experimental Farm were budded. The buds in each case were taken from healthy looking shoots on diseased trees about half of them from Yellows and half of them from Little Peach. Each tree had at least four buds inserted into it, all of which took. Each budded branch has been tagged so that track can be kept of it. In addition, one hundred seedlings from healthy pits were budded in a similar manner, so that we might be able to compare the result on these with that on the older trees. Nearly all of the buds on these seedlings also took. The budding was for the most part done by Mr. J. W. Smith's best budder, whose

A paper read at the recent annual convention of the Ontario Fruit Growers' Association.



Northumberland and Durham's First Prize Half Car-load of Fruit at the Ontario Horticultural Exhibition. This half car load was the finest exhibit of fruit ever shown in Eastern Canada. It consisted entirely of Spies. There were three hundred boxes. Each box contained exactly one hundred apples, twenty to a layer.



Lambton County's Great Display at the Recent Ontario Horticultural Exhibition

This exhibit comprized three hundred and fifty-two boxes of high grade, well colored fruit. It showed a map of the county boxes of wrapped fruit being used to outline the letters, border and lake.

services Mr. Smith very kindly offered to us.

To test whether insects could carry the disease at the blooming season, nearly two hundred blossoms were pollenized in the same careful manner that hybridists use when trying to produce new varieties of fruit. Pollen from four trees that I knew had been diseased the previous year was used on each tree. The two hundred blossoms were distributed over nine trees. Of the blossoms thus hybridized, eighty per cent, set fruit which remained on at least as long as the so-called June drop. A large proportion then dropped off, but some remained and reached maturity. None of these trees have this season shown any signs of disease.

In addition to the hybridizing, the blossoms on two other trees had nectar from diseased blossoms added to them. These trees also are still looking healthy.

#### RUBBING HEALTHY TREES

On August 13th four trees four years old were inoculated by rubbing several branches on each with diseased branches until the bark was ruptured. Again on September 9th, five more trees of equal age were inoculated in the same manner. On July 31st, leaves and fruit from diseased trees were gathered and crushed and a little water added to them. The juice thus formed was filtered carefully and three holes were made with a brace and small bit in each of four trees. The filtered juice was then poured into each of these and the hole covered over with grafting wax. This experiment was intended as a supplement to the rubbing, because, if in both cases the trees thus treated were to contract the disease, it would show that at least the sap contained the source of contagion, whereas

the rubbing alone would not make this so clear. No sign of disease has yet been seen on any of these trees.

#### PRUNING IMPLEMENTS

On May 3rd three trees were inoculated with a saw. In doing so branches were cut from diseased trees and brought to the healthy ones. Then a fresh cut was made in each of these and immediately after on several branches on the healthy trees. The cuts were made chiefly on the under side to prevent drying out rapidly. At this date the buds were swelling, but none of the blossoms had burst. On July 4th, four more trees were inoculated with the saw in a similar way. The trees are still healthy.

Careful records have been kept of all the trees treated in the above various ways and the results will be watched with much interest next season. I was not surprised that no positive results were obtained this year as I did not expect any from what I had learned of the disease, from observations and reading. Interesting results from some of these experiments may be expected next year, if the disease works in the same way here as in some states across the line.

#### WHEN DISEASE SPREADS

The second main subject of investigation was to determine when the diseases were spread. Fortunately the above experiments, intended primarily to show how the disease is spread, are equally well adapted to show when this takes place. For instance, if the trees on which the blossoms were hybridized with pollen from diseased trees develop the disease in a year or two and the untreated trees all around remain healthy, we can feel pretty certain not only that bees can distribute the disease, but also that

it spreads at least in blooming time. Again, if the trees pruned before the buds burst with an inoculated saw do not develop it we shall have some more data of value.

Our third subject of investigation was to determine how long a period elapses from the time a tree is inoculated until it shows the symptoms of the disease and what variation there is in the length of this period. This, I believe, is a very important matter, but fortunately once more nearly all the above experiments will help to give us data on it.

As these experiments begin to give definite results they will prepare the way for further investigations until finally we have succeeded in getting together a mass of reliable information that we hope will be of much service in the control of these dreaded diseases.

## A Use of Fertilizers Advocated

Chas. J. Fox South London, Ont.

In his article on commercial fertilizers, that appeared in the November issue of *The Canadian Horticulturist*, Dr. J. B. Dandeno states "he never yet met a man who could give a fair definition of plant food." Now, taking a commonsense view of the matter, I will give my definition. It is this: Plant food is any substance that is placed and worked into the soil that will cause it to produce a better crop both as to quantity and quality. Surely such an ingredient may be called a plant food.

If you can get enough stable manure no better plant food can be used, but many of our farmers fail to make enough. The market gardeners around our towns find it impossible to get all the manure they want, so they must, if they want to produce early vegetables, use a certain amount of fertilizers.

The Doctor says "half the amount spent for fertilizers in Canada is wasted." If this is so, it seems to me strange that the sale of it is increasing in Canada, and in many other countries, where men know the value of money as well as the value of fertilizers. The Doctor also says "you can carry in your vest pocket all the plant food that a load of manure contains." Let the Doctor next spring apply a load of good rotted manure on a plot of ground, then on another plot work in the contents of his vest pocket, and see which plot produces the best crop of corn, potatoes, or any other root crop.

For about forty years I have used fertilizers, and now in the city of London with only a half acre lot, I use every year four loads of stable manure and four hundred pounds of fertilizers, and I claim, by the use of the latter, I am enabled to produce very early vegetables. I also use it among my flowers.

# Walkerville: A Garden Town Beautiful\*

W. H. Smith, Secretary, Horticultural Society

ARTICLE No. XII.

THESE are days in which a new civic consciousness is abroad in the land. We are beginning to resent unkempt boulevards, neglected lawns and gardens, ill-favored alleys, and ugly billboards. In their place we long for grassy swards, avenues of well-

give some idea of the appearance of our streets lined as they are by shade trees as well as of their beauty which is added to by mile after mile of privet hedge.

It might be well here to sound a warning about privet hedge. Fight shy of California Privet. The winter kills it,

of our alleys. This illustration, as well as all the others, was obtained without special preparation having been made. Did you ever see a perfectly clean alley before? People generally figure "at an alley is a place in which to dump garbage, tin cans and refuse of all descriptions, and where it may be allowed to remain until the alley is impassable and has become a breeding place for flies and possibly disease. Of late years, however, we hear a great deal during the summer about "Swat the Flies." We would not hear so much about flies if we kept more garbage pails having tight covers and kept our alleys clean. This is, perhaps, a rather peculiar topic to be writing about in a garden magazine, but we must all admit that it is the "tout ensemble" which makes a perfect picture; and it is impossible to have a pretty town or city with dirty streets and filthy alleys.

The following is an excerpt from our by-law respecting the removal of garbage and refuse:

"Every person shall dispose of all garbage, for the disposal of which he is responsible, either by burning the same or in the following manner, that is to say, the garbage shall first be drained of all liquids, then wrapped securely in paper, and then be deposited in a proper, securely covered receptacle, and then kept until taken away by the town scavenger as may be directed by the council, &c.

"The said receptacle shall be kept by every person on his own premises as conveniently as may be to his



One of Walkerville's Residential Streets—Notice the Boulevards. No. 1

trimmed trees, homes nestling in the midst of gardens, and for all else that is lovely in horticulture. The members of the Walkerville Horticultural Society have been striving to make their municipal home a public garden. In what is here written, as well as by the accompanying illustrations, I hope to show some measure of the success that has attended our efforts.

Walkerville is situated on the bank of the Detroit River, a majestic stream over a mile in width. It is in the county of Essex. The population is between three and four thousand. All the streets and avenues are paved with reinforced concrete, macadam, asphalt, brick, or some other suitable material. The street sweeper is kept busy. It was not bought to lie and rust in the municipal barr. Therefore, the streets are clean at all times.

The boulevards are graded and the grass is kept green and well mown. I do not mean that a boulevard here and there is kept mown, but stretches a mile in length. Naturally they are very pleasing to the eye. The sidewalks are granolithic throughout the town. A glance at illustrations numbers one and two will

This article takes the place of the usual article on Canadian gardens that has been a feature of the year's issues of The Canadian Horticulturist. "Tower Gardens of Walkerville," an article by the same writer, will appear in the near future. It will be well illustrated.

and it is decidedly unpleasant to plant a hedge, care for it, and have its appearance everything to be desired, only to be frozen to the ground with the first cold weather. When securing a hedge, therefore, be sure and purchase English Privet (*privet vulgaris*); the severe winters will not injure it

Illustration number three shows one



Well Kept Hedges, Boulevards and Streets do much to Beautify Walkerville's Streets. No 2



An Alley in Walkerville. "Did you ever see a Perfectly Clean Lane Before?" No. 3

"entrance from the lane. No paper or other rubbish capable of being easily burned shall at any time be placed or thrown or allowed to accumulate in any of the streets or alleys of the town."

Violators of this by-law are liable to a fine of twenty-five dollars, or ten days' imprisonment.

A glance at the photo of the alley shows a portion of a garbage pail by the opening in the fence, and the alley's cleanliness is proof that the by-law is not a dead letter.

#### PRIVATE RESIDENCES

Illustration number four shows blocks of residences covered with Boston Ivy (*Ampelopsis Veitchii*). Can you imagine how cool it looks upon a hot day to walk under shade trees and see the residences covered with this beautiful green ivy? We have whole blocks of houses and buildings covered with it. I think the leaves of the *Ampelopsis Veitchii* show richer tints in the autumn than the maple leaves.

Illustration number five shows the interest our manufacturers take in the grounds around their offices, factories, and storehouses.

The grounds of Hiram Walker & Sons, Limited, have a spacious lawn, with a border of privet, flower beds and vases,

tance America's largest pleasure boats and freight carriers passing within a stone's throw.

Just a word about our many factories. The goods manufactured here are sent to all corners of the world. We have large automobile factories, manufacturing chemists, wire fence factories, and the famous distillery of Hiram Walker & Sons, Limited. The town is named

after the founder. The Canadian Bridge Co., one of the largest structural steel manufacturing plants in the Dominion, and numerous other concerns which make Walkerville a bee hive of industry. It thus can readily be seen that this clean and pleasant town is not only a residential town, but is also a great manufacturing centre.

While all our citizens and members of the Town Council pride themselves upon the neat and prosperous appearance of the town, the little kiddies have not been forgotten. A safe bathing spot has been provided in the Riverside Park, and, while our citizens can sit and enjoy the cool breezes off the river, the children can bathe and sport in the water. A caretaker has been provided to see that the children do not get beyond their depth.

### A Blackberry Disease

Dr. J. E. Dandeno, Bowmanville, Ont.

By blackberry is here meant what some people call thimbleberry and others the long blackberry. The disease appeared, here and there, in this locality in 1910, in June and early July. It affected the canes only, and seemed most destructive when the plants were crowded or otherwise shaded.

The surface of affected canes become first brownish, then darker brown, and later whitish with minute black points scattered here and there in the surface. While the fungus was working on the canes the leaves stopped growing and turned lighter green and later yellowish.

All the diseased plants should be cut out and burned as soon as the disease is manifest. From my observations the disease will not likely be very destructive unless the plants are crowded.





# Continuity of Bloom in Small Gardens\*

W. T. Macoun, Dominion Horticulturist, Ottawa, Ont.

TO one person a garden seems small if it occupies ten acres or more of ground, while to another a garden of one acre will appear very large. The man who has but a small area at the back of half a city lot thinks that his neighbor who has the back and part of the front of a whole lot has a large garden compared with his own. One's standards as to what is or is not a small garden may thus be set in various ways. The garden of a true lover of flowers is always overflowing, and if he cannot expand, his garden always seems small.

In offering suggestions to obtain "Continuity of Bloom in Small Gardens" I have presumed that the kind of garden in mind by those who suggested this title is such as may be found in a town or city and occupying anywhere from part of half a lot to part of several lots.

One of the main features of a small garden should be a well kept lawn. I prefer a well kept lawn without flowers or flower beds in a plot of uncared-for grass. Fortunately a large proportion of our citizens have well kept lawns, hence these are not as rare as well kept flower gardens. This, however, is by the way and has nothing to do with continuity of bloom, but a flower garden without a lawn might be compared to a picture without a frame, or a precious stone without a setting. In the case of the garden, however, the picture and frame have changed places.

## THE FRONT EFFECT.

In front of the house most of the ground should be given up to grass for various reasons, but there should be at least one bright spot from early spring until late summer; not a bed in the middle of the grass plot, but if possible close to the house or bordering the walk to the house. Here there should be tulips followed by scarlet geraniums. There is nothing in my experience so satisfactory for this particular purpose as these plants. If there is some place within sight of the entrance where Scarlet Salvia can be planted this, also, is one of the most satisfactory plants for massing, but as it will fail if the summer is hot and dry it should not be in too conspicuous a place.

There should be climbing plants on the house or verandah, and if the right kinds are planted there will be continuity of bloom from early summer until autumn. Among the most satisfactory are English Honeysuckle (which, however, is too tender for the colder parts of Ontario), Scarlet Trumpet Honeysuckle; Clematis virginiana, the common Virginia's Bower of our woods; Clematis

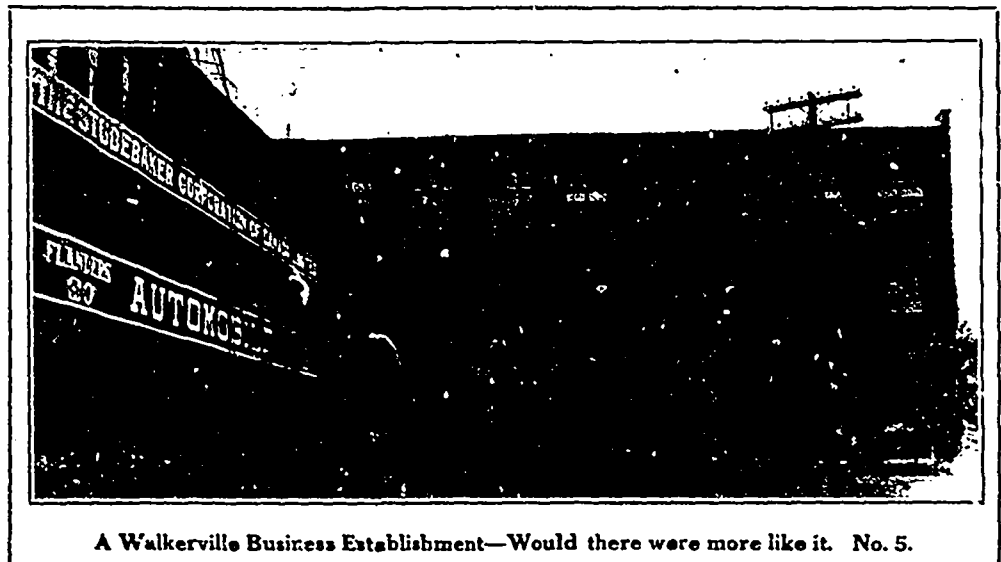
Jackmanni; and Clematis paniculata. Of climbing roses three of the most satisfactory are Crimson Rambler, Tausendschon, and Dorothy Perkins. Where it succeeds, the Wistaria is one of the most useful and beautiful climbing plants. It is not hardy in the colder parts of Ontario.

## SHRUBS.

A few flowering shrubs should find a place in nearly all small gardens. They not only help to keep the continuity of bloom, but will be attractive even when not in flower. Where there is room for only a very few specimens great care should be taken to plant those with a

As neither of these shrubs is particularly attractive when out of bloom they should not be planted in too prominent a place.

Lilacs, of course, should be in every garden where there is a place for them, but the blooming season of each variety is short, hence, if the space is so limited that there cannot be enough sorts planted to give a succession of bloom, we should not devote much space to this popular shrub. If there is room for one small tree let it be a European Mountain Ash, attractive in flower, foliage, and fruit, and if there is room for one more a Bechtels Double Flowering Crab apple will give delight by its bloom and also



A Walkerville Business Establishment—Would there were more like it. No. 5.

graceful outline and attractive foliage which will be pleasing to the eye all through the growing season. Two shrubs which have these special features are Spiraea arguta and Spiraea Van Houttei. They both bloom in the month of May, the former several days before the latter. A mass of several specimens of either or both of these against the house is very attractive. Both of these have white flowers. Another very graceful shrub is Caragana frutescens, bearing yellow pea-shaped flowers during the latter part of May. Other comparatively small useful shrubs which will furnish bloom later in the season are the Japanese Rose, Rosa Rugosa, some of Le-moines smaller growing philadelphus, such as Bouquet Blanc and Nuce Blanche and Weigelia Eva Rathke, a red flowered variety which appears hardier than most others.

By the middle of summer there will be so much bloom in the flower border that the flowering shrubs are not so much needed, but masses of Hydrangea arborescens grandiflora and Hydrangea paniculata grandiflora should find a place as these are very effective when in flower.

by its perfume. Fruit trees, also, are desirable in a flower garden if there is room for them.

## THE BORDER.

The herbaceous border seems the most suitable means of furnishing continuous bloom in desirable quantity in a small garden. It economizes ground, saves cutting up what little grass there is and makes a nice background to the lawn no matter how tiny it may be. I find in my experience, which now covers a good many years, that it is very difficult to obtain mass effects in small gardens. If continuity of bloom is desired some other effect must be obtained, unless annuals, which have a long blooming season, are used. Masses of color may be obtained from annuals, but to me most annuals are brilliant but not attractive, hence I would relegate most of them to a less conspicuous part of the garden, if it is large enough to have such.

For small gardens, I prefer to have many small clumps of plants blooming at the same time scattered through the border and so placed that they will make a good contrast, or blend with the foliage of other plants not yet in bloom, and

\*A paper read at the recent convention in Toronto of the Ontario Horticultural Association.



also among themselves give a variety and pleasing contrast or blending of color.

To obtain the best results in a border it should be wide, ten or twelve feet in width not being too much, but in some places a narrow border is a necessity through force of circumstances.

#### HOW TO START.

Were I beginning a herbaceous border in a small garden with the object of obtaining the greatest continuity of bloom at the least expense in the shortest time, I should go about it in the following way: As in ninety-nine cases out of a hundred the desire comes in the spring, let us assume that we are starting at that time. Prepare the border carefully, using good soil and manuring it well with rotted manure. Plant nearly the whole border with annuals the first year, either sowing the seed where the plants are to be in the border or setting out the plants. At the end of the border which is least conspicuous, or in some other place if there is one available, sow seed of the following perennials of the best strains that can be obtained:

Iceland Poppy, Long-spurred Columbine, Oriental Poppy, *Hesperis matronalis alba* (White Rocket), *Campanula persicifolia*, Foxglove, *Coreopsis grandiflora*, Pyrethrum, *Delphinium Chinense*, *Delphinium hybridum*, *Platycodon*, *Echinacea purpurea*, Hollyhock.

It would be much better if this seed were sown in the autumn as a far larger percentage would germinate. If sown in the spring it should be got in the ground as soon as possible. Sow seed about half an inch deep in rows four inches apart and see that the soil does not dry down below the seeds, at least until after they germinate. If the surface soil is kept loose and weeds pulled out there should be hundreds of plants by autumn. It is desirable, if there is ground available, to prick out as many of the young plants as possible during a wet time in July, setting them about four inches apart each way.

From one or two dollars' worth of seed or less, many hundred plants should be obtained. The plants which are pricked out should be in splendid shape for setting out in September or early October, and even if they have not been pricked out they may be planted into the border directly from the seed bed.

#### CASES OF BULBS.

As soon as the annuals have been injured by frost or before, if it comes time to plant them, bulbs should be planted, and these should consist mainly of tulips and narcissus. If a good assortment of these is chosen there will be a succession of bloom from the latter part of April until the latter part of May. In our experience from six to ten bulbs is sufficient to plant in a clump. Clumps should

be planted irregularly from one end of the border to the other and from the front to the back. The more clumps there are the better the effect will be, but it may not be possible to plant all that are desirable the first year. They should be planted so that there will be contrast or blending of colors in adjoining clumps and late or early tulips and narcissi should occur here and there all through the border so that there will be an effective display all over at one time.

The object of planting small clumps irregularly is that the perennials may be planted between and when they develop during the season they will hide the spaces where the tulips and narcissi have been. These small clumps of bulbs need not take the place of solid beds of bulbs if the garden is large enough to have such.

#### SEEDLING PERENNIALS.

After the bulbs have been planted and an outline of the clumps marked on the surface of the soil, the seedling perennials should be taken up and planted all over the border, planting from one to three plants of each kind in a group and bearing in mind that Iceland Poppy may be planted quite close to other plants as it will seed freely in the border and the original plants are likely to disappear after the second season. Columbines on the other hand must not be crowded, if they are to do their best.

Oriental Poppies have heavy, rank foliage and should be kept well away from weaker growing plants. As, however, the tulips will be about ready to dry up when the leaves of the poppies overshadow them, the latter may be planted near the tulips.

*Hesperis matronalis alba*, or White Rocket, is a most desirable plant. It is one of the few tall, white-flowered perennials blooming in the early part of the season. It should be arranged so that it will come in sharp contrast with the scarlet Oriental Poppies which bloom at the same time.

*Campanula persicifolia*, the Peach-leaved Bellflower, is very attractive during the month of June. One gets it in white and light and deep bluish purple. It spreads rapidly and seeds itself freely, and once in the border is always there, in my experience.

The yellow of the *Coreopsis grandiflora* makes a very pleasing contrast to the blue and white of the *Campanula*. It will be remembered when planting *Coreopsis* that the same plant only blooms one year satisfactorily, hence they may be planted fairly close to other plants. They seed themselves freely, and new plants are thus easily obtained.

*Delphiniums*: It is difficult to say which is the more useful, the Dwarf or Chinese Larkspur, *Delphinium chinense*, or the Tall Larkspur, the seed of which may be obtained under the name *Del-*

*phinium hybridum*. The advantage of the Dwarf varieties is that they do not look out of place in any part of the border, being tall enough for near the back and not too tall for near the front. There is not, however, as great a range in color as among the tall ones.

The *Platycodon*, or Chinese Bellflower, comes in bluish purple and white. It is a very satisfactory plant, blooming in July and August. It does not take up much room in the border, but will hold its own once it is established. The Purple Cone Flower *Echinacea purpurea* should be used in large numbers. It is very effective in late summer and autumn when bloom is scarce. It is tall and upright in habit and for this reason can be squeezed in between other plants. With a good supply of plants of the above flowers a good ground work for the border will be made and there will be bloom from early in the spring until autumn.

All of these plants seed themselves. Seedlings not wanted may be treated as weeds. When the seedling perennials which have been planted bloom the poorest should be rooted out, as more space will be needed every year for the newer things which are sure to be obtained.

There are many other plants which must find a place if the border is to look its best, but most of these will have to be bought or obtained from friends.

#### House Plants and Humidity

Chas. E. Stewart, Woodstock, Ont.

House plants, with proper attention and atmosphere, should thrive in the winter time, but how few people succeed with them. There is nothing which so beautifies a house and lends such an air of cosiness and comfort as a window full of plants. Perhaps you have tried to grow them and have had your disappointments despite your best efforts and attention. Perhaps you put the blame on the furnace, presuming that the gas killed them, as it surely would, but it really was not gas, but lack of humidity which caused your failure.

The active root-hairs of a plant are really aquatic and must always be in contact with an adequate supply of water. The stems and leaves are aerial, but their behaviour and form are largely determined by the water in the air, that is, the humidity. The water supply is used by the root-hairs, while the water-loss is the result of evaporation from the surface of the leaves. The humidity of the air exerts a direct control upon the amount of water evaporated by the leaves, and it is evident that the evaporation will be great where the air is dry. If this evaporation or water-loss is greater than the supply, curling, drooping, and withering of the leaves ensues.

Even when you water the plants faithfully, the excessively dry atmosphere of



**A Hydrangea that had over 700 Flowers**  
This remarkable hydrangea measured fifteen feet across. It was photographed early in October in the garden of Mrs. F. Ellery Lord, Hull, Que.

the house is apt to overwork them by drawing up the moisture through the stems and leaves, for dry heated air will take up what moisture it requires from every possible source. Not only your plants but your furniture and woodwork, and even your own body, are levied upon.

In the heating of a moderately-sized house, at least four gallons of water should be evaporated every twenty-four hours, and even with this the humidity will not be greater than fifty-five per cent. When you consider that the humidity outdoors on a bright summer day

is about seventy per cent., you will appreciate what an unnaturally dry atmosphere we have in our homes in winter, where, if any water is evaporated at all, it will be but a few quarts at most, with a resultant humidity of perhaps eighteen to twenty-five per cent.

By all means, both for your own good as well as that of your plants, evaporate water freely by keeping a pot or kettle steaming on the heater, or pans on the registers, and do not neglect the furnace water pan. True, it is too small to be of much benefit, but every little counts.

## The Modern Peony\*

J. H. Bennett, Barrie, Ont.

IT IS only in comparatively recent years that the peony has become popular with horticulturists, and been brought into prominence before the general public. The reason is not far to seek. To many people the name peony simply recalls far-away memories of an old-fashioned garden with its clumps of crimson peonies or "pineys," whose scent was more pungent than pleasant. But in recent years much more attention has been given to their cultivation and development, although many of the best varieties have been grown for at least half a century. Still the number of varieties has not only increased enormously but through specializing have developed in size, color and fragrance, and obtained a popularity which bids fair to dethrone the rose from its sovereign position as "Queen of Flowers."

The qualities which give the peony its

present popularity with all classes of growers, so much so that it has been fitly termed by one writer or grower, "the flower for the million and the millionaire," may be briefly noted, namely, its beauty, fragrance, the durability of both plants and foliage, its hardiness, its profusion and duration of blooms, and its adaptability and manifold uses.

### BEAUTY AND FRAGRANCE.

Every one who has grown peonies must have been struck with their wondrous beauty, a beauty, moreover, which is maintained through every stage of their growth, from the moment when the first glint of color is seen coming through the ground in early spring, almost before the snow has disappeared, the development of the foliage, the formation of the dark green envelope of the buds, until the blooms are expanded in all their varieties of color and beautiful tints, their glorious shape, and exquisite fragrance.

The peony differs materially from many

perennials in that it will continue to grow, yielding indeed the very best results each year, without replanting for many years, while the foliage lasts from the day the leaf buds show above the soil in spring, until the plant is cut down in preparation for wintering, with an undimmed and unchanging beauty of color.

The peony stands alone in the quality of hardiness; it does not ask for protection in even the most severe climate, and has practically an immunity from disease.

### PROFUSION.

Every grower rejoices in the profusion of the plant and utilizes it to its fullest extent, the plants being a constant outburst of color ranging from cream and purest white, through the various shades of pink, lilac, rose and red, to the deepest carmine, purple and maroon, in every possible combination of shade and form, with flowers varying in size from four to eight inches in diameter, most of them having a delightful fragrance, and furnishing immense quantities of bloom from early June well into July.

No plant is easier to grow; this, indeed, is one of its strong points. Often in neglected gardens one sees large clumps of peonies that have flourished and bloomed for years. Yet they amply repay all attention given them. Peonies will thrive in almost any soil, but succeed best in deep, rich, moist clay loam. They are gross feeders, and the soil's fertility should be maintained, but do not use fresh manure.

An ideal peony bed or border may be made by removing the soil to a depth of two to two and one half feet. If the subsoil is of a porous and loamy nature the depth need not be so great. Over the bottom spread six to eight inches of well rotted cow manure, over this a layer of soil, and mix thoroughly. In this manner fill to six or eight inches above the surface of the ground or lawn. When planting cover the crowns or eyes of roots about three inches, taking care that the earth is well firmed about the roots, and allowing a circle of two and one half to three feet for future development of the plant. A mulch of coarse strawy manure is a benefit, particularly the first winter.

### WINTER CARE.

The first and second year give the plants good care, keeping the soil well stirred during the early part of the season, allowing no weeds to grow. The third year the plants will sufficiently cover the ground, so less attention will be necessary. In late fall the tops may be cut off several inches above the soil, and thrown back with several inches of coarse manure as a winter mulch.

To cultivate a garden is to walk with God.—Bovee.

\*Excerpt from a paper read at the recent convention in Toronto of the Ontario Horticultural Association.

# The Ontario Vegetable Growers' Convention

THE annual convention of the Ontario Vegetable Growers' Association was held in the Canadian Foresters' Hall, Toronto, on November 13th. Mr. Thos. Delworth, Weston, in his address as president, urged the Association to continue their efforts to have a bill passed to have a standard of weights and measures all over the Dominion. He referred to the experiments with seed peas and potatoes in New Ontario and to the Field Crop Competitions with vegetables. As regards the high cost of living he thought that a large share of the blame rested on the consumer. By buying in large quantities, especially for winter's supply, as people used to do years ago, a great saving would be effected. There would be less work, less handling, and consequently less expense to the middleman who could thus afford to sell more cheaply. Certainly the producer was not getting the benefit of the high prices.

The secretary-treasurer, Mr. J. Lockie Wilson, in his report gave a resume of the year's work. He mentioned particularly the work in connection with Field Crop Competitions, the winners in which competed at the Canadian National, Central Canada, and Western Fairs. During 1912 at these three exhibitions no less a sum than \$2,500 was offered for garden products alone, excluding flowers. For 1913 he advocated the division of the province into three sections to show at Toronto, Ottawa, and London respectively, and thus do away with the long transportation of perishable articles that prevailed in 1912. Grants were given to the Toronto, Ottawa, and London branches in order to make a good display at these shows.

Mr. Wilson reported that the experiments in New Ontario had not been conclusive owing to wet weather conditions, but were fairly satisfactory nevertheless. He advocated more extensive drainage as being vital to success, and showed how, if the Dominion Government would admit ditching machines free, the farmer would be benefited, and no Canadian industry injured, as these machines are not manufactured in this country. About four hundred bags of seed potatoes from New Ontario are being shipped to the members at a cost of one dollar seventy-five cents a bag. Reports from the branches showed increasing interest and growth in membership. The cooperative system of purchasing is saving the members in some cases about one hundred per cent. The demand for the Annual Report of the Association continues to exceed the supply.

A motion by W. J. Kerr, Ottawa, seconded by W. I. Robb, St. Thomas, was carried asking the Dominion Government to admit free of duty traction

ditching machines which are not manufactured in Canada and which would be of inestimable benefit to the farmer in view of the present scarcity of labour and great cost of draining and the much cheaper results that may be obtained from the use of these machines.

A long discussion took place on the transportation question, and many instances of injustice and discrimination on the part of transportation companies were shown. A motion was carried asking the Government to afford some relief to the vegetable growers by securing an outlet for surplus produce, and to get after the freight companies to give a cheaper rate. To get the Government to do this the Association must act cooperatively.

## COOPERATION IN BUYING

The benefits of cooperative purchasing were well shown by W. J. Kerr, Ottawa, and Geo. Philp, St. Thomas, who had had experience in purchasing in large quantities the seeds and other supplies required by the local vegetable growers. There would be a saving of many thousand dollars to the branches and a better supply of stock secured were coopera-

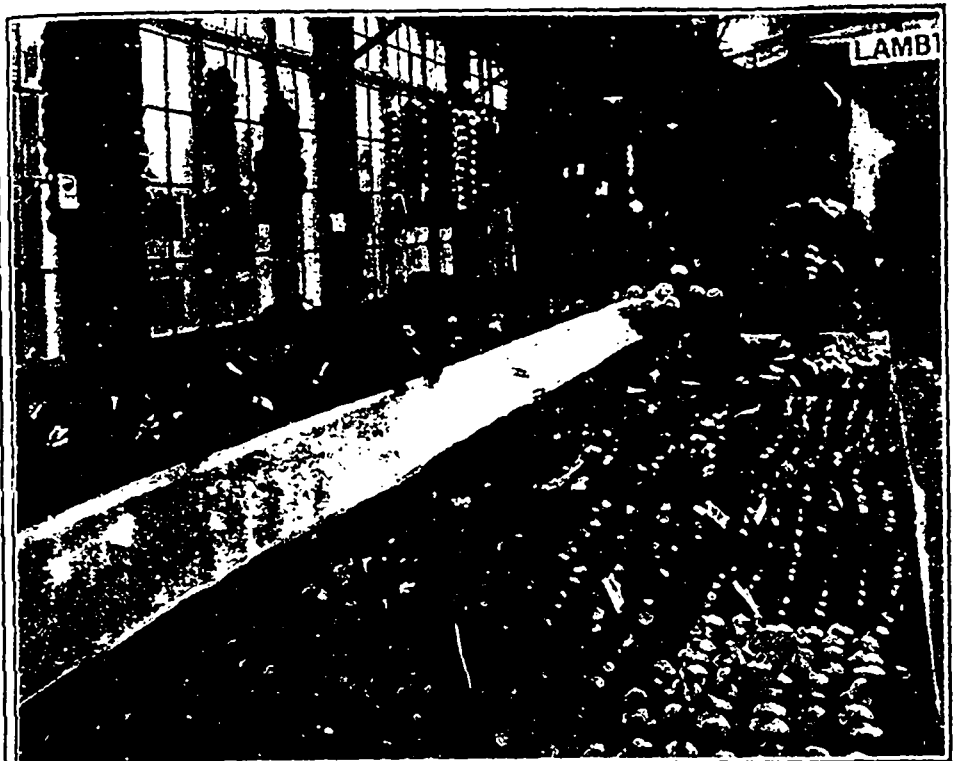
tive purchasing more generally followed.

In the discussion that took place on this subject it was advised that the Association not only buy cooperatively, but that it should try cooperative packing and selling by securing a reliable man, say in the mining districts of New Ontario, another in the prairie market, and another in England, who will place the produce in the hands of the consumers directly, or as directly as possible. In this way it was thought the members would realize better prices for their produce.

Prof. A. H. McLennan, of Guelph, and Mr. T. G. Raynor, of Ottawa, explained how the crop competitions were conducted and the benefits derived from competition through its stimulating effect in raising the standard of quality in the market. Mr. McLennan thought it would be well to make each branch a separate district and the prize crop in each district should be displayed at the Canadian National to compete one against the other. The growers were cautioned to observe care in the selection of seed, in the preparation of the soil, in the use of chemical fertilizers and stable manures, and in the



A Portion of the Vegetable Display at the recent Ontario Horticultural Exhibition



The Exhibit of Onions was a Feature at the Ontario Horticultural Exhibition

storing of vegetables in the proper way, so that they can be brought on the market when the market is in the best condition and the growers can realize the best prices.

#### POOR RAILWAY SERVICE

Mr. E. E. Adams, of Leamington, showed how most of the markets were spoiled through lack of proper railway service. He gave an instance of this which he had experienced. He had sent out a car of produce every day for a certain time, but instead of arriving on the market one car a day, they came in benches of four and five, thus causing a glut, and as a consequence he could not realize the price he otherwise would have had the cars arrived in the order he had sent them out. Mr. Adams hoped that in the near future something could be done to have freight rates arranged on a more equitable basis and to ensure not only more prompt delivery at terminals, but better car service as well.

Each branch was advised by our grower to take up the matter of freight rates and secure definite information which could then be laid before the railway commissioner. As transportation was a burning question with the vegetable growers, it was thought it should receive first consideration rather than cooperation, and the one point to be kept in the front was to gather definite evidence, and then to hit while the iron was hot.

A resolution was carried appointing a committee to act in conjunction with a similar committee from the Ontario

Fruit Growers' Association to meet the railway commissioner in regard to adjusting the freight rates.

Mr. J. J. Davis, of Byron, gave a short but interesting address on greenhouse work, describing the methods he employs in his own greenhouse in the growing of different crops, but more especially lettuce. Mr. Davis believes the Skinner system is the best method of watering lettuce, as the spray is light.

Mr. Roy Ellis, Leamington, a large grower of vegetables under glass, dealt with the growing of cucumbers in the house. He recommended the planting of cucumbers on the ground and not on the benches, and of having bees to fertilize the blossoms.

At the evening session an address was given by Hon. J. S. Duff, Minister of Agriculture, Toronto. Following this, Prof. Hutt, of the Guelph Agricultural College, gave an appreciated address on "The Ornamental Side of Market Gardening," which was illustrated by a number of fine stereopticon views.

#### Bean Growing Under Glass

John Gall, Inglewood, Ont.

While beans are not grown commercially under glass, they are very acceptable for the private table, and far superior to any that can be procured on the market during the winter months; therefore, for private greenhouses, beans are to be highly recommended as a forced vegetable. When successfully grown, it is surprising the number which can be

gathered.

There are two methods of growing this vegetable—on raised benches or in pots. If grown in pots, half fill seven-inch pots with fairly rich porous soil, then plant six or seven beans in a pot. As the beans grow keep adding soil by degrees until filled. It takes about eight to nine weeks to mature a crop in a temperature of fifty-five degrees at night, with seventy to seventy-five during the day. The bench system is preferable, as there is less labor and attention required, and results are equal, if not better.

Greenhouse vegetable forcing has come to be one of the important branches of the profession. The product appeals readily to the consumer, as the plants are not subjected to extreme temperatures such as our early garden vegetables are at times. The results are they are tender and can be appreciated by all

#### Marketing Early Vegetables

E. E. Adams, Leamington, Ont.

Before one enters the early vegetable business, he should get some information as to the probable chances he may have of marketing his products. I find many go into this, without giving the real business end of it much thought, in fact, many do not even try to find a purchaser until they have their goods in the package. One should be ahead of that system or no system and get busy before there is anything to market, and have arrangements made so that they may have some idea what they are doing.

A reasonably good system is for a shipper to procure a line of dealers throughout a greater or lesser territory, as occasion may require, giving these dealers prices on the different products as they mature, and soliciting their business for large or small quantities. It pays to explain to dealers what there is to offer either by description or when making out price sheets have cuts of the different stock representing their type as nearly as possible. Some dealers do not know much about some kinds of products and an idea expressed by a cut or engraving aids them.

Weekly quotations should be sent out by mail about the last of each week, covering the week following. I have found this method very satisfactory during a number of years and only consign to commission men my surplus stock each day. In this way I keep my parking house cleared out of each day's gathering.

Some growers form an association and have a manager to attend to the distribution. This is a good method provided the manager understands the business. The same methods are employed in selling the goods with the expense of selling deducted pro rata according to the quantity of goods handled during the season.

# The Canadian Horticulturist

Published by The Horticultural Publishing Company, Limited

PETERBORO, ONTARIO



### The Only Horticultural Magazine in the Dominion

OFFICIAL ORGAN OF THE ONTARIO, QUEBEC, NEW BRUNSWICK AND PRINCE EDWARD ISLAND FRUIT GROWERS' ASSOCIATIONS

H. BRONSON COWAN, Managing Director

1. The Canadian Horticulturist is published on the 25th day of the month preceding date of issue.
2. Subscription price in Canada and Great Britain, 60 cents a year; two years, \$1.00. For United States and local subscriptions in Peterboro (not called for at the Post Office), 25 cents extra a year, including postage.
3. Remittances should be made by Post Office or Express Money Order, or Registered Letter. Postage Stamps accepted for amounts less than \$1.00.
4. The Law is that subscribers to newspapers are held responsible until all arrearages are paid and their paper ordered to be discontinued.
5. Change of Address—When a change of address is ordered, both the old and the new addresses must be given.
6. Advertising rates One Dollar an Inch. Copy received up to the 18th. Address all advertising correspondence and copy to our Advertising Manager, Peterboro, Ont.
7. Articles and Illustrations for publication will be thankfully received by the Editor.

#### CIRCULATION STATEMENT

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1911. The figures given are exclusive of samples and spoiled copies. Most months, including the sample copies, from 11,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, flowers or vegetables.

January, 1911	8,082
February, 1911	8,250
March, 1911	8,523
April, 1911	9,469
May, 1911	9,783
June, 1911	10,178
July, 1911	10,062
August, 1911	10,043
September, 1911	9,973
October, 1911	9,991
November, 1911	9,988
December, 1911	10,137

Total ..... 114,489

Average each issue in 1907	6,677
" " " " 1908	8,695
" " " " 1909	8,978
" " " " 1910	9,067
" " " " 1911	9,541

November, 1912 11,305

Sworn detailed statements will be mailed upon application.

#### OUR GUARANTEE

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of The Canadian Horticulturist are so carefully edited as the reading columns, and because to protect our readers we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with any subscriber, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in The Canadian Horticulturist."

Refuses shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honourable business men who advertise, nor pay the debts of honest bankrupts.

Communications should be addressed

THE CANADIAN HORTICULTURIST, PETERBORO, ONT.

## EDITORIAL

### THE HORTICULTURAL EXHIBITION

The best feature of the recent Ontario Horticultural Exhibition held in Toronto was its promise for the future. When one remembers that eight years ago thirteen boxes and a few barrels of apples, none of them properly packed, comprised the exhibit at the first exhibition, whereas this year some five thousand boxes of apples, all well packed, to say nothing of large exhibits of apples in barrels and on plates, were shown, one may well hesitate to predict what the next ten years has in store for this now great exhibition.

A few years ago it was difficult to induce people to visit the exhibition at all. This year, although the exhibition was held at what was considered an inconvenient point on the grounds of the Canadian National Exhibition, thousands went out to see it. So great was the attendance the directors are now considering the advisability of using two or three buildings on the exhibition grounds next year and of providing accommodation in these buildings for the six or seven conventions which are now held in conjunction with it.

In planning for future exhibitions the directors should do so on a broad basis. An effort should be made to anticipate what this exhibition is likely to become in the course of the next five or ten years, and arrangements be made accordingly. Now that there is reason to believe that it is possible to make a success of the exhibition on the Exhibition Grounds every effort must be made to so equip the various buildings that all the requirements of the exhibition for years to come will be amply provided for. The holding of a national apple show at an early date should be included in the plans for the future.

### BUYING IN SMALL QUANTITIES

President Delworth, of the Ontario Vegetable Growers' Association, performed a public service when he drew attention to the losses sustained by the public through the increasing tendency to purchase vegetables in "drib" lots which could be purchased more economically in quantity. The same principle applies with equal force to the purchase of all kinds of fruit as well as to other household food supplies. It is not uncommon for apples to be purchased in some sections of our larger cities in such small quantities as the "quarter peck." It not infrequently happens that the best grades of apples which retail at fifteen cents a quarter peck may be purchased in bushel quantities for a dollar fifty and sometimes for even less.

By buying in larger quantities the public often could save twenty-five per cent. Were the various organizations that are interested in reducing the high cost of living to point out how great is the saving that can thus be made a large portion of the public might be induced to buy in larger quantities. It should not be overlooked, however, that those who buy in small quantities are generally poor people who lack the money required for the making of larger purchases and who, in many instances, have no proper place in which to store any considerable quantities of such produce. This seems to be one of those hard laws which prevent those who would

most benefit from seizing the opportunities that their lack of means place just beyond their reach.

### THE QUESTION OF BILLBOARDS

The discussion that took place at the recent convention of the Ontario Horticultural Association concerning the bill board nuisance affords evidence of the increasing interest that is being taken in civic improvement. The men who are behind bill board advertisements are primarily responsible for the agitation that is setting in against their use. So many beautiful landscapes are marred by hideously painted bill boards and so many city streets are spoiled in appearance in the same way it is little to be wondered at that the public is beginning to take notice and to clamor for an improvement.

In some of our larger cities forms of this class of advertising are appearing to which little exception can be taken. There are paintings so realistic and interesting that the ordinary citizen is apt to approve of them rather than condemn. They are in their way works of art.

For the ordinary bill board little can be said. It may in time become necessary to follow the action of the French Parliament which last June passed a law taxing bill boards from ten to eighty dollars a square yard. Such a tax would have a tendency to reduce the number of bill boards as well as the size of those erected and to ensure the appearance on them of a higher class of advertisements. It is safe to predict that this form of advertising is here to stay. It is in sad need of regulation, however, and it is well, therefore, that it is receiving attention at the hands of such organizations as the Ontario Horticultural Association.

Marks of statesmanship were evident in that notion of the report of W. F. W. Fisher's committee of the Ontario Fruit Growers' Association in which fruit growers were urged to back to a standard above that called for under the Fruit Marks Act. Too large a proportion of fruit growers are well content if their packs are sufficiently good to barely pass the requirements of the law. In their natural anxiety to see the largest possible percentage of their fruit they are inclined to lose sight of the importance of having their packs reach up to a standard of excellence that the whole industry will be benefited in consequence. The members of the Ontario Fruit Growers' Association adopted the report containing this recommendation. We may well hope that fruit growers generally will strive to live up to the new standard that has thus been set.

It was a pleasing picture that painted by Mr. P. W. Ellis, of Toronto, the chairman of the Queen Victoria Niagara Park Commission before the members of the Ontario Horticultural Association at the recent convention in Toronto. Mr. Ellis looks forward to the time when every tree, shrub and flower grown in that great park will be correctly named and labelled and when the park will have become a model for its horticultural features that everywhere will be run from various sections of the country to see its various floral features alone, to say nothing of the great Falls whose beauty it adorns. It is men who have visions of this character who are the wonders that the public have looked over Canada is to be congratulated in having a man like Mr. Ellis on this commission.



## PUBLISHER'S DESK

It's a Happy New Year we wish you, and many of them.

This issue completes another year, the thirty-fifth, in the history of The Canadian Horticulturist. It has been the best year

### An Absolute Guarantee

When The Canadian Horticulturist, some years ago, adopted its protective policy, with a view to protecting its readers against the dealings of unreliable advertisers, by publishing only such advertisements as its publishers believed were thoroughly reliable, it was one of the first Canadian papers to take a stand of this nature. There are even yet comparatively few publications in Canada which have gone as far in this direction as The Canadian Horticulturist.

Now we are going one step farther. Hereafter it will be our policy not simply to publish only such advertisements as we believe are reliable, but TO POSITIVELY GUARANTEE to our readers EVERY ADVERTISEMENT which appears in The Canadian Horticulturist from now on, and to MAKE GOOD ANY LOSS to readers who, through dealing with any advertiser whom we thought to be reliable when accepting his advertisement has, however, defrauded any of our readers.

The following is a copy of our guarantee, which, from now on, will appear in every issue of The Canadian Horticulturist, and which will take the place of our old protective policy:

"WE GUARANTEE that every advertiser in this issue is reliable. We are able to do this because the advertising columns of The Canadian Horticulturist are as carefully edited as the reading columns, and because to protect our readers we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with any subscriber, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: 'I saw your advertisement in The Canadian Horticulturist.'

"Rogues shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honourable business men who advertise, nor pay the debts of honest bankrupts."

Our readers and advertisers will appreciate the advanced stand which we have taken for clean, reliable advertising, and we look to see even a greater bond of confidence and good will existing between our advertisers and readers than in the past.

we have ever had. We have published more reading matter, enjoyed a larger subscription list, carried more advertisements, and in many respects accomplished more than ever before. We are now on the threshold of still better things. Next year the reading matter of The Canadian Horticulturist will be still further increased, our special magazine issues will be improved in various ways, more and better illustrations will be used, and a still higher class of articles obtained. We believe that the publication which does not improve goes behind. There is no standing still in the publishing or any other business. For this reason, if for no other, therefore, we intend that 1913 shall set new standards of excellence for The Canadian Horticulturist.

Just a word to our advertisers. Those

## Ontario Horticultural Association Convention

The increasing interest being taken in the work of the Ontario Horticultural Association has been well shown of late years by the increasing number of local horticultural societies that have affiliated with the provincial organization. Reports presented at the annual convention of the Association held in Toronto, November 14th and 15th, showed that a larger number of local societies joined the association this year than ever before. The number of societies represented by delegates at the convention was large.

### OFFICERS ELECTED

The officers elected for the ensuing year were as follows: Pres., Rev. A. H. Scott, Perth; first vice-pres., J. P. Jaffray, Galt; second vice-pres., W. J. Diamond, Belleville; treasurer, H. B. Cowan, Peterboro; secretary and editor, I. Lockie Wilson, Toronto; directors—F. R. Bowden, Vankleek Hill; J. H. Moorcraft, Bowmanville; Mr. Dockray, Toronto; J. H. Bennett, Barrie; I. O. McCulloch, Hamilton; Thomas Cottle, Clinton; Geo. W. Tebbs, Hespeler; Dr. Bennett, St. Thomas; H. J. McKay, Windsor.

Delegate to Canadian National Exhibition, Major H. I. Snelgrove, Toronto

Delegates to Convention of American Civic Association, Pres. Scott, Secy. Wilson, and W. B. Burvoine, of St. Catharines.

### PRESIDENT'S ADDRESS

The president, Rev. A. H. Scott, of Perth, in his address traced the growth of gardening from early times to the present. The opportunities for working out ideals in horticulture and gardening in this country were great, and he asked the members of the association to bend every effort to the evolution of what is best in nature.

The report of the treasurer, H. B. Cowan, of Peterboro, showed a balance on hand of \$94.73.

### SUPERINTENDENT'S REPORT

Supt. J. Lockie Wilson in his report referred to a change in the act whereby now in cities having a population of over one hundred thousand a second society can be organized, but the grant to each society cannot exceed five hundred dollars.

The Legislative grant to societies is now twelve thousand dollars. The excellent work done in Minneapolis by public spirited citizens in conducting vacant lot gardening was mentioned with approval. Over one thousand lots were utilized in 1912, besides a number of home gardens. In 1910 there was only one vacant lot garden. Nearly every one who took part in the gardening in 1911 took it up again this year. The frontage of gardens is over eleven miles. Those gardens have kept the prices of vegetables in Minneapolis far below

what they were in previous years, and lower than in other cities.

**CULTURE OF PEONIES**

An excellent paper on peonies was read by J. H. Bennett, of Barrie, who pointed out that the modern peony is very different from the old style plant, and has a beauty and fragrance of its own. This paper will be published in detail in The Canadian Horticulturist.

**INTERESTING ADDRESSES**

Prof. A. H. McLennan, O.A.C., Guelph, spoke on the best varieties of vegetables for amateur gardens. A list of the varieties recommended will be published in The Canadian Horticulturist.

In an address on "Horticultural Societies and Their Relation to Parks and Private Grounds" W. Bilger, of London, Ont., showed the beneficial effects that result from the work and influence of societies. Extracts from this paper will also be published in later issues of The Canadian Horticulturist.

Hon. James S. Duff, Minister of Agriculture, referred to the pleasure he took in the increasing tendency to improve private homes now so manifest in Canada, including the country districts. Beautiful flowers and vines may be seen in the gardens and on the houses of thousands of homes where a few years ago very little attention was paid to such beautification.

The growing of gladioli was described by A. Gilchrist, of West Toronto, whose remarks will be published later in The Canadian Horticulturist.

**VACANT LOT GARDENS**

The great work that has been accomplished in Minneapolis in the cultivation of vacant lots was described by Mr. Leroy I. Boughner, Editor of the Minneapolis "Tribune." Mr. Boughner explained in detail the workings of the garden system in Minneapolis, and of the community farms at Philadelphia and Detroit. He gave both of the schemes credit not only for the benefits resulting socially, financially, and economically, but for their effect as beautifying agents in the cities named. The cost of membership in the Minneapolis clubs is only one dollar, and this secures the privileges of a lot. He claimed that rich and poor entered on the work on exactly the same footing, and the same good results accrued to each. He deplored the fact that even such worthy schemes as the ones cited often fail owing to certain causes which might be removed. The reasons for the failure of such schemes he named as follows. The handing out of lots as "charity," which defeats its own end, the fact that many consider such schemes

(Continued on page ix.)

## The Ontario Horticultural Exhibition

The Horticultural Exhibition this year attained dimensions and an excellence far surpassing anything of the kind ever hitherto seen in Eastern Canada. The great strides that have been made by this exhibition during the past eight years give good reason to believe that within another ten years it will rank as one of the great horticultural exhibitions of the world. The success that attended this year's effort has brought the holding of a national apple show measurably nearer.

The exhibition was held in the horticultural building on the grounds of the Canadian National Exhibition from November 12 to 16. In spite of the unfavorable location large crowds attended. Even this large building was not equal to accommodating all the entries received. Many, therefore, had to be refused. Next year, it is likely that the exhibition will be held in another but still larger building on the exhibition grounds, and that arrangements will be made to hold the various conventions that take place in conjunction with the exhibition in other buildings adjoining.

The floral exhibits, in point of quality, exceeded all previous efforts. The chrysanthemums were particularly fine. The display of honey was remarkably extensive and well arranged, while the exhibits of fruit, in spite of the unfavorable season, gladdened and pleased all the fruit growers who saw them. They afforded a wonderful demonstration of Ontario's possibilities as a fruit district.

Never before has there been in Eastern Canada such a splendid display of apples, although seldom has there been a season so unfavorable to the production of clean fruit. Fruit growers were justified in their

fears that the exhibits this year might not be of as good quality as were staged in previous and more favorable seasons. The damp, dull weather had been peculiarly favorable to the development of apple scab and decidedly unfavorable for the proper coloring of the fruit. It was, therefore, an agreeable surprise to find that in all of the about five thousand boxes, two hundred barrels, and one thousand four hundred plates comprised in the exhibit, there was hardly any scab to be seen. The coloring of the fruit compared favorably with the coloring of the exhibits last year when the season was particularly favorable to the production of good colored fruit. Such is this is great testimony for the efficacy of good spraying, thorough pruning, and up-to-date cultural methods.

### SUCCESS DUE TO COOPERATIVE SOCIETIES

The extent of the show and the personnel of the prize winners afford most convincing testimony of the great influence that cooperative fruit growers' societies now wield. Well over three-quarters of all of the apples on exhibition were placed there by cooperative societies or by members of cooperative societies. Norfolk county, which a few years ago was practically unknown in the fruit growing world, secured over fifty first prizes, thirty-one seconds, and ten thirds. Among their notable winnings were first and second on lots of one hundred boxes each, first on fifty boxes, two firsts and a second in classes for twenty boxes, and the sweepstakes box one of the most coveted prizes of the fair. The winning box was of Spies, grown by R. H. Johnson. A little over one-third of all of the apples at the fair came from

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## Removal Sale

The Sale of a portion of our Nursery Land at Pointe Claire necessitates the removal of our main nurseries.

This land must be cleared next spring and we have decided to offer the stock at a discount of from 25% to 50%.

All stock is first-class and consists of

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**Fifty Thousand ornamental shrub and hardy Perennials, Paeonies, etc.**

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## Fruit and Poultry Farms

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Black loam, one mile from Oshawa station. \$625. \$125 down.

**7 Acres**

Sandy loam and black loam, at Brooklyn Station, \$1,000. Only \$100 down.

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Black loam, one mile from Oshawa Station, \$1,000. \$200 down.

**20 Acres**

Near Lisle, Simcoe County, sandy loam, \$320. \$50 down.

**25 Acres**

Same as above, \$400. \$50 down.

**ALL THE ABOVE CLEARED BUT WITHOUT BUILDINGS.**

**10 Acres**

Whitby township, one mile from station, good house, stables, orchard fine black loam, \$1,500. \$400 cash.

**10 Acres**

Adjoining and similar to above, house and barn out of repair. No orchard fine land, \$1,250. \$250 cash.

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Brooklyn Manor Farm, 34 miles from Toronto, 15 rooms, quarter mile from station, electric light, telephone, barns, stables, water-fall, swimming pool, orchard beautiful gardens, black loam; farm in fine order. \$10,000. Terms easy.

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Norfolk county. Such is the place that has been attained through cooperative endeavour by a one time unknown fruit growing county.

The greatest prize of all, however, went to the fruit growers of the United Counties of Northumberland and Durham. They won the first prize of two hundred dollars and a second prize of one hundred and fifty dollars in the class for one-half carload lots of apples packed in boxes. So carefully were their winning three hundred boxes of Spies packed, that each box contained one hundred apples, twenty to a layer. Their second prize lot of Baldwins were packed just as uniformly with twenty-three apples to the layer in each case. Norfolk county here had to be content with a third placing on their three hundred boxes of Baldwins.

In judging this feature, the judges used a score totalling one hundred, giving forty for packing, ten for variety, twenty for quality, and thirty for grading. On this basis the Northumberland and Durham Apple Growers' Association won first with the following points: Packing, 39½; variety, 10; quality, 17½; grading, 30. Second prize went to the Northumberland and Durham Cooperative Fruit Growers' Association, who produced a grand lot of Baldwins with these points: Packing, 39½; variety, 9; quality, 17; grading, 28. Third place was taken by the Norfolk county Baldwins with this score: Packing, 39; variety, 9; quality, 18; grading, 26½. The points out of 100 secured respectively were 54 by Northumberland and Durham Cooperative Apple Growers' Association 93½ by Northumberland and Durham Cooperative, and 92½ by Norfolk.

All the stuff in these three exhibits was way above the ordinary. The fruit was

superior in quality, color and size. Northumberland and Durham won out with their Spies on account of variety and uniformity in pack. The apples in this first prize exhibit were also of high quality. They won second on packing and grading.

Norfolk had a bunch of apples that could scarcely be beaten anywhere for substance and quality, but possibly lost a higher place through the fact that a train wreck interfered with the excellence in packing that the county is noted for. Every box of the six hundred shown by Northumberland and Durham had the same number of apples in each box, and every apple in the boxes was uniform in size. The success of these counties this year should be an incentive to others for next year.

SHOWING OF PEARS

There was also an excellent show of pears on plates and in packages. The varieties shown were Anjou, Bosc, Clairgeau, Duchess, Kieffer, Lawrence, and Nelis. The leading exhibitors were: W. H. Bunting, R. Thompson, F. G. Stewart, Lewis Haynes, and G. Goring, of St. Catharines; G. S. Peart, Burlington; and J. B. Guthrie, of Dixie. Most of these names were associated also with a fairly good display of grapes. From the orchards of F. G. Stewart and R. Thompson came also collections in competition, showing displays of fruit, other than apples. First was won by Thompson.

There was a very large exhibit of preserved fruits, there being about three hundred and fifty jars from individual exhibitors, and four large displays of well-made goods from Branch Women's Institutes. This display was of special interest to ladies, but it was noticed that the men lingered near them with longing.

Lambton county, like Norfolk, has found

**Douglas Gardens**

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**Bedding Plants**

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At present Mr. Cameron is on the Atlantic bound for Great Britain and the Continent, where he will buy an extensive line of the latest creations in ornamentals, landscape material, and especially high class perennial plants. We shall have a nice stock of large plants for immediate sale.

On his return, Mr. Cameron will take charge of the Oakville plant, which will be devoted almost entirely to ornamentals. As Landscape Expert he is at your service, and we suggest that engagements be made with us now, which will have his attention upon his return.

Our FRUIT TREES are very fine, and we shall be glad to quote prices on your requirements.

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prominence as a fruit growing county largely through the cooperative efforts of its growers. Their exhibit, comprising three hundred and fifty-two boxes, was the most striking at the fair. A map of the county was traced with different colored apples. Brant county also had an attractive exhibit of seventy-six boxes and two barrels of splendidly colored fruit. Brant fruit growers tell you that you can always bank on their Spies, and the excellence of the specimens shown merits attention. Cooperative effort was also responsible for this excellent exhibit. Other excellent county exhibits of box fruit were made by Essex, Huron, and Prince Edward. Other fruit growing districts, notably Hastings county, had numerous entries of fine fruit in competitive classes.

Prominent among the winners in the barrel classes were: P. Walker, T. Howe, Fred Doan, and John Winter, all of Norfolk. In the single box classes some of the best awards went to R. B. Scripture, Brighton, Northumberland and Durham Appl. Growers' Association; T. Cunningham, Norfolk. G. H. Martin & Son, Port Hope Arcona Fruit Growers' Association; John Watson Ontario Co., and F. G. Stewart, of Homer. Other exhibitors too numerous to mention secured high places in the box classes. In the plate classes awards were distributed over the entire fruit growing area of Ontario, but here also Norfolk county was most prominent.

### BEST FLOWER SHOW YET

The florists were nowise behind the fruit men in improving their department at the fair. The flower show was the largest ever seen at the Ontario Horticultural Exhibition, and there were many outstanding exhibits. Roses were an especially strong class. Miller, of Bacondale, after being absent from the shows for some years this year reappeared with the finest collection of roses ever exhibited at this fair. A bunch of Pink Killarneys attracted special attention. Chrysanthemums made a fine showing. Sir Henry Pellatt being a successful exhibitor. The Allan Gardens had a nice group exhibit not in competition and the Exhibition Park two groups of bloom in one of the Park exhibits. Florists pronounced the most perfect that they had ever seen.

The honey exhibits which have shown a tendency to fall off in recent years was this year an outstanding success. "I was at the Madison Square Gardens last year and there were exhibits from six States in the honey section, but the whole together would not touch the Ontario exhibits," said Mr. S. D. House, a United States visitor to the Fair. "I have travelled all over the United States," he continued, "but I have never seen such an exhibit as you can see here."

One of the most prominent exhibits at the fair was a large display of comb, bottled, canned, and brick honey, made by the Ontario Beekeepers' Association. The display was arranged in the form of a circle in the centre of the building. The display of the Middlesex county Beekeepers' Association nearby, lost none of its attractiveness because of its less extent.

### FINE PRODUCTS OF THE GARDEN

Vegetable growers did their best to keep the pace with fruit growers in improving their department of the exhibition. Formerly the vegetable exhibits have been somewhat crowded, but this year they had lots of room, which they used to good advantage. The onion display was usual in size and quality. Spinach, cauliflower, cabbages and cabbages also had good classes. Some of those who did the most to make



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Apple Orchard in Ontario

Ontario is the Land of Promise to the enterprising settler who proposes to grow fruit. Its opportunities to him are unequalled anywhere else. It is the home of the successful and profitable orchard.

Ontario possesses the best fruit-growing areas in the great new world. Her soil and climate insure quality in all agricultural products. Upon her wide and fertile acres general farming, fruit growing, market gardening, and the kindred business of successful vegetable production have all proved splendid commercial enterprises.

## WHY ONTARIO LEADS

### REMARKABLE RESULTS

Ontario produces 60 per cent of all the Plums grown in Canada.  
Ontario produces 70 per cent of all the Apples grown in Canada.  
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Ontario produces 80 per cent of all the Pears grown in Canada.  
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Ontario produces 99 per cent of all the Grapes grown in Canada.  
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There are reasons for the remarkable results achieved. Nature and mankind have joined hands. The fruit grower reaps the benefit of ideal natural conditions and exceptional modern advantages and facilities. Everything contributes to his success.

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Ontario leads in fruit growing because here the fruit finds.  
A suitable soil.  
An ideal climate.  
Land at reasonable prices.  
Unsurpassed transportation facilities.  
Records of large commercial returns.  
A sufficient rainfall with no need for irrigation.  
The opportunity to acquire almost any acreage required.  
A reputation for excellent fruit products, which is a world-wide asset.

Government experimental stations to give the fruit grower counsel free of cost.

The active aid and consideration of the Provincial Department of Agriculture.

Cooperative societies and associations to encourage and assist the individual fruit grower.

Ontario offers big opportunities for industry and enterprise. The capital required is comparatively small. The return on the investment is large, immediate and sure.

## ONTARIO SOIL

There are many soils, suited to a variety of fruits.  
Apples do well on clay loam or gravelly or sandy soil.  
Peaches thrive on sandy loam.  
Grapes and Pears prefer a clay soil.

Plums grow on a variety of soils, but prefer the heavier types.  
Cherries find their ideal conditions in a light, sharp gravel, well drained.

Strawberries and Raspberries thrive on a rich, sandy loam.

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Goulds Sprayers are designed and built to give the best service and to last. They develop, with a minimum of effort, the power needed to force the spray into every crack and crevice. All parts are made to resist the action of spray chemicals—one reason they last. You can choose from our line to meet every spraying requirement.

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this exhibit a success were Brown Bros., W. Harris, F. F. Reeves, and J. Dalbridge of Humber Bay; C. Plunkett, Woodbridge, and C. McKay, Toronto.

Prof. S. B. McCready, who directs agricultural education in rural Ontario schools, had an exhibit that showed what he considered a model country school. The small model of a school house was surrounded by grounds of ample proportions, laid out for games, garden plots for each student and a playground equipped with swings and other devices that children delight in. It is safe to say that the average child's aversion to school would be less were rural schools equipped as was this model. Professor McCready himself was on hand to explain the exhibit.

**SOME THINGS FRUIT GROWERS HEY**

Commercial firms occupied one wing of the Horticultural Building. Among the firms exhibiting were the Niagara Spray Co., Brown Bros., the Auburn and Healdleigh Nurseries, the Harris Abattoir, William Davies and German Potash Syndicate fertilizer concerns, Gould's, with their sprayers, and Carter's seeds.

The Ontario Horticultural Exhibition of 1912 had in it much of promise of still greater and better things to come. It inspired all who saw it by the visions to which it gave birth of Ontario becoming recognized in the near future as one of the great fruit districts of the world.

**Ontario Fruit Growers' Convention**

The big questions of transportation, fruit inspection, and good marketing were placed first and foremost at the Fifteenth Annual Convention of the Ontario Fruit Growers' Association, held in Toronto, November 12 to 16. In days of old educational lectures dealing with the problems of production received most attention at this convention, but times have changed. The increasing number of small fruit growers' associations throughout the province, numerous educational bulletins, and the growing efficacy of the agricultural press, have made it unnecessary for the central organization to devote as much of its energies as formerly to increasing production. The problems of marketing, including the regulation of freight and express rates, are questions that now demand attention by the provincial organization.

The old question of over-production received attention in the Presidential address of Mr. D. Johnson, Forest, Ont. Mr. Johnson advised growers to plant those varieties that command a ready sale. He himself has found that Spies, Snows, McIntosh Reds, and Kings are in great demand at prices ranging from three dollars fifty cents to four dollars a barrel at shipping points. In such varieties as Ben Davis, Baldwins, and Greenings, there is over-production even now, and these varieties are moving slowly at two dollars twenty-five cents a barrel. Mr. Johnson noted the growing preference of Western dealers for fruit grown in the United States and British Columbia. He said that the superior flavor of our Ontario fruit is admitted, but that dishonest and careless packing is losing us the Western market. Another point strongly emphasized was the absolute necessity of cooperation among the growers in marketing. "The crying need of the day is an educational campaign on how to market fruit," concluded Mr. Johnson.

"Transportation Problems" were discussed by G. E. McIntosh, of Forest, a member

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**INTERNATIONAL STOCK FOOD** showed an **increase** in Milk of 14.2 pints daily, and 1.21 pounds of butter daily.

This proves that International Stock Food, added to the regular feed will increase the quantity and improve the quality of milk from every cow.

It shows that International Stock Food aids digestion and keeps cows in better condition. It proves that International Stock Food is a money-maker for the farmer—that every farmer who owns one, or a hundred, cows should feed International Stock Food every day.

Make the test yourself—weigh the milk you are getting now—then feed International for a few weeks, and weigh again. Then you'll see how International Stock Food will make money for you.

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# A crackerjack of a Christmas present

## Big Ben

**R**EMEMBER when you were a kid?—the presents that were all shiny and bright and that worked?—weren't they the ones that you were proudest of?

Something for your room—something you could use all year—something like big people had in their rooms. Didn't sensible presents appeal to you best when you were a kid? Think back a bit and see.

Then think of Big Ben for those boys and girls.—Toys, of course, should never be displaced. It wouldn't be Christmas without them, but mix in useful things—things that develop pride and make little people feel responsible. Give them presents to live up to and to live up with. Don't make the mistake of thinking they don't feel the compliment.—Let one of the fiest things that greets your little boy and girl Christmas morning be that triple nickle-plated, handsome, pleasant-looking, serviceable and inspiring clock-alarm—BIG BEN.

Just watch if they don't say, "Isn't that a crackerjack! Why! is that for me to use myself?"—Then see how proudly they carry Big Ben upstairs "to see how he looks in my room." Just put yourself in that boy's or girl's place.

Big Ben is a crackerjack-of-a-Christmas-present to give to anyone. The fact is, he is two presents in one, a dandy alarm to wake up with, a dandy clock to tell time all day by. And he's as good to look at as he's pleasing to hear.

He stands seven inches tall, slender, handsome, massive, with a big, frank, honest face and big, strong, clean-cut hands you can see at a glance in the dim morning light without even having to get out of bed.

He's got an inner vest of steel that insures him for life; large comfy keys that almost wind themselves, and a deep, jolly ring that calls just when you want and either way you want, five straight minutes or every other half minute for ten minutes, unless you flag him off.

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of the joint committee of the Fruit Growers' and Apple Shippers' Associations, appointed to investigate shipping conditions and suggest ways of improvement. Mr. McIntosh dealt with the problem in a broader way than it has ever been handled before at the Fruit Growers' Convention. Petty charges of pilfering from packages received little attention from this speaker. Instead, he made a sweeping indictment of overcharging and inefficiency in transportation on the part of our railway companies, as a result of which Canadian producers are being driven off their own Canadian markets. Mr. McIntosh took the market at Sault Ste. Marie as an example. The rate of fruit from Lyons, N.Y., to the "Soo" was found to be forty-two cents a cwt., while Western Ontario growers are charged fifty cents a cwt. As a result of these discriminations, United States fruit growers have almost monopolized this Canadian market.

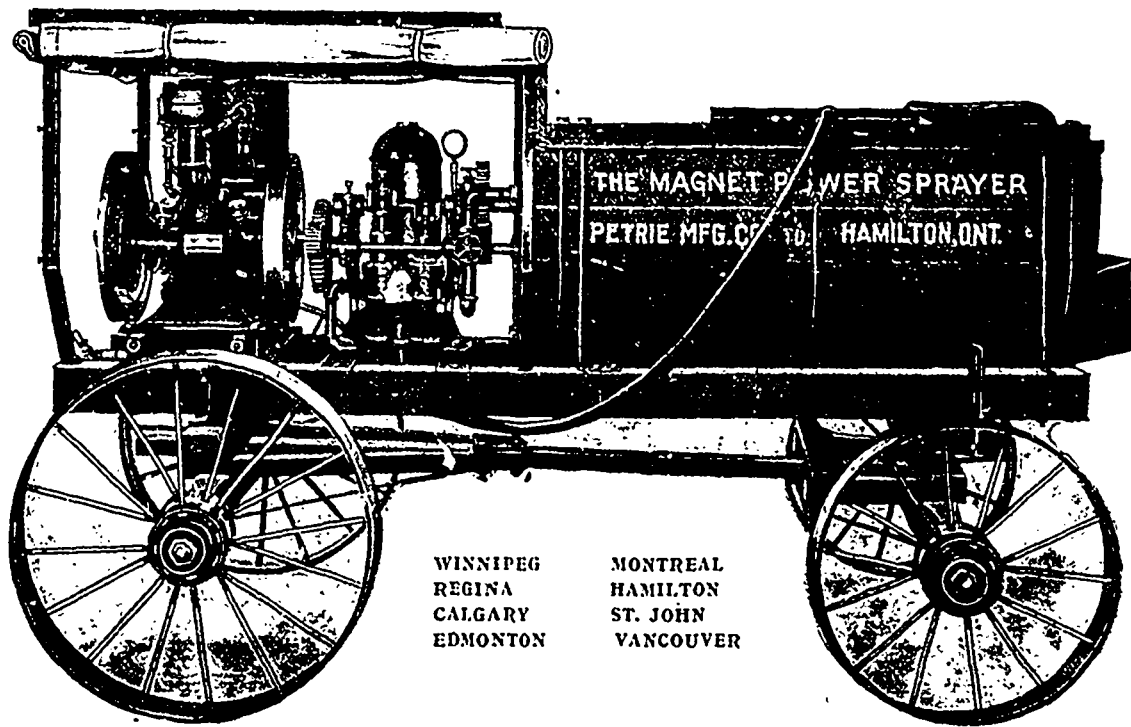
An investigation into freight rates on American and Canadian lines brought out the following: Rate from Minneapolis to Sault Ste. Marie, four hundred and ninety miles, thirty cents; Forest, Ont., to Sault Ste. Marie, three hundred and twenty-five miles, fifty-four cents; Chicago to Sault Ste. Marie, three hundred and forty-seven miles, onions and vegetables, six hundred and seventy-four miles, twenty-two cents; Forest to Sault Ste. Marie, three hundred and forty-seven miles less, twenty-six cents. Rates east of Winnipeg are not as satisfactory as they might be, but West they are altogether exorbitant. A carload of apples can be sent from St. Catharines to Winnipeg, one thousand two hundred and thirty-four miles, for one hundred and twenty-seven dollars twenty cents. To send the same carload four hundred and eighty-nine miles further to Saskatoon would cost ninety-one dollars twenty cents additional. Is it any wonder that Ontario growers are losing the western market?

**FRUIT TO GARGARY AT THREE MILES AN HOUR**

Mr. McIntosh recommended that measures be taken to force the railway companies to carry fruit at a rate of at least ten miles an hour. One shipment of apples to Calgary which had been traced did not average three miles an hour. Another to Regina averaged six miles an hour, and the average of fourteen carloads to Winnipeg was hardly seven miles an hour. Losses sustained by individual growers from these delays had amounted in some cases to over three hundred dollars. The Railway Commission cannot deal with this question until evidence is submitted that will prove the entire system defective. Mr. McIntosh suggested that it would be only just that when a grower had to wait for more than three days for a car, that the railway company bear the loss sustained. A significant feature noted by the speaker was that car shortage was most noticeable at non-competitive points.

### A NEEDED PRIVILEGE

A further reform urged by the committee that Mr. McIntosh represented, was that growers be allowed to complete cars in transit as is permitted with almost all other lines of goods. This is a reform that would be of particular benefit in districts where fruit is not a specialty and where it is difficult to secure an entire carload at one point and at one time. The inefficiency of the railway service is well illustrated by their failure to provide refrigerator cars in sufficient numbers to accommodate increasing traffic. Mr. McIntosh cited one railway company that has ten refrigerator cars less than it had four years ago and in the meantime the tonnage carried has grown



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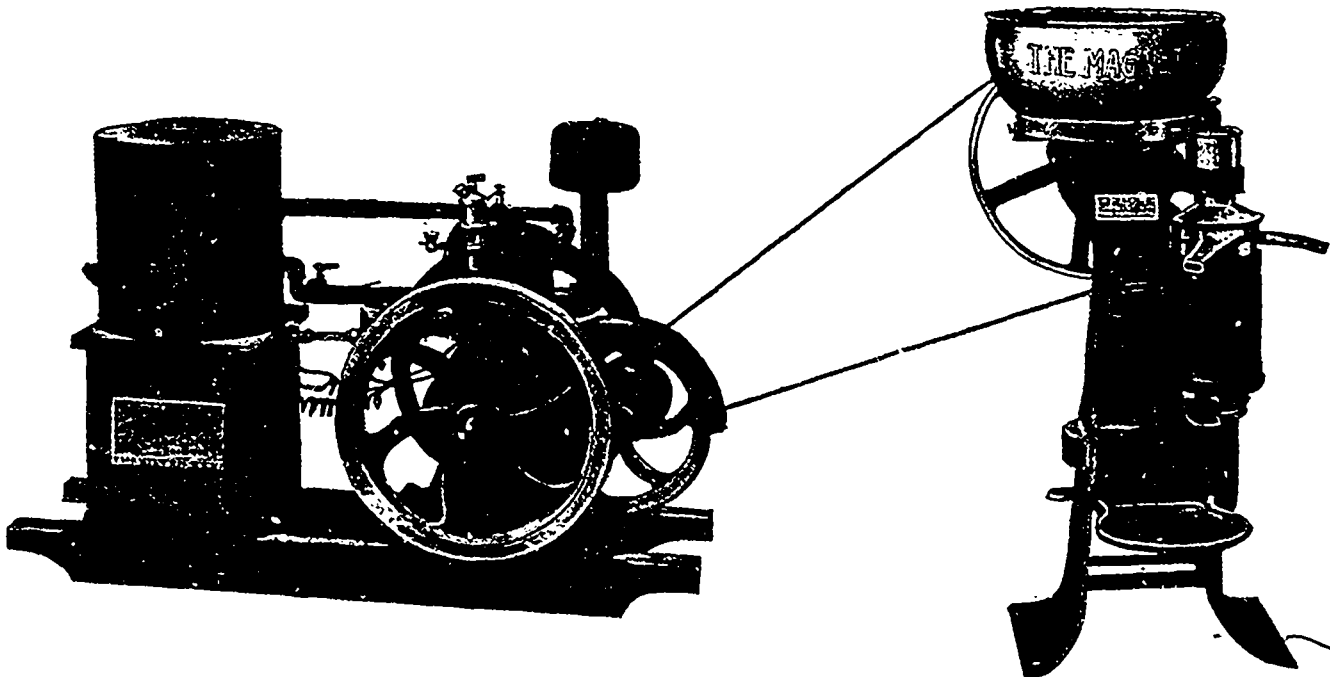
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increased. An increase in the powers of the Railway Commission in order that they may settle the vexed question of claims, which must now be settled by costly court procedure, was another important recommendation by this speaker.

**SAN JOSE SCALE IN NOVA SCOTIA**

Dr. G. Gordon Hewitt, Dominion Entomologist, traced the recent outbreak of San Jose Scale in Nova Scotia to Ontario nursery stock. Living scale was found on one hundred and twenty-seven properties on the 1912 stock alone. In every case the stock had been purchased from Ontario nurserymen. Stock imported from United States and fumigated by the Dominion authorities was all free from the disease. As a result of the outbreak the provincial government of that province has passed an order that all imported stock be accompanied by a certificate of inspection and that stock imported from any other part of Canada must be fumigated after it reached Nova Scotia at two points named.

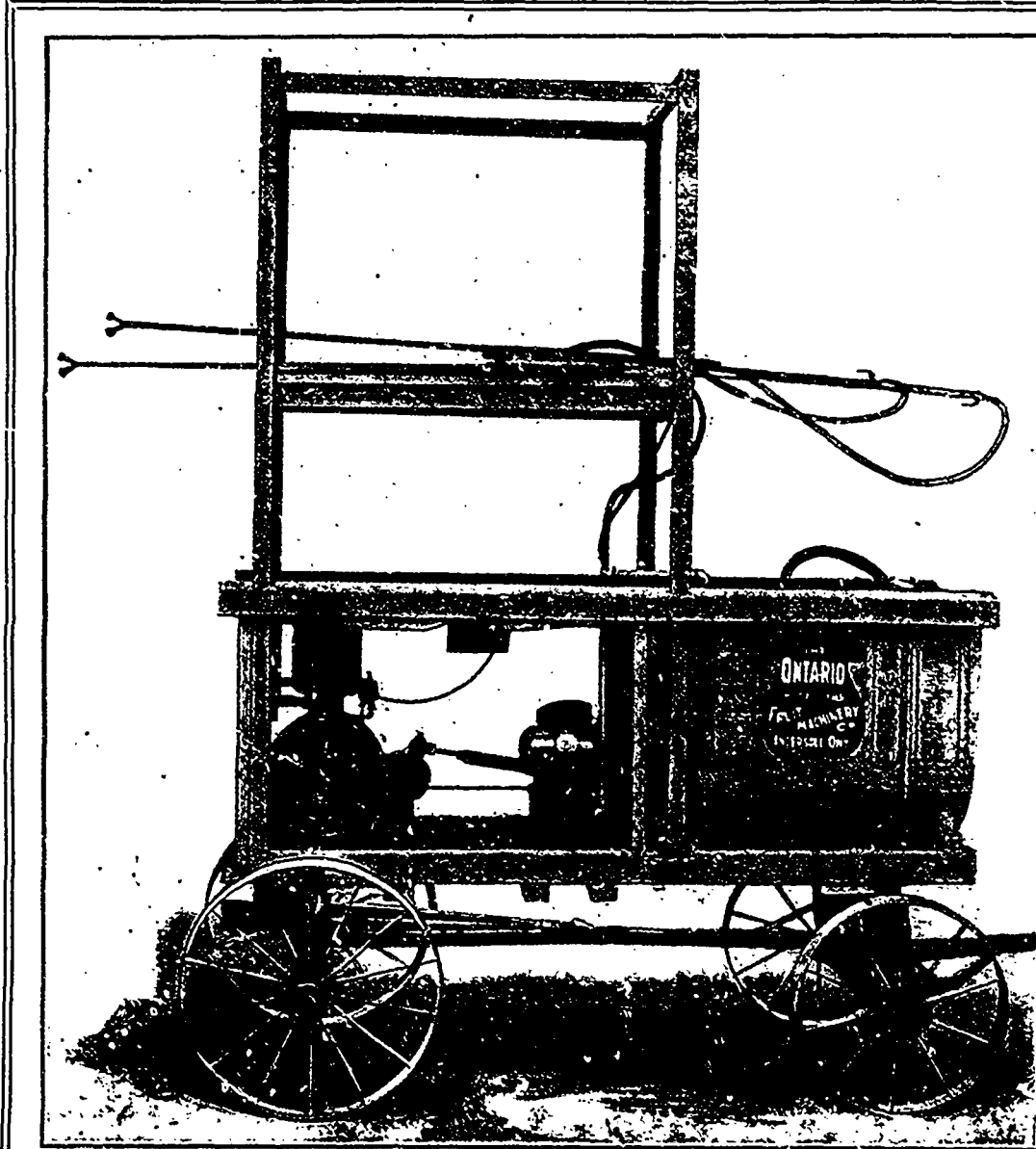
Mr. Morris, representing the nurserymen, asked if the Dominion Government could not prevail upon the Nova Scotia people to accept fumigation by Dominion officials at Ontario nurseries, thus doing away with the necessity of a second fumigation in Nova Scotia. He also pointed out that of

one hundred and fifty-seven thousand trees shipped to Nova Scotia only six hundred and ninety-three had been infested. Mr. P. W. Hodgetts intimated that a result of the Nova Scotia disclosures would be a closer supervision of the nursery stock sold in Ontario.

The Thursday morning session was conducted in the Horticultural Building at the Fair. Mr. P. J. Carey, Dominion Fruit Instructor, defined a number one apple and by means of specimens told the growers how to select the different grades. Prof. J. W. Crow gave an address on "What Fruit Shall the Ontario Shipper Put Into Boxes?" As the market is at present this package is only adaptable to number one fruit, and that of the best varieties. If lower grades are boxed the reputation of the box as a container of first-class apples suffers. He recommended Kings, Spies, Spitzenburgs, Snows, and McIntosh for box packing.

**SPLENDID RETURNS FROM FERTILIZER**

"Fertilizers for the Orchard" was dealt with authoritatively by J. P. Stewart, Experimental Pomologist, at the Pennsylvania State College. His deductions were based on six years of work in ten experiments located in the leading apple sections of Pennsylvania and involving ten different



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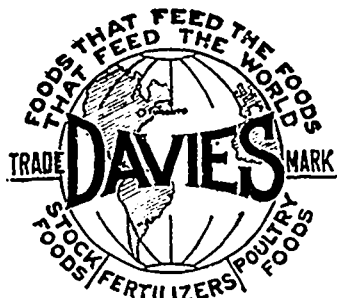
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types of soil and two thousand two hundred and nineteen trees. The trees ranged from ten to forty years of age and have produced one million seven hundred thousand barrels of fruit since the work started. In this work Dr. Stewart has secured as high as one thousand seven hundred per cent. of an increase through fertilization and net profits as great as four hundred and twenty dollars an acre in a single season. In the absence of nitrogen, phosphate and potash have not been profitable; nitrogen has a greater influence in increasing yield than any other element; the best growing plots have been the best fruit plots; in some orchards some fertilizers give good results, there are no results whatever in others; the only way to know definitely how to fertilize an orchard is to conduct small plot experiments in each orchard.

#### TROUBLES OF THE GROWER

The new Provincial Entomologist, L. Caesar, B.S.A., of Guelph, dealt with "Common Insect Pests and Fungus Diseases." As a remedy for the Oyster Shell Bark Louse, Mr. Caesar advised the scraping of the trunks and efficient pruning of the top to ensure thorough spraying in the spring. Lime-sulphur (1-7) was recommended as a spray mixture, this spray, of course, to be applied when the tree is dormant. The apple aphid, Mr. Caesar described as one of the worst pests in the orchard due to its enormous powers of reproduction. Natural enemies usually hold them in check, but in cold, wet seasons they thrive. The speaker had found that the addition of one half a pound of "Aqua Forty" to a barrel of lime-sulphur spray mixture had proved efficient. It should be applied as soon as the aphids are discovered as once they get started reproducing it is difficult to check them.

The Plum Circulio and other pests may be got rid of by clearing away rubbish, cultivating moderately deep and spraying as for Codling Moth. With cherries and plums spray as the fruit is setting. In fighting the Codling Moth, Mr. Caesar laid special emphasis on the time of spraying, which is just after the petals have fallen and before the calyx has closed. The addition of two pounds of arsenate of lead to the lime-sulphur mixture (1-40) has been found efficient.

Apple Scab, which has been especially serious this season, starts to develop just as the blossoms open and makes rapid growth until the fruit is well set. After that the growth is slow. The second spraying with lime-sulphur just before the blossoms burst is the effective application. Another spraying should be given just after the blossoms fall. To be effective these sprayings must be very thorough. This last year there was a second attack of apple scab in August. An application of lime-sulphur about August 15th was found to check the disease.

Black Rot Canker, the disease that causes dead areas on large branches, is usually due to planting varieties too tender for the climate, and it may generally be prevented by selecting hardy varieties. If the orchard is already established, Mr. Caesar recommended cleaning the bark off the dead areas, washing with lime sulphur or blue-stone and then painting with white lead. On the smaller branches bark on dead areas might be removed with a hoe and covered with coal tar. Careful spraying and cultivation also tend to check the disease.

Inky Spot, another disease serious this season, may be checked by spraying with lime-sulphur the first of August. A spruce (Continued on page x.)

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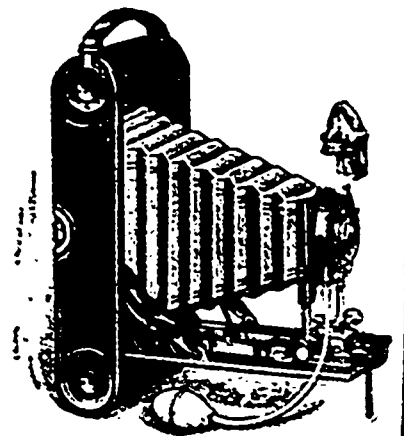
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