

Pages Missing

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Care of the Peach Orchard

F. M. Clement, Dutton, Ont.

It is generally considered in Ontario that peaches can be grown only in the Niagara peninsula, in a limited section in Lambton county, and in the Leamington district, but this is not so. Norfolk county is fast showing the public that it is entitled to a place, and along the shore and on a number of the gravel ridges through Elgin and Essex counties are to be found to-day some excellent orchards. I believe, too, that in the very near future these counties, that is Norfolk, Elgin and Kent, will be competitors with the counties in which the industry is already established. In these sections they have no injured reputations to overcome. I do not mean that in the established sections they have a poor reputation, but they have sometimes sent out fruit that is not up to the standard. This year there came to my notice a shipment of fruit from the Niagara peninsula, that had been sold on order, which on being opened caused the dealer to remark: "I do not want any more fruit from there;" and the next orders went to the west, where there had been no hailstorm, instead of to the east.

SELECT GOOD VARIETIES

The first essential in the orchard is to

have good varieties; it is very difficult to give a list that is suited to all sections of the province. It is much better to go to some neighbor, who is making a success of the business, and see what he is doing. The varieties that are doing best for him will probably do best for you.

We find growing to-day in large numbers such varieties as Longhurst, Sneed, Rivers and Alexander. While I do not say that these varieties should not be grown, still they should have no large place in the commercial market. There are many other varieties that have no place there also. In every orchard that I visited in the Niagara peninsula two varieties at least are grown, and I did not visit a single orchard in which both varieties were not to be found. These two are Yellow St. John and Elberta. The Smock stands, perhaps, as next choice.

It is surprising how little a great many prospective growers know of peach culture. There came under my notice this summer an orchard of about four acres, now three years of age, in which the owner had grown his own trees from pits selected in the neighborhood from trees that were producing fruit of fairly good quality. He expected to

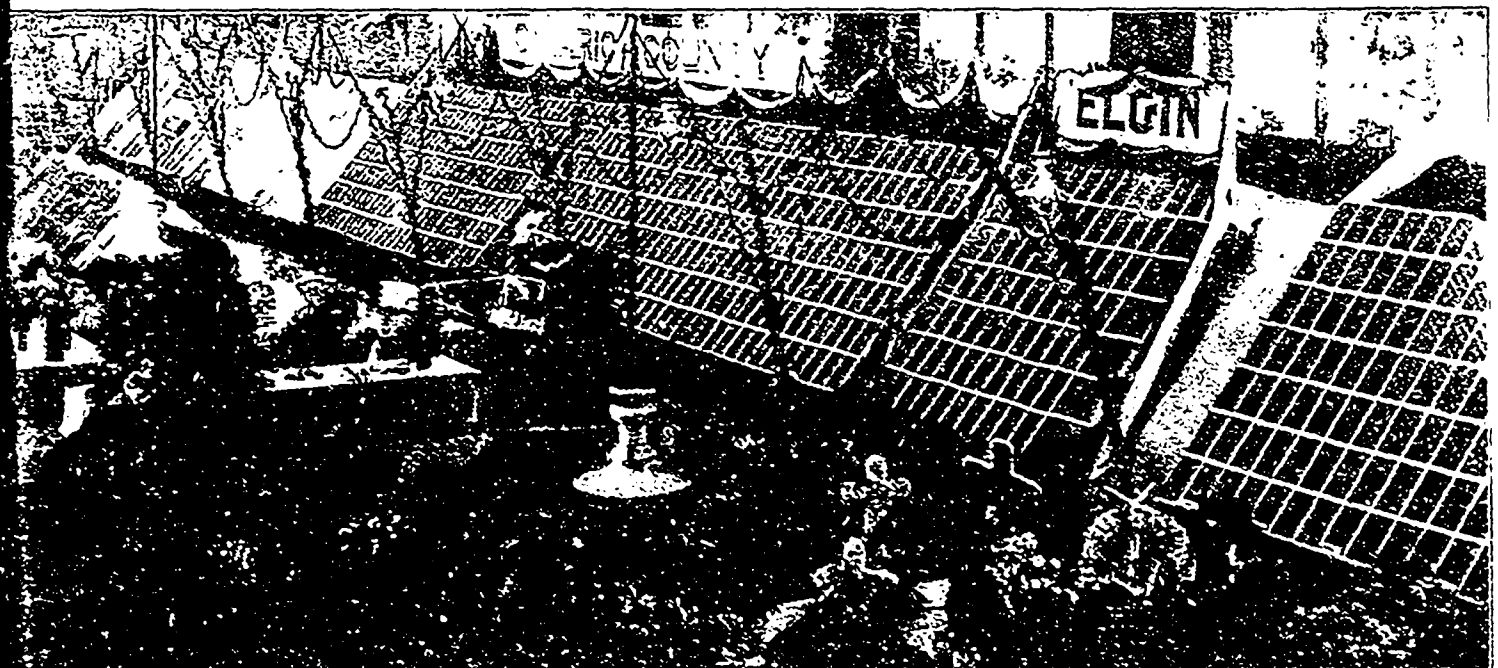
get varieties true to name. When asked why he did not bud them he stated that the trees purchased from the nursery usually seemed to contract a disease at the junction of the bud and the root stock. The disease was really the bore working where he stated because he had not planted the trees sufficiently deep.

SOIL REQUIRED

The kind of soil on which the trees are planted is not so important as the drainage of that soil. There are a large number of orchards doing exceptionally well on a very heavy clay, and some are doing equally well on a light sand, but in every case where they are doing well on the clay it is well underdrained. On a soil, with an impervious subsoil, the roots cannot take their natural course and spread out deep down in the soil. I dug up a number of dead trees on a soil of this nature last summer, and in every case the roots spread out horizontally and were very near the surface. They had not in any case entered the cold wet subsoil.

In a soil to which the trees are adapted naturally the roots go down very deep much the same as the pine or chestnut; in a soil to which they are not adapted it is often necessary to bank them up considerably to get enough soil

*Extract from a paper read at the annual convention of the Ontario Fruit Growers' Association, held in Toronto in November



An Idea of the Extent of the Exhibits at the Ontario Horticultural Exhibition, held in Toronto last month may be obtained from this illustration

to cover the roots. This latter method is very noticeable in some orchards where they believe that by leaving the trees on the ridge on the land they can get sufficient soil and sufficient drainage to make them thrive.

Some practical instances of lack of knowledge in pruning are also seen through the country. In some orchards the trees have been planted just as they came from the nursery without being headed back or shortened, and to-day they stand as monuments of some one's folly with trunks from four to six feet in length and with branches coming out all along it. Another instance that came under my observation is that of quite a large orchard in which the nurserymen had instructed the grower to cut back all to fourteen inches, and the grower had obeyed him implicitly without the slightest consideration for the size of the tree or bud growth on it. The question of cutting back young stock and heading in severely at one, two and three years will admit of a great deal of discussion.

In sections like Kent and Elgin and parts of Lambton, heading back too severely does not do, as the growth is too tender to stand the severer winter. In these sections very little cutting back should be practised. In the Niagara peninsula we have the two extremes, that in which the grower does not thin out or cut back his tree until three years of age and that in which the tree is systematically pruned summer and winter to produce a head according to the grower's idea. There is more danger from freezing when the tree is cut back than when it is not, and it requires much more skilful orchard practice to bring a severely pruned orchard through a severe winter. Many claim that on an average more fruit is produced on the unpruned tree at three years of age than on the pruned tree. I am not prepared to say which is better, but I do say that

if you are cutting back in any section, except the Niagara peninsula, cease cultivation in early July and sow a cover crop to harden and prepare the fruit buds for winter.

Our best growers differ a great deal in their opinions as to what is the best method of cultivation. A large number plow twice in the year, some plow only in the fall, some only in the spring, and some do not plow at all, and a large number have no regular system. In the eastern townships of the Niagara penin-

sula to twenty who plow both spring and fall, fifteen plow in the spring only and seven in the fall only, and three do not plow at all, and seven plow when they are ready, not when the trees are. Those figures are given relatively. I believe though that the tendency is to plow less and that the use of extension orchard implements is gaining ground. Three or four of our best growers do not plow their bearing orchards. They use the extension disc and the spring tooth harrow.

The Railroad Worm or Apple Maggot*

W. A. Ross, Bowmanville, Ont.

THE Railroad Worm or Apple Maggot is not, as many suppose, a new pest in Ontario. Its occurrence in Lennox county in eighteen hundred and ninety-five was recorded by the late Dr. Fletcher in the Central Farm Report for eighteen hundred and ninety-six. Since then it has extended its range considerably and has gained in notoriety every year. I have now records of it having been found in the following counties: Prince Edward, Lennox, Hastings, Frontenac, Northumberland, Durham, Ontario, Wentworth, Lincoln, Welland, and Norfolk.

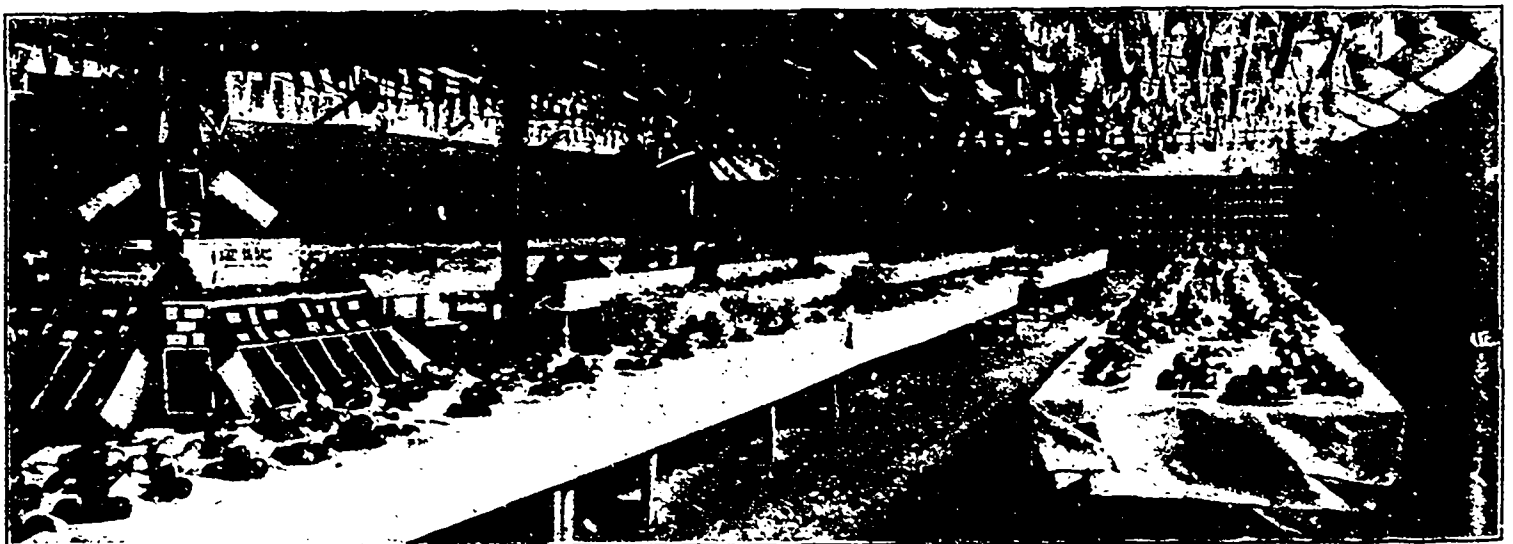
Fruitgrowers from the eastern counties are all more or less familiar with the work of this destructive pest—it is responsible for what is commonly called "railroaded" or "woody" apples. The flesh of such fruit is characterized by the presence of winding, brownish streaks, which are the burrows or tracks of Railroad Worms or tiny maggots, who lead a parasitic life within the fruit. These maggots or worms are the larvæ of a two-winged fly, whose handsome

exterior somewhat belies its evil character. It is somewhat smaller than the house or typhoid fly, is of a general black color, with yellowish head and legs, prominent greenish eyes and barred, pictured wings (each wing is crossed by four dark bars). In the female there are four, in the male three, white bands across the abdomen.

LIFE HISTORY

The insect passes the winter as a pupa in the soil. The pupa somewhat resembles a kernel of wheat. In eastern Ontario adult flies first begin to put in an appearance during the second and third weeks of July, and they continue to emerge from the soil over a period of four or five weeks. The female, by means of a sharp instrument, an ovipositor, punctures the skin of the apple and makes a minute, cylindrical passage in the flesh, into which the egg is laid. The egg puncture appears at first as a minute brown speck, but later it becomes the centre of a small depression. The egg hatches in about six days' time, and the young maggot, which at this stage is not visible to the naked eye, then proceeds to burrow here and there

*A paper read at the annual convention of the Ontario Fruit Growers' Association, held in Toronto, November, 1911.



A View of the Plate and Boxed Fruit Exhibits at the Recent New Brunswick Horticultural Exhibition. Notice the Splendid Display of Boxed Fruit.

through the flesh of the apple. It may wander near the skin and work just beneath the cuticle, giving rise to those external grooves so commonly seen on infested Spy apples. It is very interesting to know that the rate of growth of the larva keeps pace with the maturing of the fruit. When the maggot is full grown, the apple is almost invariably in an over-ripe to a rotten condition, and is usually, of course, on the ground. The full grown larva leaves its apple abode and works its way into the soil to a depth ranging from one-half to two inches, and pupates there. A few larvae may go deeper than this and others may pupate immediately beneath the decaying fruit. The insect then remains at this stage in the soil over winter, and emerges as a fly the following summer.

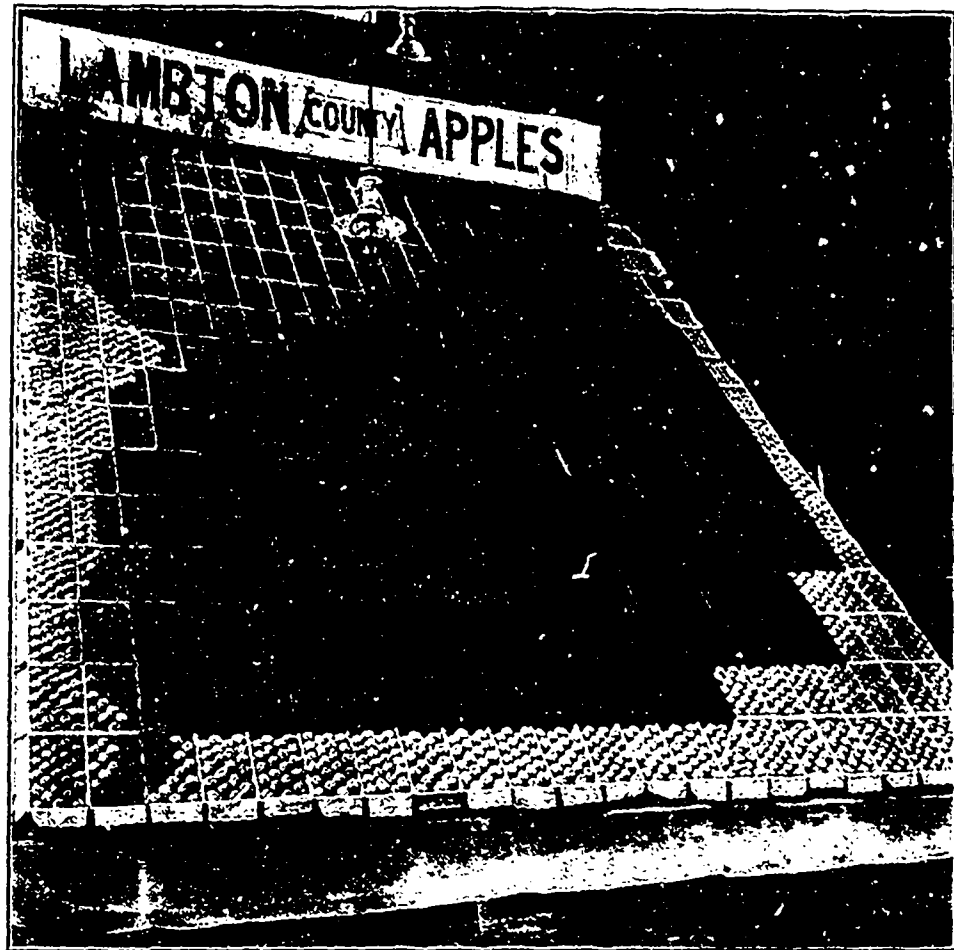
SPREAD

The sluggish nature and stay-at-home tendencies of the fly make it a very poor immigrant—it spreads very slowly on its own initiative. It may confine its attack to a single tree in an orchard for a few years before spreading to the neighboring trees. As to how the insect has extended its range in Ontario, I can only offer theories. A considerable amount of Apple Maggot infested fruit is barrelled and shipped every year. Maggots emerging from such fruit naturally pupate in the barrels and so most probably the pest has been disseminated to a very large extent as pupae in barrels.

Housewives may be held responsible for the introduction of the Railroad Worm in some orchards in the following way: Infested apples are bought at the market, taken home, many of them on account of their "woody" nature prove to be worthless and are thrown into the back yard and there they become a source of infection to the trees in the neighborhood. Strong winds may be instrumental in the spread of this pest, but I can only base this belief on purely circumstantial evidence, which I have not time to give now.

METHODS OF CONTROL

The most reliable remedial measure is the gathering and destroying of the fallen fruit. This does not mean that drops have to be picked up every day. If the summer apples are picked up twice every week, the fall apples every week, and the later varieties once every two or three weeks an infested orchard will be freed from this pest. I have found that a very high percentage of the larvae in early apples mature and leave the fruit, and also that an exceedingly high percentage of them in the winter varieties perish in the fruit, so my advice to all who are troubled with this pest is to attend very carefully to the destruction of summer and fall "drops." In the eastern counties this work need



Lambton's Great Exhibit at the Ontario Horticultural Exhibition

The fruit growers of Lambton County, Ontario, proved their claim that Lambton is one of the best fruit growing counties in the province by the display of fruit they made last month at the Horticultural Exhibition in Toronto. The fruit, which was of excellent quality, was arranged to show the map of the county. The exhibit attracted general attention, and was highly praised by all who saw it. It contained 350 boxes of fruit.

not be commenced until about the second last week of July.

This control work can, of course, be done by keeping hogs, sheep or other stock in the orchard, but now, when evaporators are paying as much as forty to sixty cents per hundred for "drops," even fallen apples are too valuable to be given to stock—pick them up and take them to the evaporator. In this connection I might say that I believe that the owners of evaporators are unconsciously doing a magnificent work in the control of this pest. Fruit growers are finding that the trade in "drops" and "culls" is sufficiently remunerative to more than pay for the time and labor expended in picking up apples. The result is that thousands of infested apples, which otherwise would have propagated and spread the trouble are being destroyed every year. I have on different occasions gone into evaporators in Durham and Hastings counties and have found "railroad" apples.

USE OF POULTRY

Chickens are remarkably fond of Railroad Worm pupae. In the case of a small infested orchard, it would be an excellent plan to cultivate the orchard

and convert it into a poultry run.

Shallow cultivation has often been recommended as a remedial measure. It was given a trial this year, but did not yield very satisfactory results. However, I shall give it another trial before I lose faith in it altogether.

SPRAYING

A certain investigator in the United States puts forward the claim that he has had splendid success in controlling this pest with a sweetened poisonous spray mixture; however, I do not want to advocate spraying until it has been thoroughly tested. The department hopes to try several spray mixtures next year, and its success or failure in this connection will be found in the Railroad Worm Bulletin which Mr. Caesar hopes to publish next season.

In regard to the varieties attacked and their degree of infestation, I would say that Harvests, Tolman Sweet, September, Snows and Spies are probably the worst attacked in Ontario. I have listed over thirty varieties which I have found pest-ridden, and I am inclined to think that no variety is exempt from attack. Any insect that would feed on Ben Davis, as this one does, is liable to

than sub-acid and sweet apples.

In my season's work I noticed that all the infested orchards with which I came in contact were in that class known as the "Neglected." This has also been Mr. Caesar's experience, so we are almost forced to the conclusion that in some way not clear to us, good orchard practice keeps the "Railroad Worm" out of the orchard.

Growing Nursery Stock*

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

In cutting back the trees that have made one year's growth, we cut back the following spring almost to the ground, and in that way we get the second year a very strong, healthy growth, which usually matures well before the winter. At Ottawa we get the most satisfactory results from root grafting our trees on crab apple stock. This is because in the cold parts of the country, as well as in New Brunswick, Quebec, and Eastern Ontario, we find that apple trees will not succeed on as cold soils as they will in the south of Ontario or the Annapolis Valley, hence it is most important, if we cannot have the soil as well drained as we desire, to have roots which will withstand such as nearly as possible. Crab apple trees will succeed in cold soils much better than apple trees; you will find them growing in wet land where apples would not stand. We believe for our conditions it is well to have our apple trees grafted or budded on these hardy roots, as being able to withstand the colder condition of the soil the tree will do better. After twelve years experience, I am more and more confirmed in this opinion.

SOW IN THE FALL

We sow the seed of the Martha, Whitney or Hyslop in the fall, and make nursery beds; the first thing in the spring these seeds will germinate and almost every seed will come up. We leave the seedlings in the beds for that winter; the following spring we set them out in the nursery, putting the trees six inches apart in rows three feet apart. You can either leave these trees for budding or use them for root grafting. We prefer root grafting, for the reason if the farmer is going to have a small nursery it is much easier to graft in the winter than in the summer, when one is usually very busy. The second year we dig up these young trees and heel them in in the cellar, and during the months of February and March we root graft on these stocks.

We allow the stock to grow two years before we graft, and sometimes put them in hotbeds and force them to be seedlings. About the first of June, after danger from frost is over, they are transplanted to nursery rows. In that way you can get very fine trees, large enough the first year.

In the spring, cut back one-third of the top of a three year old tree. The first buds to start in the spring are the top buds, and if you cut back too severely you will delay the budding some time and the tree will make about one-half its growth in the year, and sometimes just leaf out. If a severe winter follows it is almost sure to die. During the last few years with trees from our nursery I prefer to leave almost the whole top on, but I take out the unnecessary wood. You should cut back to the bud which is on the outside of the branch so that your branches will not run inside the tree. In getting trees from a distant nursery, or where you do not know how long they have been out of the ground, I think it is necessary to head back the trees quite severely when planting so as not to exhaust the moisture. You had better head back nursery stock about one-half of the growth all over the tree. Leave all the roots on, except broken or damaged ones. Do not put old manure in the hole, as you are liable to burn the roots. The best land on which to grow your nursery stock is a rich, well drained, sandy loam, a soil with possibly a gravel subsoil. Use soil which will not encourage a late growth of the tree.

Ontario vs. British Columbia

There seems to be a great deal of advertising done, promoting fruit growing and fruit lands in British Columbia. They quote fruit lands at from three hundred dollars to three hundred and fifty dollars an acre. At what age do trees come into bearing on this irrigated land? Is the quality of the apple ahead of the central Ontario grown fruit and the production per acre any greater? I have about seventy-five acres of young orchard in Northumberland county, and a friend of mine is thinking about purchasing some orchard land in the Okanagan Valley. I have been persuading him to set out an orchard here in Ontario, where land can be purchased for seventy-five dollars an acre. Please let me know how the two propositions compare.—W. W. F., Northumberland Co., Ont.

As regards the possibilities in apple culture in British Columbia as compared to Ontario, we will discuss the question only from a financial standpoint and as a business proposition. Ontario possesses many advantages as an apple producing section all of which are possessed to a greater or less extent by British Columbia. British Columbia is at present importing far more apples than she is exporting, the figures for last year being twenty-eight thousand one hundred and three barrels imported, and one thousand nine hundred and twenty-three barrels exported. Consequently, prices are much higher in British Columbia than they are in Ontario. This may be changed considerably when British Columbia begins to export large quantities of apples, as she will in a few years' time. The price may then drop to meet the lower prices prevail-

ing in Oregon and Washington States.

British Columbia claims an advantage in the superiority of the color and size of her apples, while Ontario claims superiority in quality. This may be true and the apples may differ considerably in the two provinces, but the apples of either province, when well grown, can compete successfully on any market of the world against the apples of any other country. There need be no fear of the apples of either province begging for a buyer.

COST OF LAND

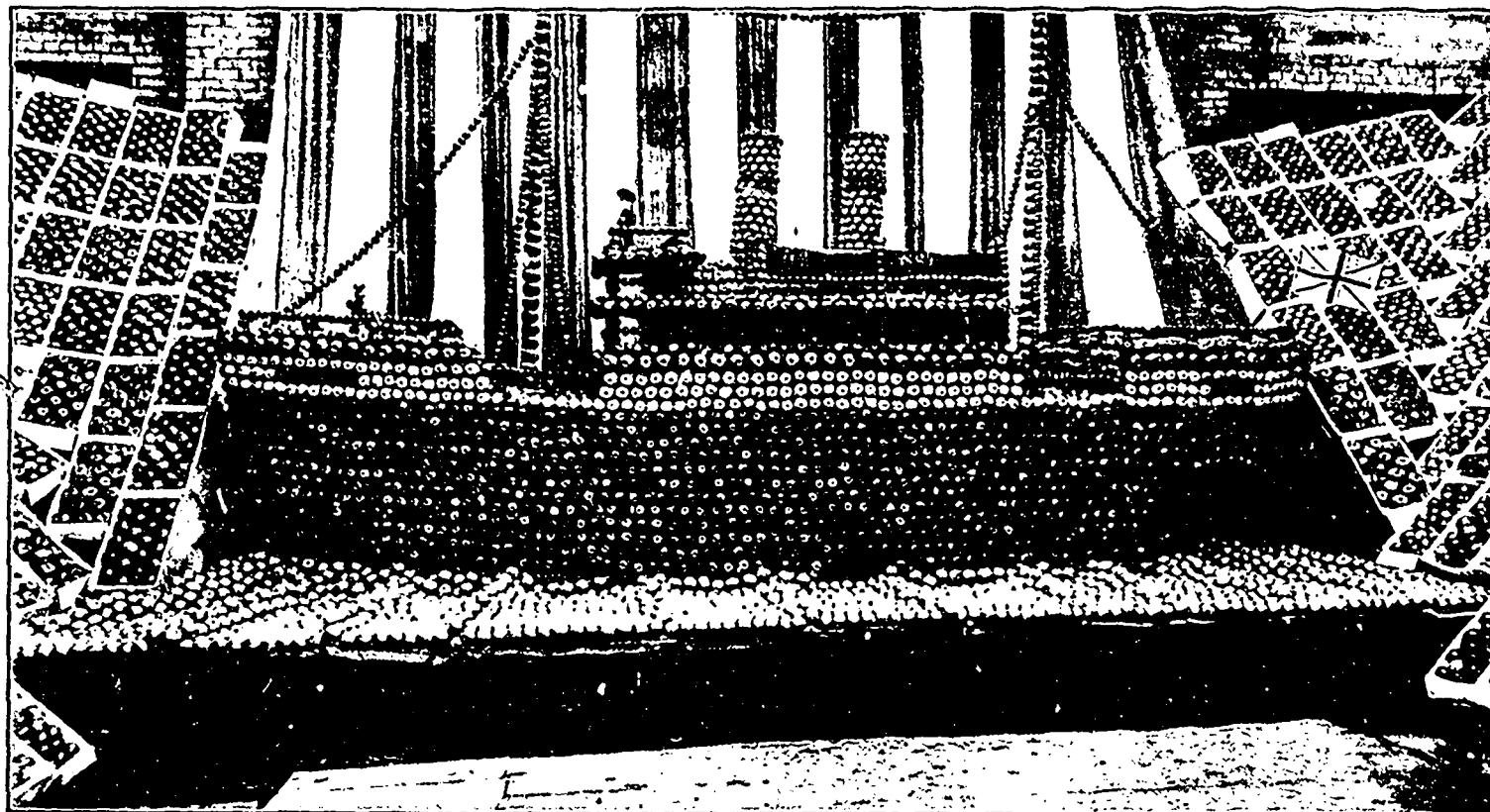
As our correspondent states, lands are quoted as high as three hundred dollars to three hundred and fifty dollars an acre in British Columbia, while good lands suitable for apple growing in Ontario can be purchased around seventy-five dollars an acre. This should be the deciding factor in locating an orchard. The mere cost of the land at three hundred dollars per acre in British Columbia will buy the land, pay for the trees, and bring an orchard into bearing in Ontario. One must consider that cost of living, labor, material, and supplies are higher in British Columbia than they are in Ontario, consequently the returns should be proportionately high.

In British Columbia young apple trees come into bearing at a very early age. It is supposed that they require a longer period in Ontario. This is largely due to the lack of method in Ontario in the past rather than to climatic or other disadvantage which she may possess. The writer has seen four-year-old apple trees in Ontario producing a heavy crop of fruit under the proper methods of culture and general care. Of course, all varieties will not produce at this age, neither will they do so in British Columbia. The best orchards in Ontario will warrant the statement that trees will produce as regularly, as heavily, and almost as early as they do in British Columbia. But we must remember that a variety suitable for British Columbia may not prove suitable for Ontario, and care should be taken to choose varieties that have proved satisfactory in the section in which it is intended to plant.

THE CONCLUSION

If our correspondent makes a good selection of apples, using early bearing varieties as fillers for the later bearing, larger growing varieties planted as standards, and buys land in a good apple section in Ontario, he should never regret it. Let him adopt good methods of culture, fertilizing, pruning, and spraying, as many growers in Ontario are doing, and he has a safe and sound investment. True there may be many difficulties in either province to overcome, but the progressive growers of both provinces have demonstrated that all difficulties may be successfully overcome.—G.B.

*Concluded from November issue.



A Ship of Apples that was Highly Praised at the Recent Ontario Horticultural Exhibition

One of the features at the recent Ontario Horticultural Exhibition held in Toronto was the ship of apples and a display of boxed fruit, only a small part of which is here shown, that was made by the united counties of Northumberland and Durham. Notice how apples are arranged in the foreground to represent waves. Exhibits of this nature tend to greatly increase the value of the fruit lands in the counties that are enterprising enough to make them. This ship was about twenty feet long. Fifteen barrels of apples were required for this exhibit. About six hundred boxes of apples were shown on each side.

Garden Grown Decorations

Mrs. Annie L. Jack, Chateaugay Basin, Que.

A holiday appearance is given to a dining and living room in winter if the decorations for that season are leaf and fruit that have the association of being grown in garden or woodland. The "American Holly," as the "Mahonia Aquifolia," is often called, is a member of the Barberry family, but its shining green leaves have the same prickly points and appearance as the English holly so prized at that season by tradition.

The mahonia is a handsome summer shrub if well established. The flowers are yellow, resembling the barberry, but there the likeness ends, for the fruit is a blue berry the size of a large pea, and for this reason the plant is sometimes called "Oregon grape." Sprays laid against a wall are effective, mingled here and there with red barberries or "Physalis Francheti," called "Chinese lantern" plant. This is an easily grown perennial that was taken to England from Japan by James Veitch, and cultivated by M. Franchet in the Jardin des Plantes.

The fruits somewhat resemble a husk tomato and are a brilliant orange red. They will last for years as a decoration if put away carefully from the light, and look well mingled with sprays of hemlock or pine.

The flower is rather insignificant and the plant of straggling growth, but well worth cultivating for its fruits, for color is needed among the greenery, and the real always prove more attractive than the artificial. The "Lanterns" turn red in September and can be picked with long stems, and dried in a warm airy place, ready for use. On a bracket, under a picture or in the centre of a mantel a poinsettia can be placed, its terminal bracts of fiery scarlet leaves being very effective.

It can be grown during the summer in the garden in pots sunk in the ground, but does not endure frost, being a native of Mexico, in fact it was named after Joel R. Poinsette, the American minister to that country, who first discovered it.

Fortunate are they who have been forehanded enough to gather in the woods some ground pine and hemlock, for it makes decoration easy. The crimson and yellow and variously tinted leaves of the maples are utilized by one decorator, who presses and varnishes them, and forms them into some simple design.

A pretty decorative plant is "Ardisia crenulata," with its glossy green leaves and vermilion berries that are so accommodating as to remain all winter on the plant.

By preparing through the summer

these decorative plants can be made to do their share towards bringing the garden to the living room and so, "Make things pleasant in one little place."

The Care of Tulips

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

Can you use the same tulip bulbs for several years? Is it best to raise them every spring? Can you have the ground too rich? —M. L. P., Mono Mills, Ont.

Tulip bulbs can be used for successive years if treated properly. It is not necessary to lift or disturb the bulbs for several years unless the ground has to be dug and cultivated, to plant in other kinds of plants for summer decoration. Where tulip beds are planted in a mixed or perennial flower border or among shrubs, it is not advisable to disturb them until the bulbs have become too crowded. This condition is shown when the bulbs begin to produce an inferior type of flower.

About once in every six or seven years is often enough to lift and divide tulips when planted permanently among other plants or flowers such as I have mentioned. I have known tulips and narcissi to flower every year for twenty-five years without being disturbed. The best time to lift, divide and transplant these is towards the end of July or early in August before the bulbs start to take root. Bulbs should never be disturbed after they have started to root and grow, until after the flowering period.

It is possible to have the soil too rich in fertilizers for bulbs. It is best to fertilize the ground when digging it for the summer decorative plants in June as before suggested. If the ground is of good garden soil quality, no more manure should be required for the bulbs. If manure is used at the time of planting

bulbs, it should be well rotted, almost the nature of soil itself, and be dug in deeply so as not to come in direct contact with the bulbs. If the soil is of a heavy clay nature it should be lightened by digging in some sand as well as the fertilizer. A rather light loamy soil suits tulips best.

Practical Plant Breeding

H. J. Moore, Queen Victoria Park, Niagara Falls, Ont.
(Concluded from the November issue)

The Chinese Primrose, *Primula sinensis*, affords another striking illustration. The flowers of the species as originally introduced were insignificant and of poor color. Now we have flowers ranging from white to deep crimson, including



Figure 3

a beautiful blue, while the foliage is so attractive, as to render the plant ornamental even when not in flower. This process of development has been slow, but the results of careful hybridizing and selection are sure, and who can say that the result is not worthy of the labor as he looks into the face of any one of these beautiful flowers? Surely such results as indicated in Figure 3 are encouraging.

Horticulturists generally are aware that a great number of the beautiful greenhouse flowering plants have been introduced from the older countries. Some of these have been satisfactory, while others have proved decidedly the reverse. In many places it is almost impossible to grow the herbaceous *Calceolaria*, which is so highly prized as a decorative flowering plant. This is due to the excessive heat, which checks growth during the late summer and fall months when the plant as a seedling should be growing strong and vigorous.

Figure 4 is a photograph of a plant belonging to the genus and the hybrid with both parents. The parent plants were crossed with the object of producing a more hardy heat resisting variety. The female parent is *C. rugosa* and the male parent a variety of the herbaceous greenhouse type.

C. rugosa was chosen on account of its hardy nature. The hybrid has inherited that character, and has proved a valuable ornamental plant as is shown by the photograph.

Selective work also has been carried on to some extent with the genus *Calceolaria*. Through eight generations seeds have been selected from the plant with the most desirable habit, and the largest flowers. The result is shown in Figure 5, which represents a specimen of the herbaceous type. The plant was grown in a 7-inch pot, and measured three feet in diameter.

The genus *Begonia* also affords opportunity for experimental work. Figure 6 illustrates the results of crossing the ordinary tuberous bedding variety with the species *Dregei* (The hybrid is in the centre), while Figure 7 illustrates a batch of the seedlings of the first generation. The cross was made in the hope of producing an improved bedding variety, but as the seedlings cannot be planted out during the present year, it will be impossible to say whether the object has been attained until next season. In any case the hybrid is a most satisfactory greenhouse plant.

Space will not permit of further illustration, but it will be obvious to anyone



Figure 4

with a knowledge of plants that what can be done with one natural order or even genus can nearly always be done with another, and there can be no greater reward than the realization of having created with the help of nature something different than already existed.

In the above experiments many of the hybrids have followed Mendel's Law of Heredity. Of this Law there is no time to speak here except to say that this great discovery has taught not to discard hybrid plants as worthless. They may have inherited some desirable quality which in succeeding generations will appear and amply repay months and even years of assiduous toil.

What is true of flowers is true also of vegetables. Strange as it may seem, a



Figure 4 A

good edible variety of carrot has been produced by selection through seven generations from the common wild species *Daucus carota*. The parsnip has a similar history, and that delicious vegetable asparagus has been produced by judicious selection combined with careful cultivation from the wild, saline loving seaside plant *Asparagus officinalis*.

There is not only an unlimited field for the scientific investigator, whether he is studying to throw light upon some cytological problem, or to substantiate some existing theory, but there are also unlimited possibilities for the practical plant breeder. Science and practice are inseparably wedded, therefore it is the duty of one to aid the other for the sake of the good which can only accrue from mutual cooperation. Scientists have obtained many ideas and much of their knowledge from the trained practitioner, and it is to him they look for material for scientific investigation.

Let us then not scorn the efforts of the men who do the work; rather let us encourage the improvement of our beautiful flowers and useful fruits and vegetables. The difference between the scientist and the practitioner is only that of degree, and in either case let us en-

Sweet Peas and Their Culture*

Thomas D. Dockray, Toronto, Ont.



Figure 5

courage the one whose efforts testify to an intelligent appreciation of the works of nature.

Amaryllis

Thos. Jackson, Agricultural College, Winnipeg

These are beautiful bulbous plants from the Cape of Good Hope. They grow remarkably well as a house plant, producing under the simplest conditions one, two or even three spikes from eighteen to twenty-four inches in height, with from three to six large trumpet-shaped blooms, which last a long time in good condition. They can be secured from any good nursery or seed house during the winter or early spring.

As soon as the bulbs are received, they should be planted in pots an inch or so larger than the diameter of the bulbs. Plant them so that the widest part of the bulb is covered with soil and the top part or neck left exposed. For soil, use two parts of good fibrous loam, one part of well rotted manure or leaf mould a little sand, and a sprinkling of flour well mixed together.

After potting put them right in the window, and water sparingly at first, and if they are well matured bulbs it will not be long before the flower scapes appear, and after that the leaves.

It will then be necessary to water more freely as the plant develops. When in bloom a medium temperature with a light shade will prolong the flowering period.

Why don't they keep the streets a little cleaner?

You ask with deep annoyance not undue.

Why don't they keep the parks a little greener?

(Did you ever stop to think that they means you?)

For the decoration of the home and the garden no flower is more popular than the sweet pea. More seed of it is sold than of any other flower and to create a new variety is the dream of every hybridist.

To produce the largest and earliest blooms, sweet peas should be grown in full sunlight. If the slanting shadow of a tall tree or building should happen to fall upon them for an hour or so in the afternoon it will help to prevent them from burning in the sun, but more shade than this will make them weak and ineffective. Heavy clay soil is said to be the best for them, but in Toronto we have had fair success on clay loam and even on sandy soil.

Prepare the ground in the fall by digging the earth out of the place where the sweet peas are to grow to a depth of three or four feet. Then mix this earth thoroughly with about the same amount of manure, the older the better, and fill the hole dug with this mixture to within six inches of the top. Break up some decayed sod fine and mix some bone meal and soot with it, also some wood ashes and a little lime, and fill up the remaining six inches. If the soil is not prepared until spring, then use only the manure, at least one year old, and bone meal.

CHEMICAL FERTILIZER

Superphosphate is recommended as a chemical fertilizer, or a mixture of three pounds of superphosphate, one pound of bone flour, one pound of nitrate of potash, one pound of sulphate of potash and one pound of nitrate of soda. This mixture should be lightly dug in early in March, and is sufficient for a patch sixteen feet square or a strip three feet wide and eighty-five feet long.

*Extract from a paper read at the annual convention of the Ontario Horticultural Association, held in Toronto, November, 1911.

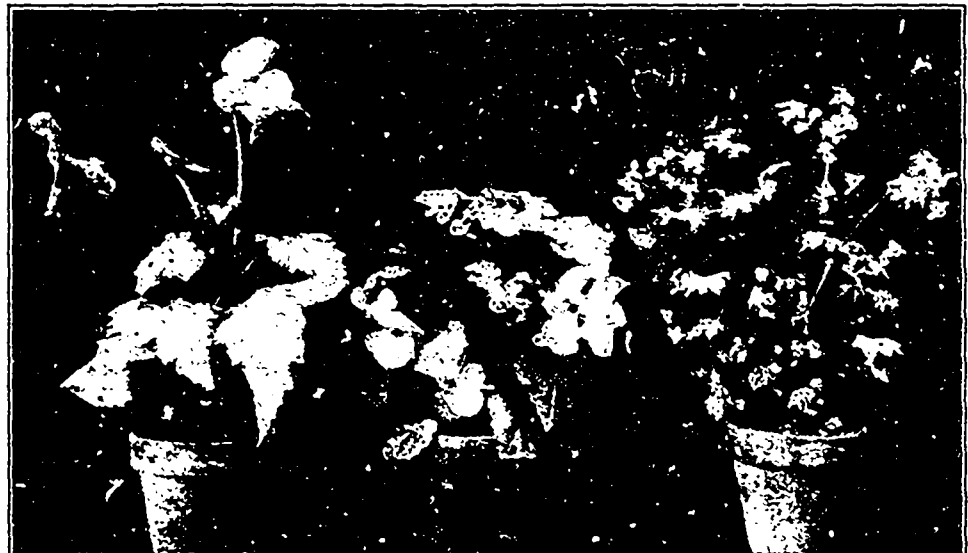
Here in Toronto sowing in the fall is useless. About March twentieth is the earliest one may venture to sow here. From the fifth to the tenth of April is usually safe. Some seeds should also be sown in boxes or pots under glass or in the house so that the young plants may be transferred to the places in the row where seeds have failed to germinate. Plants should not be grown closer than six inches together. A birdscare of some kind should be put up at once, or the sparrows will get the seeds.

HEDGES

For hedges, only varieties well mixed and of about the same height and vigor, should be grown. Sow in two rows, leaving a space from eight to twelve inches or more between the rows. Plant stout posts painted or stained green along the rows with cross pieces on them to which to fasten the wire. When the plants are up say a couple of inches, place a slender twig about eighteen inches long by each for support. Then string the first wire eighteen inches from the ground. Tie the plant loosely to the twig and tie the twig firmly to the wire.

Some varieties have very few tendrils until they are over a foot high and all seem to shrink away from the wire during the earlier stages of growth. The upper wires should be supplied only as needed. Use the finest galvanized wire that will stand the strain. The object of this method of stringing is to get the best decorative effect in the garden by making the support as nearly invisible as possible and by keeping the tops of the plants all the time just above the support. If wire netting is used, it should be put up before sowing and be at least six feet high and with a six inch mesh or larger.

The advantage of brush as a support



Practical Plant Breeding, Figure 6



Practical Plant Breeding, Figure 7

is that it does not burn the tendrils and permits the plants to put out their branches naturally in all directions, as a tree does, instead of only to the right or to the left, as when trained on wires. But, until heavily covered by the vines, brush is very unsightly.

Sweet peas may also be planted to run over the lower branches of a climbing rose or vine. It will thus escape the scorching heat that is reflected from a bare wall or fence. The sweet peas will begin to flower just as the other climber is fading. But the ground must be made very rich, otherwise the sweet peas will not be able to compete with the woody climber.

THE USE OF TUBS

Even for formal decorative effects sweet peas may be grown in large tubs and placed like clipped box trees, along walks or on terraces. The tubs should be of wood, painted green, deep rather than broad, and with some holes bored in the bottom. Some broken flower pots should be put in and then a mixture of old sod, roughly torn up, and old manure, to within a few inches of the top, then some fine soil. An early start may be obtained by planting the tub in a greenhouse and removing it to the kitchen garden or some other inconspicuous position when all danger of frost is past.

When the plants have come up, they should be thinned out until they are about three inches apart. Some strong support such as galvanized wire rods, fastened together here and there, or a cylinder of wire netting, should be provided at once and the vines carefully trained up it. When the plants are about to flower, the tub may be removed to the terrace, lawn or other position for which it has been specially designed. Liquid manure and other stimulants should be used, but not too much lest the leaves wither.

Varieties that do not grow very high are the best to plant in tubs as they flower early in the season. Mount Blanc, a white, does well in quite small tubs, or large flower pots, as it grows only about eighteen inches high. It is also splendid for bare spots here and there in the perennial border. I have found Cupid sweet peas to be utterly useless in pots, in tubs and in the open ground.

IN CIRCLES

A favorite way of growing sweet peas in the Old Country is in circles in the middle of beds of annuals. A little tent of brush or wires is set up first and tied at the top. Then the seeds are sown. If the plants show a tendency to stretch away from the support, a light twig or wire can be so worked as to encourage the tendrils to take hold. Here this has the disadvantage that the support is unsightly until midsummer.

WATERING

Sweet peas require a great deal of water here in Toronto. The best way is to give them, say, half an hour with a very fine spray at sundown two or three times a week rather than a hasty splash every evening. But soft water that has stood in the sun is better than the chilly water from the hose. The fine spray, however, is most useful in knocking the green flies off the plants.

CULTIVATION

After watering the ground must be stirred up around the plants and always kept from looking smooth. Or a mulch of dried grass clippings may be laid upon the ground, but not too close to the vines. In this case not so much watering will be required and the ground need not be stirred so frequently, as the mulch will prevent it from baking hard and will keep it moist. A constant watch must be kept on the mulch itself lest it become mildewy or pasty and afford a pleasant rendezvous for injurious insects.

The foregoing methods of culture may appear extremely difficult and possibly forbidding. But we have only to turn to the horticultural magazines and books of the Old Country to see what we consider tender care of sweet peas here would there be looked upon as rank neglect. For they only get their magnificent successes with sweet peas after persistent vigilance against rabbits, cats, moles, mice, blackbirds, slugs, snails, stripe, mildew and a number of fancy fungous diseases that we are not troubled with here.

Floral Notes for December

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

It is not yet too late to plant a few bulbs of hyacinth and narcissus if the bulbs have been kept in a cool place and are good and firm. It should be remembered that the main point necessary to success in pot culture in bulbs is to see that a good root system is developed before they are brought out into the light. If the pots are plunged or buried in sand or soil in the cellar they should be taken out from the sand before the top growth is much over two inches in height. Do not leave them in the sand too long.

CACTUS AND SUCCOLENT PLANTS

Cactus, Agaves, Aloes and plants of a like nature should not be given too much water during the winter. The soil should be kept only barely moist. The Christmas or Lobster cactus (*Epiphyllum truncatum*) and winter flowering cactus may be watered a little more liberally. The summer flowering *Cereus*, especially the night flowering type should not be watered too heavily during the winter.

The different varieties of cactus, agaves, and so forth, and succulent plants generally grown in greenhouses and windows, are usually natives of countries where decidedly wet and dry seasons prevail. About half of the year very wet weather is the rule, the balance of the year being very hot, dry and arid. By keeping these plants moderately dry at the roots, it induces the season of partial rest that they get naturally in their native environments.



A Good Root Growth

The spring or early summer is the best time to re pot cactus and succulent plants generally. Sandy soil not too rich in fertilizer with a liberal amount of drainage material such as broken flower pots and old mortar should be used for drainage. All of this class of plants dislike to be kept soddened with water at the roots. This last named condition often proves fatal to them.

Forcing Lilacs in Winter

Mrs. W. F. Hardy, Oakwood, Ont.

Last winter I tried growing lilacs in the house, as I had heard that they could be made to bloom indoors quite easily. As it will soon be the time of year when bianches should be brought indoors for this purpose, I thought that readers of THE CANADIAN HORTICULTURIST would be interested in learning of my success last winter.

I brought two good-sized branches into the house on the last day of December. These branches were about five feet long and about one and a half inches thick at the base. I set each of them in a bucket of water and placed one near a window in the hallway and the other some distance back from the window in a warm corner of the same hall, which was near a stovepipe. In about three weeks' time nearly one hundred buds were showing, and by the middle of February they began to open into flowers. The one near the window did not come out as fast as the one which was in the warmer situation, but the flowers looked healthier and stronger



Lilacs Blooming in Winter

as they came out. The illustration shows a few of the sprays which were cut when the bloom was at its best. These were cut just about two months after I brought the branches indoors. They would have doubtless been considerably better but for the fact that some of them were slightly frozen on a very cold night when the fire happened to go out.

The Chinese sacred lily is an easy plant to handle, either in water or soil. It will bloom in six weeks.



A Pleasing Portion of the Floral Exhibits at the Recent Horticultural Exhibition in Toronto

My Favorite Flower and How I Grow It*

A. V. Main, Ottawa, Ont.

In spite of the great increase of flowers of recent years, the geranium has kept its ground. It is to-day more popular than ever, and I designate it my "favorite" flower, for my garden without it would be incomplete. It justly deserves its place. As a bedding plant for borders, boxes, vases, and flower beds it is practically unbeatable. It is a perpetual bloomer and free of insect pests or disease, easily managed, simple to propagate, greenhouse accommodation is not essential, and it is within the compass of all to grow. I find September the most satisfactory month for propagation.

PROPAGATION

I would like to emphasize here that we do not propagate enough. To keep our plants in a young condition is the secret of massive bloom and healthy foliage. The cuttings or slips should be good, sturdy, ripened growths that have been made through the summer and between three and five inches long, generally possessing three joints. With a keen edged knife trim off the bottom pair of leaves close to the stem, then make a clean cut below the joint. Allow the cutting several hours in which to heal over the wound. Prepare some soil put through a quarter-inch sieve, one part leaf soil, one part loam, one part sand, mix together, and fill two-inch pots fairly firm with it, with a layer of sand on the surface.

*Extract from the essay that won first prize in the competition held during the past summer for prizes offered by Mr. R. B. Whyte, of Ottawa, and Mr. Hermann Simmers, of Toronto.

First of all put some rough leaves or fibrous turf in the bottom of the pot. Before inserting the cuttings give the pots a good sprinkling, using a fine rose can. Put one, two and three geraniums in a pot and about an inch and a half deep. Have a small wood label in each pot with the name of the variety, date of insertion, and other useful information.

Set the pots outside in a cool frame on a bed of ashes, and use a glass sash or window over them in case of rain coming too early. Keep them moist and shaded from sunshine, and also let them have air to avoid decay, or the cuttings becoming damp. In four to six weeks roots will be formed and repotting into two and three inch pots, according to their vigor, will be necessary. Use the soil recommended for propagation. Put the little plants, all nicely labelled, into individual pots in a sunny window and shade for several days till the roots become active.

WINTER TREATMENT

In winter the best treatment is to give them all possible light, water them about once a week and clean off any bad leaves. Turn the plants occasionally. The temperature should not go below thirty-eight degrees. In March pinch or break off the top of the plant, to induce side growths and then obtain a bushy geranium. Repot into four and five inch pots. Keep the plants well watered, and admit air when possible at mid-day.

Manure for hot beds should be uniform in composition and texture.

The Ontario Vegetable Growers' Convention

THE best interests of the vegetable growers of Ontario are being promoted in many ways by the Ontario Vegetable Growers' Association. This fact was made manifest at the seventh annual convention of the association held November fifteenth, in Toronto. The attendance was much the largest in the history of the association. Growers were present from almost all parts of the province and from the province of Quebec as well. As usual, however, there was not as large an attendance of market gardeners from around the city of Toronto as there should have been. The growers present were manifestly there with a purpose. The discussions, therefore, were to the point and instructive. Each year a gratifying increase in the influence and importance of this association is noticeable.

Since the formation of the association one of its most efficient officers and workers has been the present president, Thos. Delworth, of Weston. In his remarks as president, Mr. Delworth laid emphasis on the importance of the use of a system of irrigation in connection with the growing of vegetables where there is a suitable supply of water available. The necessity for eliminating the middleman wherever practical was pointed out. Mr. Delworth also advocated that the new government at Ottawa should be urged to reintroduce and pass the measure establishing standard weights by the bushel and by the bag for vegetables that was introduced in the last session of the Dominion Senate, but which did not receive its third reading because of the dissolution.

SECRETARY-TREASURER'S REPORT

The report of the secretary-treasurer, J. Loeckie Wilson, of Toronto, described the savings that had been effected by several branches of the association through cooperative buying and lines of work the branches were carrying on successfully. The need for a greater supply of labor was touched on, it being stated that in the vicinity of St. Thomas alone one thousand more laborers than are available are needed.

The success of the experiments conducted in New Ontario under the direction of the association was mentioned. The possibility and desirability of specializing in potato growing in New Ontario was urged. If this is done, however, it will be necessary to secure a readjustment of freight rates, as it now costs more to ship potatoes from

New Liskeard to Toronto, a distance of three hundred and thirty-four miles, than from St. John, N.B., to Toronto, a distance of one thousand miles.

ORGANIZATION

The necessity for being better organized and the benefits that would follow were described by C. W. Baker, of Tambling, Ont. Mr. Baker declared that the association might increase its membership to five thousand if the present members would take hold of the work with the necessary enthusiasm. That the convention appreciated the points that were made by Mr. Baker was shown by the passing of a resolution appointing Mr. Baker to represent the association this winter for several weeks in the organization of new branches of the association. Mr. Baker's paper will be published in an early issue of THE CANADIAN HORTICULTURIST.

TOMATO GROWING FOR EXPORT

One of the best papers ever presented at a convention of the association was read by George Cooper, of Grimsby, Ont., entitled "Tomato Growing for the British Market." This report will be published practically in full in THE CANADIAN HORTICULTURIST. Mr. Cooper dealt not only with the matter of the varieties of tomatoes now grown, but also with the varieties demanded by the British consumer, the best methods of shipping tomatoes, of distributing them to the Old Country markets, the methods of handling tomatoes followed in other countries, and many other points. The paper was most comprehensive and instructive. The conclusion reached was that at present tomatoes cannot be shipped with profit to the Old Country, but there are great possibilities for increasing the production of tomatoes in Ontario, and no reason why in time, through the adoption of proper and systematic methods a profitable market cannot be developed in Great Britain. To accomplish all this, however, will be a matter of years.

SMALL FRUIT CULTURE

An entertaining, instructive talk on new methods in small fruit culture was given by W. H. Kerr, of Ottawa. Mr. Kerr dealt with the methods of growing varieties of small fruit that he has found most successful, and touched a little also on the matter of varieties.

WORK OF THE STATIONS

The work being done at the Ottawa, Guelph, and Jordan Harbor Experiment Stations was described respectively by W. T. Macoun of Ottawa, H. H. MacLennan of Guelph, and A. T. Logsdail of Jordan Harbor. Mr. Macoun and Mr. MacLennan told the growers present quite plainly that they were not taking the interest in the work of the stations that they should. Growers sel-

dom visit them and almost never offer suggestions concerning experiments they would like to see tried and do not do what they might to induce the local and Dominion Governments to extend the work being carried on in the interest of vegetable growers. Mr. MacLennan had samples of tomatoes and potatoes with him which he used to illustrate the results of experimental work he had conducted. He stated that the horticultural department at Guelph was handicapped through not having more greenhouses in which to prosecute experimental work, and that he realized that the most valuable experimental work that could be carried on was in relation to the growing of crops under glass.

The members of the association showed that they realized that the criticism to which they had been subjected was justified by passing a resolution, moved by Mr. Fraser, of Leamington, and seconded by Mr. J. W. Rush, of Humber Bay, urging the Government to provide more greenhouse accommodation at Guelph. The directors were requested to press this matter upon the Government and to place themselves in touch with the work being conducted at the college. Further reference will be published in THE CANADIAN HORTICULTURIST to the reports of Messrs. Macoun and Logsdail. Mr. Wm. Dreher spoke briefly in regard to the work being done at Macdonald College, Quebec, and by the Quebec Vegetable Growers' Association.

SEED POTATOES

An address on the importance of proper seed selection was delivered by Dr. W. W. Tracey, Department of Agriculture, Washington, D.C., mention of which will be made more fully in later issues of THE CANADIAN HORTICULTURIST.

A paper entitled "New Ontario as a Place to Grow Seed Potatoes," was read by Mr. T. G. Raynor, of the Ontario Department of Agriculture. This will be published in THE CANADIAN HORTICULTURIST in full.

EVENING SESSION

At the evening session a valuable address, entitled "Marketing Problems," was given by Paul Work, of Cornell University, Ithaca, N.Y. This address was illustrated by a large number of excellent stereopticon views. The views showed packing houses, market gardeners' wagons loaded with vegetables, methods of picking and packing vegetables in the field, and other similar subjects. This address, as well as some of the illustrations used, will be published in THE CANADIAN HORTICULTURIST. Addresses were also given at this session by Mr. C. C. James, Deputy Minister of Agriculture, and by Hon. J. S. D. Minister of Agriculture, Toronto. M-



President Delworth



The Exhibit of Vegetables was One of the Features of the Ontario Horticultural Exhibition held in Toronto Last Month. A Portion of the Exhibit is here shown. The Quality of the Exhibits was Excellent

James gave an interesting account of the difficulties people living in rural sections in various parts of Europe, such as Sweden, have to contend with in the cultivation of the soil. He believed that were these people to be given information about conditions in Ontario they could be induced to emigrate to this country.

Before the convention closed a resolution was passed urging the Ontario

Government to reserve fifty acres of ground on the Monteith Experimental Farm in New Ontario for the growing of potatoes and to place a suitable man in charge of the work. The Dominion Government was also urged to establish an experiment station in the middle of the clay belt in New Ontario for the growing of grain and vegetables and to distribute the products of this farm to farmers and gardeners at cost prices.

when a variety does well and becomes acclimatized, frequent changes are unnecessary. In northern Sweden, for instance, some varieties of potatoes have been grown for over one hundred years, and are good yet. It may be observed, however, that some experiment stations have found that in working with the product of one tuber, the strain will begin to deteriorate in about twelve years and will not be profitable to grow for more than twenty years at the most. It is different with varieties where the tubers are selected indiscriminately. For instance, I have met in Ontario at least six who have grown one variety of potato for over twenty-five years, and to-day the tubers are as good if not better than at first. This was done in selecting large uniform tubers for seed. Among the varieties so tested were Henron, Empire State, White Elephant and Early Rose. At the experimental farm at Guelph, Prof. Zavitz has been testing several varieties, with ordinary selection, for twelve or thirteen years, and he finds that they continue to improve in both yield and quality.

Since the organization of the Canadian Seed Growers' Association, a systematic effort has been made by potato growers in different parts of Canada to improve the crop by the hill system of selection, either from individual tubers or by selecting them collectively.

As a supplier of potash, the oldest form of fertilizer in use is hardwood ashes.

New Ontario For Seed Potatoes*

T. G. Raynor, Department of Agriculture, Ottawa

THE question has been raised by your association of the possibility of New Ontario proving a good place for growing seed tubers. In order to test the matter, I believe arrangements were made through your secretary this spring to supply half a dozen farmers, three of whom lived in the vicinity of Charlton and the other three in the neighborhood of New Liskeard in New Ontario, with seed tubers of the Early Olive and Green Mountain varieties. When the potatoes arrived some disappointment was expressed in the varieties, and, in two cases, in the quality of the stock; the farmers thought the potatoes very small to send out for seed. However, all six tried the seed and the results were varied.

Such an experiment should prove successful. Many farmers, when changing their seed, procure it from districts located north of them, and if possible from a different soil. Local grown seed is usually better for the locality producing it than seed imported from southern districts. Northern grown seed tends to early maturity. Acting in accordance with this principle, a number of potato growers in England send to Scotland for their seed. Mr. Macoun, the Dominion Horticulturist, has found that seed tubers from the Maritime and western experimental farms, tested at the Central Experimental Farm with their own seed, do much better even the first year.

It is a common practice among farmers to change their seed potatoes frequently. Their idea is that the seed runs out, and so it does, more especially when the small tubers are used. But

*Extract from a paper read at the annual convention of the Ontario Vegetable Growers' Association, held in Toronto, November 15.

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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

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CIRCULATION STATEMENT

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1910. 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, 1910	8,925
February, 1910	8,967
March, 1910	9,178
April, 1910	9,410
May, 1910	9,505
June, 1910	9,723
July, 1910	9,300
August, 1910	8,832
September, 1910	8,776
October, 1910	8,784
November, 1910	8,727
December, 1910	8,652
Total	108,809

Average each issue in 1907	6,877
" " " " 1908	8,635
" " " " 1909	8,278
" " " " 1910	9,067

Sworn detailed statements will be mailed upon application.

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We want the readers of The Canadian Horticulturist to feel that they can deal with our advertisers with our assurance of the advertisers' reliability. We try to admit to our columns only the most reliable advertisers. Should any subscriber, therefore, have good cause to be dissatisfied with the treatment he receives from any of our advertisers, we will look into the matter and investigate the circumstances fully. Should we find reason, even in the slightest degree, we will discontinue immediately the publication of their advertisements in The Horticulturist. Should the circumstances warrant, we will expose them through the columns of the paper. Thus we will not only protect our readers, but our reputable advertisers as well. All that is necessary to entitle you to the benefit of this Protective Policy is that you include in all your letters to advertisers the words, "I saw your ad. in The Canadian Horticulturist." Complaints should be made to us as soon as possible after reason for dissatisfaction has been found.

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THE CANADIAN HORTICULTURIST,
PETERBORO, ONTARIO.



EDITORIAL

A REMARKABLE DEVELOPMENT

If the development of the fruit industry in Ontario may be judged by the improvement that has taken place during the past seven years in the number and quality of the exhibits of fruit at the Ontario Horticultural Exhibition, and we may believe that it may, then it has been extraordinary. Seven years ago, when the first exhibition was held in the old Granite Skating Rink, Toronto, less than twenty boxes of fruit were shown. A larger number of barrels of fruit were exhibited, but the packing, both of the boxes and of the barrels, was very inferior. At that time the art of proper packing was practically unknown in Ontario. So discouraging was this feature of the exhibition that the then Minister of Agriculture, the late Hon. John Dryden, publicly expressed the view that Ontario would have to bring expert packers from the Pacific coast states to show our Ontario fruit growers how to pack their crops. At that time no one anticipated that there would so soon be such a wonderful improvement as has since taken place.

Last week over three thousand boxes of fruit were on view at the exhibition. Many more would have been shown had space been available. Almost all of this fruit was splendidly packed, the pack of most of it being close to perfect. In addition the fruit was of better color, size and quality than ever before. While this was due in part to the dry season, which enhanced the color of the fruit, it was due even more to the more thorough spraying, pruning and cultivation now practised in the orchards of Ontario. The exhibition made it manifest that Ontario is now about able to hold its own with any other apple producing section on the continent. This means that the time has come when we should undertake the holding of a national apple show. The members of the Ontario Fruit Growers' Association did not endorse this proposal at their recent convention, mainly because of the fear that Ontario could not compete in an average season against the better colored fruit of British Columbia. What of that? We should not be afraid to take a leading if we have to. We have other advantages, such as nearness to markets, the lower price of our fruit lands, and a more uniform rainfall, that more than offset any present advantages in the coloring of our fruit and which cannot be advertised as they should be by anything less than the holding of a national apple show. Such a show would serve to draw the attention of the world to our great fruit possibilities. It would also give us an opportunity to compare our fruit and our methods of packing with the fruit and methods of other noted fruit districts. Thus, while we might lose some of the important awards at the first exhibition, we should learn where we are still weak and thus be enabled to do better in later efforts. Ontario needs the stimulus and enthusiasm which such an undertaking would provide. This matter must not be allowed to drop but must be kept to the front until such a show is held.

For the present it is evident that the Ontario Horticultural Exhibition has outgrown its present quarters. A strenuous effort should be made next year to secure the use of the armories. The Ontario government should be urged also to increase

the present grant of two thousand dollars to at least five thousand dollars a year.

SHOULD GRANT APPLICATION

At the convention of the Ontario Horticultural Association, held in Toronto last month, it was decided to ask the Ontario government to increase the annual grant to the horticultural societies of the province from ten thousand dollars to twelve thousand five hundred dollars a year. The government should grant this request. During the past five years the membership of the horticultural societies in Ontario has almost doubled, having increased from around six thousand to almost eleven thousand.

In the fall of nineteen hundred and nine, because of the great increase that had taken place in the membership of the societies up to that time, the government was asked to increase the grant from eight thousand dollars to thirteen thousand dollars a year. This request was not granted. Instead, the government increased the grant by two thousand dollars, or to ten thousand dollars. Since then the membership of the societies has increased by approximately 3,000, or about one-third. The government grant in consequence is proving quite inadequate and does not enable the societies to carry on the work that they otherwise might. After the first of the year some four new societies are to be organized. Each new society that is formed decreases the amount of the government grant available for the other societies. Thus conditions are steadily growing worse.

In asking that the government grant should be increased to twelve thousand five hundred dollars, the societies are asking for even less than they did two years ago. The excellent results that are following the work of the horticultural societies are so apparent in almost every city or town of the province the government will be amply justified in increasing the grant to the extent desired.

WOULD HELP FRUIT INTERESTS

The fruit growers of Ontario may be pardoned for bearing with interest the proposals of the new leader of the Ontario Liberal Party, Mr. N. W. Rowell, in regard to fruit growing. On the whole they show an acquaintance with the fruit interests of the province not commonly met with in a political leader not actively in touch with agriculture.

After criticising the government for not realizing more clearly the immense possibilities of the fruit interests of Ontario, which produces over 70 per cent. of the fruit grown in Canada, and drawing attention to the vastly increased returns that have been obtained from fruit growing where improved methods have been introduced, Mr. Rowell calls for greater expenditures by the government on behalf of the fruit industry. In this connection Mr. Rowell advocates the establishment of demonstration orchards in practically every leading fruit growing section of the province. He then proposes that packing schools should be established in the fruit districts and that certificates be granted to those packers who succeed in passing such tests as may be arranged by the government, on much the same basis as has been done in connection with the packing schools which have proved so successful in British Columbia.

Mr. Rowell then touches a point of vital interest in many of our leading fruit dis-

tricts. He criticises the government for not having done more to prevent the spread of injurious insects, such as the San Jose scale, and of fungous and other diseases of fruit trees, by taking the responsibility for this work and placing it in the hands of thoroughly competent provincial inspectors to be appointed by the government. This is a reform which has long been needed. Both this proposal and the one in regard to the establishment of packing schools were indirectly endorsed last week by the members of the Ontario Fruit Growers' Association, who passed resolutions advocating the provincial government to adopt such measures.

Finally Mr. Rowell claims that immigration into the fruit districts of Ontario, and the fruit interests of the province as a whole can be best promoted by the holding of a national apple show which, he pointed out at Guelph, would serve to draw the attention of the world to our great fruit districts. In this connection Mr. Rowell points out that while at the Ontario Horticultural Exhibition only \$1,500 is offered in prizes for fruit, British Columbia, which does not produce one-quarter the amount of fruit grown in Ontario, offered \$50,000 in prizes at the National Apple Show held in that province a year ago. From this we may presume that Mr. Rowell is in favor of not only increasing the grant to the Ontario Horticultural Exhibition, but in making

a substantial grant towards the holding of a national apple show.

Whether the party Mr. Rowell represents is elected to power or not the stand he has taken on these questions will prove of benefit to the fruit industry. His proposals are timely and applicable, and the Conservative party, which has aided the fruit interests materially during the past few years, will do well to pay attention to them.

Fruit growers in various sections of British Columbia have adopted a novel method of creating a market for their fruit in the Old Land. They unite in putting up car loads of high-grade fruit and consigning it direct to friends and private parties in Great Britain. In some cases this fruit is accompanied by a representative of the growers. As great care is taken in the packing and selection of the fruit the first car load paves the way for further shipments. Owing to the success that attended a car load of apples that was sent by residents of the Okanagan valley to friends in the Old County last year, the Vernon Board of Trade has made arrangements to forward two cars this year. The cost of sending a box to a specified address at any point in Great Britain is a dollar and a half, and to points in Belgium, France or Holland, two dollars. Fruit growers in the east might well follow the example which has thus been set.

PUBLISHER'S DESK

Christmas is still three weeks and a half away—a very long time to the little people, if not to us adults—but as there is nothing like being forehanded we want you, our readers, to know that our best wishes for a happy Christmas and a New Year full of spiritual and material prosperity are yours.

The January issue of THE CANADIAN HORTICULTURIST will be full of timely, interesting articles for the fruit, flower and vegetable grower. In addition to containing extracts from papers read at the recent provincial fruit and vegetable growers and horticultural conventions that were held during the past month and that will be held this month by the fruit growers of Quebec, prominence will be given to an article by pro-

minent authorities on fruit growing in the leading fruit provinces of Canada dealing with the varieties of fruit best adapted for growth in the different provinces. This article will be valuable for those of our readers who are planning to purchase nursery stock for planting next spring. In addition, there will be an article by Mr. H. S. Peart, of Burlington, dealing with the best varieties of small fruit for Ontario. The feature of the floral department will be the special article by Mr. W. T. Macoun, of the Central Experimental Farm, Ottawa, describing Lady Grey's garden at Government House, Ottawa, now the garden of the Duke and Duchess of Connaught. This article will be profusely illustrated by photographs taken specially for THE CANADIAN HORTICULTURIST. Mr. E. I. Mepsted, an officer and a past president of the Ottawa Horticultural Society, will give the first of a series of articles, to be contributed by him each of which will contain timely suggestions for the amateur flower grower on the care that should be given their flowers during the month that is to follow. There will be a special article also by Mr. Wm. Hunt of Guelph, entitled "Plants and Flowers for the Window." The issue throughout will be well illustrated, and should furnish a treat for our readers.

The past year has been the most successful in every way in the history of THE CANADIAN HORTICULTURIST and its small sister THE CANADIAN FLOWIST. Our total receipts from advertisements and from subscriptions have been larger than ever before and during 1912 we anticipate a still further improvement. The circulation of THE CANADIAN HORTICULTURIST is to-day larger than ever before, and is steadily growing. All this means that we are going to be able to give our readers better and still better value for their money in spite of the fact that the subscription price of THE CANADIAN HORTICULTURIST is lower than that of any other similar magazine of its class on the continent.

Owing to the numerous conventions and exhibitions held during the past month and the consequent pressure on our editorial columns, a number of valuable articles had to be crowded out of this issue of THE CANADIAN HORTICULTURIST. These will be published as rapidly as space permits.

The Ontario Horticultural Convention

THE four sessions of the sixth annual convention of the Ontario Horticultural Association, which was held in Toronto, November 16 and 17, were crowded full of interesting addresses and discussions on the growing of flowers and with the consideration of matters relating to the advancement of the horticultural interests of the province, more particularly as they relate to the management of our horticultural societies. The attendance of delegates was the largest in the history of the association. From one to three or four delegates were present from societies in all parts of the province from Vankleek Hill and Ottawa in the east to Windsor and Goderich in the west.

More and more the association is becoming a means of promoting the interests of the local societies. In consequence, much of its attention has to be given to matters of policy relating to the societies. One of the most important resolutions passed at the recent convention was one moved by W. B. Burgoyne, of St. Catharines, and seconded by J. P. Jaffray, of Galt, urging the

Ontario government to increase the grant to horticultural societies from ten thousand dollars to twelve thousand five hundred dollars a year. This increase has become necessary as a result of the increase in the membership of the horticultural societies, which now amounts to almost eleven thousand, and by the fact that a number of new societies are to be organized after the first of the year. This resolution will be laid before the government, which will be urged to give it favorable consideration.

In view of the splendid work being done on behalf of the individual societies by the Central Organization, it was decided to make a special effort this year to induce the former to affiliate with the latter. In this connection and in order that there may be no unfairness in the affiliation fee charged, as well as with the object of increasing the funds of the provincial association, it was decided to change the amount of the annual fee charged the local societies by increasing the fee to the larger societies. Hereafter the societies with a membership of three
(Continued on page 292)

Why You Pay Less

"How can advertisers afford to sell their goods cheaply when they pay so much to advertise them?" is a question that must occur to many, when they read of the large amounts spent by different firms to tell the public about their goods. It is a fact that, quality for quality, advertised goods are usually cheaper. Why?

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The Christmas Season

AND

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The late S. H. Butcher, Pres. of the British Academy, M.P. for the University of Cambridge.

"Concerning the eleventh edition, it is a gift of unspeakable value to all classes of readers from the plain man up, one of those human debts that money does not discharge.... Every growing family of Canadians, pre-tending to any intelligence, whether they have carpets or not, ought to be provided with the eleventh edition of the Encyclopaedia Britannica." From a Review in the *Manitoba Free Press*, August 5th, 1911.



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is not intended for idle and listless reading, but supplies an accurate scrutiny of the foundations of the course of intellectual values. In its thousands of biographies of the men and women who have figured prominently in the human story, it opens new horizons and sets up new ideals. To some readers it may even indicate, for the first time, their real vocation, for it is a fact that in nearly every efficient, useful life, there is traceable, at some parting of the ways, the determining influence of a book.

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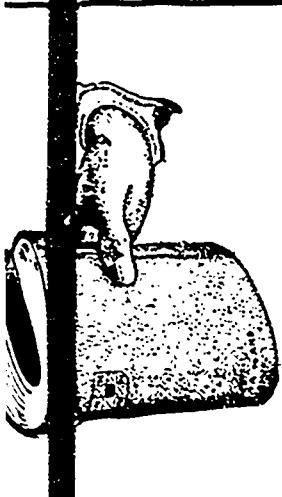
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The reduction in weight and bulk effected by the use of India paper has been accomplished by the publishers of the new Encyclopaedia Britannica in the preparation of a new prospectus in which the book is described with a flexibility and a length attainable within a reasonable compass in no other way. In format this prospectus is a replica of the India paper impression, and it has thus been possible not only to reproduce a large number of extracts from typical articles exactly as they appear in the original work, but to demonstrate in the prospectus itself, which consists of 164 pages of printed matter, together with numerous selected plates, maps, cuts, etc., the convenience and compactness of the India Paper Format.

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THE Encyclopaedia Britannica is so obviously a gift the usefulness of which will be shared by its possessor with others, young and old, that it is impossible to think of it in the light of a Christmas present without a thought of its general utility in the household. The amount of service which it can render under such circumstances is clearly only limited by the extent of the desire of the members of the family for information.

For The Mere Pleasure of Reading

BUT perhaps the chief merit of the book as a household treasure is that, from merely referring to it, its possessor is led to read its articles for the pleasure they afford. He soon finds that the vast fund of knowledge accumulated in this book by the leading authorities in every branch of human achievement has all the interest of a real contribution to literature. So universal is its appeal that anyone who has the slightest interest in the facts or the romance of nature or of life is bound eventually to become engrossed in its contents. These light and invariably thin volumes picked up out of idle curiosity are laid aside with reluctance, and the casual enquirer is unconsciously transformed into the systematic student.

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hundred or less will be charged a fee of two dollars each. For each additional hundred members a society has, it will be charged an extra dollar until a maximum fee of five dollars is reached.

OFFICERS ELECTED

The following officers were elected:
 Honorary Directors—W. B. Burgoyne, St. Catharines; W. T. Macoun, Ottawa; Prof. H. L. Hutt, Guelph; Major H. J. Snelgrove, Toronto; R. B. Whyte, Ottawa.
 President, Rev. A. H. Scott, Perth; First Vice-President, J. P. Jaffray, Galt; Second Vice-President, W. Jeffers Diamond, Belleville; Treasurer, H. B. Cowan, Peterboro; Secretary and Editor, J. Lockie Wilson, Toronto.

District Directors—F. B. Bowden, Vanhook Hill, W. S. Moorcraft, Bowmanville, J. H. Bennett, Barrie; J. O. McCulloch, Hamilton; T. Cottle, Clinton; G. W. Tehbs, Heepeler; W. W. Gammage, London; H. J. McKay, Windsor.

Delegates to American Civic Association, Washington, Messrs J. Lockie Wilson and W. B. Burgoyne; Representative to Canadian Exhibition Major H. J. Snelgrove

THE SESSIONS

In his presidential address Mr. R. B. Whyte, of Ottawa, described the excellent results that have attended the work of the Flower Guild in Ottawa. What he said was of more than ordinary interest to the delegates. The system introduced to educate the children in the cultivation of plants by the distribution of bulbs and seeds, the holding of meetings in private gardens, the distribution of helpful literature and the holding of exhibitions was outlined in a practical manner. Stress was laid on the necessity of providing school children with attractive surroundings.

The treasurer, H. B. Cowan, of Peterboro,



Rev. A. H. Scott, Perth, Ont.

The new president of the Ontario Horticultural Association has long been actively identified as an officer with the Perth Horticultural Society and with the provincial organization since about its inception. He is a great lover of flowers and last year acted as a delegate from the Ontario Horticultural Association to the convention of the American Civic Association held in Washington, D.C.

read his report, which showed total receipts of \$177.68 and expenditures of \$84.35, and a balance on hand of \$93.33.

SUPERINTENDENT'S REPORT

Superintendent J. Lockie Wilson dwelt on the strength of the association. There are now seventy-five societies in the province with a membership of about eleven thousand. The spirit of home and civic improvement is spreading throughout the

length and breadth of Ontario through the efforts of the members. Only about two-thirds of the societies have affiliated with the central association. This is not as it should be, Superintendent Wilson said, because this central association is working continually for the benefits of the local associations.

The annual report of the horticultural societies is in greater demand than ever, and the Department of Agriculture was unable this year, to supply the demand therefor. A large number of the public school teachers in the province are now utilizing this report in the rural schools. Lawn and garden competitions have been successfully conducted by many of the societies in the province where prizes are offered for different classes of citizens, viz., those who have their gardens cared for by employees, and those who do the work within their own families. Prizes have also been offered for the best kept front and back yards. The distribution of plants, bulbs and seeds is also work that is proving invaluable to many sections. The decoration of school buildings with window-boxes is adopted by several societies, and the school garden idea is being taken up by others with the best possible results.

A SCHOOL GARDEN

Mr. Harvey Gayman, principal of the Rittenhouse school, at Jordan Harbor, gave an interesting address on "The School Garden." Mr. Gayman has the reputation of having the finest school garden in Canada. A fuller report of this address will be given later in THE CANADIAN HORTICULTURIST.

Mr. T. D. Doekray, of Toronto, gave a splendid address on "Get Peas, Varieties and Cultivation," which brought out considerable discussion. A portion of this (Continued on page 302)

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The Ontario Horticultural Exhibition

BIGGER, better and more popular with fruit growers than ever before, the Ontario Horticultural Exhibition held in Toronto, November 14 to 17,



Pres. Frankland

truthfully reflects the progress that is being made in the industry of fruit growing in the province of Ontario. There were almost three times as many entries as last year, and the quality of the exhibits was superior to anything before seen at an Ontario fruit show. This exhibition has worked wonders during the past seven years in advancing the standards of Ontario fruit growers as regards not only the quality and proper coloring required in first class fruit but in the matter of box and barrel packing as well. Seven years ago only about eleven boxes of apples were exhibited, and they were poorly packed. This year over three thousand boxes were shown, and practically all were splendidly packed, while still more would have been shown had space been available.

The exhibition was essentially a provincial apple show. Due to the dry, hot season growers had found it almost impossible to keep peaches, grapes and pears for exhibition at this fair, and the entries in these classes were small. The flower show has never been excelled, but no other department has made the same progress as has the apple show. There were almost three times as many apples on exhibition

as there were last year. So numerous were the exhibits in the apple classes that several counties had to cut down the size of their exhibits. The dry season, so unfavorable to other classes of fruit, gave to the Ontario apples a higher color than they would have in an ordinary season, and so increased the attractiveness of the exhibits.

BOX PACK POPULAR

The popularity of the box as a package for fancy fruit was much in evidence at this show. Three years ago there were on exhibition three hundred and twenty-one boxes and one hundred and thirty-seven barrels. This year there were almost three thousand boxes and only seventy-three barrels. The barrelled fruit was almost all entered in the competitive classes, Brant county alone having barrels of apples in their display exhibit.

The packing of the boxed fruit showed great improvement. Last year loosely packed, and much bruised fruit, was in evidence. This year the packing was uniformly good and only in a few cases was the fruit bruised. Looseness of packing in the case of one or two county exhibits was the most serious criticism heard. Prominent among the winners in the classes for boxed fruit were: W. G. Watson, Dixie; W. L. Hamilton, Collingwood; the Norfolk Fruit Growers' Association, and Jas. E. Johnson, of Simcoe, Ont. The weepstakes box of apples grown by Jas. I. Johnson were Northern Spys of uniform size, high color, and perfectly packed in the 3" style.

Barrels of apples did not have the same relative importance as in former years, but the competitive classes were well filled, the most of the prize-money going to fruit growers' associations or their members.

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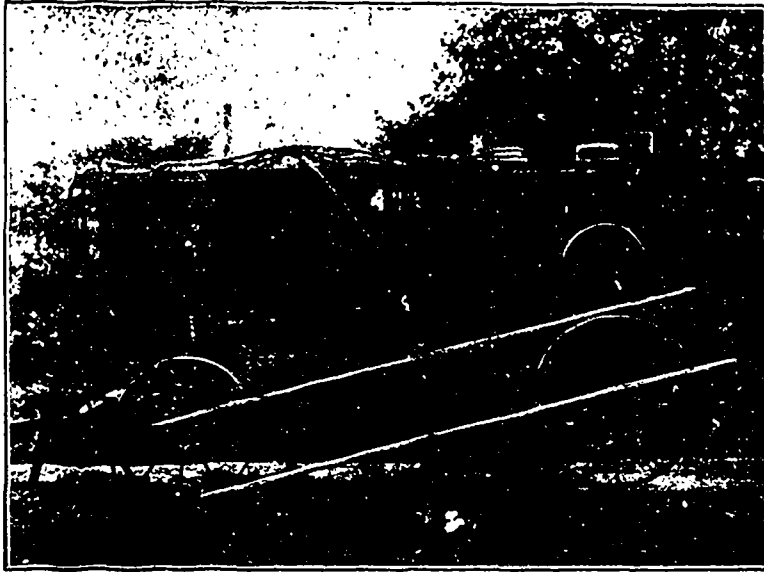


Fig. 73 No. 1 A, 1912 Model

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Amongst the larger winners of firsts were the Norfolk Fruit Growers' Association; Elmer Lick, Oshawa; Jas. E. Johnson, Simcoe; P. C. Dempsey, Tronton; Isaac Rush, Norwich; and the Brant County Fruit Growers' Association.

In the plate classes the names of W. H. Bunting, W. G. Watson, F. G. Stewart, Homer, and the Wentworth Fruit Growers' Association appeared frequently on first prize plates. On the cones, W. G. Watson got eight firsts on the twelve varieties shown.

THE COUNTY EXHIBITS

The greatest attraction of the fair was the numerous and excellent county exhibits, most of which were put up through the instrumentality of cooperative fruit growers' associations working in conjunction with the district representatives of the Ontario Department of Agriculture. A particularly good exhibit was that of Lambton county. On a slanting stage three hundred and fifty-two boxes of apples were erected in the form of a rectangle, sixteen boxes high and twenty-two boxes wide. On the face of the boxes a map of the county was shown in red apples, the words "Lambton County" appearing in Greenings. Lake Huron and the St. Clair River were shown in green apples with red lettering, and the adjoining counties were shown in apples wrapped in white paper.

One of the most attractive exhibits at the fair was that of the fruit growers of Northumberland and Durham. The central attraction in their exhibit was a ship twenty feet long, fully equipped with decks, masts, smoke stacks and rigging—and all made of apples. Green apples were arranged around the base to give a water effect. In all there were eighteen barrels of apples in the ship. Arranged around the ship were six hundred boxes of apples of standard varieties grown in the two counties.

Along the west side of the St. Lawrence Arena were arranged the exhibits of Norfolk, Elgin, Ontario and Prince Edward counties. In these four exhibits were over one thousand boxes of apples. Ontario county leading with four hundred and fifty-seven boxes. Prince Edward and Norfolk had over two hundred boxes each. The exhibit from Prince Edward was unfortunately wrecked through a scaffold falling when being put in place, and did not make the display that it otherwise would.

Two of the best packed exhibits in the building were from Wentworth county and the Georgian Bay district, the first with one hundred and nineteen boxes, the second with one hundred and forty. The latter exhibit was of particular educational value, as all of the apples in the exhibit had been grown on what three years ago were regarded as worthless orchards and utterly neglected.

The most easterly provinces of Ontario had on exhibition fifty-six boxes of their favorite variety, the McIntosh Red. An exhibit put up by the Brant County Fruit Growers' Association—an attractive arrangement of boxes, barrels, plates and cones—proclaimed to visitors the splendid fruit growing possibilities of that county.

New Brunswick was the only other province having exhibits. Fifty well packed boxes of such fancy dessert varieties as Fameuse, Dudley and McIntosh showed the kind of fruit that is being produced in New Brunswick.

EXHIBIT OF FLOWERS

So attractive was the flower show that further decorations were not needed to ornament the Arena. The arrangement of the exhibit was most pleasing, especially as one entered by the main door. Banks of flow-

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ers to the left of the entrance were especially fine. The cut chrysanthemums made a particularly good showing, most of the awards going to Jennings, of Brampton. The bush plants were by all means the best ever seen at a fair in Toronto, Sir Henry Pellatt being the principal winner. The awards for the best tables of cut flowers decorated by society ladies of Toronto were made as a result of public ballot. The winner was Mrs. G. A. Reid, of Toronto, with Miss F. J. ... and Mrs. E. F. B. Johnson. Exhibits of carnations, roses and made-up work were all very fine.

THE VEGETABLE DISPLAY

Only passing mention can be made of the vegetables. In quality, if not in quantity, they compared favorably with exhibits in other classes, and were a credit to their growers.

Attractive and interesting exhibits were made by several prominent firms handling commodities that are necessary in horticultural work. Among these were the Spramotor Company, of London; the Flanders Manufacturing Co., Pontiac, Mich.; Gold Manufacturing Co., Seneca Falls, N.Y.; and the Specialty Manufacturing Co. of Grimsby with spraying outfits. The Chemi-

cal Laboratories of Toronto had an exhibit of their spray mixtures, as had also the Niagara Brand Spray Co., of Burlington, and the Canada Rex Co., of Brighton. The two latter had spraying machines as well. The Harris Abbatoir Co., of Toronto, and the Dominion Potash Co. had fertilizer exhibits.

It is regrettable that Toronto people do not patronize the fruit show more than they do. This year the attendance was larger than ever before, but the increase was due to more visitors from outside points. The majority of those who attended were from outside Toronto. On Thursday fifteen hundred outsiders presented railroad certificates for exchange, and Saturday's number was believed to be several hundred in excess of Thursday's. The fair is growing, however, and growing rapidly. In 1910 there were twice as many exhibits as in the previous year, and the fair this year showed a corresponding growth over last. It showed also that Ontario is ready for the holding of a national apple show. If the fair continues to grow in the future as it has in the past, larger quarters will have to be found than the St. Lawrence Arena, as this year there was not room for all the exhibits.

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Ontario Fruit Growers' Convention

Confident and optimistic was the note that was struck by President D. Johnson, of Forest, in his opening address at the 53rd annual convention of the Ontario Fruit Growers' Association held in Toronto, November fifteenth and sixteenth. In an excellent address he traced the history of fruit growing in Ontario from the small side line that it was fifty years ago to the prominent position that it now occupies as one of the most important branches of agriculture in Ontario. Fruit growing was never so pro-

fitable or fruit growers so prosperous as today. Over production, the bug-a-boo of the early growers, does not worry fruit men now. They are going ahead and planting at a rate never before dreamed of. President Johnson claimed that the development of the west would afford a market for all of the fruit we will ever produce. The leasing of neglected orchards, a practice that has become quite common in the last two or three years, the speaker viewed as a good thing for the industry.



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Mr. Johnson dwelt strongly on the need of more progressive legislation for the encouragement and regulation of the fruit growing industry. Inspection at point of shipment, provincial inspection of insect pests and diseases, more thorough instruction in apple packing and a special fruit branch in the Department of Agriculture, were urged by the president.

PROPOSED LEGISLATION

Much dissatisfaction with our present method of inspecting fruit was expressed by the members of the association. The following resolution moved by E. D. Smith, and seconded by L. A. Hamilton, met with the approval of every grower present: "We urge on the Dominion Government that at the request of a shipper, an inspector be sent to inspect cars of fruit at point of shipment, and that the inspector sign certificates as to grade." It was pointed out that at present the shipper is at the mercy of the buyer, and it is often difficult and expensive to secure redress when the commission merchant claims that the fruit shipped was not up to the grade marked on the box or barrel.

A strong resolution was passed requesting that the appointment of inspectors of insect and fungus pests be taken out of the hands of the township councils, and that inspectors be appointed by the Provincial

Government. Some of the inspectors now appointed are doing excellent work, but in many cases the so-called inspection is worse than useless.

The Ontario Government will be asked also to establish a school in fruit packing at the Ontario Agricultural College, and that all inspectors be required to have a certificate from that school; also, that box packing courses be given in each county of the province. Another resolution was passed to impress on the Government the importance of working for new varieties at the Jordan Harbour Experiment Station. It was also requested that a man be sent to Europe for a period of six months, if necessary, to study the markets and secure information about cooperative methods. It was recommended that a committee be appointed to secure information on the best styles of packing.

DOMINION LEGISLATION PROPOSED

Owing to the differing ideas of inspectors and packers, there is not sufficient uniformity within the various grades. A resolution was passed proposing that the Fruit Marks Act be amended to establish minimum sizes for each variety of apples for the various grades. To ensure uniform small packages, another resolution suggested that all forms used in manufacturing establishments should be of a type decided on by the



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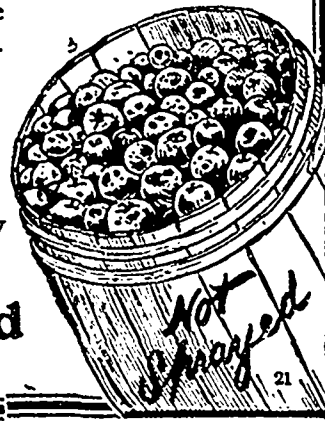
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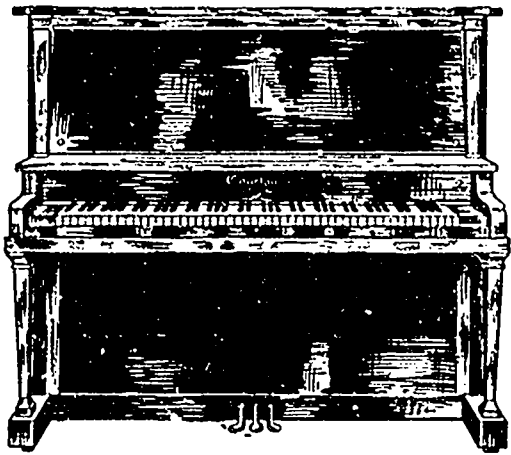
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Dominion Government, and should bear the stamp of that government.

Further resolutions requested that the trade commissioners in Great Britain report to our daily papers prices realized on sales of Ontario fruits that the railway commission be urged to force transportation companies to cull out defective cars used for fruit, and that it be necessary for them to guarantee refrigerator cars on all fruit-shipped west of Port Arthur after November 1; that the Minister of Agriculture appoint a committee of three fruit authorities in each fruit-growing province to examine and recommend for appointment fruit inspectors. Finally, the association heartily commended the action of Premier Borden in his choice of Mr. Martin Burrell, a fruit grower, as Minister of Agriculture.

DIRECTORS ELECTED

The election of directors for the various districts resulted as follows: 1, Wm. Alford, Ottawa; 2, W. C. Bevin; 3, W. H. Dempsey, Trenton; 4, W. J. Bragg, Belleville; 5, Wm. Stainton, Oshawa; 6, L. A. Hamilton, Lorne Park; 7, J. W. Smith, Winona; 8, A. Onslow, Niagara-on-the-Lake; 9, Jos. Gilbertson, Simcoe; 10, D. Johnson, Forest. 11, R. R. Sloan, Blythe; 12, F. M. Lewis, Burford; 13, Adam Brown, Owen Sound; O.A.C., Professor J. W. Crow.

The control and extermination of the railroad worm was the subject of an address by Mr. W. A. Ross, now of the Dominion Department of Agriculture, who this past summer conducted a special investigation into the ravages of this pest in the Lake Ontario district. Picking up the wind falls was the simple method proposed by Mr. Ross for combating the worm. Mr. W. H. Dempsey and other growers had found this method effective. Chickens and hogs in the orchard help to keep down the pest.

This paper is published elsewhere in this issue.

Mr. W. F. Kidd, who has had charge of the demonstration orchards in the Georgian Bay district, emphasized strongly the necessity of better fertilization, cultivation, pruning and spraying of the orchards in the province. He gave figures showing the results that had been secured in their demonstration orchards to show how profitable are better methods in orchard culture.

In an excellent address on "Orchard Methods that are Bringing Results," Prof. J. W. Crow, of the Ontario Agricultural College, told of the methods that are giving Ontario fruit men the best results. Prof. Crow was not enthusiastic over the results that have been obtained from the use of commercial fertilizers. "Many," said he, "get the idea that they can feed an orchard certain things and get certain results. Only recently Professor Harcourt, of the Chemical Department, received a box of soil with the request that it be analysed, and the sender told just what fertilizers to apply to get large crops of apples." The speaker went on to show that no chemist could determine the requirements of the soil. In the average Ontario soil there is plant food sufficient to feed an orchard for several hundred years. Proper cultivation was the method recommended for liberating this plant food. It is time to study the fertilized question when cultivation fails to bring results.

Professor Crow believes that the important time to cultivate the orchard is early in the spring, when it is making leaf and wood growth and setting the fruit. In order to get on the orchard as early as possible, thorough underdrainage and fall plowing were recommended. All of the fruit growers present did not agree with the professor as to the advisability of fall plowing, and several experiences for and against the practice were recited. Low-headed

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trees and the extension type of implements were recommended.

Dr. C. Gordon Hewitt reviewed the work being done by his Department in the supervision of insect pests. Their work is confined to two branches—keeping insects out of the country by the inspection of imported nursery stock and internal work in the suppression of pests that have already gained a foothold. He told of their work in New Brunswick in fighting the brown tail moth. Dr. Hewitt believes that the introduction of the natural parasites of this and other pests would be the most effectual means of combating them.

THINNING PEACHES PROFITABLE

In his talk on the care of the peach orchard, Mr. F. M. Clement, of Dutton, gave the results of an interesting experiment in the thinning of peaches. This paper is published in this issue of The Canadian Horticulturist.

BRITISH MARKET FOR PEACHES

Great Britain as a market for Ontario peaches was discussed by C. A. Dobson, Jordan Harbor, and A. C. Biggs, Burlington. Mr. Dobson stated that of the several thousand packages that he had sent to the Old Country, only one had arrived in anything but satisfactory condition. He laid particular emphasis on the importance of proper packing and quick shipment in cold storage. Only first class peaches should be sent. The English demand is for a very large peach. In his own orchard Mr. Dobson

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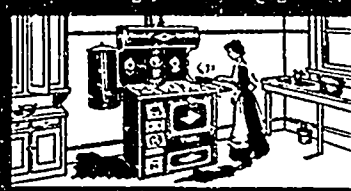
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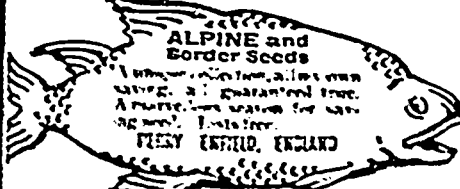
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son grows only three baskets on five years the trees to London, and in picking determines maturity accordingly.

ONTARIO'S COMPETITORS

The Wednesday evening session was given over to a discussion of fruit growing in other provinces. Mr. A. G. Turney, speaking for New Brunswick, told of the new interest that is being awakened in orcharding in that province. While there are many varieties that they cannot produce, such fancy dessert kinds as Fameuse, McIntosh, Dudley and King can be grown to perfection. Mr. Macoun, of Ottawa, told of that wonderful fruit producing district—the Annapolis Valley of Nova Scotia. This valley, one hundred miles long and six to eleven miles wide, produces practically all of the fruit in Nova Scotia. Apples, pears, plums, cherries and small fruits, and to a limited extent peaches are grown in that valley. In Mr. Macoun's opinion the fruit areas of Nova Scotia would compare favorably with those of any other province in Canada.

Mr. Norman Jack, of Chateaugay Basin, Que., believes that fruit can be grown in every county of Quebec except two or three in the extreme north. McIntosh and Fameuse are their favorite varieties.

Mr. Harold Jones, who had been on a visit to British Columbia, spoke of the fruit districts of that province, stating that British Columbia growers were making great progress, had less insects to compete with than in the East, but that he had come back well satisfied with Ontario.

DISEASES OF THE PEACH

Two very serious diseases of the peach, little peach and peach yellows, were discussed by Mr. L. Caesar, of the O. A. C. He estimated that in Ontario there were fifty thousand trees that should come out this year; that is four per cent of the whole are affected with one or other of these diseases. He believed that we have been exaggerating the danger of the disease spreading from the nurseries. In fighting the disease he recommended that a good biologist be appointed to spend his summer studying the disease and instructing the inspectors, and in winter in institute work. Inspectors should be appointed by the province.

Mr. B. D. Van Buren, Assistant Chief of the Bureau of Horticulture, New York State, told of the work that he had been doing at Niagara-on-the-Lake. Competent inspectors are employed, and all diseased trees are marked and must be destroyed ten days after. Inspectors are paid salaries up to fifteen hundred dollars a year. Before inspection commenced, some of the best growers had lost their entire orchards. This section is not the cleanest in New York State, and in some orchards the loss is less than 25 per cent annually.

LEASED ORCHARDS

Dr. C. H. Riggs, of Toronto, a large leaser of orchards, gave a summary of the points to be considered in selecting orchards for lease, and told of the methods that they use in restoring neglected orchards to productivity. Cultivation, spraying, thinning and pruning are all practised. In combating the San Jose scale, Mr. Riggs recommended putting on lime sulphur just as thick as it would come out the nozzles. These applications were made after July, and the concentrated lime sulphur used was home boiled. Several of the growers present believed that, were commercial lime sulphur used, such a strength would burn the foliage, and, therefore, that it would be a good plan to try this experiment first on a small plot.

Several phases of cooperative society work were discussed by Jas. F. Johnson, of Simcoe. He urged the importance of start-



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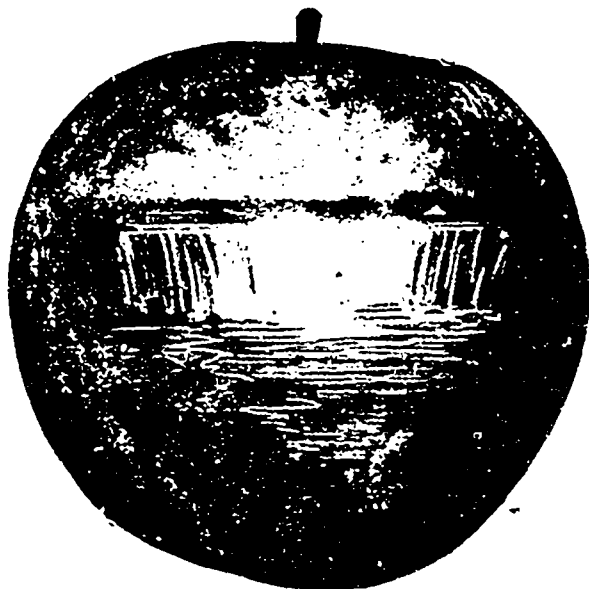
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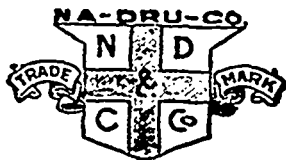
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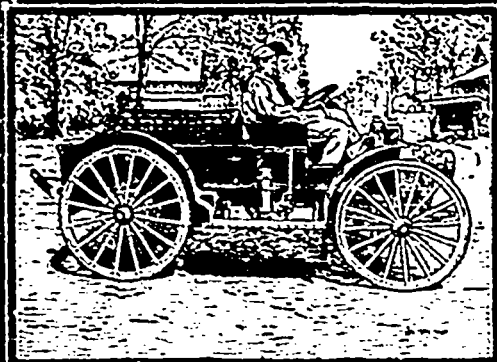
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ing on a small scale and of only receiving into the society members who "old live up" to its rules. He believed that the members of the societies now organized do not meet together often enough. He considered it better to have several small associations and one salesman for all than a large association with one salesman. In this opinion he was endorsed by Pres. D. Johnson.

Mr. A. W. Peart, of Burlington, discussed the necessity of fuller fruit statistics for use at the Dominion conference of fruit growers to be held this winter, and he made a motion that the provincial government be asked to still further specialize the fruit list by making separate columns for the acreage of apples and, as time goes on, to determine the acreage of other tree and small fruits. This motion was seconded by Mr. Gilbertson and carried.

The idea of holding a National Apple Show in Ontario next year did not receive very favorable comment from the fruit growers, who seemed to think that Ontario is not yet ready for such a move. A paper on "New Fruits" by W. T. Macoun and several of the addresses here summarized will be given in full in future issues of The Horticulturist. The various sessions of the convention were brimful of interest, and distinct benefit should result from the papers and discussions as well as from the resolutions passed.

The Ontario Horticultural Association

(Continued from page 22)

At the evening session on Thursday a splendid illustrated address was given on "The Modern Home and The Garden City Movement" by Mrs. Dunnington-Grubb, of London, Eng. Views of some of the noted garden suburbs in England were shown and homes of workmen, each with its garden attached. The speaker took occasion to deplore the characteristic gridiron system upon which most Canadian cities are laid out. Addresses were given also by Hon. Jas. S. Duff and by Mr. Thompson, of Toronto University.

DIRECTORS' REPORTS

The directors' reports were briefly presented Thursday morning, showing the operations of societies throughout the province. Generally speaking, the year was shown to have been a successful one. It was noticeable that nearly every society had a method all its own of carrying on some special feature. Cobourg and two or three other societies reported having succeeded in abolishing the billboard nuisance.

Mr. C. J. Atkinson, superintendent of the Broadview Boys' Institute, Toronto, delivered a most interesting address, dilating upon the institute and its field of work. This address was one of the most interesting features of the session. Mr. W. T. Macoun, of Ottawa, read a valuable paper on

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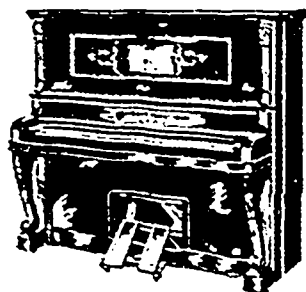
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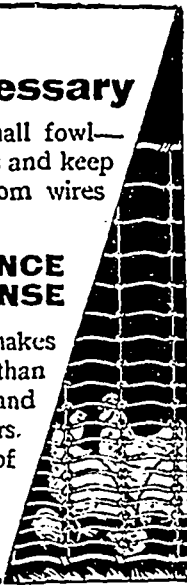
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The Bureau is a clearing house for Agricultural data. It aims to learn the best ways of doing things on the farm, and then distribute the information. Your individual experience may help others. Send your problems to the I H C Service Bureau.

"Spiraeas" that will be published later in THE CANADIAN HORTICULTURIST.

CLOSING SESSION

At the closing session on Friday afternoon Mr. R. B. Whyte, of Ottawa, the retiring president, gave a pithy address on "Currants and Gooseberries," illustrating his remarks by giving a practical demonstration of the proper way to prune berry bushes.

Mr. John Cavers, of Oakville, presented a paper on the gladiolus. He recommended the convex bulbs rather than the flat ones, and the planting of very early and very late varieties, in order to have continuous bloom.

The report of the Committee on Nomenclature was given by Mr. W. T. Macoun, Dominion Horticulturist at Ottawa. It detailed the names of new plants, little or not known at all, in this province. Further mention of these reports and papers will be made later in THE CANADIAN HORTICULTURIST.

OTHER TRANSACTIONS

The proposal made by THE CANADIAN HORTICULTURIST to give prizes for essays on flower growing by members of horticultural societies was endorsed, and such a competition will be held during the coming year.

The sterling silver cup offered by the St. Catharines Horticultural Society, having been twice won by the Toronto Horticultural Society, was presented to that society by Mr. Burgoyne, president of the St. Catharines Horticultural Society, and accepted by Mr. T. D. Dockray, of the Toronto Society.

A resolution was passed in appreciation of the late Mr. James Wilson, Park Commissioner for Toronto, and expressing the condolence of members of the association with the bereaved family. A grant of \$10 was made to the Sick Children's Hospital.

50,000 Trees Destroyed

Some idea of the great havoc being wrought in the peach orchards of the Niagara District by the disease "Little Peach" may be gathered from the fact that this season the fruit inspectors of the Ontario Department of Agriculture, by the time they are through with their operations for this season, will have removed some fifty thousand trees in their efforts to prevent the spread of the infection. Writing to the Canadian Horticulturist in regard to this disease Mr. P. W. Hodgetts, Director of Horticulture for Ontario, has this to say:

"The department this year has inspected the orchards twice during the season and has been ordering the immediate removal of all trees marked by the inspectors. We have held a number of meetings in the district to demonstrate to the growers themselves how they can detect the disease and have asked them to assist us in every way possible in the fight against it. It is a serious matter. Next year we will have someone specially trained in peach

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