

The Canadian Horticulturist

OCTOBER, 1909

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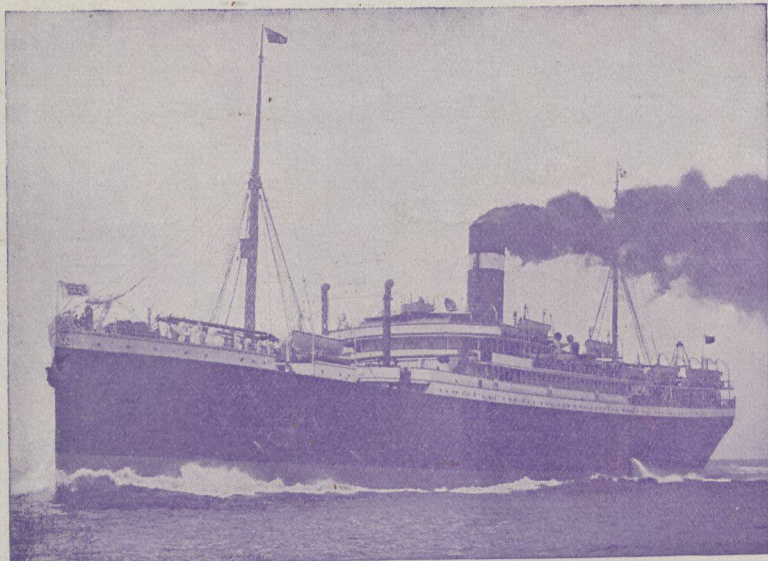
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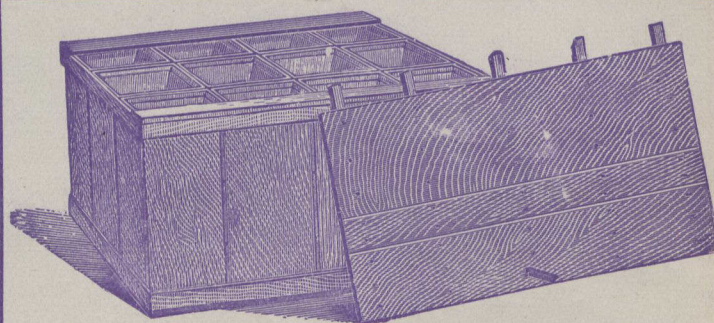
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The Canadian Horticulturist

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Room 41, Nov. 1908

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ST. JOHN, N.B.

The Canadian Horticulturist

Vol. XXXII

OCTOBER, 1909

No. 10

Overcoming Winter Injury*

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

WINTER injury to fruit trees causes great loss to fruit growers in the colder parts of the United States and Canada every year, but in some years the losses are so great that in many cases discouragement follows and new trees are not planted. Even in the warmer parts of the United States and Canada where the tenderer kinds of fruit are grown an occasional severe winter destroys many an orchard which after years of care had begun to bear profitable crops. We have been asked at this time to prepare a paper on "Overcoming Winter Injury," but it must be admitted at the outset that the best known methods of overcoming winter injury are not entirely satisfactory.

None of the important tree fruits grown in North America are indigenous. The apple, pear, domestic or European plum, Japanese plum, cherry, peach, orange and lemon are all natives of the old world and it would be difficult to find any district in North America where the climate both of the air and soil, is the same as where these fruits grew or grow wild in Europe or Asia. Centuries of acclimatization fixed limits beyond which these fruits did not perpetuate themselves, or, at least, spread but slowly, being probably killed out at their outer limits by very exceptional climatic conditions, either of summer or winter, occurring after long intervals, perhaps even of centuries.

It is not to be wondered at that these fruits transported to other climates which at first glance seemed to be very similar in most particulars to those in which they flourished at home, do not perpetuate themselves. It may be that there is not enough snow in the winter and the roots are killed, or it may be that it is too dry in summer and the trees die of drought, or it may be that the air is too dry in winter and the trees dry out. Too much rain late in summer may start the trees into new growth and they are in

bad condition to withstand the low temperatures of winter, and frequent changes in temperature in winter from high to low temperatures, and vice versa, may be new and too trying experiences for these imported fruits. It will require a long time to determine in what parts of America these fruits will become naturalized and what the limiting factors are which prevent their survival in other parts. While these trees are said to be hardy if they survive a few generations in a particular district, this term is only used in a relative sense. True hardiness is adaptability to environment not for a few generations or a few centuries but for many centuries. No increase in the ability of individual specimens, which

continue hardy long enough in his district to make it profitable for him to grow them. He finds by experience that the hardiest fruits for him come from the climates in the old world, or in America, most nearly resembling that in which he lives, or they come from varieties which are descended from species which come from climates most nearly resembling his own. Thus the first step in overcoming winter injury is to plant the hardiest varieties. Unfortunately, the hardiest varieties are not always the best in color, or quality, or may not be of the season of maturity which is desired. Man obtains what he wants by crossing the hardiest varieties with those having the other characteristics. He may extend the limits of the successful culture of the different kinds of cultivated fruit by crossing them with the native species.

There are not yet, however, sufficient hardy fruits having all the other desirable qualities, which are suited to all the climates in America where man would like to grow fruit, hence it is usually necessary to grow fruits which may not always prove hardy when there are unfavorable summers and exceptionally severe winters. In such cases, and they are numerous, it is necessary to resort to special methods of culture as an aid to overcoming winter injury.

It is not our purpose in this paper to deal with winter injury in the south, as we are not familiar enough with the conditions there to discuss the matter, but we believe that some of the methods here suggested of overcoming winter injury may be useful even in the citrus belts.

The Central Experiment Farm, Ottawa, Canada, is situated in latitude 45 degrees north, and 75 degrees west longitude. There is usually a sufficient supply of moisture and heat during the growing season to cause a strong growth on healthy trees of apple, pear, domestica plum, cherry and peach, and there is usually a good covering of snow to protect the roots of the trees in winter. The temperature in winter seldom goes as low as 30 degrees F. below zero, and very rarely any lower. Winter sets in as a rule during the latter part of November with the ground frozen and there are usually few thaws between that and the middle of March. The snow, as a

Delightful and Instructive

THE CANADIAN HORTICULTURIST is not only a source of delight for one interested in horticulture, but unusually instructive on things that pertain to the culture of plants, shrubs and fruits. It is to me a treat to read the well written essays, including the discussions on the improvement of home grounds and of parks.—A. E. Small, Buffalo, N. Y.

were half hardy or which killed to the ground twenty years ago, to withstand adverse climatic conditions at Ottawa, has been noticed at Ottawa.

The *natural* perpetuation of the species or variety, or the extension of its range when not under cultivation, need not, however, cause any anxiety to the fruit grower. His object is to extend the *successful culture* of the different fruits over as wide a territory and as great a diversity of climates as possible, and he can, if his trees are all destroyed, soon plant a new orchard of the same varieties from other sources; whereas in nature long periods might elapse, after a series of exceptional years, when there had been great destruction to trees, before the range of the species was again extended.

There is a great difference in the hardiness of varieties of the same kind of fruit and it is only by experiment that man is able to determine what varieties will

*A part of a paper read at the meeting of the American Pomological Society, held at St. Catharines, Ont., in September. The forms of winter injury mentioned in the concluding paragraph of the matter herewith published already have been discussed by Mr. Macoun in the columns of THE CANADIAN HORTICULTURIST and of *Farm and Dairy*, which is published in the same office. Any person not familiar with what Mr. Macoun has said on these subjects, may secure copies of Mr. Macoun's report for year ending March 31, 1908, by writing to the Central Experimental Farm, Ottawa.

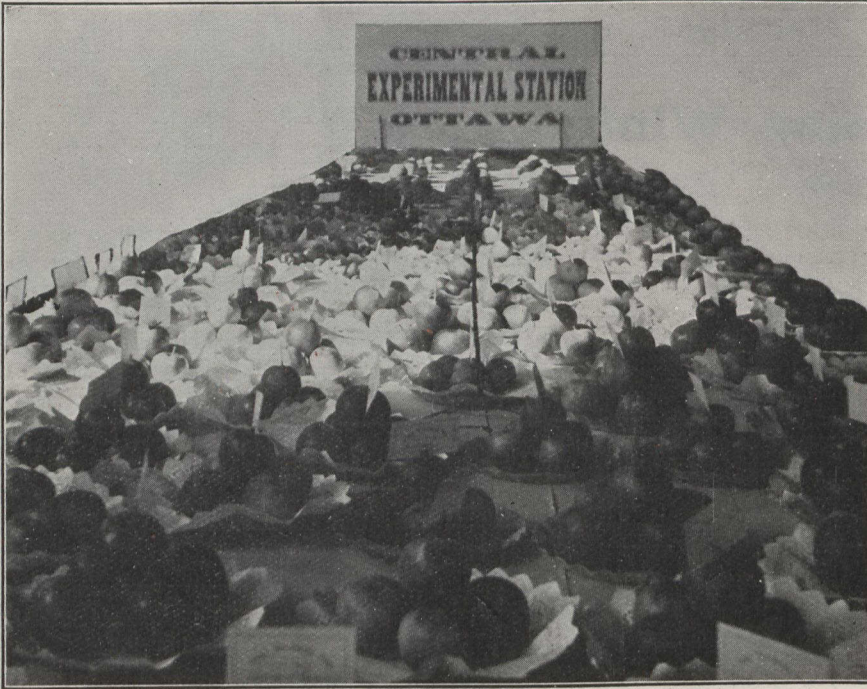
rule, is not off the ground until near the middle of April.

Some exceptions to these average conditions are an occasional dry summer followed by rain in the fall, sometimes caus-

results obtained by other experimenters to at least offer some suggestions as to how to overcome them. The forms of winter injury which will be taken up are: root-killing, bark-splitting, trunk-split-

illustration shows a table of this pattern of convenient size. It is eight feet long by three and a half feet wide on top. The top is made of strong burlap tacked to side pieces made of one and a half inch by three inch scantling. The legs are one and a half inch by three inch scantling bolted together with only one bolt and admit of folding together. The pieces for the legs should be about four feet four inches long, and the table is made solid by strips along the bottom of one inch by three inch lumber. The table when set should stand from two feet eight inches to three feet high. This table is easily constructed by anyone in a short time, does not take up room when not in use, and if properly cared for will last for a long time; it has the additional advantage of costing very little.

The illustration also shows one of the best and generally used round, half bushel picking baskets with swing handle. A basket with a handle that is fastened to the side solid is not good as it cannot be tipped in the barrel. The common galvanized or tin bucket holding about ten quarts is, I find, as good a picking receptacle as any. An "S" hook should be attached to the handle of the picking basket so that it can be hung to the rung of the ladder or to a branch.



Central Experimental Farm Exhibit at Niagara District Exhibition
This display won a Wilder Silver Medal. See Page 227.

ing the trees to start fresh growth and sometimes even to bloom a little. These conditions may be followed by an unusually cold winter with the temperature 15 degrees F. to 25 degrees F. below zero for several days in succession. Occasionally there will be little or no snow on the ground for a time in winter, during which period there may be great changes of temperature, causing root killing. Sometimes a summer is cool and moist, the trees grow late, the wood is not properly ripened and the tops of the trees are killed. With these conditions it has been found that most winter apples are not hardy, the Northern Spy, Rhode Island Greening, Baldwin, and Tompkins King being all too tender. Only the Russian pears can be called hardy, though the Flemish Beauty succeeds very well in other places not far away. The domestica plums live for a time and occasionally bear good crops of fruit, but most varieties are, as a rule, either winter killed before they begin to bear or have at least their fruit buds destroyed. Some cherry trees stand the climate for a time, but before very long the trunk splits and the tree dies. Even while they are healthy the fruit buds are killed nearly every winter. Peaches have to be laid down and covered with soil to even save the wood.

With twenty-one years' experience in such a trying climate it has been possible to roughly classify the different forms of winter injury, and with the aid of the

ting, sunscald, trunk or body injury, crotch injury, killing back, black heart, killing of dormant buds, killing of swollen buds. These forms of winter injury were discussed by me in the annual report of the Dominion Experimental Farms for the year ending March 31, 1908.

Convenient Packing Table

W. S. Blair, Macdonald College

One of the most convenient and easily moved tables for sorting apples is that made similar to a folding camp stool. It can be folded together and carried to

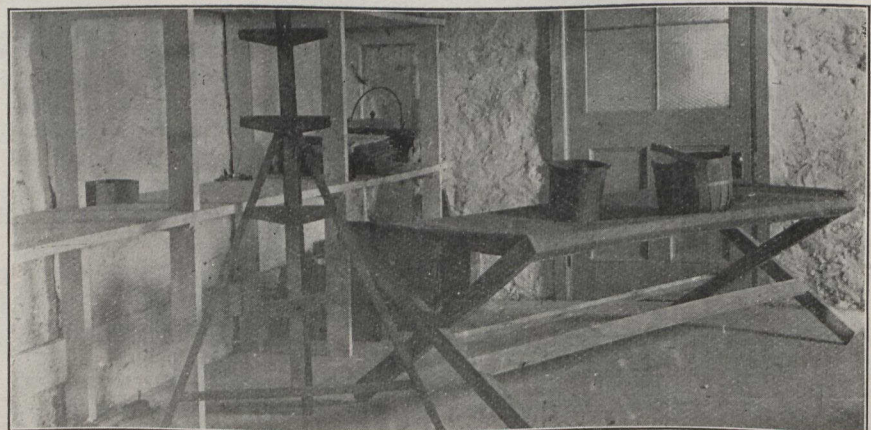
Orchard Notes

Generally speaking, the best soil for peaches, is a deep, well-drained, light sandy loam.

In what way can fruit growing in your province be made more profitable? State your ideas in a letter for publication in these columns.

Almost any orchard may be benefited by a certain amount of protection from strong winds. If it is exposed, plant a windbreak.

If you have had any success in some practice connected with fruit growing



Some Convenient Appliances for Picking and Packing Fruit

different parts of the orchard and the apples emptied upon it without bruising, and quickly sorted. The accompanying

that you think would be of value to others, tell about it in a letter for publication in THE CANADIAN HORTICULTURIST.

Causes of Failures in Apple Growing in Quebec*

R. Brodie, Notre Dame de Grace

ONE of the principal causes of failure in apple growing is the want of thought,—not studying the various conditions concerned, but taking things for granted and doing these in the same way that our fathers and grandfathers did. Before the Central Experimental Farm was started in Ottawa, it was taken for granted that apple orchards could not be grown for profit in that vicinity, but after years of selection and experimenting with varieties, they have an orchard to be proud of.

PLANTING TENDER VARIETIES.

Losses have been made in setting out tender varieties, not suited to our climate, while profits could be made out of those that succeed well. At the present time, nurserymen in the more favored regions are better educated in the needs of our northern climate than they were, but purchasers need to watch the tree agent with colored pictures of fruit, pleasing manner and high prices. That licious winter apple, Northern Spy, is counted a hard variety in western New York, recommended there to top-graft tender varieties, but in the province of Quebec, it is not hardy. A sure way of losing money is to plant tender and half hardy varieties.

UNDRAINED SOILS.

Losses are made in setting out trees in soils that are not well drained. A good deal of the bark bursting and winter-killing of trees is caused by the effects of heavy autumn rains, followed by severe winters in undrained soils.

ORCHARDS IN SOD AND PASTURED.

It is admitted that, to grow apple trees successfully, it is best to cultivate, especially for the first ten years. If you want to destroy trees while young, sow grain and seed down to grass. The trees will be stunted in growth, but in all likelihood there will be a good crop of after-grass and clover. At that time of the year the cow pasture is generally bare. You will say, "It is too bad having this grass go to waste, while if I turn in the cows it will increase the flow of milk. There is such a lot of grass the cows won't hurt the trees." What will be the result? Probably half of the trees will be destroyed.

A TRANSPORTATION FACTOR.

Another cause that makes apple growing not so profitable as it might be is the long distance the apples have to be hauled to the nearest railway station or steamboat landing. No matter how much a fruit section is advertised and boomed, if it is far from a shipping point, it will take away most of the profit. In the province of Quebec, the time

to dispose of the apples is before navigation closes.

THE LABOR QUESTION.

The labor question at the time of the apple harvest has a great deal to do with the profits out of an orchard. On the Island of Montreal, thousands of barrels of apples are shaken off the trees and filled loosely into waggons that hold about ten barrels, the purchasers coming for them in the orchards and giving on an average of \$1.00 a barrel for them. I have heard of box cars being filled up in bulk with Fameuse apples shaken from the trees in other parts of the pro-

sions, while many of the boys that remain on the farm cannot sign their names. The boys should have the advantage of a good education.

Blackberry Root Cuttings

John Ferguson, Murches', N. B.

The process of making root cuttings is to dig up the entire plant, securing all the roots possible over one-eighth of an inch in diameter. These should be cut into pieces, two or three inches long, and should be planted in broad rows, somewhat as peas are planted, covering about two inches deep. Before severe freezing



A Part of the Great Fruit Show Held at St. Catharines Last Month

The extensive display of the St. Catharines Cold Storage and Forwarding Co. may be seen at right background; general display of fruits from farm of Mr. Albert Pay, St. Catharines, at left background; collection of peaches by Wm. Armstrong, Queenston, at end of second table (baskets reclining). These three exhibits won Wilder medals. See page 227.

vince. It is too bad that this should happen so near a shipping port.

To make a success of packing and marketing apples, we need co-operative associations with central packing houses like they have in some parts of Ontario. The farmers in Quebec co-operate in the manufacture of butter and cheese; why not in the grading and packing of fruit?

HORTICULTURAL EDUCATION.

Last but not least.—Give the boys the advantage of a good horticultural education, either at the Oka Agricultural Institute, at La Trappe, or at the Macdonald College. There is a prejudice among a few farmers against education in connection with farming. Money is spent lavishly for those studying for profes-

weather sets in, the bed should be covered with five or six inches of strawy stable manure to prevent deep freezing. In the spring the covering is raked off, and by the middle of June the rows will be studded over with buds coming from every piece of root planted. These plants are much better than the "sucker" plants because they have large numbers of fine fibrous roots and are much more sure to live and make stronger canes.

Apply a dressing of barnyard manure to the patch in late fall or very early in the spring. If no disease attacks them, blackberry plants will, with good treatment, live and bear fruit for ten or fifteen years, much of course depending upon soil and cultivation.

*Extracts from an address given at Summer meeting of Quebec Pomological Society at La Trappe.

Fall Work with Peonies

P. G. Keyes, Ottawa

FROM September 15th to October 15th is probably the best time to plant peonies or to divide old plants in order to increase our supply. Almost any soil will give satisfactory results if it be not so low that the water will remain on the surface during the winter or spring. Choose a situation away from the roots of trees, but fairly good success may be had in partial shade. Trench the soil to a depth of at least two feet before planting, and work in a good quantity of old manure. See that this is well mixed with the soil, as the peony like all other plants resents the direct application of manure to its roots. This trenching is better if done two or three months before the planting season.

Set the root so that the upper eyes are about three inches beneath the surface of the soil. The plants should be set about three feet apart and if in rows the same distance will answer very well.

Although the peony is hardy anywhere

and needs no protection, an inch or two of well rotted manure may be thrown over the crowns in November *after the ground is frozen*, and the tops of the plant have been cut off level with the soil. This should be removed early in the spring, but it may remain around the plant and serve as a mulch during the summer, or it may be forked into the soil. If forked in mulch the surface around the plant with some fresh strawy manure, as this will serve to keep the ground moist and cool — conditions which exactly suit the peony.

Plantings may be left undisturbed for years if the soil is occasionally enriched. Typical blooms must not be expected the first year after transplanting; as a matter of fact, few plants such as are sent out by nurseries bloom in less than three years. I am pleased to see manifested a growing interest in these beautiful flowers and hope that we may soon be able to form a Peony Growers' Association for Canada.

Have the Garden Effective All the Year*

D. W. Buchanan, St. Charles, Manitoba

TO those who wish to have a good flower garden with an abundance of bloom for the longest possible season, I would say, indulge liberally in the hardy perennials. There are many species and varieties of these rugged plants that are quite hardy in the west. The severe cold of our steady winters seems more favorable to these hardy plants than the freezing and thawing that they are subjected to in milder climates. We have left our perennial flower plots unprotected, save for the covering which nature provides in the snow, for several years past, and have not suffered any severe loss from winter killing.

I have a record of the date of coming into bloom of hardy perennials growing in the grounds of the Buchanan Nursery Co., at St. Charles, near Winnipeg, for the season 1908. This record shows that the earliest species and varieties were in bloom about the end of April, and some late varieties were still making a good show of bloom in October. This shows a season sufficiently long to make a good flower garden a thing worth striving for. But the flower garden is not everything. In undertaking to beautify the surroundings of the home, and especially the rural home, where abundant space affords opportunity for spreading out, trees, shrubs and vines should be used liberally. We

cannot have the flowers blooming outdoors in the winter in our climate, but by a judicious use of shrubs and trees, we can produce pleasing effects for all seasons of the year and make the garden or the home surroundings beautiful even in mid-winter.

Some people may smile at the idea of planting for winter effect in our climate. Granted, that when the thermometer is away down below zero, we are not likely to linger outdoors to contemplate landscapes or artistic effects in planting, but after all, the really severe days of winter are few. Even in the depth of winter there are many days on which a ramble in the wood or a stroll about the grounds can be enjoyed, and in prolonged spells of severe weather, a pleasant view from the window is a thing to be desired. Then we have the early spring and late fall seasons, before verdure has appeared, or after the flowers are gone, during which there are many pleasant days to be about the grounds.

FOR FOLIAGE EFFECTS IN FALL

For fall or autumn effects, pleasant views may be created by giving attention to the coloring of autumn foliage. When Jack Frost has touched the leaves with his magic wand, many of our trees and shrubs take on a richness of coloring that is hardly equalled in beauty by the fresh foliage and flowers of spring and early summer. There are other shrubs that hold the green leaf until very late in the season. Of the shrubs whose foliage is

particularly attractive in the fall we may mention, among others, the beautiful Ginnala maple. The coloring of the foliage of this plant will vary in individual specimens. Some will be found beautifully tinted quite early in the season, increasing in richness as the season advances, until the little tree at a distance resembles a scarlet mass. The foliage of the Virginia creeper is nicely colored in the fall, but the leaves soon fall. Another shrub that may be mentioned in this connection is the Japan barberry. This is a beautiful little foliage plant all summer, but especially beautiful when it has taken on its rich autumn coloring. This plant also holds its foliage well. Our native plum, and also the Sheep berry (*Viburnum lentago*) have finely colored foliage in autumn. The Russian olive holds its leaf late in the fall, its light



Colorado Blue Spruce

An excellent subject for winter effect.

color blending nicely with the rich coloring of surrounding trees. This shrub or small tree gives a fine effect all summer if planted among the green leaved trees, its silvery foliage showing in fine contrast with the green. In the fall the foliage takes on a lighter shade. Of plants that hold the green leaf late in the fall we may mention the common lilac, buckthorn and Amur barberry. The purple leaf barberry also retains its leaf well on in the fall, the color becoming more of a brownish shade as the season advances.

When Christmas comes you will wish that you had potted some bulbs in October. Do not procrastinate. Send at once to seedsmen that advertise in THE CANADIAN HORTICULTURIST, and get their catalogues.

*Extracts from an address delivered at a meeting of the Western Horticultural Society. In a later issue, that portion of the address that deals with planting for winter effect will be published.

Conservatories for Amateur Horticulturists

R. W. King, Toronto

THE average conservatory attached to a dwelling is an expensive luxury that only the wealthy can afford, or it is a failure for the purpose for which it was originally designed.

up appearances, the plants and bloom found in such conservatories are usually grown elsewhere.

When an amateur wants a conservatory mainly for purposes in trying his

stands right, than in the back yard. There one can have a conservatory at the cheapest cost and as near as possible what the amateur horticulturist wants; namely, a place not for show purposes but one wherein he can experiment regardless of appearances and as far as possible be on a par with the professional grower, whose main consideration is to obtain efficiency and to avoid burdening his enterprise with useless and unnecessary expense.

The photograph reproduced in the accompanying cut is taken from a view that can be seen any time from the Hamilton train, G. T. R., when approaching Toronto from the west, and is published by kind permission of the owner, Mrs. Miller of Springhurst Avenue, Toronto. The dwelling houses shown are a pair of semi-detached. Originally the porch belonging to the section to the right was the same as may be partly seen to the left of the picture. In building the conservatory the porch was first carried up forming an outlook from which a pleasant view of the lake and garden, in which the lady takes much pride, could be seen.

The building up of the porch to form the outlook enabled the conservatory to be carried up a sufficient height to give ample head room under the sash. The porch also protects the glass from the falling of snow and ice from the roof of the building. It forms also a potting shed or service building for the conservatory, keeping the latter well back and more out of the shade of the dwelling. To avoid overshadowing by the fences



The Home Conservatory of an Amateur Horticulturist in Toronto

This cut and accompanying plans were furnished by the King Construction Company, Toronto.

As an expensive luxury it has been designed by some architect, not a florist, whose main interest is in its architectural appearance. It must be a handsome addition to the dwelling and treated architecturally to correspond. Rounded glass and circular sashes are usually necessary to obtain the desired effect. These add seriously to the cost and if for economy the rounded bars are made of wood they have to be so heavy as to seriously obstruct the light that the plants require, more especially in winter. The side woodwork, consisting of the eaves, mullions and sash frames, are usually made too heavy while the proper position of the conservatory as regards light is often a minor consideration.

An order recently given an expert when criticising the position in which he was asked to design an expensive conservatory, stated in imperative terms: "Put it right there; I am building a house, not a conservatory"; consequently, this conservatory, though proportionately expensive with the house, is only a pretence as far as a suitable place for the growing of flowers or plants is concerned. To make a suitable show, in order to keep

hand at plants or flower growing, there is no better place to put it, if the house

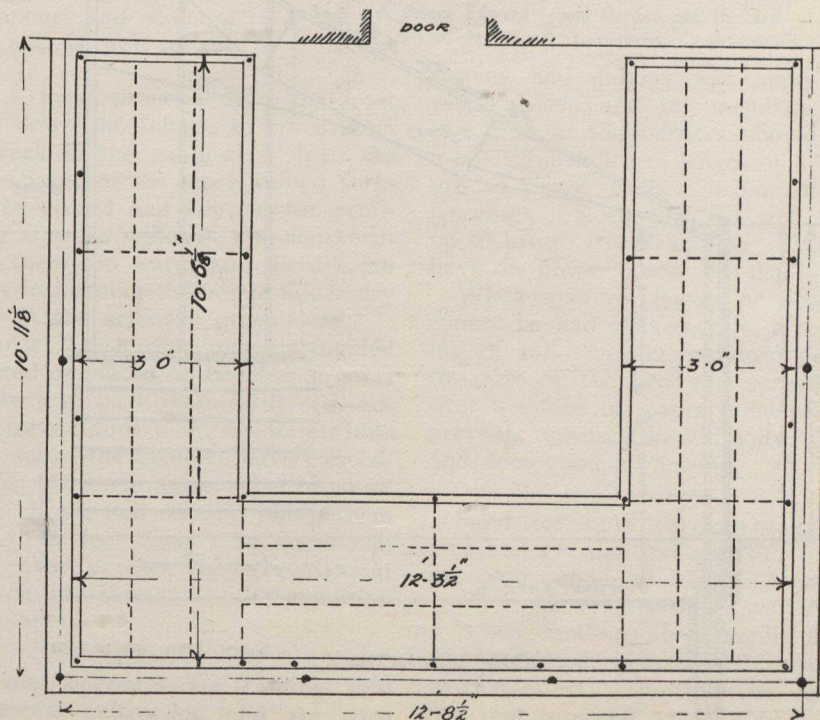


Fig. 2. The Arrangement of the Benches in Conservatory Illustrated on This Page

at the sides, the glass of the conservatory and the benches inside is well elevated. Fig. 1 is a sectional elevation of the conservatory. Fig. 2 is a plan in which the disposition of the benches is shown and explains itself.

The heating is by hot water pipes not shown in the plans. The main pipe is carried round the house above the benches and at the front runs immediately under the eave inside the house so as by heating the steel gutter to keep it clear of snow and ice. The drainage passes down the pipe posts inside the house to an underground drain connected with the house drain. By this arrangement no icicles are formed on the eave and the roof quickly clears itself from the winter snows. The balance of the heating is done by pipe coils under the benches in the usual manner.

A separate boiler is used for the heating and is placed in the basement of the dwelling house. Independent connections are made to the kitchen hot water tank so that the boiler can be used to heat water for household purposes, which is specially convenient in this instance, the boiler being placed beside or convenient to the wash tubs. It also assists materially in the heating of the dwelling. It appears from a season's trial that an additional three tons of coal to the usual winter supply is sufficient to heat this conservatory in the manner described.

Commence now planning for next year's garden. Many things that require changing may be noticed now.

Making New Lawns in Fall

R. L. Canning, Earls court, Ontario

THE season is upon us once more when our lawns will have to be taken in hand. The past summer has been a very trying one for all lawns and grass plots in general, and it has been a test whether a lawn has been true and well laid or only half done, or in other words just squares of turf laid down on unprepared ground.

To those about to make a lawn for next year's use, now is the time to take the work in hand, and start in earnest. It should be borne in mind that a well-kept lawn or grass plot, is a thing of joy and beauty, and no pains should be spared to make it perfect.

When a site has been selected, the first thing essential to the making of good grass is the drainage. Be sure on that point. If the land is naturally heavy and soggy or retentive, it will be a bog after a rain storm. Place drain pipes about two feet under the surface and let them lead to a drain or outlet. Grass loves lots of moisture, but excessive dampness means the rotting of the finest grasses and textures, and a predominant growth of the rankest kinds of grass.

To ensure success, dig the ground to the full depth of a spade or even a foot deep, mixing in and well incorporating a good and copious supply of well rotted manure. Break the soil up finely while working the ground to ensure evenness when completed.

If the ground is sandy and light, mix

in a proportion of clay where possible; if heavy, mix with sand when digging. This will modify extremes.

If the ground is to be laid with turf, see that the ground is true and level and free from roots of all kinds and particularly dandelions. Lay the turf even and well, making the joints fit perfect. Beat well with a beater or with a spade "back on" and when finished roll thoroughly. If any little spaces remain fill up with fine soil, and level with the back of a rake.

In the spring time examine closely the new growth in the turf for any weeds and eradicate them by going down on your knees and with a knife dig them up. Afterwards fill the holes with soil and sow with grass seed.

A good and permanent lawn should be raked in the spring with an iron rake and the rubbish and dead grass cleared away and seed sown evenly all over. Birds will be troublesome for a few days, but sow the seed rather thickly. When it is up and strong, roll well and pack the edges on the walks, and then edge with a good sharp edging iron.

When ready for mowing care must be taken not to have the knives too close for the first few mowings. Go easy for a time and let the grass grow so as to have a firm root hold.

If the ground is to be sown with seed let it remain until the spring. As soon as the ground is in a fit condition to receive the seed, level off with a rake and make it as fine as possible. Sow the seed broadcast evenly and thickly, as birds may be troublesome. When the seed has taken root and is well up, look for any bare patches and sow at once, slightly scratching the soil with a rake to freshen up the surface. Follow the same course as advised for the turf laid lawn, and roll well. Look out for weeds and dandelions and root them up while they are small. Don't forget that the more the grass is rolled in spring the firmer it becomes; it will not be soft and springy, and it will stand the dry weather much better.

A little judicious management will ensure a perfect lawn and the trouble taken at first will be well repaid by having a beautiful green sward. A splendid help to jaded grass is an application in the spring of a little nitrate of soda sown broadcast *very* thinly just before a rain. The results are astonishing.

Take an interest in the work of your local horticultural society.

Photograph the garden, or a portion of it, when it is at its best, and send same for publication in THE CANADIAN HORTICULTURIST.

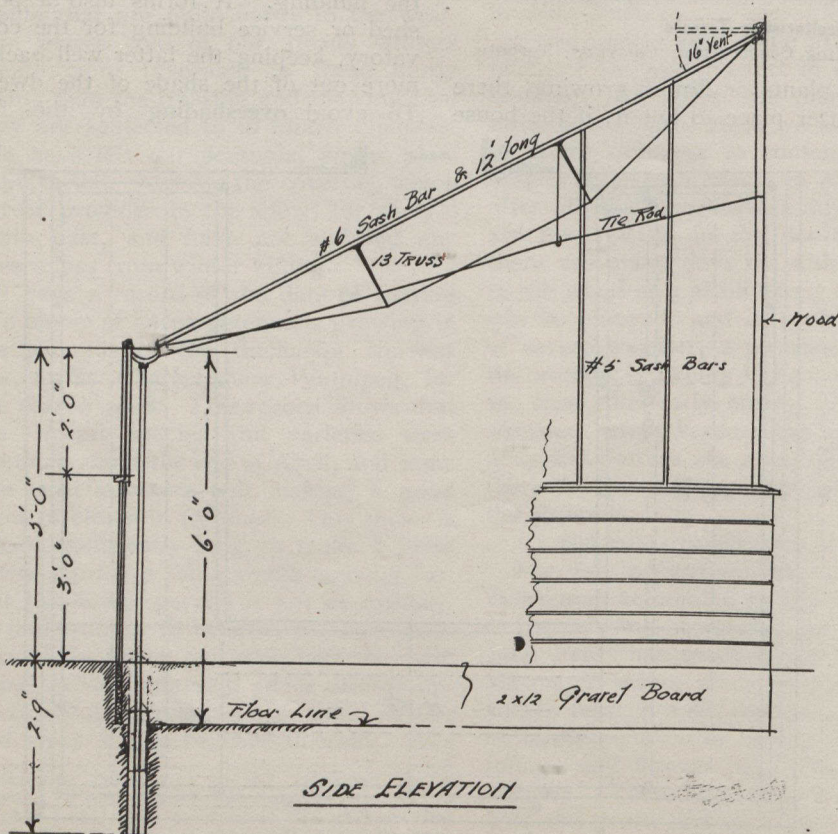


Fig. 1. Sectional Elevation of Conservatory Described in Accompanying Article

Preserving Bulbs and Tuberos-rooted Plants

J. McPherson Ross, Toronto

In our rigorous climate so little labor is required to house and winter any bulbs and tubers that need such care that it may be summed up in one line: "When the tops are killed with frost, dig and store in a dry frost-proof cellar." The advice given to winter successfully bulbs and tubers, may be applied also to our other garden favorites as *Caladium esculentum*, fuchsias, yuccas, agapanthus, oleanders and water lilies.

As most residences are heated with furnaces or hot water there is little danger from frost. Where the cellars are so heated, the only danger would be from over-dryness. It would be safer to store all bulbs and tubers in boxes filled with sand or sawdust or else dig the roots up, leaving all the soil on them, and place in boxes, looking them over occasionally in winter and watering when too dust dry.

The four extremes to be avoided are too hot, too cold, too wet, and too dry. If a proper medium is observed in these extremes very little art is required to winter anything.

GLADIOLI

The first bulb to speak about is the gladiolus. The bulbs or corms of this plant are easily preserved during winter. After the first frosts in October, they may be dug any time during the month, cutting the stalks off close to the bulb, and storing them on shelves or trays in any cool cellar or convenient place that is free from frost. This truth holds good for all the bulbs and tubers,—be sure and keep *free from frost*.

Having gathered your stock and piled them loosely in trays to a depth of four or five inches, no more, they may remain there until such a time as will be convenient to clean and sort them; that is, to remove the cormels or small bulblets and the old bulbs, sorting the young strong bulbs back into the trays, properly labelled, so as to have them ready for spring planting. It is recommended to keep the small bulblets dry for the year without planting as it is stated they will do better than if you plant them. Where there are only a few bulbs, many gardeners just cut the stalks about six inches long, and tie them into a bunch, and hang them up on nails in the potting shed like onions.

DAHLIAS

Where the gardeners have a greenhouse, the usual place for storing dahlias is under the benches. After the frost has cut the foliage down, cut the stalks off within six or eight inches of the crown of the tubers and dig them. I usually leave them on the top of the ground, just as they are dug and, if the weather is

not too severe, leave them out for a day or two to harden and dry, then remove them into the cellar or greenhouse. The best stock advice to amateurs about keeping dahlia tubers is, "Wherever potatoes will keep safely so will the dahlia." The proper temperature is about fifty degrees. Any warmer than this is apt to start growth, although a little of this will not matter.

If you have many, you may store them in heaps of two or three deep with the soil all shaken off. Keep them dry and not too damp. If you have only a few tubers, a good plan is to pack them in sand and towards spring overhaul and divide them into suitable sizes for planting.

CANNAS

The next important summer flowering plant is the canna. This plant being a native of India, is a tropical plant and requires more care than the gladioli or dahlia and, if kept at a lower temperature than forty or fifty degrees, they are apt to rot, particularly if too damp. If kept too warm they are apt to grow like the dahlia, although a little growth will not hurt them; still they are better dormant. They should be stored in the warmest corner of the cellar, out of draught, leaving the soil on the clumps as they come in, or they may be kept covered with sawdust in boxes a couple of feet from the ground, as the dampness and coolness of the soil is apt to rot them.

It is a good practice after the frost has cut down the foliage to leave them for a week in the ground to ripen the tubers. Some of the more valued sorts should be potted and kept in the semi-growing state all winter. You can hardly keep them too warm and there is no difficulty in keeping them safe under dry benches in the ordinary greenhouse.

Towards March they may be divided and potted or placed on benches to start into growth to have them fairly well advanced for outdoor planting about June 1st. Some of the growers have convenient bins for them under the benches, shaking all the soil off and piling them two or three feet deep. An occasional turning over arrests the growth and keeps you in touch with the condition of the plants.

TUBEROUS BEGONIAS

Tuberous begonias are coming into such general cultivation and are such

showy free flowering plants that I expect to see a more general and increasing use made of them in our flower gardens. Although commonly supposed to flourish only in partially shaded spots, I have seen some fine beds of them fully exposed to the sun. They thrive finely and give great satisfaction when they have light, rich, spongy soil and are kept well watered.

When frost comes remove them into boxes and let the soil and tubers dry together. Keep them at a temperature of fifty degrees and pot early in spring for planting outdoors. I have planted the tubers right out in the garden but this throws them a little too late. The flowering season is altogether too short as it is.

There are a few more plants that I might mention, both bulbous and herbaceous, but such advice as given for



A Prince Edward Island Garden and Orchard
At home of Mr. J. E. Laphorn, Charlottetown.

cannas and dahlias will apply to the rest. Lilies and all members of the lily tribe in the borders should receive a bountiful mulch of leaves or long manure to preserve them from too severe freezings. Keep the bed well rounded up to insure free drainage. You cannot have the flower border too dry in winter.

When manure, leaves or other litter cannot be had conveniently, a top-dressing of soil three inches deep dug from the side of the bed and spread evenly over the tops of plants is beneficial. It prevents upheaval in stiff soils from frost and does good all around.

Send for bulb catalogues of seedsmen and get the best varieties for planting both outside and in the house.

When sending photographs that you want returned, write on the back of them to that effect. They will be well cared for, and returned as soon as used.

Lawn and Garden Hints for October

EVERYTHING that is accomplished this month is so much towards the gardening of spring. Gather seeds of poppies, cosmos, calendulas, marigolds, and other annuals that you marked earlier in the season for seed gathering. Keep each kind of seed in a separate box or bag properly labelled. Store in a dry place.

Plant tulips, hyacinths and narcissi. Place the bulbs three or four inches deep and firm the soil over them. Later on, the beds should be covered with a mulch of leaves, straw or other coarse material.

New beds for flowers next spring may be prepared now. Dig the ground deeply and remove all stones and rubbish. Dig in plenty of manure.

Enrich the soil of poor beds and borders where the plants have not flourished as well as they should have done. Work in a good coating of manure. The manure may be left on the surface until the spring and serve as a winter protection

Frost-killed annuals should be removed, roots and all. Burn them to prevent a recurrence of the insects and diseases next year.

Clean the garden, collecting all stakes and other things of like nature. Store them. Rake the leaves off the lawn, and put them on the compost heap. Look after the tools that will not be needed again this fall. Clean them, coat with oil and store them in a safe place. Have on hand a supply of spruce boughs, straw or strawy manure for protecting the bulb beds and any plants that may need it. Secure and prepare potting soil for use in winter. Top-dress the lawn.

FLOWERS IN-DOORS

Pot house bulbs. Place them in a dark place for six weeks or more. When the pots are well filled with roots, bring them to the light. Freesia bulbs may be placed in the window at once.

Grow China sacred lilies, paper white narcissus and some varieties of polyan-

dry, but frost-proof. When harvesting leave a couple of inches of the stem to prevent rotting.

Break down the tops of asparagus as soon as dry. Rake together and burn. Work into the soil a top dressing of manure.

Bank the celery with earth if it still needs it. Most celery should be stored by the end of the month.

Pull and store cabbage, carrots, parsnips and such crops and put at once in the cellar. Root crops will keep better if covered with earth. Some parsnips and salsify may be left in the ground over winter for use next spring.

To have a winter supply of parsley, dig some of the roots and plant them in a pot or box and place in a light cellar or shed where the temperature is not too cool.

Home-grown raddish and lettuce may be had for Christmas by sowing the seed in a mild hotbed. Watch the plants carefully, and protect against heavy frosts and freezing.

The old rhubarb patch may be renewed by taking up the roots, dividing them and setting new patches. A few roots may be forced in the cellar before taking them inside. Leave them on the surface of the ground after digging and until they freeze, then place on the floor of the cellar or in a barrel where they will produce tender juicy stalks for winter use.

Why not make a mushroom bed in the cellar? This is an interesting subject to grow and, if you are not successful, what's the odds? Your experience may bring results next time. There is no mystery about mushroom culture. The success of the operation depends upon strict attention to the details of making and caring for the bed. Send questions to our question and answer department.

If you intend to have a hotbed next spring, now is the time to make preparations. Purchase or make the frame. Store some rich garden soil for use when the time comes. If you purpose making an excavation, better dig it now. Fill the excavation with straw until spring, when this can be removed for the reception of the manure.

Photographs of first prize gardens and lawns that won in horticultural society competitions, are wanted for publication.

Plant some bulbs this month for bloom next spring. Recall to mind the brilliant displays that you saw last spring and plan to have one as good on your own lawn next year. Bulbs are easy to grow. For best results they should be planted right away so that a good root growth will be produced before the ground freezes. Choose early and late kinds for bloom over a long period.



Some of the Vegetables at the Niagsra District Horticultural Exhibition at St. Catharines

but, in this case, it should be applied only after the ground is frozen.

Herbaceous plants may be divided and transplanted. Plant new, hardy perennials. Old lily clumps may be renewed by dividing and replanting.

Dig canna roots before being frozen and place them in a shed for a week or two to dry, then store them for winter in a temperature of about 45 degrees.

Dig dahlia roots, allowing a little soil to adhere to them. Cut off the tops at a point about six inches above the tubers and place the clumps in an airy place until dry, then store them. They may be kept in a cooler place than that selected for canna roots.

Gather the corms of gladioli. Dry them off partially and store in a fairly dry cellar where the temperature is about 45 degrees. Tie them in bunches to the joists or place them in paper bags.

If you have oleanders, pot roses or fuchsias that are to be consigned to winter quarters, harden them off first. Do the same with pot hydrangeas.

thus narcissus in stones and water in a glass dish. Select strong bulbs for the best results. Hyacinths may be grown in special glasses that can be purchased for the purpose. Allow the water to rise only half way up the bulb. Keep the bulbs in a cool place until well rooted. Change the water every three or four days.

Re-pot ferns and palms that may need it. Remove some of the earth from the roots and place in fresh soil in pots slightly larger.

Bring in the old geranium plants from the garden and prune them back severely. Pot them in sand and a little deeper than they stood outside. Place them in the cellar until early in February, then re-pot in good potting soil and bring to the light.

IN THE KITCHEN GARDEN

Harvest the squashes, pumpkins, melons, cucumbers and such crops at once, if they have not been injured by frost. Store in a shed that is cool and

Growing Squash in Saskatchewan

Brenda E. Neville, Cottonwood

OF the varieties of squash that can be grown in this province I have found that Long White Bush Marrow leads the list. Next comes the Red or Orange Hubbard squash, and the



Some Saskatchewan Squashes

Green Hubbard is not far behind. Citrons, cucumbers and the common yellow field pumpkin must all be treated in much the same manner and may be expected to yield fairly well.

We are subject to late spring frosts in this country. As the seeds of all the squashes rot easily with cold weather, we must wait until the ground is quite warm. We must also wait until there is no danger of the young plants freezing. The last spring frost is usually on the night of the first full moon in June. As the squash seeds take about eight days to germinate, they may be sown about that length of time or a few days less, before the said full moon.

Select a well-drained plot, with soil that has been deeply worked, and is as free as possible from cut worms. Mark out your hills about four feet apart. As each hill will be two feet square, allow six feet from centre to centre. With a spade, dig out square holes two feet square and eighteen inches deep. Throw the soil in heaps on the north side of the holes.

When the holes are all dug, go to the stables and secure fresh horse manure free from straw or litter; in fact, just such manure as you would use for a good hotbed. Fill each hole one foot deep, or if possible fifteen inches, packing the manure tightly and making it perfectly level or slightly dished in the middle. Put a pail of water in each hole unless the manure is already very wet, or the weather is cold and damp. Fill in on top with earth, being careful not to raise the hill above the level of the surrounding garden.

Plant the seeds at once. The heat from the manure will be just sufficient to cause the seeds to germinate quickly. I usually plant at least ten seeds in a hill.

It is a good idea to place a stove-pipe or bottomless pail filled with manure in the centre of the hill. Then plant the seeds in a ring around it. Another device is to fill the hole with manure, then place a bottomless box slightly smaller than the hole, on the manure; fill three or four inches deep with earth, and plant the seeds. In both cases, the idea is to enable one to pour on each hill a large quantity of water every day, without wetting the earth that is next to the stems of the plants. Water poured on the manure in the pail, or on the manure outside of the box, will soak down to the roots without baking the surface.

We have no honey bees in these parts. (They can be kept where shelter has been established). When flowering time comes daily watchfulness is the only chance for a good crop. About ten o'clock each morning the vines should be visited, and every pistillate flower must be carefully inoculated by hand with pollen from the staminate flowers. The kinds of flowers are easily distinguished. The pistillate flower has a tiny squash at its base, while the staminate flower has not.

It is safest to gather all squashes before the least frost comes. However, ripe squash will stand some frost and when the vines are frost-bitten all the fruit can be gathered at once. Stored in a dry place, Hubbard squash will keep for months and marrows and citrons will keep a long time.

Easterns may at first despise their big yellow pumpkins, but a good ripe pumpkin is a curiosity in the stores here. In 1905, I sold one to a grocer. He placed it on his counter and sold it in slices like a watermelon. That pumpkin brought me eight cents a pound. Hub-

bard squash are hardly ever seen, but cucumbers, citrons and marrows are grown quite commonly. These vegetables can be grown on a new farm, where fruit bushes have not yet been established. They almost all make delicious preserves so they are especially valuable to new-comers.

Uses of Ginseng

Of what use is ginseng and where can it be sold?—W. P., Nelson, B.C.

Ginseng is shipped to China. The Chinese seem to place the highest value upon it as a medicine. They consider it a cure for almost every ill of mind and body. They use it also in their religious rites. To find out its exact value to them is rather difficult as they are reticent on the subject but the fact that they are willing to buy all that we can grow and pay good prices is what interests us most. It is said on good authority that they would buy twenty times more each year if it were available. Ginseng is not a perishable crop, like grapes and strawberries. When dry it becomes staple, like tea, spices and tobacco. It will keep for years.

Outside of the money that may be made out of vegetables, there is a place for them in the home garden for the home table.

Questions of local importance in contemplating the cultivation of vegetables for commercial purposes are the cost of transportation to market, whether by rail or by road, and whether the available markets usually pay good prices for garden crops.



Display by Ontario Vegetable Growers' Association at Canadian National Exhibition, Toronto

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

H. BRONSON COWAN, Managing Director
A. B. CUTTING, B.S.A., Editor

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January, 1908.....	7,650	January, 1909.....	9,456
February, 1908.....	7,824	February, 1909.....	9,310
March, 1908.....	8,056	March, 1909.....	9,405
April, 1908.....	8,250	April, 1909.....	9,482
May, 1908.....	8,573	May, 1909.....	9,172
June, 1908.....	8,840	June, 1909.....	8,891
July, 1908.....	9,015	July, 1909.....	8,447
August, 1908.....	9,070	August, 1909.....	8,570
September, 1908.....	9,121	September, 1909.....	8,605
October, 1908.....	9,215		
November, 1908.....	9,323		
December, 1908.....	9,400		

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THE CANADIAN HORTICULTURIST,
PETERBORO, ONTARIO.

EDITORIAL

FRUIT AT CANADIAN NATIONAL

There is still room for an improvement in the fruit department at the Canadian National Exhibition. No exhibition in Canada affords greater opportunity for advertising the great fruit industry of Ontario and its possibilities. While thousands and perhaps tens of thousands of people may visit other exhibitions, hundreds of thousands, representing nearly all countries of the world, visit the Canadian National. In view of this fact, the fruit show is utterly inadequate, not in excellence of the specimens shown, but in extent and in the method of display. There is little that is attractive about it. The general public is impressed, favorably or unfavorably, by the effect of the display as a whole, not by the quality of the individual fruits. Something should be done to make the fruit show an outstanding feature.

We would suggest that the co-operative fruit growers' associations of the province be asked to make display exhibits of fruits packed in boxes. The Exhibition can well afford to offer liberal inducements for them to do so. These exhibits could be placed uniformly on a sloping stage, made to accommodate four boxes in height, and built all around the fruit wing of the horticultural building. A grand display of this kind would greatly impress the visiting masses and would prove a world-wide advertisement of Ontario's fruit industry.

HOME FRUIT CULTURE

In its desire to develop the love for and the interest in the ornamental features of home gardening, the Ontario Horticultural Association should not let its interest wane in fruits and vegetables. Much good work can be done by this association in encouraging the culture of fruits and vegetables by amateurs. The name of the association implies all of these things but there is a tendency on its part to confine its work and influence only to the ornamental.

There is a satisfaction in growing fruits, not only for what they may bring or save in money, but simply because they are fruits. The commercial fruit grower is allowing business to supplant this. Sentiment in fruit culture is a legacy that is gradually being left by commercialism to the amateur. The growing of fruits for the love of them is rapidly becoming a thing of the past. This was pointed out in an able address by Dr. L. H. Bailey at the recent conference of the American Pomological Society that was held at St. Catharines, Ontario. Dr. Bailey deplored the growing lack of sentiment and of real horticultural spirit in the fruit grower. The point was well taken but the commercial fruit grower of to-day considers dollars more than sentiment. It is left to the amateur, who grows things not for profit but for pleasure, to hold what may be lost.

Every home garden should have a place for the growing of one or more kinds of fruits. One reason why fruits are not planted more often by amateur horticulturists is because their culture is not known by many of these persons. It is within the province of our amateur horticultural organizations to teach them. The Ontario Horticultural Association should not neglect this phase of its work. It should continue the interest in home fruit growing that was promoted by the Ontario Fruit Growers'

Association until the amateurs formed the afore-mentioned organization for themselves. A part of the programme for the November convention could profitably be given to the consideration of topics that deal with fruits and vegetables. Let the good work embrace not only the strictly aesthetic but also those features of gardening that are equally useful, and sometimes more appreciated.

VENTILATED APPLE BARRELS

The lesson learned last season from the disastrous results that followed the shipping of apples that were packed in the extremely hot weather, has caused a number of Ontario shippers this year to use ventilated barrels for summer and fall varieties. The fact that it has been shown by experiment that it takes between six and seven days to cool to the centre of a barrel of apples packed in warm condition in air tight barrels, shows the uselessness of expecting much benefit from using refrigerator cars between points in Ontario and Montreal. Ventilating packages should go hand in hand with refrigeration unless the fruit has been cooled before being loaded.

The ventilation should be in the sides of the barrels, not in the ends. Holes bored in the staves, will answer the purpose, if the holes are not too large, but they make the barrel appear unsightly. The better plan is to make small slits on the edges of the staves, say, four in a stave and in every fourth stave, making sixteen openings in a barrel. This can be done by using a two-inch gouge before the barrels are made. As the demand for the ventilated barrels increases, this work could be done by machinery when the staves are being manufactured.

Thousands of barrels of Canadian apples shipped to Europe last season did not return to the shippers a penny a barrel through the heating of the fruit picked and packed in warm weather. Much of this loss would have been prevented had ventilated barrels been used.

The visit of the American Pomological Society to Canada was an event of more than ordinary importance. The papers read and discussed at the meetings, the excursions throughout the Niagara district and to Guelph, and the inspection of the great horticultural exhibition held at St. Catharines, will result in much good to our fruit industry and to our country. While the excursions and exhibition were chiefly "Niagara district" in character, we believe that all Canada will be benefitted by the good things that the members of the society had to say about us and which they probably will tell to others. Canada was honored by the society in making St. Catharines its meeting place for 1909.

The action of the directors of the Ontario Horticultural Association in deciding by resolution at a recent meeting to ask the provincial government to increase the grant to horticultural societies by \$5,000, is commendable. As stated editorially in our last issue, the progress of horticultural society work demands an increase in the grant at once. While the passing of a resolution to this effect by the directors should help materially to secure the increase, the agitation should not stop there. Each local society should exert itself in the matter. They should impress the need upon their local members of the legislature and ask them to use their influence in having the necessary sum voted at the next session.

The fruit division at Ottawa deserves the thanks of fruit growers in Ontario and eastwards for occasionally bringing experts

from British Columbia and the Pacific states to demonstrate their methods of packing in boxes. It is expected that the demonstrations and addresses by Mr. F. G. Earl, of Lytton, B.C., who has been in Ontario and

the maritime provinces this fall, will be productive of much good. While only a few localities can be covered by one man, the lessons learned at these will radiate to surrounding districts.

Important Pomological Problems Discussed

ORCHARD cultivation, varieties, packing and packages, sulphur sprays and many other important topics were discussed at the 31st biennial conference of the American Pomological Society, which was held at St. Catharines, Ont., on Sept. 14 to 17. The coming of this society to Canada was an honor and a benefit to the fruit industry and the fruit growers of this country. It was a business conference from start to finish. Delegates were in attendance from all parts of the United States and a few from Ontario and Quebec. A larger local attendance was expected but exceedingly hot weather at the time of the conference caused peaches on farms in the neighborhood of St. Catharines to ripen so rapidly that the growers could not leave their farms.

The programme covered a wide range of subjects. Space in this issue of THE CANADIAN HORTICULTURIST will not permit a detailed report of all the addresses and discussions. Only a few of the most important can be mentioned this time.

DR. BAILEY'S MESSAGE.

At the opening session, Dr. L. H. Bailey, of Cornell University, delivered a powerful address on "The Satisfactions in Raising Fruits." The speaker pointed out that in the hustle of commercial fruit growing we are apt to forget the old spirit of horticulture, when men grew and studied fruits for the love of them. He referred to the work of leading horticulturists of days long gone

by, and of days but recently past. He spoke of the admiration that we should have for good fruits and good fruit trees. We must have an intellectual interest in these things. His message was all the more necessary, he said, because we are so immersed in the affairs of this busy and commercial time. He pleaded for the cultivation of those qualities of mind that find an intellectual satisfaction in fruits because they are fruits. When we have the spirit of the amateur, combined with the busy zeal of the commercial fruit grower, we will then have the full man.

DEMONSTRATION ORCHARDS.

At one of the sessions, Prof. F. C. Sears, Amherst, Mass., told of "Demonstration Orchards for New England." He emphasized the importance of correct methods of demonstration. He referred to the model orchard plan in Nova Scotia. The area of these is only two acres, which the speaker said should be enlarged to 10 acres, in cases where similar orchards are required for demonstration work on a commercial basis. Some of the lessons that can be taught by these orchards are: 1, Proper methods of laying off and planting the orchard; 2, proper methods of pruning; 3, right kinds of fertilizers and how to apply them; 4, how to prepare and to apply spray mixtures; 5, cultivation and the use of orchard implements. Demonstrations should be carried on for at least 20 years in the same orchard.

"Commercial Demonstration Orchards in College Work" was dealt with by Prof. W. S. Blair, of Macdonald College, Que. He stated that, as the college orchard had been planted only a short time, not many results can yet be given. One example of the value of the work was mentioned in the case of some experiments in different methods of cultivation. In a plot where the sod had not been disturbed, a moisture determination showed the soil to contain 6.11 per cent. of moisture; in the mulched plot, 16 per cent.; and in the cultivated plot, 20 per cent. The college is investigating the influences of covered crops on winter injury and on the ripening of wood.

FRUIT PACKING AND MARKETING.

One of the sessions was devoted to fruit packing and marketing and was in charge of Mr. A. McNeill, Chief, Fruit Division, Ottawa. The chief referred briefly to the co-operative fruit growers' associations of Canada. He said that the best one is the St. Catharines Cold Storage and Forwarding Co. There has been much progress in co-operation in the past 15 years. "Box Packing" was dealt with by Dr. S. W. Fletcher, of Blacksburg, Va. A paper on "Co-operation in Fruit Products" by Mr. J. B. Dargitz, Campio, Cal., was read at the meeting. Robt. Thompson, St. Catharines, also discussed this question. These will be published later.

In a paper on "Co-operative Marketing," Mr. W. H. Reid, of Tennent, N.J., told of an organization in his state, only one and a half years old, which has been most successful. He cited an instance where the organization had prevented a crash in the market. On July 30th, the manager had 35 cars of potatoes on the track and for sale. He knew from reports of the conditions in New York that there was danger of breaking the market. To prevent this he told

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the agents of the organization in the various localities to ask the members to stop digging. He shipped 22 cars and held the remaining 13 for two days, when they were sold profitably and the market sustained. This organization has increased prices all around and has made the local buyers come up. In the year's work, notwithstanding some mistakes, drawbacks and losses, the receipts increased wonderfully. Potatoes and apples are handled chiefly. These are distributed where the demand is, regardless of nearness to market.

SULPHUR SPRAYS.

One of the most important subjects dealt with by the society was "Sulphur Sprays." Various members discussed it. One of the most valuable papers was contributed by Mr. W. M. Scott, Washington, D.C. This was read by the secretary in the absence of the author. Mr. Scott pointed out that the self-boiled lime-sulphur will soon become almost, if not quite, as indispensable to the peach grower as Bordeaux mixture is to the apple grower. The main reference of the paper was to the use of the lime-sulphur as a summer spray. The results of experiments conducted by Mr. Scott and his assistants this year, in the Hale orchards of Georgia, increased the yield of merchantable fruit by 100 per cent.

In fighting the brown rot the curculio must also be controlled. This insect punctures the skin and admits the fungus in spite of all spraying. The self-boiled lime-sulphur in combination with arsenate of lead is a complete remedy for the curculio, the brown rot and the peach scab.

The writer showed by examples that sprayed fruit brings the highest prices. The difference in market value was due to the fact that the sprayed fruit showed less rot, was more highly colored, and had a better appearance in all respects than the unsprayed fruit.

If the self-boiled lime-sulphur is properly prepared there is no danger of injury to the fruit or foliage; even if carelessly prepared, the danger is not great. There is some danger of staining the fruit if the mixture is applied within three weeks of the time of ripening. To get best results give a light uniform coating in a fine spray.

Time of application: 1, about the time the calices (or shucks) are shedding, spray with arsenate of lead at the rate of 2 lbs., to 50 gals of water. As this is too early for both scab and brown rot, the lime-sulphur mixture is not necessary. 2, Two weeks later or about one month after petals drop, spray with 8-8-50 self-boiled lime-sulphur, and 2 lbs. of arsenate of lead. 3, About one month before the fruit ripens, spray with 8-8-50 self-boiled lime-sulphur, omitting the poison.

[Note.—It is presumed that the "50" refers to gallons in wine measure, which is equivalent to 40 gallons, Imperial, the measure used in Canada.—Editor.]

In orchards where the curculio is not omitted. The best treatment in that case would be to spray the trees with the lime-sulphur a month after petals fall, a month before fruit will ripen, and at a period about half way between those dates. Early maturing varieties will require but two sprayings, except in wet seasons when three treatments will be required.

For scab or black spot alone, one application of lime-sulphur about one month after the petals drop, will prevent most of the infections. In most cases, however, a second application would probably pay.

In a discussion that followed Mr. Scott's paper, Prof. J. P. Stewart, State College, Pa., told of serious cases of burning that were due to this combination. He had used the arsenate of lead with the lime-sulphur.

He found that the adhesive quality of the arsenate is lost when combined with the ordinary lime-sulphur. The arsenate of lead, according to Professor Stewart, costs six times more when applied this way than when applied in other mixtures. Dr. Fletcher stated that the diluted factory-boiled lime-sulphur, would soon be the standard summer spray. He said that arsenate of lead used with this gave results—*worm free fruit*—and that is all that is wanted. The first application is made immediately after the loss of the drop, the second two weeks later, and the third a month later. A lively discussion took place on the use of arsenate of lead in sulphur sprays and opinion was divided.

MISCELLANEOUS.

In addition to the foregoing there were many other addresses and discussions of equal importance. Some of those that were of particular interest to Canadian fruit growers and which will be reported in later issues, are: "Little peach," M. B. Waite, of Washington, D.C.; "Controlling Codling Moth," L. Caesar, O. A. C.; Guelph; "Influence of Blighted Pear Trees in Apple Orchards," J. A. Burton, Orleans, Ind.; "A Study of Varieties," Prof. W. N. Hutt, Raleigh, N. C., and "Status of Grape Growing in Canada," Murray Pettit, Winona, Ont.; "Adaptation of Varieties of Soil Conditions," by various speakers; and some others.

EXCURSIONS.

Three excursions were taken by the members of the society and others. The first one was through the Grimsby-Winona district, where were visited the fine farms of Hamilton Fleming, A. G. Pettit, Murray Pettit, J. W. Smith & Son, and the large establishment of E. D. Smith's. The second was to the Queenston-St. David's district, where the excellent farms of Wm. Armstrong and C. E. Fisher & Sons, were visited, and some of the party visited the farms of W. C. McCalla, A. Onslow and Robt. Thompson. The third and concluding feature of the program, took the members for an all-day trip to the Ontario Agricultural College, Guelph.

OFFICERS ELECTED.

The election of officers resulted in the return to office of those gentlemen, who have held these positions during the past two years as follows: Pres., L. A. Goodman, Kansas City, Mo.; 1st vice-pres., T. V. Munson, Denison, Tex.; sec., John Craig, Ithaca, N.Y.; treas., L. A. Taft, Agricultural College, Mich.; chairman, executive committee, C. L. Watrous, Des Moines, Iowa; chairman general fruit committee, S. A. Beach, Ames, Iowa.

Society for Hort'1 Science

At the sixth annual meeting of the Society for Horticultural Science, which was held at St. Catharines, Ont., on September 13, topics of much importance to fruit growers and experiment station workers were discussed. The main purpose of this organization is the promotion of research work in horticulture. A fair representation from the experimental stations and colleges of the United States and Canada was present. President W. A. Taylor, of Washington, D.C., was in the chair.

Some notes on pruning were given by Prof. W. R. Lazenby, of Columbus, Ohio. He stated that pruning is the one fundamental practice in horticulture about which we have little definite or no exact knowledge, and still less well grounded principles. There are few definite and well defined systems of pruning. It is a sort of hit or miss, go-as-you-please policy from start to finish.

In giving the reasons for this lack of

widely accepted policies in pruning, the professor referred to the diverse objects said to be accomplished by the same operations; such as, to stimulate as well as to check vigor of growth, to hasten as well as to retard the age of bearing, to increase as well as to decrease fruitfulness, to promote as well as to restrain the production of wood, and some others. These make the methods employed in the practice variable and the difficulty correspondingly great.

Another reason lies in the fact that we fail to recognize the colony characters of trees and higher plants. We are apt to treat the tree as an individual with a complete anatomy like the higher forms of animal life. By removing a certain portion of a tree at one time, we increase its vitality and by removing a like portion at another time we decrease its vitality, and in both cases, we may enlarge its usefulness. The speaker suggested that our horticultural experts get together and plan some far-reaching co-operative experiments in pruning. Many questions should be settled.

A paper on "Concentrated Lime-sulphur; Its Properties, Preparations and Use," was presented by Professor John P. Stewart, of State College, Pa. The subject was dealt with in an able manner and much that was new was told. Extracts from this paper will appear in later issues of THE CANADIAN HORTICULTURIST.

Mr. W. T. Macoun of the Central Experimental Farm, Ottawa, read a valuable paper entitled, "Over-coming Winter Injury." Some of the topics dealt with, such as root killing, sun scald and others, already have been discussed, by Mr. Macoun in THE CANADIAN HORTICULTURIST. Extracts from this paper are published elsewhere in this issue.

"Observations on the Horticulture of West Europe" was the subject of an interesting talk by Prof. U. P. Hedrick, Geneva, N. Y. He said that America can learn very little from Europe in regard to commercial horticulture, but that many ideas regarding landscape gardening could be gained. Dr. E. W. Allen, of Washington, D.C., discussed "The Adams Fund in its Relation to Investigation in Horticulture."

In an address on "The Ideal Variety," Prof. W. N. Hutt, of Raleigh, N.C., said that the demand in the markets for red apples had driven out much good fruit. The ideals of the producer and of the consumer should be merged as they are now widely divergent. While the strictly ideal variety may never be secured, we should strive to attain that end. The transportation problem should be given more attention so that fruit of the best quality may be carried to distant markets in good condition. Present facilities for transportation are largely the cause of the Ben Davis, Kieffer and Elberta, being standard varieties in their respective classes.

An able address was delivered by Dr. L. H. Bailey, of Cornell University, on "The Field of Research in Horticulture." He pointed out that every man could not do satisfactory research work, because every man has not a research mind. Mature men are needed in horticulture both in scientific and in practical work. Boys should not go to college too young; should they do so, they should spend a few years at work after graduation so that they might get right views of life before entering upon scientific research or other work. An all-round horticultural education is required, but the aim should be specialization in some one of its branches.

Rennie's fall catalogue has been received. In it are listed the best varieties of bulbs, perennials and other plants. Send for a copy.

Niagara District Horticultural Exhibition

THE best tender fruit show that ever has been held in Canada was the Niagara District Horticultural Exhibition, held in St. Catharines, Sept. 15-17. The quality all around was superior and the extent of the display was greater even than had been expected. The delegates to the convention of the American Pomological Society were much impressed with the exhibition. Some of them told a representative of THE CANADIAN HORTICULTURIST that the exhibition in general could not be excelled anywhere. Col. C. B. Brackett, United States Pomologist, Bureau of Plant Industry, Washington, D.C., said that the whole show was an excellent one. He stated that the peach display was better than anything that he has seen this year in the United States and equal to any that he ever saw. Mr. Leonard Barron, managing editor of *The Garden Magazine*, New York City, commented upon the uniformity in quality and said: "It is magnificent."

The commercial package exhibits were fine, except perhaps in the case of apples. The peach pack was almost faultless. Pears were fine, especially Bartletts. The plums were better than ever. Grapes were fully up to the standard. The plate exhibits in fruit were equally creditable.

Space will not allow mention of all of the prize winners. The Rittenhouse competition for the best display of fresh fruits grown in the province was won by S. D. Furninger; 2nd, W. H. Bunting; 3rd, The Burlington Horticultural Society. For best display of peaches, W. Armstrong, secured 1st prize and C. G. Gregory, 2nd. The awards for best display of grapes were; 1st F. G. Stewart; 2nd, A. D. Brodrick; 3rd, A. Haynes. In the wrapping and packing competitions, the prizes were fairly well

distributed between the Misses Boles, Vanderlip and Thompson.

Much interest was taken in the competition for Wilder Medals, given by the American Pomological Society. Space does not permit us to mention all of the awards. Silver medals were awarded to the following Canadian exhibits: Central Experimental Farm, Ottawa, for a collection of hardy apples, including 20 named and tested varieties, 40 seedlings of Wealthy, originated on the farm, 14 seedlings of McMahon crossed with Scott's Winter; Experimental Farm, Indian Head, Sask., for a number of hybrids of *Pyrus baccata* and *P. prunifolia* with several varieties of hardy apples. The seedlings of Wealthy and the crosses of McMahon and Scott's winter, together with the crab hybrids, constituted one of the most interesting and significant exhibits before the society in recent years, illustrating as they did the systematic work under way to extend the northern frontier of fruit culture. Silver medals were awarded also to A. P. Stevenson, Nelson, Man., for a collection of 14 hardy varieties of apples, which illustrated the possibility of apple growing in the far north; and to Robt. Thompson, St. Catharines, for an attractive exhibit of bottled fruits.

Bronze Wilder medals were awarded to Albert Pay, St. Catharines, for an artistic exhibit of fruits, illustrating the product of a single farm and comprising peaches, plums, pears, grapes, water melons and muskmelons; to the Burlington District for a collection of fruit shown by the Burlington Horticultural Association; to the St. Catharines Cold Storage and Forwarding Co., for a very attractive and extensive display of package fruit, which constituted probably the greatest feature of the entire

exhibition; to R. B. Whyte, Ottawa, for a collection of 17 varieties of English gooseberries, that illustrated the possibilities of growing these varieties without spraying; to Wm. Armstrong, Queenston, for a very attractive and original display of peaches. Among those who secured honorable mention was A. Burrows, Ste. Anne de Bellvue, Que., for exceptionally fine specimens of Alexander, Oldenburg and Wealthy.

In the vegetable department there were some fine specimens in the various classes. The tomatoes were exceptionally fine. The largest and best exhibits in vegetables were made by L. Gray, S. D. Furninger, Wm. Coppin and W. C. McCalla. The stuff was well grown and a credit to the district.

While the floral features of the exhibition were most creditable, it cannot be said that they constituted as striking a display as did the fruit. While there were many exceptionally fine exhibits of cut flowers and plants, there were also many poor ones. The professional competitions, including general displays, design work, cut bloom and specimen plants were very good, the prizes being divided among R. L. Dunn, N. Whiting and L. C. Bradt. Mr. C. Rioridon, through his gardener, John Elliott, won first prize for best display of plants from a private greenhouse. Queen Victoria Park at Niagara Falls put up an extensive and attractive display of decorative plants, which was well staged and attracted much attention. The amateur classes in cut bloom brought out a good lot of exhibits. Special interest was taken in the school children's competition. The decorated reception tables were not up to the mark, although there were a large number of entries. One of two of them were quite novel and prettily arranged.

Send reports of exhibitions for publication.



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At The Canadian National

The horticultural exhibits at the Canadian National Exhibition held in Toronto last month, were most creditable and instructive. An excellent display of fruit was made, but the number of entries was not as large as last year. In the commercial package classes, competition was keen. The quality of the fruit was very uniform but much can still be learned about packing. During recent years, there has been a steady improvement noticed in packing methods, but the exhibits this year seemed to show that progress has stopped. Generally speaking, the packs were not as good this year as last. It is surprising that the growers do not give this matter more care and attention. While the packs in some of the boxes exhibited were good, many of them showed carelessness and ignorance. In a few of the boxes, the apples appeared to have been dumped in in bulk without any attempt having been made at systematic arrangement. The judges found it necessary in some cases to rule out some of the best fruits on exhibition simply because it was not properly packed. Besides the good fruit that was poorly packed, there was some poor fruit well packed. The apples, generally, were fair, but it was a little early for winter varieties to make a good showing; they were rather small in size and lacking in color. The commercial packages of peaches, plums and pears were excellent.

In the plate display, a fine showing of fruit was made. There was a large number of entries in plums and they were good. The pears were extra good. The grape display was not as large as last year; although the date of holding the show was early for them, there were some good samples shown. The peaches were exceptionally good. First prize for the best display was won by the

St. Catharines Horticultural Society, which put up an extensive exhibit including apples, pears, peaches, plums and grapes. For best collection of 40 varie-



A Well Packed Box of Well Grown Wealthys

Part of British Columbia fruit display at Canadian National Exhibition.

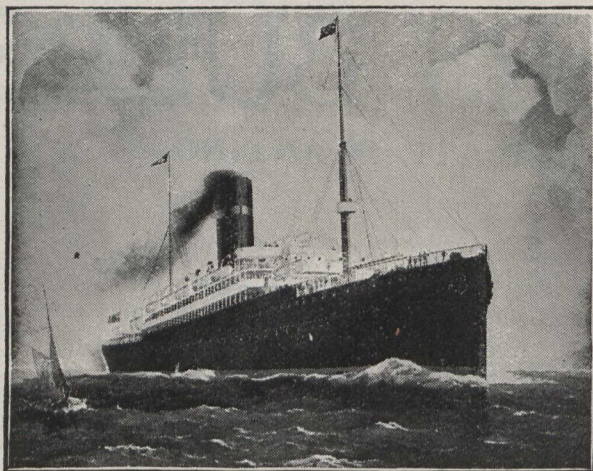
ties of apples, first prize went to Harry Dempsey, Rednersville, for the 12th successive year.

The Ontario Department of Agriculture

made a display of fruits that was attractive and was the subject of much favorable comment. Various colored plums were so arranged that the word Ontario stood out prominently and gave a striking effect. The best specimens and typical ones of the leading varieties of fruits in season at the time of the exhibition were displayed. It was chiefly a peach and plum exhibit. A placard called the attention of the passers-by to the fact that Ontario produces 75 per cent of all fruits grown in Canada, 60 per cent of the plums, 99 per cent of the peaches and grapes, 70 per cent of the apples, and 80 per cent of the small fruits and pears.

The provincial government of British Columbia had a large exhibit of the products of that province. The fruits represented various districts, including the Okanagan, Kootenay, Thompson and Fraser Valleys and Vancouver Island. Plums, prunes, peaches, pears, apples, crab apples, cherries, and tomatoes were shown. Some excellent boxes of Yellow Transparent and Wealthy apples grown by Jas. Johnstone, Nelson, were much admired; they contained good stuff that stood up well and well packed. Stirling and Pitcairn, of Kelowna, had various packages of fruit in this display that came through in the best of condition. The Progress Fruit Packing Co., of Victoria, also had a fine showing, especially in prunes. The B. C. exhibit was in charge of Mr. W. E. Scott, Exhibition's Commissioner, Victoria, who was assisted by Mr. W. J. Brandrith, Ladner, secretary of the B. C. Fruit Growers' Association. The whole display was a fine one.

Entries in the vegetable classes were not as extensive as last year. The quality mostly was good. There were shown some specimens of the different kinds of vegetables that were grown as well as can be



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grown anywhere. The awards for the best collection of vegetables were placed as follows: 1st, W. Harris, Humber Bay; 2nd, Brown Bros., Humber Bay; 3rd, Ed. Brown, Wychwood Park; 4th, Geo. Baldwin, Toronto. Much improvement can be made in the manner of displaying these collections. There was nothing very attractive about them, other than the fact that they contained well grown specimens of the varieties shown. A large exhibit was made by the Ontario Vegetable Growers' Association. It was composed of all kinds of vegetables and was most creditable.

In the floral department, the most striking features were the decorative floral displays. The landscape effects of all of these were excellent and also the quality and cleanliness of the plants used. Four of the groups showed quiet streams running through them; one produced a natural water fall, and one had no water effect. The awards were made in the following order: 1, T. Manton; 2, E. F. Collins; 3, Sir H. M. Pellatt; 4, J. Brant; 5, D. Robertson; 6, W. G. Potter. Space will not allow further mention of the floral exhibits except in the case of Campbell, of Simcoe, who showed a fine display of gladioli.

I enjoy reading THE CANADIAN HORTICULTURIST, and find in it many useful suggestions.—Miss F. A. Wright, Ottawa.

Horticulture at Ottawa

W. J. Kerr

This year the exhibit in Horticultural Hall at Central Canada Exhibition, Ottawa, far excelled all previous records. A re-arrangement of the exhibits, was a decided improvement, and the display was so great that a tent had to be called into requisition to hold the roots. A very large display of apples was shown, Duchess, Wealthy, McIntosh and Fameuse predominating, but some exceedingly fine plates of other varieties were also shown, which proves that the Ottawa Valley can produce fine apples, especially of the kinds named, and a few others such as Alexanders, Wolf Rivers, Baxters, St. Lawrences, Langford Beautys, etc.

In the vegetable section, cabbages and cauliflowers were very good, the former being shown in large numbers. Tomatoes did not show up as well as they might, owing to the cold backward weather we have had. Potatoes were especially fine.

The largest exhibitor in fruits and vegetables was Mr. T. W. Trick, president of the local Vegetable Growers' Association, who won a large share of the leading prizes.

The Experimental Farm exhibit was a very creditable showing indeed. The decorative display was admirably accomplished; the arrangement of grains and grasses, with the many admonitions to the visiting farmers displayed on cards placed here and there through the display, being most interesting. The fruit shown in this exhibit was very attractive. Some 200 standard varieties of apples were shown as well as 50

promising varieties of seedlings of leading hardy standard varieties, largely of Wealthy. There were also 35 varieties of tomatoes, 25 of corn, 40 of plums, 20 of cucumbers, also vegetable marrows, peppers, egg plants, etc. A feature of the plum exhibit was the fact that they only showed one Domestic or European variety, and no Japanese. A few plates of Nigras, or native Canadians were shown, but mostly Americanas, which is the only type of plum that is reliable in the Ottawa Valley.

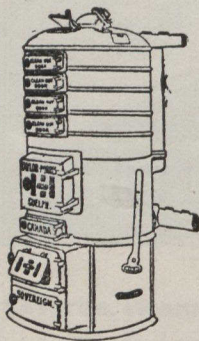
A tasty and interesting display was put up by the Ottawa Normal School, consisting of vegetables and flowers grown by the pupils in the school garden, and were a credit to the manager of this important part of the childrens' training, as well as to the pupils themselves.

British Columbia put up a wonderful display of plums, pears, apples, etc., which proves conclusively that their's is a great fruit country. If they could only put Ontario flavor into their fruit, the writer thinks he might go out there and go into fruit growing. Some Wealthy and Gravenstein apples put up by Stirling and Pitcairn, of Kelowna, and plums and pears put up by Progress Packing Co., of Victoria, were really beautiful to look at, and kept remarkably well.

The floral display was good, but considerable complaint was made by private exhibitors, that Government House and Public Works Department should be permitted to compete with the private exhibitors. Jas Cox, provincial representative of the Vegetable Growers' Association, cleaned up all the best premiums of gladioli.

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NOTES FROM THE PROVINCES

Vancouver Island

F. Palmer

In all parts of the island the apple crop has been exceptionally light. The earlier varieties, such as Duchess and Wealthy, gave a fair crop, but the later varieties give promise of not more than a third of a crop. Wrapping apples is coming into more general use here, with the result that the fruit arrives in the north-west in much better condition.

As a slight compensation for the light apple crop this year, the pear crop is an exceptionally fine one. Both early and late varieties are heavily loaded and a record crop is almost assured.

Plums and prunes have been very good this year, as a rule, though a few varieties

have been somewhat lighter than usual. Plum rot has been quite prevalent in districts, where stringent measures have not been taken to keep this disease down. Little of it is to be found in well kept, well sprayed orchards.

Kootenay Valley, B. C.

Edgar W. Dynes

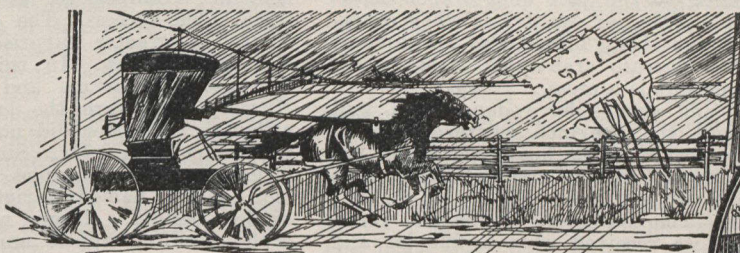
Perhaps the most important event of September, as far as the horticultural interests of the Kootenay are concerned, was the visit of Professor Craig, of Cornell University. Professor Craig was a judge at the National Apple Show in Spokane last fall and he was so impressed with the quality of the fruit that he saw there from British Columbia that he determined to make

a visit to the fruit sections of Canada's Pacific province as soon as possible.

The British Columbia government learning of his intention, prevailed upon him to consent to deliver a series of lectures on fruit growing throughout the province. He agreed to their request and lectured at about a dozen of the most important centres. His talks were informal and he sought at each place to deal with the problems which seemed to particularly affect that locality.

He expressed surprise that British Columbia orchards were so very free from pests and urged the growers to see to it that they continued to do so. By way of comparison he mentioned that the growers of the New England States spend annually 20 per cent, of their gross receipts in fighting three pests—apple spot, pear blight and San Jose scale. He found none of these pests in Kootenay orchards.

He dealt with many other aspects of the fruit situation, such as winter killing and cover crops, and wound up with the observation that he considered there was no probability of an over-production in the apple business.



"Just to think that I didn't want that telephone when it was first talked about! I thought it an unnecessary expense. Now I wouldn't be without it for anything.

"Yes, that telephone has turned out to be a wonderful comfort to me.

"Last winter when we had sickness in the house it was just like having the doctor right by you all the time.

"The farm is no longer the lonesome place it was. I can chat with my neighbors at any time no matter how far away they are—exchange cooking recipes, arrange visits—and even talk gossip.

"I certainly wouldn't be without a telephone in the house now I know what it means, and my husband says it is the greatest money-earner on the farm."

That's right. A telephone will earn good money for any farmer.

Just think what it would mean to you to know what the current

prices are before you take your stock or produce into town! If you think back a little we are sure you will remember times when you had to sacrifice your products simply because you didn't know how bad the market was before you left home.

Think of the time you lose when you have to go to town for a small part of one of your farm implements. If you had a telephone you could explain exactly what you wanted and send a boy for it.

You certainly need a telephone on your farm, but be sure you get the right instrument. The wrong instrument is worse than none at all.

Get the instrument and equipment that is always in order, the one over which your messages are heard distinctly, the one that never gives any

trouble—that's a Northern Electric Equipment.

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You need a Northern Electric telephone on your farm. The want is there and no other make can fill it half so well.

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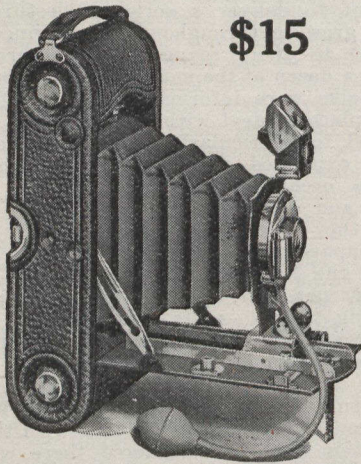
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Catalog free at dealers or by mail

The apple crop in Kootenay seems to be lighter than last year on the whole, but the prospect of good prices will more than make up the difference. Very few orchards report a falling off in the crop as the result of the severe winter as has been the case in some districts not so favored.

Saskatchewan

Angus Mackay

The season for small fruit, both native and cultivated, is over, and it has been without exception the most favorable year for all sorts ever experienced in this province. Wild strawberries, raspberries, gooseberries and Saskatoon berries were abundant everywhere. Black currants were also abundant, as well as the red variety, though as a rule the latter grow only in favored localities.

The cultivated sorts, especially currants and raspberries, were loaded everywhere. Strawberries were better than usual. Gooseberries generally bear only on the lower branches which are protected by snow, and this year was no exception.

The crab apple orchard is now ripe. I am sending to you part of a branch showing how prolific our country is when everything is favorable. I send also a branch of the *Pyrus baccata* crab-apple, from which the larger sort is a cross.

Trees and shrubs have done extra well throughout the province wherever grown. In a few localities the heavy rains and hot weather caused rust on many of the poplars and cottonwoods.

[NOTE.—The specimens of named varieties that we received were a fine lot and showed the possibilities of this fruit in Saskatchewan. The experimental farm at Indian Head, of which Mr. Mackay is the superintendent, is doing much valuable

work for horticulture in that province. We congratulate Mr. Mackay on winning a Wilder silver medal at the recent Niagara District Horticultural Exhibition.—Editor.]

Manitoba

Jas. Murray

The members of the Brandon Horticultural Society excelled themselves this year at their show. They made a most creditable showing considering the dry weather experienced here for a month previous to the show.

Killarney held its second show of flowers and vegetables this year, and also conducted several interesting competitions in the care of grounds and yards. Killarney has a number of enthusiastic horticulturists, and their influence behind the Horticultural Society is resulting in a great improvement of the appearance of the homes in the town. We need more such societies.

Winnipeg

Geo. Batho

The Provincial Horticultural Exhibition held in Winnipeg in late August, was a remarkable success. The exhibit of fruits created a greater surprise than anything else in the show. In this section A. P. Stevenson, Dunston, and the Buchanan Nursery Co., were the largest exhibitors, although the latter did not enter anything for competition. Mr. Stevenson had the largest number of apples, having a collection of 29 named varieties of standard apples, besides a larger number of named crabs, seedling apples and seedling crabs. A. McLeod and Edward Oak, of Morden, as well as Alex. Fowler, of Balduf, and J. B. King, of Fairfax, also put up smaller exhibits of apples. The whole apple dis-

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play was too green for exhibition, although some of the fruits showed very attractive coloring. Two weeks later would be much better for the large fruit section of the exhibition. The Buchanan Nursery Co. had quite a large table covered with seedling crabs and another table contained about 75 plates of seedling plums, mostly of the native type, but some of them large and very attractive in coloring. Outside of this one exhibit, the plum display was not very large.

The vegetable exhibit was a real wonder. Besides very large collections put up by the Canadian Pacific gardens at Louise Bridge and the Government House at Winnipeg, there were six collections shown by professionals. Besides this, there was a very full entry for competition in all the classes for individual varieties.

The amateur exhibit of vegetables was not inferior in any way to that shown by the professionals. In some sections it was superior, notably in cabbages and potatoes.

The flower sections of the show were also very strong. Of the city greenhouse men, A. H. Stopler and R. B. Ormiston were the only ones to put in displays, but excellent and large exhibits of decorative plants were put up by the Winnipeg Parks Board, the Agricultural College and Government House. Besides this the Elmwood Cemetery Co. made a splendid display that showed what they are doing in the way of growing conifers, ornamental shrubbery and flowers. The Buchanan Nursery Co., Brookside Cemetery and the Winnipeg Parks Board also exhibited quite a large number of cut flowers.

Besides this, there was a very large display of cut flowers both professional and amateur entered in the contests for different varieties. Among all the different kinds that were shown it is hard to particularize

but perhaps sweet peas, gladioli and asters may be mentioned as being particularly fine. The potted plants did not make a large exhibit and were not of a very superior quality.

Most of the exhibitors at the exhibition belonged to the Winnipeg district, but besides local exhibits quite a number were brought from outside points. This was especially the case in the fruit sections, but S. Larcombe, of Birtle, who came almost two hundred miles with a fine collection of vegetables and cut flowers, may be given special mention, as well as note made of the vegetable exhibit which was received from Dauphin too late to enter for competition.

Montreal

E. H. Wartman, Dominion Fruit Inspector

Fruit going forward so far under my inspection has been of very fair quality, principally apples and pears. Of course, the kinds of apples going forward—Duchess, Alexanders, Wealthy, Colverts, Jenneting—are not so subject to fungi as many varieties to follow, I am glad to report one lot of R. I. Greenings that went forward of a very clean type and well matured for season.

Packers should not put in apples under medium size in No. 1 quality, even if they are bright in color. Color is a redeeming feature but, if less than medium, let them go to better the No. 2 grade. Looking into the basket packs of peaches, pears and apples I find the packers who take pains and place their fruit in tiers show a compact, even surface with medium fruit by itself and large in another basket. This way attracts attention.

Export apples are largely in eight-hoop barrels, which is the barrel every time for

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Alaskas, McLean's Advancer, Horsford's Market Garden, Coryell's Glory

All must be true to name.

Persons having these or any other varieties of wrinkle Pea Seed to offer will please send samples and best prices to the:

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The navies of the world have adopted tax-free commercial alcohol for smokeless motive power for ships. It saves boiler room, coal room, handling of fuel and is a little cheaper than steam power. Just think! 85 per cent. of water is the principal part converted into alcohol by chemical action in contact with fermented vegetable waste matter, and sawdust, wood syrup and lime or any carbo-hydrate. Combining with 94 per cent. oxygen or atmospheric air when used for motive power, heat or other light purposes. The real denatured alcohol opens an absolutely new market for the use of saw mill waste, pulp, paper and chemical fiber mill waste product, and for millions of tons of farm products, that even the world's greatest monopoly cannot touch. Our denaturizing distilling apparatus is constructed of steel plate galvanized, and the highest grade seamless copper tubing, tested to 300 pounds pressure. Its conductivity makes possible the instantaneous hot steam alcohol distilling. As a very simple but serviceable still and doubler that will produce 100 gallons tax-free denatured alcohol daily for 8 cents a gallon. It weighs complete 985 pounds. That what is the most difficult to secure is that which we prize the most. No speculative futures; the market demands the product. The motor boats, the automobiles and the navies of the world will use it. Unquestionable references. We are ready to negotiate with responsible individuals on very liberal terms.

This wood waste alcohol distilling apparatus is of untold benefit to farmers, lumbermen, varnish makers, paint manufacturers, soap makers, paper, pulp and chemical fibre mills, etc., for the utilization of wood waste by distillation, which puts real denatured alcohol beyond competition with gasoline or kerosene.

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long distances. Colborne district is shipping a first class eight-hoop barrel. Some apples, arriving at temperature 70 and over in box cars, would be better in refrigerator iced cars that are arriving much cooler.

Quebec

An organization to be known as "The Quebec Vegetable Growers' Association" was formed at Macdonald College on Sept. 8. About 30 growers were present. The executive will hold a meeting soon to complete details. The following officers were elected: Hon. pres., J. L. Decarie, Minister of Agriculture for Quebec; Hon. vice-presidents, Dr. Jas. W. Robertson and Robert Brodie; pres., Paul Wattiez; 1st vice-pres., Jack McEvoy; 2nd vice-pres., J. B. Beyries; sec.-treas., Anatole Decarie, 397 De-

carie Ave., Notre Dame de Grace; exec. com., Prof W. S. Blair, F. Lariviere, Jas. Clark, Jos. Deguire, John Nesbitt, D. McMeekin.

The members of the association are: Prof. W. S. Blair and J. F. Monroe, Macdonald College; John Nesbitt, Jack McEvoy and M. McEvoy, Petite Cote; F. Lariviere, H. Boyer, Amedie Lecavalier, St. Laurent; Robert Brodie and Anatole Decarie, Notre Dame de Grace; Paul Wattiez and James Clark, Outremont; D. McMeekin, Valleyfield; Jos. Deguire, Alp. Goyer, Paul Goyer, Antoine Goyer, Edward Goyer and Oct. de Repentigny, Cote des Neiges; R. Jack & Sons, Chateauguay; A. Ferguson, Montreal; Placide de Repentigny, Montreal West; Jos. des Lauriers, Cote St. Francois; J. B. Beyries, Cote St. Paul; Remi Goyer, Cote Vertu, St. Laurent; Wm. Williams, Ste Anne de Bellevue.

The Washboard Ruins Clothes

Take a new shirt. Soil it well!
Then soap it, and rub the stains out of it on a Washboard.

Do this six times. Then look at the hems, collar and cuff edges and the button holes closely.

You'll find them all badly frayed, ripped, thinned, worn out more than from three months' hard steady use.

Half the life of the garment gone—eaten up by the washboard.

Shirt cost a dollar, say—washboard takes 50 cents of wear out of it—you get what's left.

Why don't you cut out the Washboard? Use a "1900 Gravity" instead? It drives the water through the clothes like a force pump. It takes out all the stains, in half the time, without wearing a single thread, or cracking a button.

No rubbing, scrubbing, wearing, nor tearing the clothes against a hard metal Washboard. That costs twice as much for hard work, and wears out twice as many clothes in a year.

Try the "1900 Gravity" for four washings! Won't cost you a cent to try it either. You write to me for a "1900 Gravity" and I'll send it to any reliable person without a cent of deposit, or a cent of risk on their part.

I'll pay the freight, too, so that you may test my offer entirely at my expense. Use it a month free of charge.

If you like it then you may keep it.

If you don't like it, send it back to me, at my expense.

If you keep it you pay for it out of the work and wear it saves you—at say, 50 cents a week. Remember, it washes clothes in half the time they can be washed by hand, and it does this by simply driving soapy water swiftly through their threads.

It works like a spinning top and it runs as easy as a sewing machine.

Even a child ten years old can wash with it as easily as a strong woman. You may prove this for yourself and at my expense.

How could I make a cent out of that deal if the "1900 Gravity" wouldn't actually wash clothes in half the time with half the wear, and do all that I say it will?

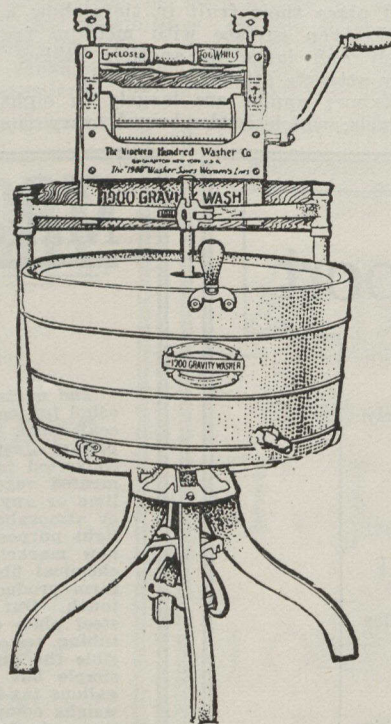
I'll take it back then, if you think you can get along without it. And I'll pay the freight both ways out of my own pocket.

I'll send the "1900 Gravity" free for a month anywhere so you can prove it without risking a penny.

Write to me to-day for particulars. If you say so, I'll send on the machine for a month, so that you can be using it in a week or ten days.

More than 200,000 people are now using our "1900 Gravity" Washers. Write to-day to me, personally, C. H. X. BACH, Manager, The "1900" Washer Co., 357 Yonge Street, Toronto, Ont.

The above offer is not good in Toronto or Montreal, and suburbs—special arrangements are made for these districts.



New Brunswick

J. C. Gilman

The apple crop is decidedly light with many undersized and wormy. The McIntosh is promising better than many other varieties and good samples will bring good prices. First early apples sold from \$3 to \$5 a barrel. Duchess are now selling in the local market for \$2 a barrel, package returned.

Fredericton Exhibition was good and will do much to encourage the setting of more trees and the giving of better care to those already set. The outlook for the thorough-going fruit grower in New Brunswick is good.—J. G. G.

Annapolis Valley East, N. S.

Eunice Watts

In some apple orchards, especially when cultivation and fertilizing have been neglected, many blossoms have set together, giving rise to bunches of mal-formed and useless fruit. This is often characteristic of Ribstons, but this year it is particularly noticeable with the Blenheims and other varieties. Plums and pears carry abundant crops. All through this locality, there are good cover crops of vetches in orchards.

In the locality of Waterville, tomatoes have done exceedingly well. The late frosts have not damaged them, and there are quantities yet to harvest, but there is much difficulty in obtaining plum baskets, which are used here for sending tomatoes to market. In Berwick, the tomato crop of some prominent growers is a complete failure, owing to disease. The price has gradually dropped from \$1.25 a basket to 20c. but even then they are more profitable and prolific than potatoes.

Annapolis Valley West N. S.

R. J. Messenger

Even the most sanguine, are now speaking more moderately of the apple crop prospects. The crop of the province seems to be of average quantity and fruit is clean, but there will be a greater proportion of No. 2's and 3's than in previous years, on account of the dry weather which still continues.

Fruit, in spite of the warm summer days and dry weather, does not seem to be ripening any earlier than usual, Gravensteins were picked from Sept. 12th to 20th, while Kings and Ribstons do not show ripeness in any degree, at this writing (Sept. 21.) The writer has seen many trees of Baldwins that at this date have at least 90 per cent. under 2 inches in diameter. While, to show the benefits of thinning this summer, I noted especially the effect of thinning on a Baldwin in one corner of my orchard. This tree in its bearing years has always been very full of very small apples, averaging about 80 per cent. No. 2's and smaller. This year the results of thinning show up a full crop, with probably 40 per cent. No. 2's and smaller.

Our cover illustration this month shows the general collection of fruits that was exhibited at the Canadian National Exhibition, Toronto, by Mr. W. H. Bunting on behalf of the St. Catharines Horticultural Society. This display won first prize, and this was the fourth consecutive year that the St. Catharines society secured first place for a similar display at this exhibition. In its exhibit this year, there were over 100 varieties of fruit, comprising apples, pears, plums, peaches, grapes and other kinds.

Prince Edward Island

J. A. Moore

The early apples are about matured and hitherto the problem has been—how to dispose of them. Usually they were gathered in bags and boxes and taken to the city to be sold by the peck or bushel, and, being unsightly in appearance, they brought only a meagre price. Often they were left to rot on the ground or were fed to cattle and hogs. But this year a Co-operative Packing Company has been established and the members were asked to send in the probable amount of apples they will have ready to pack about Sept. 20, as Chief McNeill, of the Fruit Division, Ottawa, arranged to send an expert packer to Charlottetown to superintend the packing of all fruit offering.

It is the intention of the co-operative company to make an effort to supply the local market with apples. Large quantities of apples are imported here from the Annapolis Valley and Ontario, and there seems to be little reason why home grown fruit, properly selected and packed, should not be bought in preference. Personally, we have had no trouble whatever in disposing of our own crop at good prices to Charlottetown merchants. We have always used the regulation box package—10 x 11 x 20 inches inside measurement—and have hand-packed them in layers, realizing from \$1.00 to \$1.50 a box according to variety and grade. Just now we are marketing Crimison Beauty apples at \$1.25 and \$1.50 a box to city merchants. Of course, the demand is limited, but it shows what can be done with a good quality of fruit, properly packed.

At a recent meeting of the Strathcona Farmers' Institute at Hazelbrook, Professor J. W. Jones, a native of the district, and a graduate of the O. A. C., who has lately been appointed to the position of Instructor in Horticulture in Hampton Institute, Virginia, addressed the meeting on the subject, "Some things I have seen in the Growing and Marketing of Fruit in Districts embracing California, British Columbia, Ontario and Nova Scotia." Professor Jones' address was replete with information showing that if we are to compete successfully in the world's markets, we must

co-operate in growing large quantities of a few good varieties, have better facilities in the way of transportation, in which we are badly handicapped, and adopt up-to-date methods.

The crying need of P. E. Island to-day is "The Tunnel" under the Northumberland Straits to connect us with the great railway systems of the mainland, so that her fruits could be placed in refrigerator cars and have a quick and continuous passage to their destination. As it is now, fruit must be transhipped several times with no refrigeration whatever and at exorbitant freight rates. The tunnel would obviate all this, and as Prince Edward Island is all adapted to fruit growing we might have a million acre orchard.

Apple Storage.—Several cogent reasons are given by The New Brunswick Cold Storage Co., St. John, N. B., in their change of ad, in this issue, as to why fruit men may patronize their house to advantage. At the recent annual meeting of the stockholders of the company, it was decided to continue the storage rates on last year's basis although they were only 60 per cent. of the prevailing charge of seaboard houses in the United States. Mr. George McAvity, of St. John, was elected president; Mr. L. S. Macoun, of Ottawa, was re-elected secretary-treasurer; Mr. H. R. Ross, of St. John, was re-appointed manager of the company's business. Messrs. John W. Vanwart, St. John, and F. Orr Lewis, Montreal, were added to the board of directors. Their house was built with the special object of assisting the apple trade, and their claim that with fruit shipped direct from the orchards, they can save enough on shrinkage to pay the storage charges, is well worthy of consideration.

The annual meeting of the Pomological and Fruit Growing Society of the Province of Quebec will be held at Macdonald College on Dec. 8 and 9. A fruit exhibit will be held.

The secretaries of local branches of the Ontario Vegetable Growers' Association are requested to send copies of all papers read at meetings of their branches.

Tin Instead of Glass for Canning

Editor, THE CANADIAN HORTICULTURIST: At an Ontario fruit experiment station, the superintendent, a man alive to possibilities, recently advised that in domestic canning and preserving of fruits and vegetables, in the household sense, the housewife could erect an economy by the use of tin in place of glass containers. The necessary equipment being cheap and not difficult to handle, even unskilled hands could do good work, safekeeping economy of time and materials, and less fragile stock being especially apparent. Many fruit and vegetable gardens produce a superabundance which could be turned to account if the work of canning and its possibilities in the hands of a tyro were better understood.

I have tried to get a price quoted me on cans of the sizes used generally for tomatoes and for peas, by commercial canners, but there seems to be no desire to sell in less than car lots. One firm offered cheerfully to supply them by the million instead of by the hundred. Optimist, eh? I received a reply from another with prices in dozens (and evidently penalty prices.) [NOTE.—The name of this firm with their prices will be given on application to THE CANADIAN HORTICULTURIST.—Editor.] Could you or any readers of THE CANADIAN HORTICULTURIST furnish the names and addresses of a few can makers who would furnish cans at a fair price, in hundred or even dozen, lots.—"One Interested," Toronto.

"How to Build Rural Telephone Lines" is the title of a booklet issued by the Northern Electric & Manufacturing Co., Montreal. The book is comprehensive in character and very informative. It treats of a subject vitally important to the farmer, and makes clear that Rural Telephones are "an inexpensive necessity." Every fine point in the construction of a rural telephone line is explained carefully and clearly, and the illustrations, accompanying the text, bring the points home with double emphasis. This booklet laying bare the telephone question as it confronts farmers, is sent free on request. It is worth reading.

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From The Best European and Japan Growers

Home grown Fruit and Ornamental Trees grown on upland soil without irrigation, in the only part of the American Continent not infested with the San Jose scale. Full supply in season of tested stock *Garden, Field and Flower Seeds* from the best European, American and local growers

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THE HERBERT RASPBERRY

YIELDED 17½ BOXES BERRIES at one picking from 12 plants at the Central Experimental Farm at Ottawa this season. It is the largest, most attractive and best raspberry in existence. We control the originator's stock of plants. Don't get fooled with spurious plants, but buy direct from the introducer and get the genuine thing.

W. J. KERR, PROP. OTTAWA NURSERIES, OTTAWA, CAN.

ASPARAGUS ROOTS

Strong, Two-Year Old

Early Giant Argenteuil

Per 100, \$1.00; per 1000, \$7.00

Argenteuil is the earliest and largest now on the market

DUPUY & FERGUSON

38 Jacques Cartier Square, MONTREAL

Preserving Fruit for Winter Use

If practicable, pare fruit with a silver knife, so as not to stain or darken the product. The quickest and easiest way to peel peaches is to drop them into boiling water for a few minutes. Have a deep kettle a little more than half full of boiling water; fill a wire basket with peaches; put a long handled spoon under the handle of the basket and lower into the boiling water. At the end of three minutes lift the basket out by slipping the spoon under the handle. Plunge the basket for a moment into a pan of cold water. Let the peaches drain a minute, then peel. Plums and tomatoes may be peeled in the same manner.

If peaches are to be canned in syrup, put them at once into the sterilized jars. They may be canned whole or in halves. If in halves, remove nearly all the stones or pits. For the sake of the flavor, a few stones should be put in each jar. When preparing cherries, plums or crab apples for canning or preserving, the stem or a part of it may be left on the fruit.

PEACHES

Eight quarts of peaches, one quart of sugar, three quarts of water.—Put the sugar and water together and stir over the fire until the sugar is dissolved. When the syrup boils skim it. Draw the kettle back

where the syrup will keep hot, but not boil. Pare the peaches, cut in halves, and remove the stones, unless you prefer to can the fruit whole.

Put a layer of the prepared fruit into the preserving kettle and cover with some of the hot syrup. When the fruit begins to boil, skim carefully. Boil gently for ten minutes, then put in the jars and seal. If the fruit is not ripe it may require a little longer time to cook. It should be so tender that it may be pierced easily with a silver fork. It is best to put only one layer of fruit in the preserving kettle. While this is cooking the fruit for the next batch may be pared.

QUINCES

Four quarts of pared, cored and quartered quinces, one and one-half quarts of sugar, two quarts of water.—Rub the fruit hard with a coarse crash towel, then wash and drain. Pare, quarter and core; drop the pieces into cold water. Put the fruit in the preserving kettle with cold water to cover it generously. Heat slowly and simmer gently until tender. The pieces will not all require the same time to cook. Take each piece up as soon as it is so tender that a silver fork will pierce it readily. Drain on a platter. Strain the water in which the fruit was cooked through cheese cloth. Put two quarts of the strained liquid and the sugar into the preserving kettle, stir over the fire until the sugar is dissolved. When it boils skim well and put in the cooked fruit. Boil gently for about 20 minutes.

SWEET PICKLED PEARS

The small, rather hard pear is best for this purpose, and there is comfort for city people in the fact that they need not come as directly from the tree as when they are to be used for canning purposes. Make a pickle of sugar, vinegar and spices, as for any sweet pickled fruit, and when it boils, throw in the pears, whole, and let them cook until they can easily be pierced with a fork. Then turn them in to a large stone jar. Next morning, drain off the syrup, boil it, and again pour it over the pears. Two or three days later, put pears and all over the fire, let them come to a boil, and they are ready for use. They are easily kept in stone jars, if held under the pickle with a plate, and carefully covered with oiled paper closely tied down around the edges,

CANNED PEARS

Make a syrup of granulated sugar and water, letting it boil until all the scum has been removed. Do not make it too sweet. The best canned pears are put up in a syrup made of one cupful of sugar to a quart of water. Pare and quarter the pears, and throw them into the boiling syrup, taking care not to crowd them. Let them boil until they can easily be pierced with a fork. There is a great difference in pears in respect to the amount of cooking required, but they never cook as quickly as most fruit. Dip them carefully into glass jars as when done, and seal them as you would any other fruit.

CANNED PEARS (2)

Place a folded cloth in the bottom of your steamer, and then put in a few layers

of pears, which have been pared, cored and quartered. Cover the steamer closely, set it over a kettle of boiling water, and steam the pears until perfectly tender, then pack them in hot glass jars and pour boiling syrup over them. Stand the jars in the steamer and let them steam for half an hour—not so long if you can cover the steamer; then screw down the lids as closely as possible. A few spoonfuls of lemon juice added to the syrup will greatly improve the flavor of the pears.

CONSERVED GRAPES

Grapes that are just beginning to ripen are best for this purpose. Pick them over carefully, and scald them quickly, then to five pounds of the grapes add five pounds of sugar, the juice from five large juicy oranges and two pounds of good raisins. Cut the orange peel into bits and boil it in a very small amount of water for a few minutes, until the oil is extracted, then drain the water off and throw it away. Add the peel to the grapes. The raisins should be chopped and seeded before being added to the grapes. Let all boil for twenty minutes, then put away as you do the spiced grapes.

A nice jelly is made by boiling all together, without the sugar for several hours, then straining it and adding the sugar to the juice. It is called a jelly, but it is about half-way between jelly and marmalade.

GRAPE JELLY

Stew the grapes, after picking them from the stems and rinsing them carefully, then pour off the juice and strain through a flannel cloth, being careful not to squeeze them the least little bit, for even a small portion of pulp would give your jelly a cloudy appearance. Add the sugar hot from the oven, and after the juice has boiled for fifteen minutes, then let it boil five minutes longer and pour it into the jelly glasses. Set the glasses on a wet towel before pouring in the jelly. Green or ripe grapes may be made into jelly, or grapes that are partially ripe, and you will find that grapes combine well with many other varieties of fruit, giving as many different flavors as you have of combinations.

GRAPE MARMALADE

Prepare the fruit as for jelly, but press the pulp through a fine sieve, discarding only the seeds and skins. Return the pulp to the kettle and add two-thirds as much sugar as for jelly. Let it boil until of the required consistency, then seal while hot.

GRAPE CATSUP

Take two quarts of grapes after they are removed from the stems, wash to remove whatever dirt may adhere to them. Put in a graniteware sauce pan, pour over them one quart of vinegar and cook until grapes are soft, then rub through a sieve. Return to sauce pan, add one and a half pounds of brown sugar, one tablespoon each of cloves and cinnamon, one-half tablespoon of salt, one-fourth teaspoon of cayenne pepper (more or less as may suit the taste). Cook until of the consistency of tomato catsup. Put into wide-mouthed bottles or glass cans.

CANNED GRAPES

Pick grapes from stems without breaking their skins, and fill jars. Pour over them a hot syrup made of one cupful of water to two cupfuls of sugar. Seal. Taste like fresh grapes.

CRAB APPLES

Six quarts of apples, one and one-half quarts of sugar, two quarts of water.—Put the sugar and water in the preserving kettle. Stir over the fire until the sugar is dissolved. When the syrup boils, skim it. Wash the fruit, rubbing the blossom end well. Put it in the boiling syrup, and cook gently until tender. It will take from 20 to 50 minutes.

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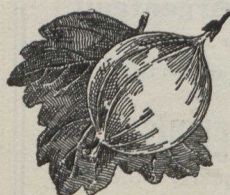
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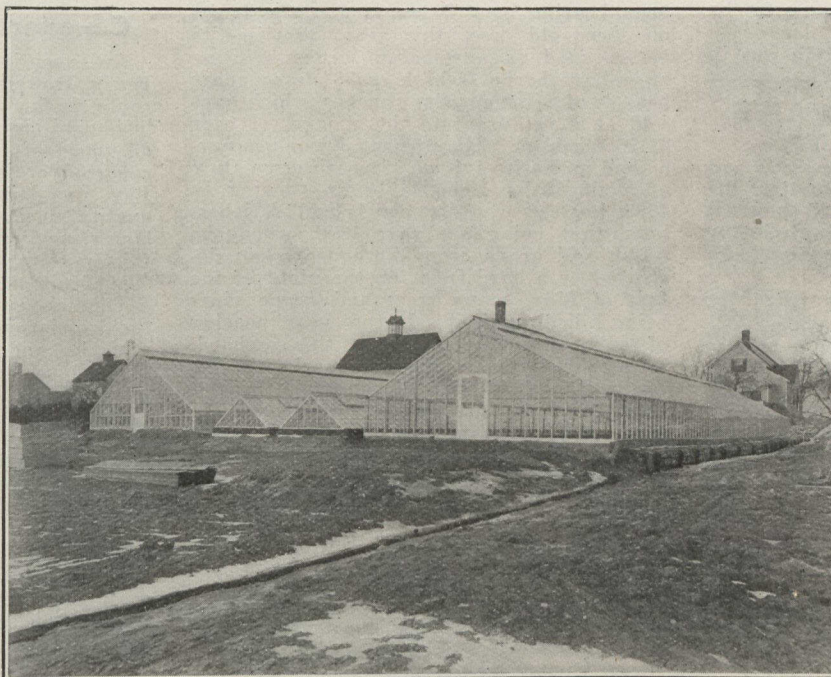
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King Construction Greenhouses

For Vegetable Growers

IT is claimed that the earliest and finest crop of Field Tomatoes raised in the Dominion this season, 1909, was from plants grown on the ground in King Construction Houses, no beds or benches used. Will any disputing this claim please send in their record?

The record for Inside Grown Tomatoes in the neighbourhood of Toronto in King Construction Houses is \$4.35 per lineal foot of a King 21 ft. 8½ in. House realized in three months from time of planting to August 1st. Will any who can beat this please communicate?



Houses of F. V. Metcalf in the great Ironqupit Vegetable Growing District, in which nearly 1½ miles of King Greenhouses were erected in 1907

The above cut illustrates the general transformation in style and size of houses as adopted in this district. The larger house with eaves as high as the ridges of the old style alongside being King Construction.

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248 WELLINGTON ST. WEST

TORONTO, ONT.

Peach Growing in Niagara Township

IN the magazine section of the Toronto *Globe* of Saturday, August 14, appeared a picture of a unique summer house on the Niagara River, near Queenston Heights. In this picture were shown the wheels from a wagon which carried peaches from the first commercial peach orchard planted in Canada, about 100 years ago, by James Durham, a U. E. Loyalist, who came from Pennsylvania, about the year 1786. Mr. Durham received a Patent, or Crown Deed for this land, dated October 31st, 1803, it being Lot No. Nine, Niagara Township, one mile below the famous battlefield of Queenston Heights on the Niagara River.

This lot, comprising 100 acres, possesses the unique distinction of having had but three transfers since the Patent, — James Durham, Sr., to James Durham, Jr.; executors of James Durham, Jr., to John McClive; and John McClive to C. E. Fisher, the present owner, who is Registrar of Deeds for the County of Lincoln at St. Catharines, and secretary-treasurer of the Niagara Peninsula Fruit Growers' Association.

Mr. Fisher purchased this farm in April 1882. On the farm, at the present time, stands the building, in an upstairs room of which Col. Macdonald (aide-de-camp to Sir Isaac Brock) after he received his death wound, passed away. This building was in

use as a hostelry at the time of the war of 1812, and was frequented by the soldiers and travellers of those stirring days. Afterwards it was converted into a dwelling and was in use as such until the summer of 1889, when Mr. Fisher had it moved a short distance back from the site it occupied, to where it now does service as a carriage house and workshop. Visitors frequently call at the farm and ask to be shown the room where this gallant soldier succumbed to his injuries.

Notwithstanding the lapse of so many years (nearly a century) old coins are found every summer on the farm near where the buildings formerly stood, and bullets and Indian arrow heads of many sizes, are picked up very often, by the men working in the orchards. As an evidence of the wonderful fertility of this soil on the frontier, adjoining Niagara River, one of the best peach growing sections in all Canada, this land, which has been growing this luscious fruit for 100 years, has an orchard in bearing now, on which probably the first peach trees grown in Canada, were planted, and this year the crop bids fair to be the largest that was ever grown on the land.

Some of the trees in this orchard have been bearing over 20 years and the fruits on these old trees this year, promises to be as good as any before grown. These trees have borne as high as 33 eleven-quart baskets of prime quality peaches, which have sold at a net profit to the grower, of over \$1.25 a basket. The present owner has never had an entire failure of peach crop. Only once since the orchards began bearing in 1887, has the crop dropped below 1,000 baskets, that being the year 1889, when the peach and grape crops were nearly all destroyed by a hard frost, on the night of the 31st of May, many trees and grape vines being killed outright. In that year, peaches of extra fine quality, from this orchard, were sold on the commission market in Toronto, for \$2.75 per eleven-quart basket. Once or twice since then, on an off year in other peach growing sections, has the price reached that figure, for the extra fancy article.

In the season of 1891, Mr. Fisher shipped many baskets of this quality of peaches to James B. Stafford & Bro., Fulton Market, Buffalo, for which he received \$2.37 net,

put on the cars at Queenston station. These peaches retailed in that market for \$3.50 a basket.

These facts, teach several important lessons, showing among other things the inexhaustible nature of the soil; feed it carefully, cultivate judiciously and systematically and it will respond liberally. The soil will do its part, if the tiller does his. From this farm, now known as "Dulverton Fruit Farm," managed by Mr. Fisher's two sons, H. St. Clare, and C. Howard, it is expected nearly 25,000 baskets of fruit of different kinds, will be shipped this season, the large proportion being peaches. These bring the very highest price in Toronto and other markets. Results as to price and production are only achieved by the most thorough and careful attention to all the little details, in connection with fruit growing. The pruning, spraying, thinning and cultivation, are important factors, and then the most rigid and careful attention is given to putting the fruit up in a neat and honest manner. Fruit growers, like Christians, are "known by their fruits." No fruit is shipped that the growers on this farm would be ashamed to meet in the consumer's home. It is not all fancy and large, but the face of the package evidences the contents of the basket.

FOR SALE AND WANT ADVERTISEMENTS

Advertisements under this heading inserted at rate of two cents a word for each insertion, each figure, sign or single letter to count as one word, minimum cost, 25 cents, strictly cash in advance.

AGENTS make big money selling "Vol-peek" Granite Cement. Mends holes in Granite ware, Iron, Agate, Tinware, etc. Mends a hole in one minute. Every housewife buys. Greatest seller on the market. Agents make over 100 per cent. profits. N. Nagle, Westmount, Que.

FRUIT FARM FOR SALE, in Norfolk County: 12 acres of arable land, good soil, and 15 acres in winter apples, standard varieties. Fine wind-break of evergreen Osage Orange Hedge. One large barn, wells and spring. On gas belt. Excellent location.—Address, M. M. M., Canadian Horticulturist, Peterboro, Ont.

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Stock Strictly First-Class
Prices quoted on application and your requirements for the season guaranteed if arrangements made now. Prompt shipment can be made. Act as agent in your locality and get your Baskets right.

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They mend all leaks in all utensils—tin, brass, copper, granite ware, hot water bags, etc. No solder, cement or rivet. Anyone can use them; fit any surface, two million in use. Send for sample pkg., 10c. COMPLETE PACKAGE ASSORTED SIZES, 25c. POSTPAID. Agents wanted. Collette Mfg. Co., Dept. V. Collingwood, Ont.

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Mention The Canadian Horticulturist when writing

As peonies may be planted successfully in October, and as various requests have been received, asking where Mr. R. B. Whyte's "best 12 peonies" may be secured, it will interest amateur horticulturists to know that Mr. Whyte will furnish the information if requested. His address is Ottawa. Mr. Whyte is a specialist in peonies.

The Hespeler Horticultural Society found a marked improvement in the gardens of its members, when they were judged this year. The method followed by this society was told in THE CANADIAN HORTICULTURIST for November, 1908. Much interest is taken in the work. The directors and the society deserve great credit for their enthusiasm and for their achievements.

A new catalogue of nursery stock has just been issued by E. D. Smith, proprietor of the Helderleigh Nurseries, Winona, Ont. In it are listed a full line of fruit and ornamental trees, shrubs, roses, hardy border plants, and so on. Descriptions of the varieties have been carefully prepared and are reliable. Much useful information on the culture of these things is given. It is a useful book for any horticulturist to have in his possession. It is now ready for distribution and will be sent free to all persons that make the request.

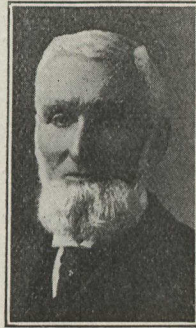
POULTRY DEPT.
Conducted by S. Short, Ottawa

While glancing through the columns of a New York publication a short time ago, I noticed a real estate agent's advertisement of half-acre suburban garden lots on Long Island. One of the inducements was "why toil in the close, dirty city when for a trifling sum one of these most desirable lots could be purchased and a healthy, happy and profitable living could be made raising 10,000 chickens a year." What rot! As far as the chickens are concerned anybody would have a hard time raising 500 healthy, properly reared chicks on half an acre. A half-acre lot measures about 120 by 200 feet. Taking for the house, buildings and roadway, the front 50 feet, leaves a plot 120 by 150 and divide that into four runs 60 by 75 feet and then put 100 birds into each run and that is about the limit. I mention this as a warning to any one, who is not posted, not to believe statements such as real estate and other interested parties make in regard to the fine living that can be made on small pieces of ground. From my own experience, I would judge that, in this province, an able-bodied man could not make more than a comfortable living from less than two or three acres and then he would have to do most of the work himself and grow only the choicest of small fruits and vegetables and assist or augment his income by the production and marketing of fresh eggs in winter.

While the poultrymen and farmers are accused of charging exorbitant prices for eggs and poultry at the present time, the blame is not due to them but to the causes that have made the price of wheat soar so high the last six months. Once during the summer, the dealer made it a favor to supply any at all and then such trash that it was nearly unfit for food; therefore, poultry keeping at the present time is by no means an easy or sure means of livelihood.

A Well-Known Horticulturist

Among those who have been subscribers to THE CANADIAN HORTICULTURIST from its inception, over 31 years ago, to the present day, is Mr. B. Gott, of Strathroy, Ont. He was born in Lincolnshire, England, May 24,



Mr. B. Gott

1833, and emigrated with his father's family to Canada in 1845, where he became educated and fitted for business. He landed in Port Stanley near St. Thomas, Ont., then a promising new country and took to farming. Mr. Gott was early dedicated to gardening, being, while very young, the family gardener and so growing up with a deep-seated love for the useful and beautiful in nature. He thus early came to feel the deep importance of mental training and so put himself to secure the fullest common school advantages to be had in that day for culture and attainment. Passing through the Normal School at Toronto in 1861, he became a licensed common school teacher for several years, at the conclusion of which he was enabled to own a nice 25-acre lot near Arkona, Lambton county, and there he made his name and early commenced his business as a practical nurseryman and fruit grower.

"In this business," recently wrote Mr. Gott, in reply to an enquiry from THE CANADIAN HORTICULTURIST, "I am happy to say, through the kindly helpfulness of friends and of the Ontario Fruit Growers' Association, I was tolerably successful. Then I became associated with honored names, the founders of the fruit growing interests of this country, such as, D. W. Beadle, McD. Allen, P. C. Dempsey, Dr. Wm. Saunders, and the very eminent Rev. Dr. Burnett, our honored president and one of the best fruit judges that I ever saw.

Many a time have I dogged his steps around the tables to be able to understand more perfectly the business of judging fruits and as a result of this, I have been enabled to retain, to the present, some 50 or more badges and medals in judging fruits.

"In 1878, THE CANADIAN HORTICULTURIST was launched, a small 24-page monthly as a good assistant in our work," continued Mr. Gott. "We were much elated by it and each one contributed to its humble pages and under the able and efficient editorship of the cultured and profound Beadle, it attained a large circulation. Many an hour, have I taken from work to spend in silent scribbling for its pages to give what little I could glean from the business for the help and encouragement of others like myself who were intensely delighted by the prospect of more and better fruit for the people of this great and growing country. And even to-day, after the 76 years of my growth, I am still pleased and instructed by the large and cheerful pages of THE CANADIAN HORTICULTURIST though edited by other hands than Mr. Beadle and later Linus Woolverton, who so ably controlled it for many years.

"I am to-day still busying myself in the garden with the beautiful world of flowers and get the fruits brought to me. I love the flowers not merely for the money that is in them but for their own sakes and their beauties in form and color and am making now a specialty of gladioli, and also of dahlias, cannas, petunias and latterly lilies and peonies. Truly, horticulture in all its branches is the most becoming and appropriate work of our men and our women!"

The first annual report of the Quebec Society for the Protection of Plants from Insects and Fungous Diseases contains much valuable information. It has been well compiled and illustrated. The work of this organization is expected to do much towards preventing the yearly loss to the cultivated crops of Quebec that is occasioned by these pests. The president is Prof. W. Lochhead, and the secretary, Mr. Douglas Weir, both of Macdonald College.

COMING EVENTS

Under this heading, notices of forthcoming exhibitions and meetings of horticultural importance will be published. Send the information as long in advance as possible.

CONVENTIONS.

- Toronto, Ontario Vegetable Growers' AssociationNov. 11.
- Toronto, Canadian Horticultural AssociationNov. 10-11.
- Toronto, Ontario Fruit Growers' AssociationNov. 10-11.
- Toronto Ontario Horticultural AssociationNov. —
- Macdonald College, Que., Quebec Pomological SocietyDec. 8-9.
- Victoria, British Columbia Fruit Growers' AssociationJan. 28.

EXHIBITIONS.

- Denver, Colo., Colorado National Apple ExpositionDec. 6-12.
- Halifax, Nova Scotia ProvincialSept. 25-Oct. 2.
- Middleton, N.S., District Fruit ShowOct. 6-8.
- New WestminsterOct. 12-16.
- Spokane, Wash., National Apple Show...Nov. 15-20.
- Toronto, Ontario Horticultural...Nov. 9-13.

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It is simple and cheap to operate.

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THE MODERN CANNER CO.,
Canadian Branch, St. Jacob's, Ont.

Every Fruit Grower Should Write for Descriptive Booklet

FRUIT CROP SITUATION

More than a medium crop of apples is not expected in Canada. Outside of a few isolated districts, the crops is much below even the expectations of last month. The fruit generally will be small. Among the many reports received by THE CANADIAN HORTICULTURIST, the following are typical ones:

QUEEN'S CO., P. E. I.

Charlottetown.—Fall and winter varieties of apples, medium crop, fruit clean; plums, medium.—A.E.D.

YARMOUTH CO., N.S.

Yarmouth.—Late rains made improvements in winter fruits, especially Baldwins and Gravensteins. Prices \$1.50 to \$2.75. Early apples not one quarter crop. All fruit will not be one half crop in this county. I have sold six barrels Red Astrachan and Yellow Transparent for \$12.25, hardly a No. 1 in the lot.—J. B.

DIGBY CO., N.S.

Bear River.—Indications point to crop of average quantity and of good quality, largely free from spot.—W. G. C.

KINGS CO., N.S.

Wolfville.—Extremely dry weather since June has reduced the apple crop fit for export to 300,000 to 400,000 barrels. Apples are comparatively free from worms or spots but run very small in size and will pack largely No. 2. Speculators are paying \$2 a barrel for run, picked and barreled at growers' expense.—G. B.

Kentville.—Opinions differ widely re crop yet most persons are cutting it down 30 to 40 per cent. less than last year. Gravenstein good quality, offers at present \$2.00 for No. 1, packed, and \$1.50 for No. 2. No further prices offered for winter stock.—R.S.E.

WESTMORELAND CO., N.B.

Shediac.—Not much change in apple crop conditions since last month. All early varieties light; winter varieties, fair to medium. Codling moth has done much damage, but otherwise the fruit is clean.—H.B.S.

YORK CO., N.B.

Scotch Lake.—Apple crop rather light; fruit well colored. The market is at Fredericton where prices have averaged higher than usual. Red Astrachans at present bring \$4.00 a barrel; New Brunswick, \$1.00 to \$2.00. Plums, very scarce.—W.H.M.

CHARLOTTE CO., N.B.

St. Stephen.—Apple crop not sufficient for local market. All kinds undersized. Fall fruit brings about \$1 a barrel, No. 1 and No. 2 mixed.—C.N.V.

CARLETON CO., N.B.

Woodstock.—Apple crop a failure. Price from \$1.00 to \$1.50 for New Brunswick apples; Wealthy, \$1.50 to \$2.—H.G.N.

JACQUES CARTIER CO., QUE.

Notre Dame de Grace.—Apples are later in ripening this season. St. Lawrence is selling for \$3.25 for No. 1. Wealthys are more plentiful and selling for \$2.75 for No. 1. It is too soon for Fameuse and McIntosh.—R.B.

HALTON CO., ONT.

Oakville.—Apples are a fair sample and clean, about two-thirds of a crop. Buyers are buying by the orchard and picking them. By the barrel, apples range in price from \$1.25 to \$1.55.—W.H.M.

Georgetown.—Fall apples are a light crop. Winter kinds are below an average with exception of Spys which will run about 50 per cent. of total pack. Buyers are paying \$1

on the tree and \$1.25 on the ground for No. 1 and No. 2 winters. Apples are free from spot but are rather wormy and in some localities show considerable damage from hail.—F.J.B.

WENTWORTH CO., ONT.

Winona.—The fruit is a good crop, not heavy, except Lombard plums. Prices were low in Lombards, but other kinds were firm. Peaches brought a good price. Grapes are late and not as large as previous years; prices good so far. Weather has been ideal for handling fruit which has carried fine.—H.S.

BRANT CO., ONT.

Burford.—A few good orchards are loaded, many are thin. Unsprayed fruit will cull very much on account of size and quality, grading mostly No. 2. Well sprayed fruit is good and will grade largely No. 1. It is maturing about two weeks later than usual. The prevailing price for unsprayed is \$1.25 picked. Sprayed are held for \$3.—F.D.B.

NORFOLK CO., ONT.

Simcoe.—Apple crop is about the same as last year. Outside buyers are paying from 75 cents to \$1.25 on tree. Our association have sold realizing from \$1.50 to \$2.25 on tree.—W.F.O.

GREY CO., ONT.

Owen Sound.—There is an average crop of winter apples in this section. The fruit is good and clean but rather small. Buyers have paid \$1.00 a barrel on the tree, a great many being sold by the orchard. We expect to handle through the Owen Sound Fruit Company 10,000 barrels and have sold the most of our pack at prices ranging from \$2.25 to \$2.75 a barrel, f.o.b.—A.B.

NANAIMO CO., B.C.

Duncan.—Fruit crop is light. Good quality demands good price, apples selling at \$1.50 a box. Shortage is due to late frosts in spring which killed a great many trees.—W.D.

South Salt Spring.—Early apples, No. 1, are selling for \$1.50 a box; No. 2, \$1.25; early Italian prunes, \$2.00 a crate; late prunes, \$1.00; cherries, 10 to 12 cents a lb.; Bartletts, \$1.75 a box. Late apples, short crop; late pears, fair to medium; prunes, full crop; quinces, very short; other fruits, average light.—W.J.L.H.

Fruit growers and shippers who desire to get in touch with a reliable firm in London, England, should read the ad. of T. J. Poupart that appears on another page of this issue. This is one of the principal firms in Covent Garden Market that handles barrel apples by private treaty.

Manufacturers of orchard and garden implements and tools, should be represented at the Ontario Horticultural Exhibition in November with exhibits of the latest improvements in these things. THE CANADIAN HORTICULTURIST is offering a half page ad. in one issue of this publication for the most practical improvement in implements for

orchard use, and a similar prize for the most practical improvement in implements or tools for garden use.

It is expected that the 'National Apple Show to be held at Spokane, Wash., Nov. 15-20, will far surpass the one of last year. Substantial additions have been made to the prize list, which will total \$25,000. Canadian growers who were thinking of entering exhibits should communicate with Mr. Ren H. Rice, the secretary.

A copy of bulletin No. 144 on "Celery," issued by the South Carolina Agricultural Experiment Station has been received. Among the sub-topics discussed are soil, fertilizers, preparation of soil, starting the plants, transplanting, cultivation, blanching, shipping and so forth.

FOR SALE 15,000 Cuthbert Raspberry Plants, No. 1.

WANTED 2,000 Herbert and 1,000 Marlboro No. 1.

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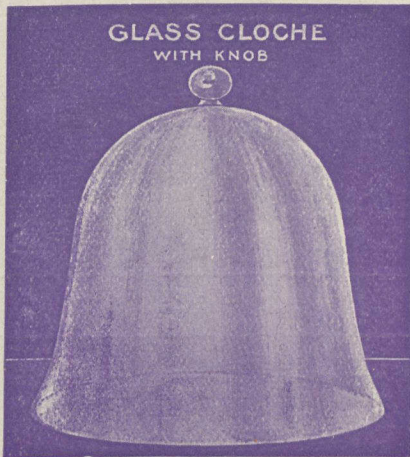
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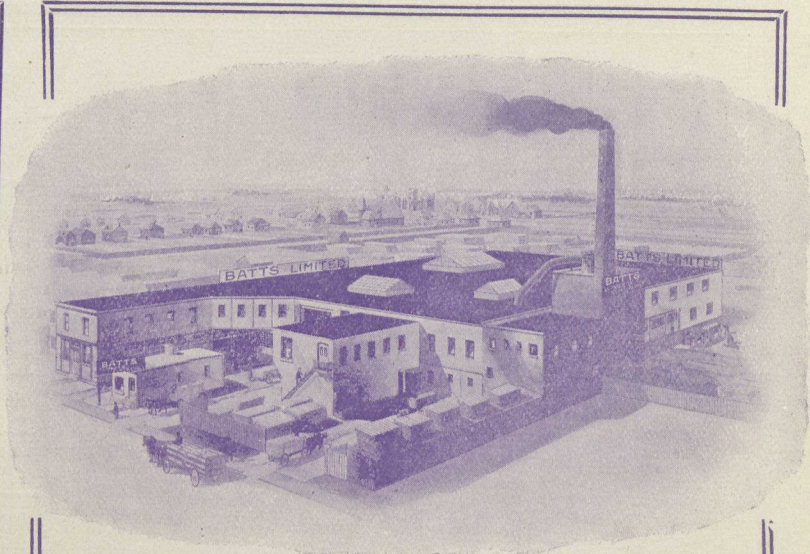
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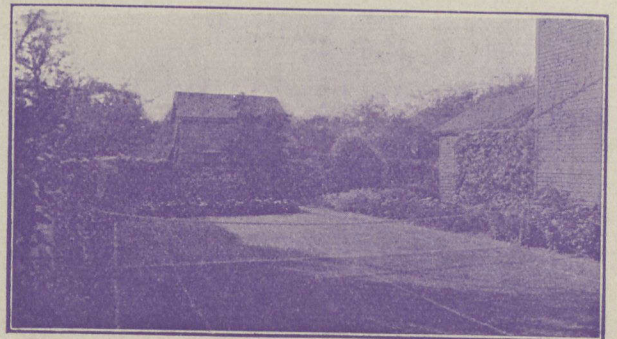
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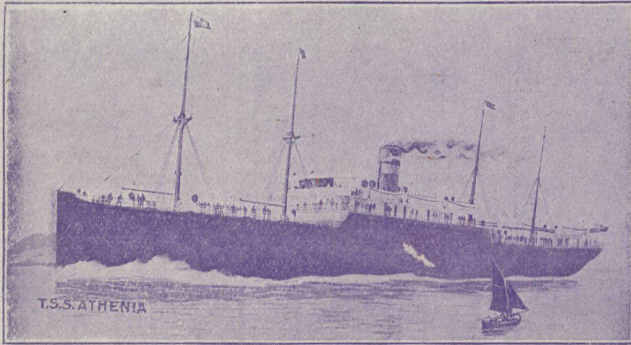
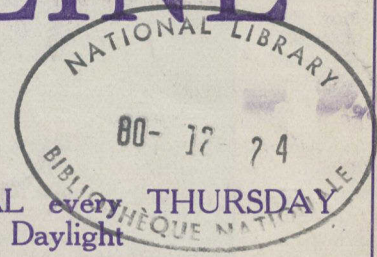


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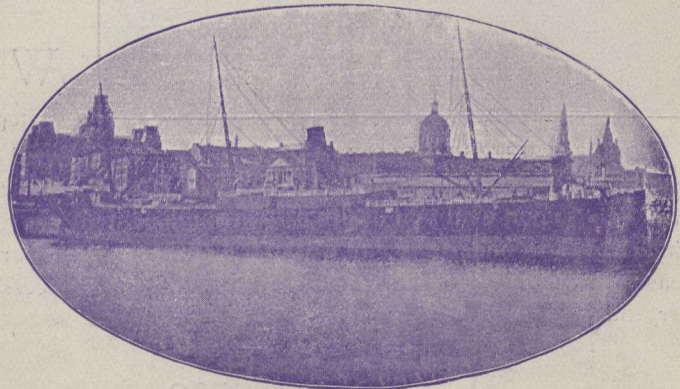
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