

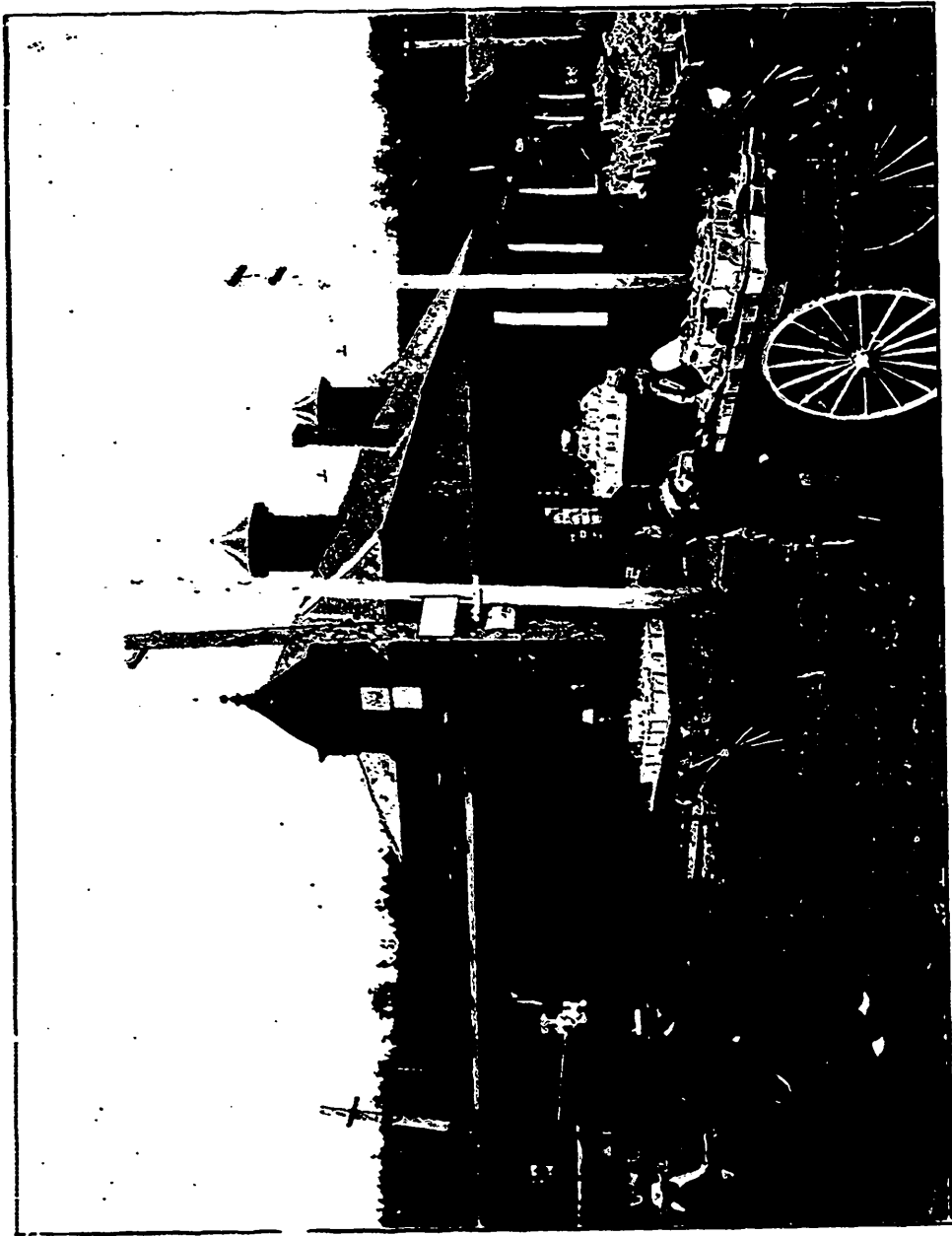
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AUGUST

BUTTERCUP nodded and said "good-bye!"
Clover and daisy went off together,
But the fragrant water lilies lie
Yet moored in the golden August weather.
The swallows chatter about their flight,
The cricket chirps like a rare good fellow,
The asters twinkle in clusters bright,
While the corn grows ripe, and the apples mellow.

CELIA THAXTER.



Shipping Fruit at the Helderleigh Fruit Farms and Nurseries.

The above is the building transported by the Helderleigh Fruit Farms and Nurseries at Winona, the Dominion Express Company keeps an agent at that point and by fruit over the Great Trunk and Canadian Pacific Railways. Extensive shipments were also made by the Canadian Express Company, and the illustration shows fruit being delivered at the combined fruit houses, cold storage plant and shipping station. It is a brick structure, capable of holding 40 to 60 tons of fruit. A description of this big fruit farm is given in this issue.

The Canadian Horticulturist

AUGUST, 1904

VOLUME XXVII



NUMBER 8

THE WESTERN FRUIT MARKET

PROF. J. B. REYNOLDS, ONT. AGRIC. COLLEGE, GUELPH.

IT is highly desirable to establish a market for southern Ontario fruit in the north and west. From North Bay northward and westward, through the newly-opened and opening districts of northern Ontario, through Manitoba, and on to the western territories, is a great expanse of country that is being rapidly settled, that in a few years will be populated by millions where now are thousands, and that in all probability will never produce in sufficient quantities the standard fruits of southern Ontario. There the market is, and, so far as it is supplied at present, it is principally supplied by western fruit from British Columbia, Oregon and Washington Territory.

To the opening of that market for Ontario fruit there are two main obstacles: the character of our fruit, and transportation. The summer fruits produced on the western coast differ materially in their shipping qualities from the fruits of Ontario. The extreme dryness of the summer climate on the Pacific coast produces fruit much less juicy than are the fruits of Ontario. Then, western fruits can always be picked in dry weather and packed and shipped dry. Ontario fruits, on the contrary, being on account of the great humidity of our climate more juicy internally and more liable to be moist externally, are much more subject to injury in shipment and to various diseases. This is, of course, more especially true of

the earlier and softer fruits. The writer saw a carload of California fruit unloaded and sold at Ottawa on July 6. There were peaches, plums, cherries and tomatoes. The fruit had come by freight in an Armour refrigerator car, and from the time of picking to that of unloading 11 days had elapsed. All the fruit that could be seen, and presumably the whole carload, was perfect in condition, without bruise or decay of any kind being visible.

This highly gratifying result is due in large part to the dryness of the fruit externally and internally. But intelligent and skilful picking and packing had done their share. It was evident that the fruit had been picked at exactly the right stage of ripeness, for upon arrival it was neither green nor soft nor over ripe: each box of fruit was of uniform ripeness, and therefore must have been selected; all the fruit was carefully packed in the famous California box packages, and the peaches were individually wrapped in paper.

The experience of California fruit growers and shippers has demonstrated the necessity for all this care in selecting and packing such fruits. With our juicier fruits we can reasonably do no less if we are to capture our share of the northwest market.

As to transportation: express rates, while not prohibitive, are exorbitantly high and

injuriously reduce the grower's profits. In carload lots, with a minimum of 20,000 pounds, the express charges per car from southern Ontario to Winnipeg are \$2.10 per hundred, with a minimum charge of \$4.20. A crate of berries goes at 30 pounds, making the express charges on a crate 63 cents, in carload lots. The freight rate over the same route is 73 cents a hundred. While this is very much lower, the time for transportation by freight almost prohibits the undertaking for soft fruits. The usual time is 6 days for a distance of 1,300 miles. The Rock Island railroad has established a freight service for western fruit to Chicago of 500 miles in 24 hours.

To assist the Ontario fruit growers in overcoming these handicaps, the writer is attempting, under approval of the Ontario Department of Agriculture, to secure a shipment of fruit over this route by freight. Whether it will be done or not, and if done whether it will be a success or not, will depend largely upon the growers. The fruit

must be supplied, picked and packed by the growers. It is not amiss to say that for this selecting fruit of even size, uniform ripeness, proper degree of ripeness, and first-class quality; equally great care in packing the fruit; and a choice of packages that will carry the fruit with least damage—all these are elements necessary to success in a trial shipment. These matters we know already and need not experiment on them.

The point to be determined now is, whether or not under the best conditions certain fruits can be carried successfully as to quality and profit from southern Ontario to the Northwest by freight. It is highly important at this juncture to place Ontario fruit at its best on the western markets. A shipment of our best fruit will sell itself readily at good prices, and not only so, but it will establish a reputation that will sell other fruit that may follow. The market must be captured and held, not by small quantities, but by large shipments of choice fruit.

Transplanting Norway Spruce

W. T. MACOUN, HORTICULTURIST C. E. F.,
OTTAWA.

Will you kindly let me know the best way of transplanting Norway spruce?—(W. H. Taylor, Owen Sound, Ont.)

The best method of transplanting Norway spruce which are from 4 to 12 feet in height is by digging around the trees late in the autumn and, after the soil is frozen solid, lifting out the tree with the block of soil and planting it in a hole which has also been prepared for it in the autumn. As soon as the ground thaws in the spring the soil should be carefully packed about the tree.

Trees which are only 4 feet in height may be transplanted without much difficulty early in the spring by taking them up carefully with as many roots as possible, but

trees 12 feet in height or slightly under succeed best when treated as already described. Apple trees should be cut back from a half to two-thirds of their growth when they are moved. On the whole, this will give the best satisfaction, although sometimes fair results are obtained without much cutting back.

Mounding up about the base of the trunks of the peach trees is very judicious at this season. It is during the months of June, July and August that the peach-tree borer (*Aigéria exitiosa*) does its mischievous work, the female laying its eggs on the tender bark just at the surface of the ground. So if there is a heap of fine earth raised about the collar of the tree, the moth misses the mark, or if she oviposits, it is in the hard bark, too far from the root to find easy maintenance.

THE SAN JOSE SCALE IS SPREADING

IN the June issue of *The Horticulturist* it was announced, in an interesting interview with Mr. J. Fred. Smith, of Glanford, San Jose scale inspector for the province, that the area affected by the scale had increased during the past year. While many growers are awake to the importance of grappling with the situation and are spraying as they have never done before, there are others who have given up the fight against the scale.

That this is the case is borne out by reports received during the past few weeks by *The Horticulturist* from a number of the township San Jose scale inspectors, who are working in different parts of the affected districts. These reports show that the scale has spread considerably in some sections. In other districts the growers seem to have practically gained control of the situation.

There are a number of sections in the province where the law is not being properly enforced and where the fruit industry will soon be practically ruined unless preventive measures are taken immediately. A drive taken recently by an editorial representative of *The Horticulturist*, in a portion of the Niagara peninsula, showed thousands of trees that had been destroyed by the scale, still standing, a menace to the fruit interests of the whole district. These plague spots should be removed, and quickly.

HAS SPREAD BADLY.

"I find the scale has spread badly during the past season," writes Mr. M. G. Bruner, of Olinda. "I cannot tell where I will find infested trees. In two peach orchards near where I live, I found an infested tree in each this spring; there were only a few scales on each tree, but enough to cause great damage another year, were they not treated in time. On account of the cold winter the scale received a severe check here as a large proportion of the peach and plum trees were winter killed. Unless care



An Unsprayed Apple Tree Affected by Scale.

This illustration, together with the one on page 330, affords splendid evidence of the benefits derived by thoroughly spraying trees affected by the San Jose Scale, and of the danger of not spraying. This tree, which is located in an orchard near Olinda, Essex county, was first found to be infested with the scale in 1895, but was never sprayed.

is taken the scale is likely to spread in apple and pear orchards.

There are some townships here that are not taking any steps to keep the scale in check. Our township is the only one that is really doing anything in this direction. A number of trees have died from the effects of the scale. The first spraying was done about a year ago. Trees that were badly infested then are almost free from the pest now. Some growers have tried the caustic soda remedy with apparently good results. A number are spraying this season who did not spray last year."

"In February and March of 1903," writes Mr. Walter Biggar, of Winona. "I in-

spected the orchards in my section which were known to be infested with scale, and also all orchards which were exposed to infection. Wherever the scale was found the owners were notified and advised to spray with the lime and sulphur wash, or any of the authorized remedies. I examined these orchards again this year, and although I found the infested area increasing, it was gratifying to find that the lime and sulphur wash has done its work effectually in cleaning the trees from scale.

"All fruit growers are alive to the fact that it is for their interest to fight the scale. Those who have scale in their orchards are spraying them and doing everything in their power to get rid of this most serious of pests. Orchards that were quite badly infested two years ago are now free from scale after having been treated for two seasons with the lime and sulphur or crude oil washes."

A recent examination of scale infested trees showed that 50 per cent. of the scale were dead, probably killed by the continued severe freezing last winter. We are testing the caustic soda treatment, and lately found that 95 per cent. of the scale was dead on trees that had been treated with it.

There are only two orchards in the Beamsville section, according to Mr. S. M. Culp, affected with scale. One of these was sprayed with kerosene emulsion this spring. The owner of the other orchard has taken out a few trees, but it has done no

good, as the scale is spreading over the rest of the orchard. He says that he intends to spray with the McBean mixture.

In writing from Jordan Station, Mr. C. High, inspector for the township of Louth, states that there has been a notable increase in the spread of the scale since last year. He believes that unless growers are more particular about spraying and the law enforced with more vigor the scale may become a serious matter in his section.

In the Grimsby district, Wellington Wal-



A Tree Saved from the Scale by Spraying.

Like the tree shown in the illustration on page 329 this tree was first discovered to be infested with San Jose Scale in the summer of 1898. In May, 1903, it was found the scale was spreading on this tree was sprayed with the lime, sulphur and salt wash, under the direction of the township San Jose Scale inspector, Mr. M. G. Bruner, of Olinia. At that time there was no perceptible difference between the degree of infection of the two trees. The condition of the two trees on July 1, 1903, year, when they were photographed for *The Horticulturist*, is shown.

ker, the inspector for Grimsby township reports that some growers there are doing nothing to prevent the spread of the scale, and in consequence it has spread quite a little. Growers are complaining that the council does not appoint an inspector to enforce the act, while others claim there is no use in the council appointing an inspector as long as the growers refuse to apply the remedies after they have been notified that their trees are affected with the scale.

FRUIT PACKING

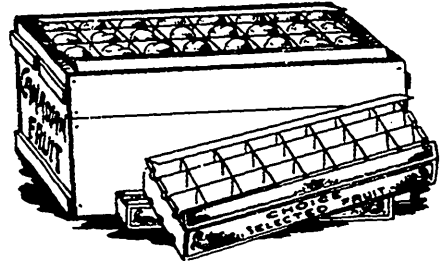
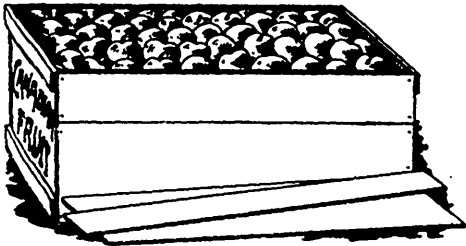
WM. WILSON, LONDON, ONT.

THE article in the July edition of The Horticulturist on fancy packing, from the pen of Mr. Linus Woolverton, shows considerable research as far as it goes, and opens a question on which a great deal more might be said. As I have had some experience in fruit packages it affords me pleasure to lay before your readers my solution of the package problem.

A fruit package should provide every element necessary for the handling and transportation of all kinds of fruit in convenient form from the orchard to the consumer in perfect condition, irrespective of distance, and such a package should be procurable at a price which would enable every fruit grower to use it. The first requisite of a fruit package is to be easily adaptable for

est confusion or inconvenience, and in view of these considerations the imperial bushel of 32 quarts has been selected as the best possible size for a universal fruit package. The imperial bushel is in harmony with the size of apple box recommended at the last annual meeting of the Ontario Fruit Growers' Association, but is much more comprehensive as a fruit package.

To be symmetrical as well as economical, the outside length of the package should be exactly double the width, so that four boxes may be piled either lengthwise or crosswise in a perfect square without any jutting or loss of space. This is a very necessary qualification also for piling large quantities of boxes with sufficient firmness, either by



quick packing and handling, and to be strong enough to amply protect even the best fruit from the rapid rough and tumble treatment it often receives during transit, both by rail and steamship, to its destination.

The next consideration is the size and appearance of the package. It should be handy with smooth surface for printing or advertising, and be of good pleasing symmetry as a box. The size, however, is a most important feature if the package is to be universal and equally applicable to all the various kinds of fruit. It must necessarily conform perfectly with the present standard units of fruit measurement (as used between buyer and seller) without the slight-

est confusion or inconvenience, and in view of these considerations the imperial bushel of 32 quarts has been selected as the best possible size for a universal fruit package. The imperial bushel is in harmony with the size of apple box recommended at the last annual meeting of the Ontario Fruit Growers' Association, but is much more comprehensive as a fruit package.

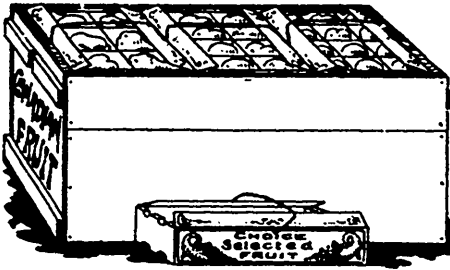
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Having touched on the salient points of a serviceable fruit package, I would like to draw attention to the accompanying illustrations and descriptions of such a box as I refer to:

Diagram No. 1 represents a box of winter apples packed in the usual way, which holds an imperial bushel of 32 quarts, equal



to 40 pounds of Baldwin apples. This box is just one-third size of a 96-quart barrel (same as used in Nova Scotia), but it requires $3\frac{1}{2}$ boxes of this size to equal the Ontario barrel of 112 quarts, or 7 boxes to 2 barrels.

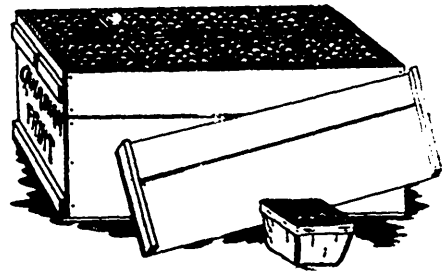
Diagram No. 2 shows the same box with cardboard trays and fillers added for peaches, pears, plums, or fine summer apples. These trays are made with wooden ends which give ample strength for resting one tray on top of another without injury to fruit. The trays have flaps on each side that they may be lifted in and out from the top instead of sliding them from the end of box, which bruised the fruit when the trays were tightly packed; or empty trays may be first placed in the box and then filled with fruit. This overcomes all difficulty of handling trays which are tightly packed. Trays may be made in various depths to suit size of fruit. Thus 3 trays 3 1-3 inches deep will fill the case, while 4 trays $2\frac{1}{2}$ inches deep just occupy the same space, and 5 trays 2 inches deep will also fill the case. These trays are thoroughly ventilated for fast breathing fruits, then fillers are made in all sizes of depths and square divisions

to suit the fruit, securing perfect isolation as well as firmness and protection for all the finer grades. When $2\frac{1}{2}$ inch peaches are packed in these trays each tray holds 32 peaches, equal to half of a 12-quart basket, and there being 4 trays of this $2\frac{1}{2}$ -inch size to each case, therefore one box holds just two baskets.

Diagram No. 3 is the same box with smaller cardboard trays and fillers, arranged in the same way as Diagram No. 2, but either with or without handles. These smaller trays have the same depths and the same variety in size of fillers as the larger trays, but are exactly one-third of the size in No. 2 Diagram, and being smaller and made of the same thickness of material are much stronger and suit the retailing of the finest fruits to greater advantage.

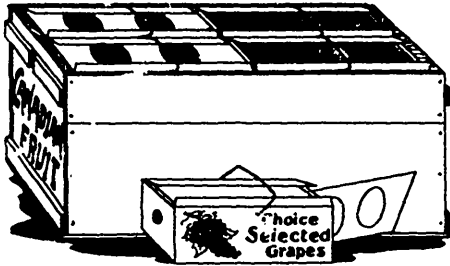
Diagram No. 4 shows the same box holding 24 common wooden boxes of strawberries. These basket berry boxes are equal to four-fifths of a quart, but their bevelled sides take up the extra space. This adaptation provides for all other small fruits as well.

Diagram No. 5 represents the same box holding 12 cardboard grape packages, with



wooden ends, of 2 2-5 quarts each. These have handles and covers, and will carry grapes perfectly to the Northwest Territories and British Columbia.

This box can be made open or closed or with whatever ventilation is required, and can also be made as a returnable or single-trip case as desired. An excellent half-bushel pear case (called a half case) may



also be made by equally dividing this bushel box lengthwise and packing it the same as

Diagram No. 1. Having explained my system as fully as possible within prescribed limits, I claim that it has all the merits I have indicated, as well as being an acceptable fruit case in all foreign markets, and when fruit men recognize these facts they will not only have no hesitation in adopting the imperial bushel box as the best solution of the package problem, but they will also admit that it is the only solution entitled to be called The Universal Fruit Package of Canada.

THE HELDERLEIGH NURSERIES

THE combined nurseries and fruit farm of E. D. Smith, M.P., Winona, affords striking evidence of the importance of the fruit industry to Ontario. This nursery is one of the largest in Canada. It contains 600 acres in all, of which 200 are in nursery stock and 200 in fruiting orchards and vineyards. The balance of the land is used to grow feed for the farm stock. The plantations are so extensive and varied as to amuse the casual visitor and cause one to wonder how it is possible for one man to conduct a business of such magnitude.

This huge nursery or the different farms of which it is composed, is located in one of the most desirable sections of the province. It is close to Lake Ontario, near Winona, and not far from Hamilton. The shelter afforded by the mountain, and the moderating influence of the breezes from Lake Ontario both aid in making the situation all that could be desired.

The home farm of about 120 acres is chiefly devoted to ornamental stock of many hundred varieties, including evergreens, shrubs, etc., as well as plum and pear trees and small fruit bushes, also vineyards, peach and plum orchards. About one mile east of this is another section, known as the Carpenter farm, consisting of about 60

acres, which is planted in grapes, dwarf pears, apples and cherries of different ages.

The Green farm, a third of Mr. Smith's places, is located about one mile east of Stoney Creek. This farm comprises about 80 acres, and includes a general assortment of nursery stock, principally apples and cherries. To the east is the Beamsville farm, about a mile and a half from Beamsville, on which is a block of 30 acres in young apple trees set out last spring. Still further east and about a mile north of Vineland, is the Honsberger place, with some 28 acres of two-year-old apple trees and about ten acres one-year-old. West of Vineland is the Moyer farm, on which is a solid block of 12 acres in young plum trees.

An editorial representative of The Horticulturist, who recently had the privilege of visiting the various farms in company with Mr. A. E. Kimmins, Mr. Smith's capable business manager, was as much impressed with the excellent order and splendid system apparent in connection with each of these farms as with the extent of the operations carried on. Were it not for the excellent management of both the field and business departments it would be impossible for Mr. Smith to give the prompt attention necessary to the thousands of orders received yearly for all kinds of fancy and

ornamental shrubs and bushes as well as for fruit trees, to say nothing of the growing and selling of the large quantities of fruit that are handled annually.

WHY THE FARMS ARE SEPARATED.

The farms have been located in different sections for special reasons. It is possible to give almost everything that is grown the variety of soil required for the best results. Tests can also be conducted to ascertain the conditions of soil and location best adapted for different varieties of fruits and shrubs.

As young trees do better on new soil, or on soil on which nursery stock has not been grown before, by renting or buying new farms every few years the change in soil required is thus secured. Entire reliance, however, is not placed in this change of soils. Each year finds an expenditure of over \$2,000 for compost fertilizers used in addition to the ordinary farm manure.

As already stated, Mr. Smith also carries on an extensive trade in domestic fruits of all kinds. In connection with this a large fruit warehouse and an extensive and very complete cold storage plant have been erected. To avoid loss in the handling of portions of the crops a jam factory is now in course of construction. There are so many large buildings on the farm a friend of Mr. Smith's once remarked that if Mr. Smith continues to build he will soon have his whole farm under cover. When the jam factory is completed all stages of the fruit industry, from the plants and seed-

lings growing in the field to the natural fruit as well as the manufactured product as it is sold over the grocery counter, will be found on this modern fruit establishment.

A great advantage gained by conducting the nursery and fruit farm combined in this manner lies in the fact that almost all varieties of the different fruits can be thoroughly tested before being sold. This makes it possible for the firm to give reliable information to those customers who, as many do, leave the selection of varieties to the nur-

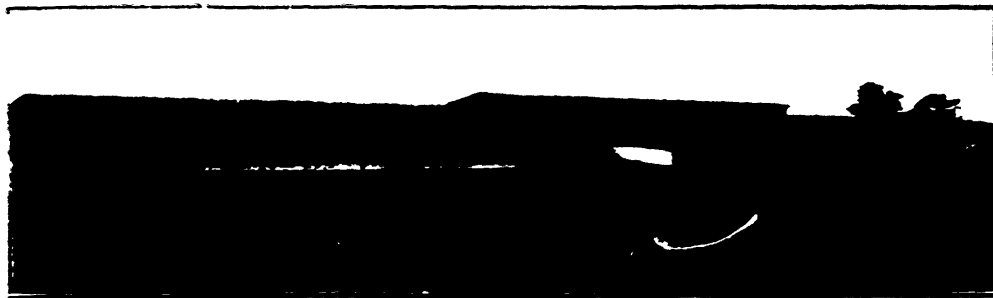


Gathering the Cherry Crop at the Helderleigh Fruit Farm.

Baskets are here shown securing the cherry crop, from some trees of the Napoleon variety on the home farm of Mr. F. D. Smith at Winoona, described in this issue. The orchard contains about 150 trees, some of which this year yielded ten baskets of cherries, although others of the trees produced very little fruit. The trees averaged about four baskets.

seryman. The rapid increase in business during the last few years is the best evidence of the honesty of this firm in this and other respects.

An endeavor is always made to supply varieties true to name. If none of the varieties wanted are left in stock when an order is received supplies are secured from other reliable nurseries. "Mistakes," said Mr. Kimmins, "are never made willfully, but if, by any chance, they should occur on"



A Partial View of the Tree Cellars at the Helderleigh Nurseries.

To avoid delay in the shipping of nursery stock the Helderleigh Nurseries at Winona have erected a tree cellar capable of storing 250,000 trees. The building is here shown as photographed during July by an editorial representative of *The Horticulturist*. The nursery stock, consisting of a general assortment, is stored in the stone buildings at each end, and is packed in the centre division, one of the doors of which, through which the teams drive, is open.

stock is sent out untrue to name, it is replaced free of charge or the money is refunded."

When it is remembered that there are 200 acres in nursery stock, and that the small trees are placed very close together in rows three or four feet apart, some idea of the extent of these nurseries can be formed. Again, remembering that in all this plantation there is scarcely a weed to be found, the cost of cultivation alone, it will be seen, amounts to no low figure. The aim is to get strong, thrifty stock, and that can be secured only by intense cultivation. A large force of cultivators is kept going all through the summer to conserve soil moisture and keep down the weeds, so that the young trees may obtain all the plant food possible.

Owing to the rapidly increasing number of orders and to Mr. Smith's anxiety to supply only the best stock to his customers and in first-class condition, two large frost-proof cellars have been built for winter storage. Each of these is 100 x 108 feet, and between them is a covered shed for packing the stock and preparing it for shipment. A good idea of the rapid growth in sales can be gained from the fact that in 1898 a winter storage building 40 x 80 feet was all that was used. Some two years ago a second large cellar had to be constructed.

The young trees are placed in these store-houses in the fall and the roots well packed

in mellow soil. The numerous varieties of the different kinds of trees are carefully placed in alphabetical order, and roped so as to guard against mistakes. As soon as spring opens and frosts are over packing commences. In this large covered shed packing can go on under any weather conditions, which is a great advantage in a season such as the spring of 1904. This building also ensures proper packing, a very essential point. To guard against the spread of the San Jose and other scale insects all stock purchased is fumigated for 45 minutes before being packed. This is done under the supervision of the government inspector.

A commendable feature of Mr. Smith's management is the fact that he employs the same men at the same work year after year once they have proved themselves capable. Some workmen have been in his employ since the inception of the nursery in 1882, and many have now built houses and made comfortable homes for themselves and their families in the neighborhood.

With a nursery such as this, employing 125 men in the busy season and over 80 during the summer months, Mr. Smith is doing a mighty share to build up the fruit industry of Canada and encourage home production. Visitors are always welcome at the Helderleigh Nurseries, of which only a slight conception can be gained from this description.

APPLE BARRELS WILL PROBABLY BE PLENTIFUL

THERE is not likely to be a shortage of apple barrels this fall. Coopers have apparently been able to make better arrangements than they did last year and to lay in larger supplies. In a number of sections the apple crop will not be as heavy as it was last year, which will also have an effect on the supply of barrels.

While it is not likely the exorbitant prices will be asked this season that were in many instances late last fall, the general price will probably be fully as high if not a little higher. This is indicated by reports that have been received by *The Horticulturist* from many sections of the province.

The Sutherland, Innes Co., of Chatham, the largest dealers in cooperage stock in the province, believe that the coopers will be able to supply the demand for apple barrels this fall in good shape, as they have secured their stock early, and in most cases bought a very high grade.

"It seems to be the general opinion of the apple shippers," writes Mr. Fleming, the secretary-treasurer of the company, "that a really first-class barrel is required, consequently the coopers are buying mill run and number one staves almost entirely, instead of number twos, as in former years, the latter having been used almost exclusively up to the last year or two. We do not expect that the price of apple barrels will be as high as last year, in fact, we know of contracts which have already been taken at 45 and 50 cents for apple barrels, which is very reasonable, considering the class of barrel which is being put up. We believe that the average price for apple barrels this year will be about 50 cents in Canada and about the same in the United States."

AVERAGE PRICE 45 CENTS.

A large dealer in the vicinity of Trenton, Mr. W. H. Matthews, reports as follows: "I do not think the shortage of barrels will be as great this year as last. I cut my own stock, and will have twice as much as last

season, so will be prepared to furnish all the barrels that may be required in this section. The price will be 45 to 50 cents each, but 45 cents will probably be the ruling figure."

WHAT THE GROWERS SAY.

Many growers have already ordered their supplies. Among the growers heard from are the following:

I have ordered 800 barrels for my stock this year, paying about 45 cents each for them. I have never used boxes, but believe they would be more satisfactory and cheaper.—(W. H. Walter, Brighton, Ont.)

I will pack all my apples in 30-inch barrels and have secured my supply for the coming season. The cost for barrels will likely run over 40 cents each, as cooperage stock is going to be scarce, judging by the price the larger mills are quoting. The cost will be 37 cents per barrel, not counting the cost of making.—(Wm. Keideman, Shakespeare, Ont.)

I prefer barrels, as heretofore they have been less expensive than boxes, easier to handle in gathering the fruit, and much easier to pack. I fear packing material is going to be very expensive.—(R. L. Scott, Port Hope, Ont.)

ARE COSTING MORE.

Barrels are costing 10 cents each more this year than they were at this time last year. I cannot say whether the demand for barrels is likely to exceed the supply or not. There is plenty of stock to be had, but I understand the manufacturers have not been able to get their stock out fast on account of so much wet weather.—(W. M. Ellis, Whitby, Ont.)

I have placed an order for about 1,000 barrels at 40 cents each, delivered in the orchard. Last season the price per barrel ranged from 35 cents to 70 cents. I do not anticipate the same difficulty securing barrels this season as last.—(W. J. Page-Bowmanville, Ont.)

THE CANADIAN HORTICULTURIST LEADS THEM ALL

THERE is more live reading matter in each issue of *The Canadian Horticulturist* than in any of the following three leading national fruit papers published in the United States. The papers included are *The Fruit Grower*, published in Missouri; *The National Fruit Grower*, published in Michigan, and *American Fruits*, published in New York. No comparison has been made with *Green's Fruit Grower*, published in New York, owing to the fact that this magazine treats a number of other subjects besides fruit. As far as purely fruit subjects are concerned more space is given them in *The Horticulturist* than in *Green's Fruit Grower*.

These magazines, like *The Horticulturist*, are all monthlies. Their pages are larger than those of *The Horticulturist* but, with the exception of *The National Fruit Grower*, they have not half as many pages. All these papers carry more advertisements than *The Horticulturist*, some of them much more. Up to May of this year *The Horticulturist* made no particular effort to secure advertisements.

Among the other improvements that have been made lately in *The Horticulturist*, more attention is being given the advertising department. An energetic advertising

manager has been engaged, who during the past couple of months has visited and introduced *The Horticulturist* to leading advertisers in various parts of the provinces of Ontario and Quebec. Before long our readers, we hope, will find our advertising pages compare as favorably with those of the United States fruit publications as our reading pages do now. As regards the standing of our contributors and the up-to-dateness of our news, we challenge comparison. Look over the names of the contributors in this issue.

In the past we people in Canada have done too little in the line of talking about our resources. This information is given to show that *The Horticulturist* is striking out to become not only the best Horticultural paper in Canada, which it is now, but one of, if not the best on the continent. If our Canadian fruit and flower growers and advertisers will help we can do it.

The following table shows how *The Horticulturist* stands as regards the number of its pages and the inches of space devoted to reading matter and illustrations as compared with the United States fruit papers mentioned. Below the table are given a few of many flattering remarks made, during the past few months, concerning the improvements in *The Horticulturist*.

A COMPARISON OF THE JUNE, 1904, ISSUES

NAME OF PAPER.	NUMBER OF PAGES.	INCHES OF READING MATTER	INCHES OF ILLUSTRATIONS.
<i>The Canadian Horticulturist</i>	52	612	40
<i>The Fruit Grower</i>	20	603	00
<i>National Fruit Grower</i>	30	460	79
<i>American Fruits</i>	20	335	19

There is an improvement in *The Horticulturist* in both the make-up and the attention paid to floriculture.—(W. J. Diamond, Belleville, Ont.)

The Horticulturist has improved greatly during the past few months. I hear many favorable remarks concerning it.—(Edward Tyrrell, President Toronto Hort. Society.)

The Canadian Horticulturist improves continually, the last number being the best.—(O. F. Wilkins, Bridgeburg, Ont.

The Canadian Horticulturist has greatly improved lately.—(A. W. Walker, Clarksburg, Ont.

I took The Horticulturist for 15 or 20 years, but have not taken it lately. Shall renew again soon as the paper commences to talk about fruit as well as flowers.—(Stanley Spillett, Simcoe Co., Ont.

The June number of The Canadian Horticulturist was head and shoulders above any of its predecessors, it being practical in every respect, and I wish the magazine con-

tinued success along this line.—(J. D. Fraser, Leamington, Ont.

I consider the May issue of The Horticulturist a decided improvement on the earlier issues, as it deals more fully with horticultural and floral matters. The earlier volumes were principally devoted to fruit growing.—(R. W. Lloyd, Sec'y Deseronto Hort'l Society.

We have been constant readers of The Horticulturist for several years, and are much pleased with its recent development, as it is in keeping with the growth of the horticultural interests of the country of which it is a fitting representative.—(Biggs & Son, Burlington, Ont.

OUR FRUIT EXHIBITS AT ST. LOUIS

T. H. RACE, OF THE CANADIAN COMMISSIONER'S STAFF.

CANADA continues to attract her full share of attention at the World's Fair, and the compliments she is receiving from the discriminating fair visitors are oftentimes as amusing as they are gratifying.

We would be ungrateful creatures indeed if we did not appreciate the great favor of being able to grow a few fruits in our great northern snow-bound country. For this reason the average American does not think it anything but natural that we should feel a little pride in our fruit, and he is generous enough to admit that we really have something to feel proud of. But it hurts him, just a little bit, to have to admit that Canada comes next to the great state of California in the extent and quality of her fruit display.

Oranges are lovely things to look at and luscious things to eat, but when it comes to real value as a household commodity there is nothing that will stand comparison with the Canadian apple. And Canada still ranks first in the great palace of horticulture at the World's fair of 1904 in the quality

and variety of her apples. We have yet to meet the Canadian down here who is not proud of his country in comparison, even with California. We have yet to meet the American who is not either mildly or extravagantly surprised at it.

Since my last letter to The Horticulturist we have had a banquet in the palace of horticulture, to which many press representatives and various notables, more or less distinguished, were invited. Representing Canada, I contributed my share to the necessary expenditure, and naturally expected that the invited guests and other visitors would be taken round by the committee in charge to see the exhibits. But nothing of the kind. The occasion turned out a pure contest of oratory, and what the English would call state brag—each state against all the rest. When Canada was called upon I indulged in no blowing. I felt strong in my position that the occasion required none. I merely pointed over to the foreign quarter, close by, and assured the assemblage that there was a collection of fruit over there

representing the capabilities of my sunny land that would talk for itself. But they did not go over either to see it or hear it talk. Maybe they were satisfied with what they heard from me, as I must have shown that I felt satisfied with the strength of my position.

Our apple supply is keeping up well, and is coming out of cold storage in pretty good condition. The Northern Spy, McIntosh Red and Fameuse and Golden Russet continue to attract attention. The Baxter and Red Cheek Pippin are also much admired. In fresh fruits we have scarcely kept pace with other exhibitors, whose sources of supply were nearer at hand. What fresh fruit we have been able to put out has been quite equal in quality to any shown. The first case of strawberries that reached us from the experimental station at Ottawa was not in good condition on arrival here. The Baback was quite unfit to put out. Grenville fairly good condition. Maximum a little better. New York and Wm. Belt fair, and Buster best of all. The day following a case of Wm. Belt arrived from Lachine, grown by C. P. Newman, which reached us in fine condition and proved, as long as they lasted, the largest berries in the pavilion. About the same time shipments began to

reach us from St. Catharines. The first lot of strawberries were in poor condition, and only a few were fit to show. The cotton in which they were packed had worked into them, and was difficult to separate from even the best preserved. Those that came later, picked a trifle greener with a thin sheet of paper between the fruit and the cotton, were in much better condition. This packing feature was as true with regard to cherries as to strawberries, the sheet of paper proving an advantage in both cases. All the cherries from St. Catharines, with one exception, came to hand in fair condition, the only exception being one of the early lots in which the cotton had adhered to the fruit, and the cases were quite warm when received. The gooseberries that came to hand from St. Catharines were in fine condition, the Whitesmith proving the largest sample of that variety in the building.

Will you permit me to say that this is the last communication that I will be able to address to Horticulturist readers from the World's Fair, illness at home having necessitated my sudden leaving. The horticultural exhibit will for the balance of the season be in charge of Mr. Henry Knowlton, of the province of Quebec.

PREPARING FRUIT FOR FOREIGN EXHIBITIONS

ROBT. HAMILTON, CHIEF, FOREIGN EXHIBITS OF FRUIT.

In preparing fruit to be sent to St. Louis, or for any of the Dominion Government's foreign exhibits, it is imperative that it be of really fine quality in every respect. For such fruit this department will furnish all necessary boxes and packing material, with free carriage to the several exhibitions. Printed directions will be given for the intending exhibitor's guidance. Each exhibit must bear the name and full address of the grower, so that he may receive full

credit for the production of his orchard or garden.

The case used is that known as the Wilson Patent. Small fruits and plums will be shipped in a case containing 12 trays, which hold six or eight specimens each. Each individual fruit must be double wrapped in tissue paper and carefully placed in its compartment, having been previously cooled by being placed in an airy position or cool room for a few hours. For peaches

and plums, as well as for all soft fruits, the cases must be ventilated.

Each case must bear the name of the grower, with the names of the varieties of fruit in it—a case may have more than one variety if necessary.

For the English exhibitions, which open September 1, five samples of all our earliest apples and pears are required. Early apples and pears are also desired for St. Louis, and for bottling for the great Belgian exhibition which will be held next year.

The selection of specimens of fruit for exhibition purposes cannot be done too carefully. Only perfect specimens, typical of the variety, should be selected—not necessarily very large. The greatest care is required to see that no fruit is packed for exhibit bearing any defects due to disease or the presence of insects. Apple scab, blotches, unevenness, indentations, or marks made by branches rubbing the apples, worm holes, etc., even the absence of the stalk constitutes a blemish to be avoided.

The proper handling of fruits for exhibition is important, especially as the slightest bruise interferes with their preservation in cold storage. Apples ripen rapidly after being gathered. Only the shortest possible time, therefore, should elapse between the picking and the placing in cold storage. For the best results, the fruit should be ripe but not what is termed "dead ripe." Tests made in cold storage show that fruit that has not been fully grown is easily damaged by scald and some kinds are liable to shrivel.

The influence of paper wrappers on the keeping qualities of apples has been fully proven. Double wrap every specimen in tissue and manilla paper. Each package should be plainly marked on the outside with the name and address of the grower, and the name of the fruit it contains. This is very important to enable those in charge of the exhibit to determine what the package contains without opening it. The apples should be packed firmly in the package with a light layer of excelsior at the bot-



The New Chief of the Fruit Division.

The promotion of Mr. Alex. McNeill, senior fruit inspector and vice-president of the Ontario Fruit Growers' Association, to the position of chief of the fruit division of the Dominion Department of Agriculture, to fill the vacancy caused by the appointment to another office of the former chief, Mr. A. W. MacKinnon, appears to have given general satisfaction. Widely known throughout Canada as an institute speaker, and being generally popular, Mr. McNeill, who has a thorough grasp of the fruit situation in Canada, should fill this important office with credit to himself and the industry he represents. The retiring chief, Mr. MacKinnon, has been a most energetic and capable official and the loss of his services to the fruit interests of Canada will be a no inconsiderable one. The new chief, Mr. Alex. McNeill, was born on a fruit farm in Middlesex county and spent several years of his life there. He spent one year on one of the largest and best fruit farms in Central Ontario, on which he first developed a fondness for the fruit business. When a young man he held the position of science master at the Windsor Collegiate for 12 years, but finally bought a fruit farm of 50 acres and planted it all in fruit. After leaving the college he moved onto this farm, and was on it until three years ago, when he was appointed on the staff of the Fruit Division at its organization in 1901.

tom and top to prevent bruises.

It is expected that fruit growers in the several provinces will aid the Department of Agriculture to make the fruit exhibit from Canada a complete success in every particular. It is needless to say that success will depend on the hearty cooperation of every one who grows any kind of fruit. Concerted and strenuous effort will be necessary on our part if Canada is to maintain the position she claims of producing the finest apples, etc., in the world. Boxes, wrapping paper and cardboard divisions will be supplied to contributors free of charge on application.

POINTERS ON THE PACKING OF FRUIT

ALEX. C. BRIGGS, BURLINGTON, ONT.

NOW the season is approaching for the packing of apples for the export trade, a sketch of the plan I have adopted and which seems to have been successful both here and in the European markets may be of interest.

The idea of a uniform packing case is a good one. The case should be 10 x 11 x 20 inches, inside measure, and it would be well if all growers could adopt it, but in some cases our markets prefer the 40 pound case, so we are obliged to give them what they want. The present ordinary case, as now made, is anything but an ideal box, as it has many serious objections. I handled many thousands of these cases last season, and it was a constant source of loss and annoyance, as unless the ends were reinforced there were many breakages even before the boxes were sent on their long journey. A stronger box is needed in order that our fruit may arrive at its destination in good condition. There are other serious objections to this case, including the fact that there is no protection for the bulging portion. It has, however, its good points, and we must make the most of them until we get something better.

THE PACKING.

All exporters of apples in cases well know there is a decided objection to the use of much packing material of any kind, and more especially excelsior, unless it is kept entirely clear of the apples. With the object in view, therefore, of filling the box with apples, I have discarded the packing material on the face of the box, and have substituted a piece of pulp board, about the size of the inside of the box. On this pulp board our name and residence is given. This affords a grand opportunity for original advertising, which could be made good use of by any person so inclined. Fancy shelving paper is placed on the pulp board.

Some who read this will perhaps think it expensive and foolish to go to the trouble of putting all this fancy work on such common fruit as apples, and they may claim the apples will not taste any better, all of which may be perfectly true. At the same time, it is a well known fact that apples are not so common in Europe as some people suppose, and that fruit (no matter how good it may be) put up in a careless way, will not compete in the market along with the fruit put up in a neat, attractive and clean manner. The man who is alive to his own interest, and also to the interest of this "Lady of the Sun," as well as "Lady of the Snows," will not be so penny wise as to refrain from making his fruit packages as clean, neat and tasty as possible.

THE NEXT STEP.

After the fancy shelving paper is placed in the stems are clipped off and the apples are faced in two sizes as near $2\frac{1}{2}$ and $2\frac{3}{4}$ inches as possible. They are placed in separate boxes, which are marked with a stamp, "Minn size," $2\frac{1}{2}$ inches or $2\frac{3}{4}$ inches as the size may be. The case is then filled as closely as possible. If the apples are of a tender variety and first class, care is taken to see every apple is wrapped, excepting those on the face, as it pays well to do so. The apples arrive in better condition and sell for many times more than it costs to wrap them.

Many growers claim it is utterly impossible to do this work at such a busy season. With many no doubt it is. Here is where we see the necessity for a storage and a packing house with expert packers and new methods that will do the work and give the buyers and consumers that uniformity and right packing which they are willing to pay for, and to the grower and packer the right returns which they are entitled to. If growers under present conditions cannot

afford the time to wrap tender varieties perhaps they can store them until the bulk of the fall work is over or even until winter, which is the most suitable time from a work point of view. Growers should not fail to

place a piece of paper the same size as the inside of the box, between the apples and excelsior, as by that means the apples will be kept clean and look much better when placed on the market.

APPLE GROWING IN NOVA SCOTIA

A. M'NEIL, CHIEF, FRUIT DIVISION.

THE conditions under which apples are grown in Nova Scotia are somewhat different to those which prevail in the apple districts of Ontario. On the whole it must be confessed that the growers in Nova Scotia receive higher prices than the Ontario growers, and this is encouraging very large plantings in favorable localities.

The bulk of the fruit is grown in the Cornwallis and Annapolis Valleys, with some excellent smaller sections in the valley of the Gaspereaux and in Lunenburg county. The most marked characteristic is the growing of apples to the exclusion of almost all other crops, and hence the resort to artificial fertilizers. The extent to which these are used would seem most extravagant to Ontario farmers. At some of the small railway stations in the Annapolis Valley individual agents report sales to the extent of \$10,000, \$12,000 and \$15,000. I cannot help thinking it a source of danger that the live stock industry is so largely neglected. Clean culture in the orchards prevails, and spraying is more common than in Ontario.

I noted recently, while in Nova Scotia, that in the new plantings winter varieties prevailed almost exclusively. The Baldwin is not a favorite; the Golden Russet, Nonpareil, King, Spy and Blenheim are largely planted. The Stark and Ben Davis have many friends. Among the difficulties must be mentioned the collar rot and canker, diseases more prevalent in the Annapolis valley than in any other section in Canada that I have visited. The ordinary

black knot, apparently, is allowed to develop without let or hindrance, to the great detriment of the plum and cherry industry.

THE TREES ARE VIGOROUS.

The Ontario apple grower might well envy the vigor of the Nova Scotian trees, due in part to the moist climate, but more to the excellent care the trees receive with regard to culture and pruning. High-headed trees are universal; and the Nova Scotian knows no special orchard tool. A number of the orchardists work close to the trees with oxen, but the fact that they require a driver and are very slow bars them out from work for which they are otherwise well suited. Close planting is frequently practiced. Mr. Ralph Eaton, a most progressive and successful fruit grower, has as many as 320 trees to the acre. Though Mr. Eaton has made a success of this method I feel sure he would have done still better with the same number of trees on a larger acreage.

It is the custom of apple growers in Nova Scotia to pack their own fruit, and it works much more satisfactorily than the Ontario system of having the apples packed by the buyer. At nearly every station some enterprising English firm has erected a storehouse, so that the orchardist always has a convenient place to store his fruit, but of course he is limited to the market offered by this firm. The subject of cooperation is receiving considerable attention in the valley, but as yet there are no active societies in operation.

SMALL FRUIT GROWING ON A LARGE SCALE

ONE of, if not the largest small fruit growers in the province is Mr. A. Railton, of Fonthill, whose place was visited recently by an editorial representative of *The Horticulturist*. On Mr. Railton's farm there are 30 acres of raspberries alone, and he grows most of the other varieties of berries on about an equal scale. The soil which has given him the best results is of a sandy, gravelly nature. The value of thorough fertilization is fully realized by Mr. Railton, who uses from 15 to 20 tons of barnyard manure every third year on his berry patches.

"I would," said Mr. Railton, "apply fertilizer more frequently were I able to obtain it." As it is, I keep about 80 head of beef cattle through the winter simply that I may obtain their manure. Seldom do I make any profit from these cattle. Some years I am able to realize a little money in the spring from the cattle, but often I am not. On the whole I only come out about even through handling this stock, and would run behind were it not for the manure I get from them.

"Altogether I have 125 acres of fruits. This year I lost 27 to 28 acres of strawberries owing to the severe winter just passed, or I would have had a total of 70 acres in berries alone. Had the strawberry crop

proved all right I would have had to employ about 200 pickers this season, but as it is I have only about 80 engaged.

"My pickers are mostly women, boys and girls, a number of whom live 20 miles away from my place. For their convenience I have a house 100 feet long in which some 20 to 40 pickers live from the middle of June to the middle of August. They start with the strawberries and end with the picking of blackberries.

"Pickers are allowed one cent for each box of strawberries and blackberries, and one and a half cents for raspberries. Most of them make 50 cents to \$2 a day, although some girls make as high as \$3 a day picking blackberries. It is nothing uncommon to have pickers make \$2 a day for picking strawberries and raspberries.

"My raspberry bushes are set three feet apart, with eight feet between the rows. The rows of blackberries are nine feet apart, with three feet between the bushes. I prefer these distances, for they are convenient when we are cultivating the land. It is possible to use a disc harrow between the rows. I prune three times during the year. The old wood is taken off in the fall after the fruiting is over: the young canes are clipped back in the summer and are shortened in the spring."



Picking Raspberries on a Fruit Farm in the Niagara District.

Raspberry pickers at work on the fruit farm of Mr. A. Railton, of Fonthill, are here shown. As stated in the article on this page, Mr. Railton, who sells the bulk of his berries to the canning factory, finds it necessary to keep a large gang of pickers at work the greater part of the summer. They are paid according to the amount of berries they pick.

Good Varieties of Berries

AN editorial representative of The Horticulturist who, during July, visited the fruit garden of Mr. D. M. Lee, of Paris, had an interesting talk with him concerning his methods of growing small fruits. "I raise only one variety of raspberries, the Cuthbert," said Mr. Lee. "I have tried the Marlboro, Shaffer's Colossal, and Brandywine, and discarded all. The Marlboro needs too much petting and manuring, and even then the results are often poor.

"My berry bushes are planted in continuous rows almost eight feet apart. The best varieties of black raspberries with me are Craig and Mammoth Cluster. I plant them in the same way as the red and support the canes by two strands of wire about two feet or more from the ground on either side of the row.

VARIETIES OF STRAWBERRIES.

"The best paying varieties of strawberries are Climax, Clyde and Williams. The Climax has been exceptionally good this year, and is a good seller. However, it is slightly soft for shipping. The Clyde is a good all-round berry and solid enough for shipping. The Crescent was the best berry with us for years, but seems to be running out."

"If the weeds get a start I plow up the patch at the end of the first season, but if the patch can be kept moderately clean I take two crops. On a two-year-old patch the berries ripen earlier, but the fruit is smaller and poorer in quality.

"Raspberries on my two-year-old bushes are as good as I ever saw them, but in a four-year-old patch the bushes were badly winter-killed and the result is a very light crop. It seems that the severe winter was much harder on old than on young plantations."

You should receive The Horticulturist promptly on or about the first of every month. Do you? If you don't, let us know.

The Raspberry Cane Borer

PROF. W. LOCHHEAD, ONT. AGRIC. COLLEGE,
GUELPH.

What is the trouble with my red raspberries? The young shoots are withering and drooping. Have the two rows of punctures on the stem anything to do with the wilting? For three years I have lost many of the plants, and this year the loss will be greater than usual.—(S. W. F.)

The cause of the wilting of the canes is a long-horned slender beetle about half an inch in length, of a black color, except a yellow ring behind the head. The eggs are deposited in June in little holes between the two rows of punctures you observed. It is supposed that the beetle makes these two rows of punctures to prevent the crushing of the egg. The grub, on hatching from the egg, bores downward in the pith of the cane, reaching the crown of the root by fall.

To control this borer prompt action is necessary. As soon as the canes are seen to wilt, the wilted portion should be cut off below the rows of punctures. In doing this the grub is killed before he has done much harm. If the whole cane shows signs of dying it would be well to cut out the infested canes and burn them. Do not postpone the cutting and burning too long, for by fall the grubs will be in the root and beyond reach.

I Have 60 Varieties of Grapes, and the leading commercial sorts are Worden and Concord in the blacks; Delaware and Lindley in the reds; and Niagara and Moore's Diamond in the whites. The Worden is my best money maker, and is the hardiest. It should thrive as far north as any grape grown. It is large and productive, with a handsome bunch of dark purple fruit. Some growers complain that it is too thin skinned to ship well, but I find it reaches our Canadian markets in good shape. The Concord, of course, is a good standard grape —(A. W. Peart, Burlington, Ont.)

HOW THE BRIGHTON GRAPE WAS SECURED

FRANCIS WAYLAND GLEN, BROOKLYN, N. Y.

THE article in the June issue of *The Horticulturist* by Mr. W. T. Macoun, entitled "The Individuality of Fruits," opens a most important and interesting line of experimenting and careful observation.

An interesting experiment regarding the individuality of the grape was once brought to my notice. It was conducted at Oshawa, Ont., by Mr. Isaac Moore, the originator of the Brighton grape, who selected the finest cluster of grapes on a vine of the Rose Chassellas, before the blossoms began to open.

The grapes were covered with a very fine thin muslin so that no bees or insects with pollen on their legs could get to the blossom when they opened, and to also protect them from any pollen which might be floating in the air. The best cluster on a strong plant of Concord was also treated in the same manner out of doors. When the pollen was ripe the cluster from the Concord was cut off and carried to theinery. The muslin from both clusters was opened and the pollen from the Concord shook over the Rose Chassellas and at once covered again with the muslin. This remained covered until the berries were formed.

The experimenter was then sure that he had a cross of the Concord and Rose Chassellas and no other mixture. From the seed of that cluster he obtained the Brighton. The mother or female was the Rose Chassellas; the Concord contributed only the pollen. The Rose Chassellas produced the seed in the fruit. From the father (the

Concord) the Brighton inherited its strong, hardy, vigorous leaves and branches, free from mildew when grown out of doors. From the mother, or female, its rose color and delicious flavor were taken. The history of the origin of the Brighton grape shows what can be done by crossing different varieties of fruits and how to do it in a way that will aid others who have the time, patience and inclination to cooperate with Nature in the improvement of fruits and flowers.

The average fruit grower does not appreciate the full meaning of the fact that plants, like animals, are male and female, and also that plants have many of the traits and characteristics of animals. Plants are lazy like some men. They will send out roots a long way for food if they must. Three years ago a tall plant in my garden was blown over by the wind. The roots were all on one side. I examined the earth about it and found that three feet from it on one side was a quantity of manure from the stable and all of its roots were going for that manure. Those on the opposite side had curved round and were making for that pool, because it was near at hand.

Have plants the sense of smell? I will give some facts that have come under my personal observation that bear on this problem in a future issue. I cannot close without commending the paper of Mr. Macoun. He has opened up a field for a very interesting discussion which cannot fail to lead to beneficial results.

Between the great amount of rain and the consequent wetness of the soil, and the scarcity and exceedingly high price of labor, fruit growers this season will necessarily have to give less cultivation to fruit plantations and vineyards.—(A. W. Peart, Burlington, Ont.)

The grounds around school houses should be made to speak out in a language intelligible to all. We should associate as many attractive things around them as can be brought together. Flowers and plants are most pleasing additions to the house as well as to the grounds.—(P. G. Keyes, Ottawa.)

CANNING FRUITS*

MISS MAY SMELLIE, BLUEVALE, ONT.

FRUITS for canning or preserving should be carefully selected and all that are imperfect or tainted removed. They are in the best condition when not too ripe, and should be canned immediately after picking, especially the small fruits. The strawberry is an exception, which is much improved both in color and firmness if allowed to remain in a dry cool cellar for 12 hours after picking, leaving the berries on the stem.

Fruits canned in glass jars should be kept in a darkened room or cupboard, as the chemical action of the light will effect the quality and color even though perfectly sealed. The glass sealers should be carefully examined before using to see that the lips or lids are not chipped or cracked. The rubber rings should be renewed each season, as neglect of one or of all of these things has been accountable for many a jar of spoiled fruit. Use only the best quality of sugar for canning or preserving. Much time will be saved during the canning season if the dry sugar is placed in the oven and thoroughly heated before using.

TWO GOOD METHODS.

Here are two preparations of syrups which have given excellent results in the canning of small fruits, such as strawberries, raspberries, red and white currants and cherries. Take one cup of sugar to every

two cups of water; boil gently for three minutes and skim. If a stronger syrup be desired, take one and a half cups of sugar to every two cups of water, and prepare in the above manner.

Fill the sealers (which have been previously heated) with the raw fruit, put on the glass top, and place in the oven, letting them remain there until the juice starts



Picking Gooseberries at the Helderleigh Nurseries.

The gooseberry crop on the fruit farm at Winona of Mr. E. D. Smith, M.P., which is described in this issue, would be considered a large one on many farms, but is an unimportant one with Mr. Smith. This photograph was taken by one of the editors of *The Horticulturist* during July.

Then remove them and pour on the boiling syrup and seal. Raspberries may be put in the hot sealer and the boiling syrup poured on and sealed without putting in the oven. Cherries, raspberries or other fruits intended for the winter pie making, retain more of the natural flavor if canned without sugar. Put the fruit in a stew kettle and let it come to a boil, then bottle and seal.

These fruits are also prepared in another way. Fill the sealers with the raw fruit, screwing on the glass tops without the rub-

* From a paper read at a women's institute meeting.

ber rings and place in a wash boiler. Fill the boiler with cold water up to the necks of the sealers, and when the water comes to the boiling point remove the fruit and pour on the boiling syrup and seal.

Red or white currant marmalade is made by crushing the raw fruit, which should be dead ripe, to a pumpace. Put equal parts of the crushed fruit and sugar into a wide mouthed crock, stir thoroughly every day for a week. At the end of that time the juice will be found to be a thick jelly. Bottle and keep in a dry cool place.

To make red or white currant jelly, put the fruit into a preserving kettle and scald, then cool and strain. Boil down the juice to half its quantity, and to every pint of juice add one pound of sugar. Boil briskly for 20 minutes and put into glass jelly moulds.

BLACK CURRANT JAM.

Wash the fruit thoroughly, as it prevents it from becoming tough or leathery when

cooking. Boil for eight or ten minutes and then add one pound of sugar for every pound of fruit, boil 10 minutes longer, bottle and seal. The addition of raspberry juice improves the flavor of the jam very much.

For gooseberry jam the fruit must not be altogether ripe. Pick and put into a wide mouthed jar or preserving kettle. Cover the fruit with boiling water, and let it stand until cool. Drain off the water, which will be found to contain a great deal of the strong acid which makes this fruit so unpalatable to many people. Add one pound of sugar to every pound of fruit. Boil 20 to 30 minutes, then bottle and seal.

To make spiced gooseberries use one-half pound of brown sugar for every pound of fruit, and nearly cover with water. Add vinegar to make it quite tart and put in cloves and cinnamon to suit the taste. Let it come to a boil and then simmer on the back of the stove for ten minutes.

ROSES SUITABLE FOR CANADIAN GARDENS

*W. G. BLACK, OTTAWA, ONT.

IT is some years since I first imported and planted roses. They grew and bloomed, friends came to admire. Then I planted more, and hunger and appetite came with eating, and the more roses the more beauty and bloom, until I was not satisfied with the admiration of friends; the public must gaze. I took down the wooden fence surrounding my garden and erected a low wire one instead, so visitors who love roses might see the flowers.

I think those of you who have seen the garden will concede that I have been fairly successful in growing the choicest of this "Queen of Flowers" as easily as almost any other plant can be grown. I am often asked what is my favorite rose? And the reply

is, I don't know. The reality is this—it is impossible to love one rose, and not love them all, and I think all true gardeners will see something to admire in every flower that grows. The general impression has been that it is very difficult, if not impossible, to grow garden roses in this country. As a Scotchman poetically soliloquised, looking at some plants sent him from his "Ain Coutrie,"

"And wull ye bloom us sae fair,
Ye roses plucked from Eastern bowers:
Can ye withstand the Northern air,
Those bleak, long, wintry frosts of ours?"

Well, I submit this enquiry can now be answered in the affirmative, but don't imagine you can cultivate a pretty garden of roses, or for that matter a pretty garden

* Extract from an address delivered before the Ottawa Horticultural Society.

of anything else, without giving it much careful attention.

MANY DIFFERENT VARIETIES.

The varieties of roses are innumerable, and are remarkable for the extent to which they differ in habit, foliage and flowers. Present day garden roses are so unlike what may fairly be assumed to be Nature's roses, that it is difficult, if not impossible, to tell from what variety they have descended. Out of the 50 odd varieties, the group of hybrid perpetuals for some years past has supplanted all others, as most of them are hardy and give beautiful bloom. I suppose 80 to 90 per cent. of all the roses shown at exhibitions belong to this class, including Paul Neyron, Her Majesty, Earl of Dufferin, Mrs. John Laing, General Jack, Etienne Levet, Charles Lefebvre, etc.

Within the last three or four years a new class has been making rapid claims for popularity, and it is the Hybrid Tea, the great merit of which is that it blooms profusely nearly all the summer months. It is only necessary to keep them growing, to keep them blooming, for every eye or leaf bud that pushes into a branch produces a flower or flowers. In speaking of this, Mr. Dickson, of Belfast, Ireland, says "The Hybrid Tea is a class rapidly coming to the front, and in fact bids fair in a few years to outrival all others. This group is a creation of recent years, and has been derived by crossing the Hybrids with the Tea scented, the result being a class of very free flowering, with fine glossy foliage, and long pointed buds."

I have found them fairly hardy, having grown them in my garden for the past four years. This class comprises Lafrance,

Caroline Testout, Mrs. W. J. Grant, Killarney, White Lady, and many others. There is at least one rose of the polyanth class that every person in Ottawa who grows roses ought to have, which is the Crimson Rambler. It was estimated last year that one of my bushes carried between 12,000 and 15,000 roses when in full bloom.

To my mind about the best dozen hybrid perpetual roses for our Canadian gardens are the following: Captain Hayward, Countess of Roseberry, Clio, A. K. Williams, Duke of Edinburgh, Baroness Rothschild, Etienne Levet, General Jacqueminot, Madame Gabriel Luizet, Earl of Dufferin, Mrs. John Laing, Mrs. R. G. Sharman Crawford. For a perfect silver pink rose Mrs. Laing stands head of the list, just the same as Lafrance stands head and shoulders over all others in the Hybrid Tea class.

Just here let me give other amateurs who may not have had quite as much experience a little advice. Be careful about discarding old favorites to make place for the sensational, new high priced swaggering novelties which have their glories trumpeted in all the floral catalogues. Very fashionable people are always chasing after something fresh, they must have the very latest, and the nurserymen get rid of their new novelties at \$1 to \$3 each, and many of them will be very disappointing.

Therefore, hang on to the old rose bush with good constitution, whose blooms have, say, four essential qualities, color, form, a good bloomer in autumn, and last but not least, fragrance. Form may take the place in points of merit, but all roses should be sweet; we cannot disassociate fragrance and the rose.

The exhibit of plants and flowers at the Dominion exhibition at Winnipeg will be judged by Wm. Hunt, of the Ontario Agricultural College, Guelph, who left on July 22 to be present.

If farmers would keep half the number of cows they do, and put the extra time and cost in the cultivation of fruit, I am satisfied they would be acting wisely and that they would gain financially.—(Chas. Hay, Ontario.)

HARDY CLIMBING PLANTS FOR ORNAMENT AND USE

J. M. P. ROSS, TORONTO, ONT.

HARDY climbing plants may be properly divided into two classes, the hard wooded or shrubby climbers, and the hardy herbaceous climbers. The whole family of climbing plants are a delightful class to admire, and seemingly possess, apart from other plants, a sort of thinking sensitiveness. As you watch their tendrils swaying in the breeze seeking for something to cling to, and after observing the proper thing which they have seized to twine about, it would almost seem as if the plant were endowed with positive conscience. I am almost tempted to put the rose first in the list of hardy climbing plants, but must award the position to the grape.

In the grape vine Nature produces one of the most useful plants in creation, and had

she but adorned it with flowers of the climatis type we would have had, I think, everything desired in a climbing plant. In it we have graceful habit, beautiful foliage and luxurious fruit, and when asked by any one what climbing plant to get, I advise first if it is a suitable place, to put in a grape vine. For southern exposure nothing could be more useful, all that is necessary being a little more trouble in tying up. I have frequently seen in American cities, arbors and porches leading up to the front door of the house covered with grape vines, forming pictures of beauty not easily forgotten. For covering old outbuildings and fences it is unexcelled, and trained upon trellises makes most valuable screens. Next to the grape comes the rose, which it is al-



One of the Many Attractive Garden Effects in Ingersoll.

The porch of the home like residence of Mr. A. B. Orel, Manager of the Traders Bank, Ingersoll, is here shown. It is covered with Clematis, which was photographed when literally a mass of bloom. A number of the enthusiastic horticulturists in Ingersoll are among the organization of a Horticultural society and none are taking greater interest in the movement than Mr. Orel.

most needless to describe. Its beauties have been sung for ages, and a climbing rose in full bloom makes its possessor an envied person.

VARIETIES OF ROSE.

The varieties of the rose are too numerous to mention, but some new novelties are highly praised and greatly advertised. I refer to the Crimson and Yellow Ramblers. They thrive in good, rich drained soil of a clayey nature, and better in not too warm situations. As the rose is subject to numerous insect pests it requires more care than the grape vine. Frequent sprayings of fir tree oil soap and kerosene emulsion and plenty of soft water sprayings will keep the rose vine in healthy order.

The clematis is an ideal climbing plant of rather a fragile character in the nature of its growth, which is amply compensated for by the beauty of form, size and color of its blossoms. Grown in a bed on the lawn and trained up a center stake topped with an umbrella form of wire, its graceful foliage and flowers growing over in reckless profusion make it a delightful ornament for small places. The Ampelopsis family form most beautiful climbers; the Boston variety might be termed more properly a creeper. They all possess the most varied foliage and are exceedingly beautiful in the fall, when the foliage turns purple and crimson. There are quite a number of varieties of the Virginia creeper, but we will just notice the Ampelopsis Quinquefolia, or American Ivy. This, like the Bignonia and ivy, throws out tendrils by which it fastens itself to anything it touches, grows rapidly, and soon affording shade and covering.

Ampelopsis Veitchii has much smaller leaves than the American, overlapping each other with the utmost regularity, making a perfect matting of green. It is a little tender when young, and only three-year-old plants should be procured for planting out. Of the most rapid growth, it clings tena-

ciously to anything it touches, like ivy, and is invaluable for planting around old stumps of trees, rockeries, or stone or brick buildings. Its bright green foliage gives a pleasing contrast of color, and particularly lovely are its autumn tints.

The Aristolochia Sypho, or Dutchman's pipe, is a hardy native climber of rapid growth, with large light green heart-shaped foliage and curious pipe-shaped yellowish-brown flowers.

Celastrus Scandens, or Staff tree, is another native climbing plant. Very familiar in our woods, intertwining amongst and over other trees, it presents a pleasing sight with large leaves and bright orange capsuled fruit. The Honeysuckle family is an old favorite class of climbers, the most prominent being the scarlet trumpet, yellow trumpet, monthly fragrant and Hall's honeysuckle. The last has white flowers, changing to yellow.

The Periploca Gracea, or silk vine, is an excellent and pretty climber, with glossy foliage and purple flowers. The Bignonia Radicans, or trumpet flowers, is one of the finest climbers, with palmated foliage and scarlet orange tubular flowers, and is a desirable climber.

The Wistaria, another of the finest of climbers, requires a warm situation, its long purple fragrant plumes of flowers being very handsome.

One old favorite of mine is called Clematis Graveolens. This is a yellow clematis of the hardiest nature. After the flowers have fallen they are followed by lovely silken tasseled heads of seeds, which are even more beautiful than the bloom.

HARDY HERBACEOUS CLIMBERS.

The cinnamon vine is hardy and has edible roots and neat glossy corded foliage. In midsummer it bears small white fragrant flowers, with an odor like cinnamon. It is a pretty vine to train over a trellis or a window.

The Hop is a well known indispensable vine which form one of the finest of climbers, but they are rather subject some seasons to insects. For the early part of the summer they are exceedingly handsome in their rampant growth. Though the bulbs of the Maderia vine have to be taken up and kept in the cellar, yet we could not pass it over without mention. It is an exceedingly useful climbing plant, with its deliciously fragrant

white flowers, which it bears abundantly. Our summers are so short that some plant and flower beds are hardly more than coming in to their best when the season's growth is terminated by a frost. Where there is a good collection of climbing plants, permanently established, covering our verandas, arbors and outbuildings, they possess that appearance of abundant vegetation so desirable and ornamental about our homes.

AUGUST WORK IN THE FLOWER GARDEN

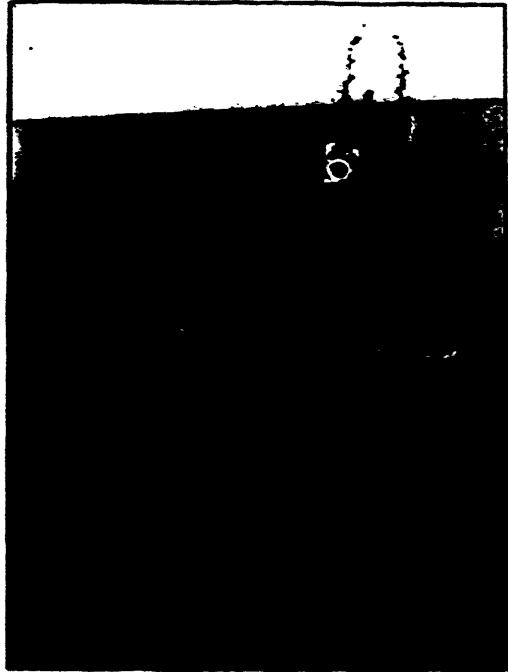
WM. HUNT, ONT. AGRIC. COLLEGE, GUELPH.

THIS is a good time to strike cuttings of coleus, heliotrope and geraniums if young plants are wanted to keep over winter. By striking them now they become nice strong plants to take into the window in the autumn.

A shallow box about two and a half or three inches in depth of the size required, filled with sharp fine building sand is best to strike almost any kind of plant cuttings in. Place the box of cuttings where it will be partially shaded from the sun during the hottest part of the day. Keep the sand almost moist but not soddened with water. There should be holes bored in the bottom of the box to allow of free drainage. If only a few cuttings are wanted, flower pots can be used instead of the box.

FREESIAS.

If early flowers are wanted of these deliciously perfumed and easily grown window plants, a few bulbs should be planted about the middle of August or early in September. Put about five or six of the bulbs in some good potting soil in four or five-inch pots. Stand the pots outside on some coal ashes or gravel under a fence or building, or in some position where the sun does not strike too hot. Water them well once when first potted, and then water them only enough to keep the soil moist but not sod-



The Single Hollyhock.

The above photograph was taken last fall from a self-sown plant two years old in the garden of Mr. A. Alexander of Hamilton. In the single hollyhock the flower lover has material for an unlimited display of color for the months of August, September and October at little or no trouble or expense. Near where this plant stands there are hundreds of seedlings, which no doubt will be as various in color and habit as in number, for near it stand other hollyhocks with some of the most fashionable colors, and the bees have undoubtedly done their duty in the hybridization of this plant. One reason for the cultivation of single hollyhocks is their comparative freedom from the hollyhock rust.

dened. The pots can stay outside until

about the middle of September, when they can be removed to the window.

To secure pansies that will produce flowers very early the following spring the seed should be sown about the third week in August. Pansy seed sown at the time mentioned will produce plants that will winter over well in a cold frame and produce early flowers. The protection of a few boards may be necessary over the frame during very severe weather in winter, but not if the plants are well covered with snow. The most critical time for autumn sown pansies is when the snow is melting away from them at any time during winter or early spring, hence the use of boards to prevent the snow melting on bright days in winter, or to shield them from the sun for a few days when first exposed to the sun in early spring days after the snow has gone.

Gladiolus should be staked up if they are liable to be broken down by wind storms or rain. This should be attended to early enough, as the stems often break off close to the corm or bulb, thus destroying the bulb for the present or successive seasons.

If any of the hardy lilies in the garden must be removed or transplanted, about the end of August is the best time to do it, but it should always be borne in mind that the less the bulbs of lilies are disturbed the more likely they are to continue flourishing and flowering. None of the garden lilies like to be disturbed very frequently, so that unless it is absolutely necessary, it is best to leave them undisturbed. Lily of the valley can also be transplanted late in August or early in September if required.

A mulching of rich soil or of thoroughly rotted stable manure about half an inch in depth placed over clumps or beds of lilies or lily of the valley will often reinvigorate them and produce much better results for a few years than transplanting them. If lily of the valley is transplanted the tips of the bulbs are not more than an inch under the surface of the soil. The surface of the soil should be patted down firmly after they are planted. A light mulch of manure placed over them late in autumn will also benefit them.

A PLEA FOR THE HERBACEOUS BORDER

CHARLES H. KINGSLEY-BAILLIE, WINONA, ONT.

EVERY year quite a number of new herbaceous and perennial border plants are introduced to the flower-loving public, but there are few which surpass those that we know so well in the old-fashioned gardens. There are, however, many of the older herbaceous plants which seem to be neglected.

When one is making a new home, and a new garden, the borders are planted with shrubs, and the place is given a certain look of permanency, but what a constant succession of color may be obtained from the introduction of a few herbaceous plants. They have a grandeur peculiarly their own,

and their place cannot be easily filled by any other class of plants in the garden. With such a wealth of form and color as may be found in the masses of larger plants, and many of the conspicuous smaller alpine plants, their importance in the garden is very apparent.

My memory takes me back to a very old border in a very old garden, which though neglected perhaps, was beautiful in its wildness, and there was always a succession of beautiful bloom. What can be grander in the border than the blazing bloom of the Oriental poppies, or the long spurs of delphiniums. These and some of the stranger

growing herbaceous plants, such as the centaureas, the echinops with its funny globular heads, the tritomas and the peonies may be planted against the taller shrubs and will adapt themselves very soon to their situation.

There are so many of the irises, the German, Japanese and Spanish, with their richness of bloom and color, and which need little if any attention at all except perhaps sometimes in the German to check their unruly growth. These, too, may take a place planted amongst the taller shrubs. Of the smaller plants which are adapted to border planting, there are legion, but there may be mentioned the anemones, aquilegias (columbines), with their variety of blossom, the coreopsis, the doricum, which is in one perpetual state of bloom, the gaillar-

dias, the Iceland poppies, veronicas, totentilla, the statice and quite a host of other plants, some just as stately, and forming a striking feature, others charmingly compact and proper, filling each place allotted to them with an individuality quite their own. Of the smaller plants which may be used for the edges of the border there is a wide field to choose from. But one need not go further than the varied saxifrages, the primulas, campanulas, or the old-fashioned dianthus, the silenes, alyssum, aubretia and many others equally charming but too numerous to mention. Amongst this extensive variety of border plants there is much that is highly decorative, and many an unsightly spot or ugly wall may be made effective by the judicious planting of herbaceous and alpine plants.

FLOWER AND PLANT LORE *

EDWARD TYRRELL, TORONTO.

IT is impossible to arrive at any idea of the varieties of roses grown in eastern countries, but Pinkerton, in his book, *Travels in Persia*, says "I saw beautiful roses, both white, yellow and red, and some white on one side and yellow on the other." The rose fields in the neighborhood of Ghazepoor, India, occupy many hundreds of acres, and at the proper season are very beautiful, the flowers are all used for distillation and making attar. To produce one rupee's weight of attar 20,000 well grown roses are required.

Herodotus records the existence of large double roses in Asia, and also tells us that in a part of Macedonia were the so-called gardens of Midas, in which grew native roses each one having 60 petals, and of a scent surpassing all others. Greek authors say the rose was the Queen of Flowers;

they also refer to it as the delight of the gods, the favorite plant of the Muses, and useful in diseases. One of these old poets, writing its praises, says "the gods, in jealousy, to hasten the period of its flowering, watered it with nectar, and soon this immortal flower raised itself majestically upon its thorny stem." Theophrastus tells us it was customary in Greece to set fire to the rose trees, without which precaution they would bear no flowers. Pliny says that the art of forcing consisted in watering the plants with warm water on the appearance of the buds.

Another writer says Egypt cultivated roses largely and sent quantities to Rome annually, before those of the latter country were in bloom. This must have been before Rome became famous for her gardening, as Martial in his epigram, "To Cesar

* The History of the Rose, continued from the July Horticulturist.

on the winter roses," serves to show that the culture of roses in Rome was carried to such perfection as to make the attempt of foreign competitors subject to ridicule, for he writes. "And thou, O Nile, must now yield to the fogs of Rome, send us thy harvests, and we will send thee roses." The Romans obtained roses and lilies in December by introducing to their plant houses tubes filled with hot water. The Romans whose profuse use of flowers subjected themselves to the reproof of their philosophers, considered the rose as an emblem of festivity. At a feast given by Cleopatra to Mark Antony she caused the rooms to be strewn with rose leaves to a considerable depth and spent a talent in procuring the requisite number. It was also customary for the wealthy to take their meals resting on rose leaves. It is related that Nero spent £20,000 on roses at one feast.

The rose was considered the emblem of prudence. When a rose was placed over the door of a room in which a Roman feast was held, whoever passed beneath it thereby incurred a solemn obligation not to reveal what was seen or heard, hence the term, "Sub Rosa," a term in use at the present time. Shakespeare, in his play, Henry 6th, 1st part 2-4, brings the rose into historical prominence by making a poetic reference to the commencement of the 30 years war in England, 1455-1485, known as the war of the Roses, between the houses of York and Lancaster.

Mr. Wm. Paul, in one of his books, records that in Hungary it is customary with ladies of rank to take bunches of rose buds of choice varieties and go into the fields and woods and bud the wild kinds which they encounter in their rambles, and it is said to be no uncommon thing to meet with the finest varieties blooming in most unfrequented places. Although I have condensed and omitted much I would like to



The Clematis.

The clematis here shown was photographed about the middle of June from a plant two years planted. The name has been lost, but as can be seen it is very early, and though the flowers are not so large as those of Clematis Henryii, it is as purely white, and late in July was making new growth and forming new flowerbuds, and a second crop of flowers was in sight that were only second to those shown in the photograph. There is no more desirable climber for the front of verandahs than the clematis. This vine is in the lovely garden of Mr. A. Alexander of Hamilton.

have written, I must quote a short poem by Margaret H. Burnett on the rose:

It is not stately, grand and strong
Like oak, which braves the winter's blast;
It yields no fruit to husbandman
When time of blossoming is past.
'Tis only beautiful; but so,
It fills its God's appointed place
And speaks His watchful love and care
To e'en the humblest of our race.

Some fill their lives with actions grand,
Some fight life's battles brave and true,
Some only quiet beauty show,
And only trifling duties do.
But like the Rose, they fill the place
Appointed by the Almighty one,
And faithful though, but in the least,
They at the end will hear "Well done."

THE VEGETABLE GARDEN DURING AUGUST

WM. HUNT, ONT. AGRIC. COLLEGE, GUELPH.

THE remarks made in regard to weeds, surface stirring the soil, etc., in the July number of *The Horticulturist*, can be repeated with even more emphasis for the month of August. Not only will many of the annual summer weeds still keep making their appearance, but these as well as many of the perennial or permanent weeds, such as thistles, burdocks, and other similar ones, will also seed and thus spread themselves over the entire garden.

Weeds are too often neglected when crops are nearing maturity or perhaps gathered in. By following them up closely, especially at this ripening season, the next season's crop of weeds can be largely reduced. Weeds allowed to ripen their seeds now, at the natural time of ripening, will form splendid material to ensure a good early crop next season. Root out the weeds, clear them off and burn them on the rubbish pile and destroy the seeds.

Late crops of peas, beans, and even cauliflower and cabbage plants, will be much benefited during hot dry weather if a light mulch an inch or two in depth of half-rotted stable manure is spread between the rows. The mulch should not be placed quite close to the plants; an inch or two of space should be left around the stems. This mulch not only conserves the moisture in the soil, but is also beneficial as a fertilizer.

ONIONS.

Onions are often spoiled for want of timely and proper harvesting. They are very often left much too long before harvesting is commenced. As soon as the bulb has reached maturity the roots should be separated from the soil—especially if showery weather prevails—to prevent the bulbs starting growth again. It is difficult for an inexperienced gardener to know just when to pull onions. As soon as the tops are withered, or only partially withered perhaps, and present a grayish appearance,

the roots of the bulb can be removed from the soil.

Another method of finding out when they are fit to harvest is to endeavor to pull the onion from the soil. If it removes readily without much resistance, the bulbs should be pulled. It is necessary, sometimes, during very wet seasons or on very rich land to go over the onion bed and press or bend the tops of the onions over, as they are not inclined sometimes to do this naturally. This bending over should be done a week or two before the bulbs have reached their full size. The process of bending the tops throws the strength of the growth into the bulb and hastens its development and maturity. Light rollers are sometimes used by commercial growers—where onions are grown extensively—for bending the growth, but a stick or long rod answers just as well and is less likely to damage the bulbs. If the weather is not too showery the onions can remain on the ground to dry for a week or two. They should be turned over or moved once or twice during this time to prevent the roots striking again into the ground. If a good open shed is available remove them as soon as they are pulled.

A cool, dry, airy shed or barn is the best place to harvest onions in. Spread out thinly on shelves or boards and give them a turn over about once a week; they will keep splendidly in a shed until sharp frost sets in. A dry, cool, airy cellar kept at a temperature as near the freezing point as possible is a good place to winter onions. If the onions are quite dry a few degrees of frost will not hurt them, especially if spread out thinly on shelves.

SPINACH.

A sowing of this useful and wholesome vegetable should be made about the end of August or early in September. Sown about the end of August it will often come in use-

ful to pick during late fall or early winter, when almost all other green vegetables except cabbage are gone. A sowing made about the second week in September will often winter over and produce a supply long before the spring-sown spinach is available for use. This latter point is quite a consideration, as spinach that has wintered over is ready for the table even before that delicious spring vegetable asparagus is available for use.

Spinach can be sown where peas, beans or corn has been taken off. The ground should be well dug and manured before the seed is sown. The common round leaf spinach, or the Viroslay will winter over usually quite as well as the prickly seeded spinach that is generally recommended for autumn sowing.

ASPARAGUS.

Too little of this useful and healthful vegetable is grown by amateur vegetable growers. Coming in as it does in early spring and summer, before most all other vegetables are obtainable, its value cannot be over estimated, to say nothing of its well known medicinal and health-giving properties. If you have only a very limited amount of garden ground, by all means have some asparagus in it. Prepare the ground for it this fall by plowing or digging deeply a piece of the richest part of the garden. Plenty of well rotted stable manure should be worked into the ground. Let

Try Mulching Plants with lawn clippings, weeds or manure. It will save watering and keep soil from drying out. This has been my plan for years, although I had my garden laid with water pipes and hydrants. It takes too much time to use a hose or a watering can. If you have no mulch, try stirring soil frequently with hoe. Loosen earth and nature will send up moisture from below.—(N. S. Dunlop, Montreal, Que.

the soil lie in rough ridges all winter. In the spring the ground should be forked or dug over, and the seed sown or plants planted as early as the ground can be worked.

A strip of ground about six feet in width and 50 feet in length will allow of two rows being put in, which will in a year or two give a plentiful supply of this succulent vegetable sufficient for a large family. Asparagus grown from seed usually takes three years from sowing before it is fit for table. By planting two-year-old plants good asparagus can be had the first year after planting. Conover's Colossal and Palmetto asparagus are about the two best varieties to plant.

One point in selecting the ground for an asparagus bed must not be lost sight of, and that is to select a piece of soil where the water will drain off readily during winter and early spring, as otherwise the plants may suffer, or at best the asparagus will be much later in the spring than if a piece of well drained soil is selected. When once secured an asparagus bed will last for years if cared for properly.

In sowing seeds of any kind select them from the best specimens possible. The selection and saving of the best types of varieties is equally as important to secure the best results, as is the after culture and care of the plants. Mice and dampness are the two greatest enemies to avoid when saving seed.

Should Use Caution.—Ginseng is one of the crops about which I would advise growers to exercise caution. They should not rush into the culture of it extensively. There are several who have been attempting it in Ontario, but I am doubtful if it will ever prove as profitable as it has been represented to be, particularly by those growers who have seed and roots to sell to intending planters.—(Prof. H. L. Hutt, Ont. Agri. College, Guelph.

Tomato Growing in South Essex

J. D. FRASER, LEAMINGTON, ONT.

WHILE growers in many parts of Ontario complain of the inconvenience caused by the heavy snowfall, we, in South Essex, suffer from the lack of sufficient snow to protect the roots of our peach trees. Tomato growing has, in consequence, been gone into somewhat extensively, as our soil and climate and freedom from spring frosts along the shore of Lake Erie seem to make up conditions which are perhaps not equaled in Ontario for securing early pickings.

Seed is sown in forcing houses about the last of February or the first of March, and is transplanted a sufficient number of times to secure stalky plants. In preparing the plants for the field they are usually put in six inch spaces. There are different methods used for transferring them to the field. I have found a house constructed so that the glass and cotton can be removed when it becomes necessary to harden off the plants before going to the fields, to be a great saving of labor from the method of changing the plants to other locations. For this purpose folding sash has proved very satisfactory,

being easily handled and giving perfect ventilation. Driveways between the plant houses, sufficiently wide to admit a team and wagon are desirable.

With reference to the future outlook of this industry we experience the same difficulty as is found in most lines of fruit growing: namely, insufficient markets. The Florida and Texas growers are pushing their early products into our markets more vigorously each year, and owing to the better shipping facilities and cheaper freight rates enjoyed by them they are able to place their tomatoes on the Winnipeg market at an advantage, as the import duty is not sufficient to offset the extra transport charges. However, with the aid of our railroad commissioners, we hope to do business in the west. There were some very fine fields of the Earliana variety grown here last season. Mr. Harrington had an especially fine piece.

At one time I thought cultivation was indispensable in the orchard, but experience has led me to change this opinion. There are orchards in which cultivation is not desirable.—(Wm. Rickard, M. L. A., Newcastle, Ont.



Nature Study Lessons for the School Teachers.

In connection with the summer school for nature study at the Macdonald Institute, Guelph, every teacher is expected to make and keep a small garden. This photograph was taken recently and shows the teachers at work. The idea in holding these classes is explained by Prof. W. Lochhead in an article on the next page in this issue.

School Gardens for Teachers.

PROF. W. LOCHHEAD, ONT. AGRIC. COLLEGE,
GUELPH.

THAT school gardens will play a very important part in the new education movement which is being inaugurated in Ontario is the opinion of our foremost educators. Ontario is away behind many of the States and most of the northern countries of Europe in the adoption of school gardens as a part and parcel of her school system. France has more than 28,000 school gardens, and in many of the other European countries state funds are not granted unless a garden is connected with the school. In an article, by me, published in *The Canadian Horticulturist* for July last year, the value of school gardens is fully set forth.

Believing that the school garden is of great value in school work, the directors of the summer school for nature study at the Macdonald Institute, Guelph, decided to have every teacher in attendance make and keep a small garden. Although the usual season for planting gardens was over, yet it was still possible to get many of the seeds to germinate and grow. With the assistance of Mr. W. Hunt, the college florist, the garden plots were marked out by the teachers themselves, the land prepared and the seeds planted. Talks were given at the plots on the preparation of the soil and the use of manures and fertilizers, on the proper planting of the different seeds, on the use of the garden line, on the best way of caring for the plot after the seeds were planted so as to conserve the moisture, and on the care of garden tools.

Each plot was 12 x 12 feet, with paths 18 inches wide between the plots, and each teacher prepared a sketch plan for himself of the plot, which was discussed and criticized, and much valuable information obtained as to the best arrangement of the

rows in the plot. It was pointed out that probably a better sized plot would be 10 x 15, or 10 x 20, in that it could be more readily worked.

Soon after planting heavy rains came. The soil being a heavy clay loam, caked on drying, and there was found the necessity for raking the surface to conserve the moisture and to prevent excessive evaporation. In fact, practical problems came up for solution at every turn. At present writing the seedlings are up nicely and the plots are in good shape and condition. The next problem will be the weeds and the thinning.

Spraying Mixtures Under Test.

A CAREFUL examination was made July 19, 20 and 21 in the Niagara district to ascertain the results of the various experiments made last spring with spraying mixtures for the San Jose scale. The object of the tests was to determine the relative merits of the lime-sulphate wash, the McBain mixture, the sal soda and other combinations. The examination was made by Professors Lochhead and Harcourt, of the Ontario Agricultural College; Inspectors Smith and Hodgetts, of the Provincial Department of Agriculture, and a special committee of the Niagara District Fruit Growers' Association.

The scale began to run a week or more before the date of the examinations, so that the first brood only were showing. All of the remedies were found to have done good work. On unsprayed trees the fruit was in many instances already spotted with the young scale and would soon be rendered unsaleable. Scale-infested trees suffered severely from the winter, and many orchards between St. Catharines and Niagara, that were once considered models, are now completely destroyed. They furnish a terrible example of the destructive work of this scale and of what neglect in its treatment will bring about.

A far more pleasing picture was presented at the farm of Mr. Burgess, near Queenston. This gentleman had sprayed with the lime-sulphur mixture, boiling with steam, and using a gas sprayer. The trees were in splendid condition, under clean cultivation, entirely free from curl-leaf, and bearing a magnificent crop of peaches.

After a careful examination of the various orchards the committee decided that at that date practically no difference

could be observed between the trees treated with lime-sulphur and the McBain winter mixture as far as the general condition of the trees was concerned. No decided opinion could be given as to the condition of the scale, as another month must elapse before the natural increase on the sprayed trees will be sufficient to be at all noticeable. Another inspection will be held within a month, when something more definite will be announced.

OUR FRUIT ADVERTISES CANADA

ROBT. HAMILTON, CHIEF FOREIGN FRUIT EXHIBITS, DOM. DEPT. AGRIC.

It is to the credit of Canada that the fruit exhibit at St. Louis excites a great deal of comment there, even from well informed people. Less well-informed people, when they examine our fruit exhibits and find peaches and quinces and grapes of fine size and beauty are frequently heard to say, "Why, I thought Canada had nothing but the common fruits." One of the stray questions put one day was, "What part of Ontario is Canada in?" showing what a degree of ignorance of their neighbors is occasionally met with.

The Canadian fruit is so fine and in such large variety as to astonish the most experienced fruit men. Some of the states of the American union have immense fruits on their tables—fruits of very large size and fine color in few varieties—but Canada had in her opening installation 94 varieties of well preserved apples, many of the kinds such as it was not believed could be kept in good condition for so long a period. In addition to Baldwin, Ben Davis, Canada Red, Northern Spy, Cooper's Market, etc., that astonished no one at that date, were the Fameuse, from Montreal and Eastern Ontario, the McIntosh Red, Wealthy, Scarlet Pippin, St. Lawrence, Baxter, Blenheim Pippin that are generally regarded as fall or early winter apples. When these were

seen and sampled visitors were more than astonished.

A REPRESENTATIVE EXHIBIT.

Fruits were displayed from all the provinces, including little Prince Edward Island on the Atlantic to British Columbia on the Pacific ocean. Nova Scotia sent her Bishop Pippins, Nonpareils, Cornish Aromatic, Cox's Orange, Ribstons, Blenheims, and many others; New Brunswick sent Ben Davis, Wealthy, Yellow Bellfleurs, Fameuse, Scott's Red, and several other kinds; Quebec, her Fameuse, St. Lawrence, Wealthy, Canada Red, McIntosh Reds. Ontario was represented by her numberless varieties too large to enumerate. British Columbia sent her brilliant apples, in many fine varieties, that for smoothness and brightness, besides high flavor, were almost unapproachable.

Already there have been a large number of contributors to the Canadian fruit exhibit. A very nice display was gathered by Rev. Mr. Burke, of Alberton, P. E. I., for his province, while a fine collection of typical Nova Scotia apples was sent by Mr. C. R. H. Starr, of Wolfville, N. S.

The collection from the province of Quebec was sent by Mr. Knowlton, of Knowlton, who had many fine kinds from leading

(Continued on page 361.)

The Canadian Horticulturist

The Leading Horticultural Magazine in the Dominion.

1. **The Canadian Horticulturist** is published the first of each month.

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5. **Change of Address**—When a change of address is ordered, both the old and the new addresses must be given.

6. **Advertising Rates** quoted on application. Circulation 5,500. Copy received up to the 24th. Responsible representatives wanted in Towns and Cities.

7. **Articles and Illustrations** for publication will be thankfully received by the editor.

8. **All Communications** should be addressed:

THE CANADIAN HORTICULTURIST,
TORONTO, CANADA

Congratulations, Mr. MacKinnon! Congratulations, Mr. McNeil! A good chief of the fruit division has left us and a good one has been gained.

THE SAN JOSE SCALE.

The reports published in this issue from a number of the township San Jose scale inspectors in the province show that the situation is still a critical one and that much careful consideration of the position of affairs is called for. The most disappointing feature is the fact that in spite of all that has been done the area affected by the scale is increasing. The most encouraging point lies in the demonstrated fact that spraying, if promptly attended to and properly done, will not only serve to check the ravages of the scale but that in many instances it will effect a cure. The fact that many growers now realize this and that more spraying was done this year than ever before is also cheering.

A serious aspect is presented when it is considered that there are a number of districts where thousands of trees destroyed by the scale are still standing, a danger to all the healthy orchards in the neighborhood. So discouraged are the growers they have refused to continue the fight to save their orchards, and the township councils decline to even appoint local scale inspectors. Has not the heavy loss already sustained been sufficient to show the folly of allowing the scale to spread unchecked? Right here is the danger point. The views of

growers as to what they would like to see done are invited.

LET US HEAR FROM YOU.

Many readers of *The Horticulturist* could add greatly to the value of this magazine by very little effort on their part. Every month editorial representatives of *The Horticulturist* visit the homes of practical fruit growers in different parts of the province. Seldom is there a man met with who has not got some valuable experience to relate or who cannot hunt up one or more good photographs of his house, orchard or garden. Let us have these photographs. With them send a few lines that will describe their interesting features and add to the value of their publication. If our readers will only do this they will not only take more interest in *The Horticulturist* themselves but their friends and neighbors likewise.

Every month, also, meetings are held by various of the numerous horticultural societies in the province at which instructive papers are read by members or talks given. Many of these papers deserve presentation to a much wider audience than those present to hear them. Send them in that they may be published in *The Horticulturist* for the benefit of our several thousand readers. Would it not be a good idea for societies at their meetings to appoint some member to secure and send a full report to *The Horticulturist*. We ask for and count on receiving the help of all our readers.

START THE BALL ROLLING.

A remark made by Mr. John Pullen, general freight agent of the Grand Trunk Railway, when giving evidence during June before the Railway Commission, is deserving of attention by fruit growers. The statement was made that the Grand Trunk at one time appointed a representative to see what could be done to improve the facilities for handling the fruit carried by the company over its lines. It was decided that if the fruit growers would cooperate and build central storehouses and shipping stations it would be possible for them to keep their fruit in better condition while waiting for cars and for the company to give such organizations better service than could be rendered individual shippers. Attempts made to organize the growers in certain sections had, however, to be abandoned because it was found the growers could not agree among themselves. The truth of this statement was admitted by the growers present.

How long are these conditions to continue? It is true growers in a few districts in the province have organized and that they are reaping the benefits which follow prudent cooperative effort. It is equally true that there are scores of sections in the province where the value of the fruit interests could be greatly enhanced were the growers to set to work to plan the handling of their fruit on a better business basis. The tendency on the part of so many

farmers to sit down and wait for the other fellow to act is at the bottom of the whole difficulty. There is nothing to prevent the growers in any section, who are anxious to act, from doing so. Full particulars as to the constitution and by-laws of companies already formed can be readily obtained on request from half a dozen different sources. The Horticulturist will gladly furnish such information to any grower who asks for same. Why should not some of these companies be formed this fall? Don't wait; start the ball rolling now.

There can be no doubt that Canada's fruit exhibits at St. Louis are proving the best advertisement the Dominion is receiving at the big exposition. It has been generally known in the States for a number of years that Canada is an excellent agricultural country, but in spite of this there is a widespread impression that our, to us, unpopular title, "The Lady of the Snows," has been well deserved. The revelation, therefore, that Canada can grow finer fruit than most of the States of the Union comes as a great surprise to our southern cousins, particularly those who are unaware of the fact that a large section of Ontario is farther south than almost all the northern border states, and much farther south than such states as Maine and Vermont. Our fruit exhibits are proving, as none of our other exhibits can, the really moderate nature of the climate in many of the provinces, and in this way are undoubtedly accomplishing much good.

A great many fine papers are read, from time to time, at the women's institute meetings held throughout the province. Through the kindness of Supt. G. A. Patnam, The Horticulturist has secured copies of a number of these addresses which bear directly on the growing of flowers and fruit, fruit receipts, etc., which will be published from time to time in this magazine, and should be of great interest to our readers. The first of these articles appears in this issue.

Owing to its importance at this season, the subject of fruit packing is given considerable prominence in this issue of The Horticulturist. We trust those of our readers not directly interested in this matter will understand the circumstances and realize that a monthly magazine, if it is to be up-to-date, must give particular attention in each issue to the topics of greatest interest during that month.

Send us a card if you are not receiving The Horticulturist regularly. We will attend to it. Do you like the changes we are making in The Horticulturist? If you do, tell your friends about them.

Well Equipped Steamers.

The attention of fruit growers is called to the Donaldson and Thomson line of steamships, whose dates of sailing are given in the adver-

tisement in the back of this magazine. The ships advertised as having cold storage were fitted up at the request of the government and are of the most modern description, with thoroughly insulated chambers in which a temperature of 25 degrees can be maintained, if desired. These chambers, of which there are four, can be kept at different temperatures to suit the cargo. The steamers advertised with cool air were also fitted out at government request.

Cool air storage is simply a refrigerator in a modified form, and is specially adapted for carrying cheese and early apples. The chambers are insulated and outside ventilation completely cut off, while fresh dry air from the cooler is forced, by use of ducts, to the cooler, where the process of cooling and purifying is again gone through and the air sent again into the chambers. The advantage of this system is that the air is first of all purified, all foreign gases are removed and deterioration prevented. Growers will do well to look into the ventilation and refrigeration of the steamers by which they consign their shipments of fruit.

Our Fruit Advertises Canada.

(Continued from page 359.)

fruit growers in the Eastern Townships, Montreal, etc. A small collection from Eastern Quebec was sent by Mr. Dupuir, of Village des Aulnaies. The Ontario collection was representative of the whole province, while Thos. G. Earle, of Lytton, B. C., made the selection from his province a very fine one.

Manitoba and the Northwest provinces are represented by bottled fruits, which comprise all the leading small fruits, besides many kinds of vegetables, which are capable of being shown in bottles. These were put up at the experimental farms at Brandon and Indian Head.

Canadians may well be proud of the exhibits made by Canada at St. Louis in all the departments. Her forestry, fish and game exhibits are easily first; the same may be said of her agricultural display, while her mineralogical exhibit is second to none, where the whole is beyond praise. The fruit exhibit, however, tells more of Canada's fine and varied climates than all the rest put together.

EDINBURGH BUYER WANTS UNIFORM PACKAGES

JAMES LINDSAY & SON, LIMITED, EDINBURGH, SCOTLAND.

Canadian fruit growers should use a uniform barrel for the shipment of their apples, and we would suggest that it should weigh 168 pounds. Last season barrels of many different sizes and weights were used, a considerable number varying in weight from 140 to 146 pounds. This is a long way below what the standard is expected to be, and when selling it is not easy for us to detect such differences in weight. We notice the barrels are light, but do not at the time realize there is such a disparity in the weight, as there often is. This leads afterwards to no end of trouble, as allowances have to be made our customers.

The packing has greatly improved on account of the interest the Dominion Government has taken in regard to it, but there is still room for improvement with many shippers, as some of them do not seem to realize what is required

of them. Last season in several instances we had XX quality branded XXX, and X branded XX. Such branding was carefully noted on this side by the Canadian inspector when his attention was drawn to it.

Cases should also be a uniform weight and should contain 50 pounds net. The government should not allow any other package to be made, as if they do there will be no end of trouble. If attention is given to the weights of packages, such as we suggest, it will certainly tend to stimulate trade.

Certain varieties of pears can be disposed of in our market to good account, but they require careful handling. Growers, when packing them, should use more of the wood shavings to soften any pressure that comes against the fruit. The case should be made of wood, heavy enough to protect the fruit.

A Warning to Fruit Growers.

A warning to fruit growers was given to The Horticulturist recently by Mr. W. H. Dempsey, of Trenton, in regard to the shipping of apples to Great Britain before they are properly matured. "Last August and during the first week in September," said Mr. Dempsey, "I saw buyers shipping Baldwins, Greenings, Ben Davis and Wagner apples. In fact, this has been done for several years. Most of these apples were bought in July, the buyers reserving the right to pick them when they wanted.

"Early in the season, when it looked as if there was going to be a glut of apples on the British markets, the buyers became alarmed and started to pick apples long before they were properly matured, so they could place them in Great Britain before the heavy rush of apples began. McIntosh Reds, one of the choicest dessert apples, were even sent with the Duchesses and Astrachans.

These apples were sure to shrivel up and be perfectly worthless by the time they reached the consumer. Picked at an early date, they would not even cook well, as they had not matured. The fruit inspector warned the shippers that they were grading their apples too high. In my opinion the inspectors should have stopped these shipments altogether. If much of this fruit is sent from Ontario it will give our apples a bad reputation."

Canadian Fruit Exhibits.

The department of agriculture is about to send to the London exhibition, which takes place in September, displays of Canadian fruits and food products generally, to which growers and manufacturers are invited to contribute. Mr. Wm. H. Hay, of the department of agriculture, is taking charge of the agricultural and food products display, and Mr. Robt. Hamilton, exhibition branch, department of agriculture, Ottawa, is making the fruit display. Any in-

formation required may be obtained by writing either of these gentlemen.

Besides what is being done for the St. Louis exhibition and the exhibits in London, the great Industrial exhibition at Liege, Belgium, which opens in May, 1905, is also being provided for. Growers of fine fruit will do well to keep these exhibitions in mind.

A Poor Method of Selling.

"One of the evils of the present system of handling fruit," said P. J. Carey, Dominion Fruit Inspector, to The Horticulturist recently, "is the method of buying practised by many dealers. In the early spring these buyers go around and make contracts with the farmers for their fruit. They give the farmers to understand that the contract has been closed. The statements they sign seem to be all right on their face, but when they have been tested later it almost invariably turns out that, as far as any protection to the interests of the grower is concerned, they are absolutely worthless.

As the season advances, if the buyer finds the crop is likely to turn out a large one, he very carefully picks only the best fruit on the farm and refuses the rest. The poor fruit is left on the farm on various pretexts from week to week until the season becomes so advanced the fruit is entirely worthless. At this time if the farmer tries to take advantage of the contract signed early in the spring he finds it is all in favor of the buyer.

The best remedy for this condition is for farmers to organize and establish a central packing house. If enough of these houses could be started they would do much to redeem the trade, as the fruit would then be packed in season and handled by competent packers engaged by the growers. There will be no person to come in and absorb a large part of their loss before the fruit reaches the consumer."

A BIG GATHERING OF HORTICULTURISTS ASSURED

The convention of representatives of the horticultural societies of the province, which will be held in Toronto next November at the time of the Provincial Fruit, Flower and Honey Show, promises to be one of the most successful features of that big event. The officers of the Toronto Horticultural Society have already evinced great interest in the gathering and are anxious to show their friends from all over the province how nicely they can take the part of hosts. A most interesting program is being planned. Leading officers of the various horticultural societies of the province will be present, as well as prominent officials from the Dominion Experimental Farm and Provincial Agricultural College. Two or three well known

speakers from the United States and the Maritime provinces, who will be in attendance at the annual convention of the Ontario Fruit Growers' Association, will be able to address the meetings of the horticultural society delegates as well. Members of societies are invited to send The Horticulturist suggestions as to subjects they would like to have discussed at the convention.

Already a large portion of the horticultural societies of the province have approved of the proposed convention and agreed to send delegates. This ensures a good attendance. In addition to the reports from horticultural societies previously printed in The Horticulturist, the following societies have been heard from.

There will be plenty of opportunity at the proposed convention to further the interests of local horticultural societies, and the only way to do so is to form a provincial association. Such an association is needed badly in order to have real live up-to-date societies. It will be necessary to call meetings of the local societies for full discussion of desired improvements. The delegates sent will then have to endeavor to bring before the association the views of their members. One good effect of such a provincial association will be its ability to buy premium plants in such large quantities as to make it possible to obtain them at a minimum expense. This would be much better than for each society to purchase individually.—(J. W. Brennan, Grimsby, Ont.)

SHOULD MEET WITH APPROVAL.

The advisability of forming a provincial horticultural association is sure to meet with approval. The fruit industry and floriculture are attaining large proportions in many parts of Ontario, and an association where representative men from different parts of the province could meet and exchange views on these and similar subjects would be of much advantage. I will bring the matter before the notice of our society at its next meeting.—(J. E. Johnson, Sec'y Leamington Hort'l Soc.)

WANT AN INDEPENDENT ASSOCIATION.

The members of the Woodstock Horticultural Society all approve of the proposed convention at the time of the Provincial Fruit, Flower and Honey Show.—(Jas. S. Scarff, Sec'y.)

The directors of the Cobourg Horticultural Society heartily approve of the proposal to form a provincial horticultural association, with the reservation, however, that it shall not be used as a donkey engine to the Ontario Fruit Grow-

ers' Association. At the time of its organization our society was induced to affiliate with the O. F. G. A., but two years ago, in common with nearly every other horticultural society in the district, at a meeting to which all our members were specially summoned, it was unanimously resolved to abandon all connection with the O. F. G. A. This emphatic action was taken owing to the treatment received at the hands of those who had succeeded in excluding from the board nearly every horticultural society representative.—(W. J. Snelgrove.)

I cannot emphasize too strongly my hearty indorsement of the proposed formation of a Provincial Horticultural Association, which I think might be organized pretty much on the lines of those two good models, the Fruit Growers' Association and the Ontario Poultry Association.—(J. H. Bronsdon, former Sec'y Guelph Hort'l Soc.)

I have been in consultation with our president, Mr. D. McClew, of the Deseronto Horticultural Society, regarding suggestions to form a provincial horticultural association. We believe that our society would favor the formation of an association on purely horticultural lines, as distinct from the fairs, the fruit growers and bee-keepers associations, provided that the membership fee to be paid by each society to the central association is a nominal one, so as not to be a drain on the funds of the societies. We feel assured that this society will favor the sending of a delegate to the meeting. The bringing of horticultural societies into closer touch with each other and the adoption of uniform methods of operation should be the means of producing more effective work and result in lasting benefit to the province.—(R. W. Lloyd, Sec'y.)

The Use of Bands.—Does it ever occur to the advocates of spraying for the protection of fruit trees that there is a limit to the amount of prevention accomplished by this means—that trees cannot be properly sprayed, even by experts, only at certain periods of the year; that a large proportion of the insects, both flying and climbing, wing and wingless, are continually coming to the ground for moisture, etc.; that if an effective band were placed around

the trunk of trees, that same would prevent the pest, once down, from again climbing the tree; that such a band properly applied would not only stop them but would form such a means of protection for them that their cocoons would be laid underneath the band, where they could be readily found and easily destroyed, thus making it a comparatively simple operation to destroy thousands of the eggs of all kinds of insects.—(F. V. Parsons, Toronto, Ont.)

WHAT THE HORTICULTURAL SOCIETIES ARE DOING

Had an Enjoyable Outing.

The regular monthly meeting of the Toronto Horticultural Society was held on July 5 in St. George's Hall, being more especially the annual show of hardy roses. A beautiful display was made. Exhibition Park taking first honors, Alexander McHardy and Horticultural Gardens contesting for 2nd place, James Barwell and H. Simmers for third place. Roses were not the only flowers displayed, and for which prizes by points, were offered, as Manton Bros. showed a grand lot of native orchids, delphiniums, etc.; H. Simmers, delphiniums, penstemons, iris and gaillardia; James Barwell, tuberous begonias; R. Barker, white peonies and gaillardia. Singing and music were kindly rendered by Mr. Ernest Tyrrell and Mrs. (Dr.) Shiell. The exhibitors very kindly distributed all the cut flowers to the ladies present.



Mr. Edward Tyrrell.

are going to make it the most complete flower show ever held in the province. The gardeners are vying with each other in their efforts to make it a great success.

Next day, Wednesday, July 6, the members and friends paid a visit to the Ontario Agricultural College, Guelph. Rain commenced falling before 7 o'clock in the morning, but that did not deter some 170, of which a large number were ladies, attending. Dinner was served, in the form of a basket picnic, in the large gymnasium. In the absence of President Creelman the party was shown around the farm by Prof. Hutt, Prof. Zavitz and Mr. Wm. Hunt, and were delighted with what was seen. The weather was fine in the afternoon. The party was under the care of Edward Tyrrell, president; H. R. Frankland, vice-president; George Musson, director, and were back in Toronto by eight o'clock after spending a most delightful day.

Tilsonburg's Good Work Continues.

In the distribution referred to in the May Horticulturist 30 plots of ground were laid out on Grand avenue, and 30 boys, selected from the higher divisions of the public school, were each given five packages of vegetable and flower seeds, also some gladioli (Groff's mixture). All these plots are now being cultivated by the boys. All the seeds and gladioli are well up and looking fine; the plots are clean and in good state of cultivation, most of the boys being enthusiastic and doing their work well under the direction of an experienced instructor. These plots when at their best will be judged, and prizes given in each division or class, as well as a special prize for the best kept plot showing the best results.

As for the 300 or more packages of seeds, these were distributed amongst the girl pupils of the public school, and are grown in their home gardens. A special committee visits each of the home garden plots and reports to a meeting of the Tillsonburg Horticultural society, the result of their inspection, marking each plot according to its degree of excellence or otherwise. When the proper time comes a school children's exhibition of the garden stuff and flowers will be held at the town hall and prizes awarded. The premiums are all money prizes offered by the horticultural society, but these may be supplemented by the liberality of friends. The secretary will visit each home garden as well as help supervise the Grand avenue plots. If possible a flower show will be held at the same time as the school children's exhibition. It is hoped that our endeavor to inculcate in the young a love of flowers and the instruction given them this season will bear fruit in due time.—(W. W. Livingstone, Sec'y Hort'l Soc.)

Carry the Exhibits Free.

Our society has been doing very good work this season. Our annual flower show will be held about the last of August. Anything in the form of flowers are eligible for competition, and outsiders as well as members may show. Rigs are hired to convey the plants to and from the building in safety, but no prizes are given and no admission charged. I think it is more advisable to get people to show because they love the work than to have them compete for prizes.—(J. H. Winkler, Sec'y Waterloo Hort'l Soc.)

The Town Parks Cared For.

Besides other work, already described in The Horticulturist, the Peterboro Horticultural Society looks after the town parks. We get a grant from the town and one from the county, which are used for the purchase of flowers for the beds, and paying for a caretaker. One park, which was nothing but a weed bed when leased to us three years ago, is now one of the prettiest spots in the town. We are now considering some plan for increasing our membership.

ship. There are so many people whom we think ought to give us their support and which we are unable to see personally, that we are going to try sending them a circular letter.—(K. L. Beal, Sec.)

Will Help the Agricultural Society.

The directors of the Elmira Horticultural society have decided to again cooperate with the agricultural society and make a particular effort to get a good display of flowers at the fall show of the agricultural society. A grant of \$10 has been made towards the flower prize list of that society, and the list revised and improved. It has also been decided to purchase the usual amount of winter flowering bulbs to be distributed among the members of the horticultural society in the fall.—(C. W. Schierholtz, Sec.)

The Garden City Earns Its Name.

The St. Catharines Horticultural Society held the first June flower and fruit show in its history on June 28. To the people of St. Catharines and the neighboring towns it proved our right to the title of "Garden City," and will assuredly give a great impetus in giving the general public a wider and more personal interest in floriculture.

Mr. R. Cameron, the genial and widely known florist of Niagara Falls Park, contributed much to the success of the show by bringing from his home a magnificent collection of over 200 varieties of rare and beautiful flowering plants and shrubs. Many of them can be found nowhere else on the continent. There was, besides, a splendid array of the smaller fruits, showing the high state to which the fruit growers of this district have brought their products.—(S. Richardson, Jr., Sec'y.)

The Florists Will Meet.

The Canadian Horticultural Association will hold its 7th annual convention at Ottawa, August 9-10, in Goldsmith's Hall, Sparks street. There will be afternoon and evening sessions both days, and a morning session on the second day. The afternoon meeting on the second day will take the form of an excursion to the Experimental Farm. Reports of the secretary, treasurer, and all committees will be read at the opening session August 9. At the evening session, of the first day, Prof. W. T. Macoun, of the Experimental Farm, will give a lecture on Hardy Perennials, suitable for florists, illustrated by a large display; the choice of place for next meeting will be considered, and a discussion be held on, What is the best fuel for heating greenhouses?

The florists trade, from a retail standpoint, will be discussed by Mr. A. C. Wiltshire, of Montreal, at the morning session of the second day, and Holiday Plants, will be the subject of a paper by Mr. Wm. Gammage, of London. A question box will be opened, and the question, What advantage has iron construction of greenhouses over the old wooden construction? will be discussed.

The last meeting of the series will be the evening of August 10, when all unfinished business will be completed, officers elected and final committee reports read. On the following day, August 11, will be an all-day session with the Ottawa florists, when interesting places in and around the city will be visited.

Fine Display of Roses.—The Grimsby Horticultural Society were pleasantly entertained at the home of the president, June 29, when a large and splendid exhibition of roses was made a prominent feature of the program. The names of the varieties of the roses were marked on most of the specimens, which added greatly to the interest taken in the display. A musical program was rendered by the Grimsby musical club. Another meeting is planned for August.—(J. W. Brennan, Sec.)

Bulbs From Holland.—At a meeting of the directors of the Picton Horticultural Society, held during July, an order was sent to Holland for the bulbs for the fall distribution. The premiums will be six hyacinth bulbs and 19 narcissus bulbs of selected varieties, for each member.

Received Plants.—During May each member of the Port Hope Horticultural society received three boxes of annuals and two boxes of perennials. We have also placed in our high school grounds four boxes each of the following: Verbenas, asters, petunias, phlox drummondii, and three dozen geraniums.—(J. G. Jackson, Sec. Port Hope Hort'l Soc.)

At a meeting of the Kingston Horticultural Society, held early in July, it was unanimously decided to hold a show in September at a date to be later determined upon. A number of local florists, who were present, promised hearty co-operation, agreeing to make special exhibits to encourage amateurs. Such exhibits will not be judged for prizes.

The July meeting of the Perth Horticultural Society was one of the most successful ever held by that society. The experiment of holding summer meetings in the gardens and lawns of the different members of the society has proven such a success that it may be looked on as a permanent feature.

The Ottawa Horticultural Society deserves credit for its exhibition of fruit, flowers and vegetables held July 19. The display of horticultural products was a most pleasing and creditable one. The paper read by Mr. James Thorne, on The Experiences of a Beginner in Horticulture, was a fine one, and was presented in a humorous and pleasing manner. Discussions followed on different points of interest to all present.

The Fergus Horticultural Society held its regular exhibition July 22, resulting in the best of its kind ever attempted by this society. There are 62 members in the society.—(J. C. Templin, Sec.)

THE FRUIT PRIZE LIST FOR THE BIG SHOW.

The following prize list has been prepared for the fruit sections of the Provincial Fruit, Flower and Honey Show which will be held in Toronto next November. A number of special prizes have yet to be added, including one for the best exhibit of fruit made by any agricultural society in the province. This will give societies a chance to show what they can do. The express charges, one way, on exhibits of fruit will be paid by the Fruit Growers' Association:

APPLES.

A COMMERCIAL DIVISION.

Class 1. Export or foreign market varieties.

Section 1. Barrels ready for shipment. Baldwin, 1st \$8, 2nd \$6, 3rd \$4. Ben Davis, 1st \$8; 2nd \$6, 3rd \$4. Greening, 1st \$8, 2nd \$6, 3rd \$4. King, 1st \$8, 2nd \$6, 3rd \$4. Russet, 1st \$8, 2nd \$6, 3rd \$4. Spy, 1st 2nd \$6, 3rd \$4.

Section 2. Boxes ready for shipment (fruit unwrapped). Baldwin, 1st \$4, 2nd \$3, 3rd \$2. Greening, 1st \$4, 2nd \$3, 3rd \$2. King, 1st \$4, 2nd \$3, 3rd \$2. Russett, 1st \$4, 2nd \$3, 3rd \$2. Spy, 1st \$4, 2nd \$3, 3rd \$2.

Section 3. Boxes ready for shipment (fruit wrapped). Fameuse, 1st \$4, 2nd \$3, 3rd \$2. King, 1st \$4, 2nd \$3, 3rd \$2. McIntosh, 1st \$4, 2nd \$3, 3rd \$2. Spy, 1st \$4, 2nd \$3, 3rd \$2. Wealthy, 1st \$4, 2nd \$3, 3rd \$2.

Class 2. Domestic or home market varieties not included in Class 1.

Section 1. Barrels ready for shipment. Alexander, 1st \$5, 2nd \$3, 3rd \$2. Blenheim, 1st \$5, 2nd \$3, 3rd \$2. Gravenstein, 1st \$5, 2nd \$3, 3rd \$2. Hubbardston, 1st \$5, 2nd \$3, 3rd \$2. Yellow Bellefleur, 1st \$5, 2nd \$3, 3rd \$2. Any other variety, correctly named, 1st \$5, 2nd \$3, 3rd \$2.

Section 2. Boxes ready for shipment. Alexander, 1st \$3, 2nd \$2, 3rd \$1. Blenheim, 1st \$3, 2nd \$2, 3rd \$1. Gravenstein, 1st \$3, 2nd \$2, 3rd \$1. Yellow Bellefleur, 1st \$3, 2nd \$2, 3rd \$1. Any other variety, correctly named, 1st \$3, 2nd \$2, 3rd \$1.

All boxes must be Canadian standard size, 10 x 11 x 20, inside measurement.

AMATEUR DIVISION.

Class 1. Dessert varieties. Any 3 varieties, plates of five each, properly named, 1st \$3, 2nd \$2.50, 3rd \$2, 4th \$1.50, 5th \$1. Any new variety, plate of five, named, 1st \$2, 2nd \$1. Any seedling, plate of five, 1st \$2, 2nd \$1.

Class 2. Cooking varieties. Any 3 varieties, plates of five each, properly named, 1st \$3, 2nd \$2.50, 3rd \$2, 4th \$1.50, 5th \$1. Any new variety, plate of five, named, 1st \$2, 2nd \$1. Any seedling, plate of five, 1st \$2, 2nd \$1.

Class 3. Special decorative exhibits. Fruit decoration for dining table.

Class 4. Varieties for identification.

PEARS.

Class 1. Export varieties.

Section 1. Half cases ready for shipment

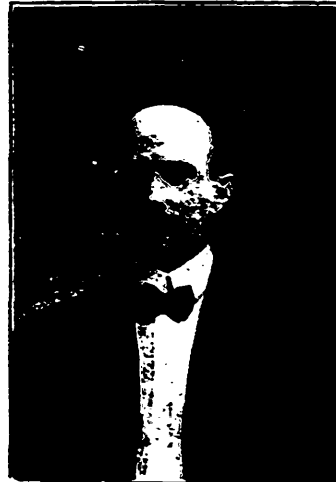
(fruit wrapped). Anjou, 1st \$3, 2nd \$2, 3rd \$1. Bosc, 1st \$3, 2nd \$2, 3rd \$1. Clairgeau, 1st \$3; 2nd \$2, 3rd \$1. Duchess, 1st \$3, 2nd \$2, 3rd \$1. Howell, 1st \$3, 2nd \$2, 3rd \$1. Keiffer, 1st \$3; 2nd \$2, 3rd \$1. Lawrence, 1st \$3, 2nd \$2, 3rd \$1. Louise Bonne, 1st \$3, 2nd \$2, 3rd \$1.

Class 2. Domestic varieties.

Section 1. 11-quart baskets, ready for shipment. Flemish Beauty, 1st \$2, 2nd \$1.50, 3rd \$1. Seckel, 1st \$2, 2nd \$1.50, 3rd \$1. Sheldon, 1st \$2, 2nd \$1.50, 3rd \$1. Winter Nellis, 1st \$2, 2nd \$1.50, 3rd \$1. Any other variety, correctly named, 1st \$2, 2nd \$1.50, 3rd \$1.

GRAPES.

Agawan, best six bunches, correctly named, 1st \$2, 2nd \$1. Campbell's Early, best six bunches, correctly named, 1st \$2, 2nd \$1. Concord, best six bunches, correctly named, 1st \$2,



John H. Dunlop.

Few florists are better known in Canada than Mr. John H. Dunlop, of Toronto. His first start as a florist was made in 1886 with a modest greenhouse, six feet high, erected in his back yard. To this addition have been made from time to time, until now his greenhouse plant on Lansdowne avenue, near floor street, covers four acres of ground, including 26 houses, two violet houses and five asparagus plumosus and similar houses. Mr. Dunlop is on the general and floral committees connected with the big fruit, flower and honey show, to be held in Toronto next November. He has been a member of the executive committee of the Society American Florists, and secretary and also the president of the Toronto Gardeners and Florists' Association, it being largely through his efforts this very useful association was organized, past president and treasurer of the Canadian Horticultural Association, a member of the American Carnation Society, American Rose Society, Toronto Horticultural Society and Industrial Exhibition Association. As a florist his specialty is roses, although carnations, violets and chrysanthemums are largely grown.

2nd \$1. Lindley, best six bunches, correctly named, 1st \$2, 2nd \$1. Niagara, best six bunches, correctly named, 1st \$2, 2nd \$1. Vergerennes, best six bunches, correctly named, 1st \$2, 2nd \$1. Wilder, best six bunches, correctly named, 1st \$2, 2nd \$1. Black grapes, best basket, 1st \$2, 2nd \$1. Red grapes, best basket, 1st \$2, 2nd \$1. White grapes, best basket, 1st \$2, 2nd \$1. Black grapes, best crate of small packages for long shipment, 1st \$2.50, 2nd \$1.50. Red grapes, best crate of small packages for long shipment, 1st \$2.50, 2nd \$1.50. White grapes, best crate of small packages for long shipment, 1st \$2.50, 2nd \$1.50.

ONTARIO'S FRUIT CROP BELOW THE AVERAGE

Reports received by The Horticulturist as late as the 25th of July from correspondents in all parts of the province indicate that fruit crops generally this year in most sections will be considerably below last year's yield, and that the total production of fruit will be on the light side.

Apples do not promise as well as earlier in the season. This crop, including early and late varieties, will not be more than a moderate one. Pears and plums will yield very lightly, as the crop is reported to be a complete failure in many sections, plum orchards particularly having suffered great damage from the severe weather last winter.

As predicted earlier in the season, the peach crop will also be light. As far as Ontario fruit is concerned prices this fall should range high. Reports received by The Horticulturist from outside places indicate that the apple crop in the United States, west of the Alleghany, is not as promising as earlier in the season. The British apple crop will probably be a good one as regards quantity but deficient in quality. Next month The Horticulturist will give an exhaustive report of fruit conditions all over the continent.

A Limited Peach Crop Anticipated.

Prospects for the peach crop are much the same as predicted in the July Horticulturist, when it was announced that the peach crop would probably be a light one. As was the case early in the season, growers continue to vary in their predictions, some placing the crop as a total failure in their sections, while others, in a few cases, expect a full crop. On the whole a light to in some cases a medium yield is anticipated in the principal producing sections, including the Niagara district and along Lake Erie to Essex and Kent counties.

In Wentworth county light to medium returns are looked for, while in Lincoln a medium crop seems to be generally anticipated. One grower reporting from the St. Catharines district states that growers who have peaches should be able to market them all, as the quality and size promise well. Reporting from Welland county, a grower states that his trees are commencing to die owing to the severity of the winter.

In Norfolk the yield is expected to be light, while in Brant correspondents estimate the crop will either be a failure or a very light one. Further west, in Kent, a light to medium return is looked for, as is also the case in Essex. On the whole the crop is going to be a light one.

Early Apples Will Be Light Crop

It becomes evident as the season advances that the crop of early apples will be rather light, taking the province as a whole. As announced in the July issue of The Horticulturist, the early varieties do not appear to be doing as well as the winter apples. In some sections of the province very favorable reports are received, while in others replies indicate that the crop will be rather a light one. Reports received

by The Horticulturist in regard to this crop have been very conflicting, making it difficult to give anything like exact estimates, but it seems safe to say that the crop will not be more than a moderate one at the outside.

In the southern section of the province, including the Niagara district and counties bordering on Lake Erie, the crop on the whole will be a medium one. In Lincoln and Welland counties orchards appear to be in fair condition, and growers expect a medium to full crop. Conditions in Brant county do not appear quite as favorable. One grower states that Astracans are a failure, while others believe the yield of early Astracans and Transparents will be light. According to one statement received, the apple crop is just medium, but what there is of good quality. Essex orchards promise light returns, while in Kent the production will range from a light to a full crop. In Raleigh township one grower writes apples are not more than two-thirds as good as last year, but are free from fungous diseases of any kind. In Harwich township early apples are reported a full crop.

Bordering Lake Huron and Georgian Bay, conditions generally are possibly a little more favorable. In Lambton a medium yield is generally anticipated, while in Huron conditions point to light to moderate returns. Growers in Bruce county vary in their estimates of crop prospects, one placing the Astracans as a very light yield, while others claim there will be a medium to full crop this year of this variety. On the whole, a medium crop seems probable. Conditions in Grey and Simcoe counties are the brightest of any reported, as a full crop is generally looked for.

Along the northern shore of Lake Ontario a moderate crop is promised. In Wentworth, York, Ontario, Durham and Hastings counties prospects are favorable for a satisfactory yield. In other counties trees promise a light to full crop. As stated at the outset, the prospects in the province as a whole do not indicate more than a moderate yield of early apples.

The Fall and Winter Apple Crop.

The reports received during the latter part of July by The Horticulturist indicate that fall and winter apples will not be as heavy a crop this year as last. In the principal producing sections of Ontario the crop, while heavy in some sections, is not likely to be more than a medium one on the whole. There are a number of sections where orchards will yield very lightly, which will tend to reduce the total production.

Growers reporting from the counties bordering on the northern shore of Lake Ontario indicate there will not be more than a medium yield of the winter or early fall varieties. A large number of reports from Wentworth and York counties show that this condition prevails in these two counties, as only a light to medium crop is looked for. In a number of counties the Spy and Ben Davis varieties are said to promise

a very light yield. The same applies to the Baldwin in a number of districts.

In northern and western sections of the province correspondents report prospects are for a medium to full crop in Simcoe and Grey counties and a light to medium yield in Bruce and Huron counties. Winter apples in Lambton county do not promise a large crop. The Baldwin, Spy and Ben Davis trees indicate a small yield is likely. In the southern portions of the province conditions on the whole are much the same. Reports from correspondents vary greatly, depending on local conditions. Only in rare sections is anything more than a medium crop expected, the majority of replies giving the impression that the total yield will run from very light to medium. Taking the replies received from all over the province, the crop evidently will not be a heavy one.

Plums a Failure in Many Sections.

The predictions made in the June and July issues of *The Horticulturist* that the yield of plums throughout the province this year would be light, were evidently well founded, judging from the reports received from growers as late as July 25.

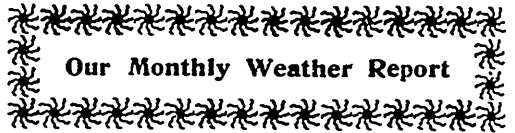
Conditions in the southern portions of the province are the most favorable, as in the territory stretching from the Niagara district to Kent county, along the northern shore of Lake Erie, at least a light yield is expected in most of the counties, while some look for a moderate crop. In Brant county plums are a failure in many sections, as is also the case in Kent county. Running north from Kent county to Georgian Bay and in the Lake Ontario districts orchards have been badly injured, report after report reaching *The Horticulturist* indicating the crop will be a complete failure. So universal are these reports of damage it is evident the total production throughout the province will be quite light.

Pear Orchards Promise Light Yields.

Prospects for the pear crop at this date do not appear as bright as a month ago. The correspondents in the northern part of the province and along Lake Ontario report the crop in their sections will be a very light one. In only a very few counties is a full crop anticipated, while in many the yield promises to be a total failure.

In Wentworth and York counties early and late pears will be a light to medium crop. The Anjou variety in a number of counties is said to be a total failure. Ontario county growers do not anticipate anything more than a light yield. The same remark applies also to most of the other counties bordering Lake Ontario. In the northern sections, including Simcoe and Grey counties, correspondents seem unanimous in the view that the yield will range from complete failure to a light one, while in Bruce, Huron and Lambton counties the anticipations are for more than a light crop. Replies received from the counties in the southern sec-

tions of the province go to show nothing more than a moderate crop is expected. The total replies received indicate that the crop this year throughout the province will be a very light one.



Our Monthly Weather Report

The mean temperature for the month of June was average, except in the more northern parts of Ontario, where it was very slightly above average. Temperature was fairly equable throughout the month; there were no periods of extreme heat, but the cool periods were tolerably pronounced. Rainfall was in excess of the average mean amount for June in the central and more northern counties of Ontario and markedly deficient near Lake Erie.

The first half of July was characterized by an excessive rainfall, almost the usual average monthly amount occurring during that period. This was probably more the case in the southern and central counties than in the more northern. The temperature up to the 15th was 1.4 degrees below the average mean at Toronto, and the discrepancy was no doubt general in the province. Sunshine for the same period was also generally deficient. From July 15th until the 20th fine hot weather prevailed, generally abnormally high temperature being recorded in all localities.

Central Canada Fair

—AT—

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