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THE CANADIAN HORTICULTURIST & BEEKEEPER

Vol. 28, No. 9, September, 1920
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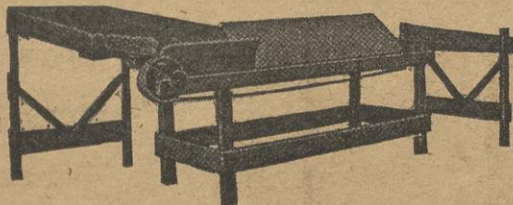
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The Canadian Horticulturist

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The Canadian Horticulturist and Beekeeper

(See Pages 257-262)

(See Pages 257-262)

Vol. 29

TORONTO, SEPTEMBER, 1920

No. 9

Packing and Marketing Quebec Apples

Prof. T. G. Bunting, Macdonald College, Quebec.

DISTRIBUTION of apples continues to be one of the big problems in connection with apple production, and is one that has not been tackled in a systematic, big way, as has the distribution of oranges, lemons, raisins, walnuts, prunes, and California deciduous fruits. The western apple growers, having somewhat the same marketing problems as growers of the fruits and nuts enumerated above, have organized and made great progress in the distribution of their fruits, so that western apples are found in their season on every market of Canada, the United States and England, and markets in other parts of the world are being opened up by their organizations.

Many Orchards Neglected.

In the east, it has been a fairly easy problem to find a buyer for apples at a price, and the growers have not been forced to organize in order to protect their capital (invested in their orchards) and to secure a living return. This return from the eastern apple grower's orchard is only a small part in most cases of his total farm income, and its real value has often been lost sight of in what has to him seemed the more important things. To-day, with the scarcity of farm labor and the high price of wages and the high cost of material (spray material, fertilizers, barrels, boxes, etc.), greater attention is paid to the matter of securing a proper return for the pro-

duce sold from the farm. This has meant that in some cases the orchard has been neglected for what has seemed more important work or the larger items of return on the farm.

The price of apples secured by the farmer has not kept pace with the increases in many other lines, yet the consumer is feeling the pinch of high prices for apples. With decreased production and a prosperous consuming public one might expect the apple grower to be in an enviable position; yet, on every hand, we hear complaints as to lack of distribution, low prices, and the speculative element entering too largely into the sales end of the business.

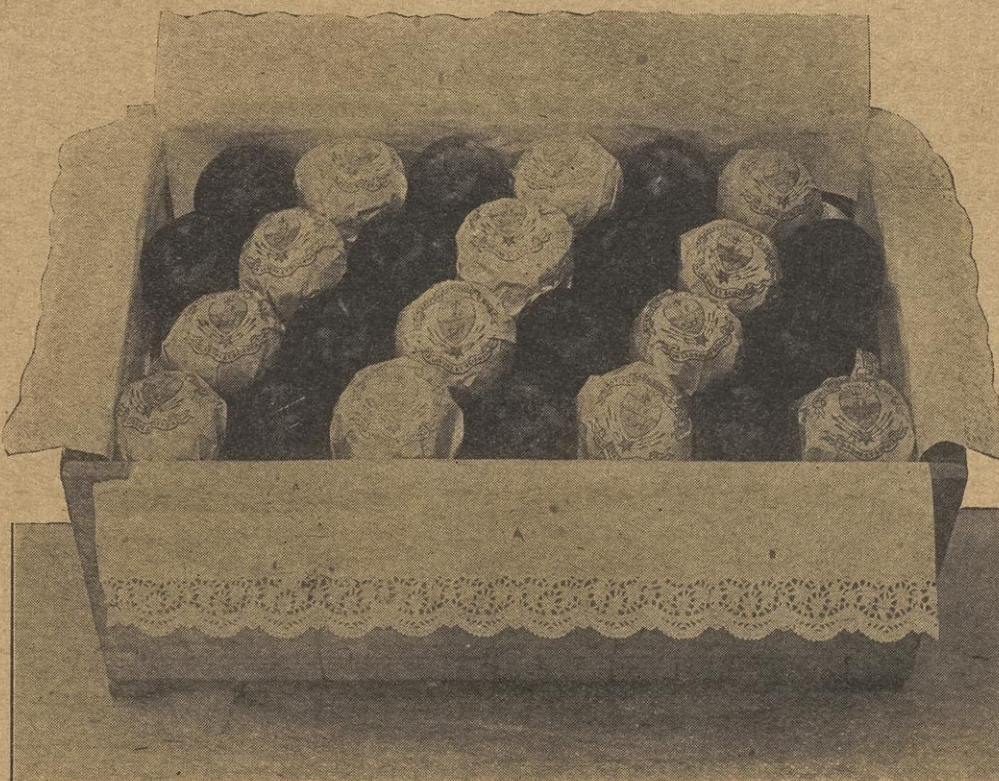
What is the remedy? Organization. Organization means the control of production, distribution, selling and the standardization of grades and packages. With so many facilities in

the east for ready selling of fruit and a large home consuming market, it is too much to expect the complete organization of the apple industry on the same scale as the California orange or deciduous fruit industries; yet many improvements may easily be made so that the grower may receive a larger return for his fruit.

The Speculative Element.

In Quebec, speculators still buy many orchards early in the season at a lump sum, and in other cases the farmers sell their crop as it matures to peddlers at so much a barrel or "in bulk." In this latter case, many make no attempt to produce high grade fruit, but gather such fruit as may be produced, transport it in bulk in wagons, and even in carloads, to the markets and of necessity sell it at a low price. The object is to eliminate expense at every step, thus resulting

in a highly perishable and low grade article, and, as the speculative element enters into it so largely, the farmer receives but little return. In 1919, many orchards in Quebec were sold "in bulk" at as low as \$1.00 a barrel on the tree to speculators, and in one case the dealer made a clear \$3.00 a barrel profit. In other cases, orchards were sold at the price of windfall apples, when 75 per cent. of the fruit or more would have been graded No. 1 and, if packed in boxes, would have commanded double or even treble the price.



Fancy grade of McIntosh apples with lace paper, grown and packed in Quebec. Growers of fine dessert apples in that province are coming more and more to appreciate the box as the best package for marketing. Boxes are little more expensive than barrels nowadays, and are much easier to handle.

The usual method in the province has been to market in barrels. The box is hardly used as a commercial package, except for a few special cases. It is this package, the box, which has established such a reputation for western fruit and is surely but slowly coming into use in the east. With the high cost of all packages (barrels at \$1.25 each) the box at 40 cents compares favorably in price, as there are about $3\frac{1}{4}$ boxes in a barrel, and the cost of handling is not materially higher, whereas boxed apples will bring a relatively higher price to the grower.

The difficulty in the past with adopting the box as the chief package has been the grower's prejudice toward it, because of his long familiarity with the barrel, and his belief that it requires an expert or long experience to properly pack one. This is not the case, as the box is a simple package to pack, if the rules are followed carefully and one makes an honest attempt to master them.

The Fruit Branch of the Department of Agriculture at Ottawa have issued bulletin No. 2, entitled "Modern Methods of Packing Apples," and a copy can be secured by making application to the Fruit Commissioner's office. This bulletin contains full information in regard to both box and barrel packages, and the proper methods of packing apples.

Box Packing.

For box packing, the apples are carefully graded for size, color and freedom from blemishes, so that all apples in one box are as nearly uniform as possible. They should be wrapped for best results in handling or in storage, as they keep better and longer, and in case one apple becomes rotten it will not affect adjoining ones. After wrapping, the apples are placed in tiers, usually four or five, depending on the size, and on their side, with slightly larger apples towards the middle of each tier in order to give the desired bulge to the box. The four-tier box will have larger apples than the five-tier one, and the pack should be a 2-2 diagonal one for it, with a 3-2 diagonal pack for the five-tier one. Each tier should be tight, and the apples of the tier immediately above should be placed so that they will rest in the spaces between the apples below; that is, they will rest on four apples instead of directly on one.

Emphasis should be placed on having the apples uniform in size throughout the box, with slightly larger ones in the centre, and each tier should act as a key to the one below, so that the apples cannot shift in position. The last tier should fill the box about one-quarter inch high at the ends and one

inch to one and a half inches high at the middle, so that, when the cover is nailed on, the box will have a three-quarter to one-inch bulge.

For Greater Returns.

Young women make better packers than men, as they are more nimble with the fingers and can usually make a neater job in wrapping and in placing the apples in the box. A good packer should pack about 40 boxes in a day, and this compares favorably with the quantity that can be packed in barrels, so that the cost of packing is very nearly the same, but there would be extra cost, a few cents a box, for paper. The difference in cost, however, even if the box does cost more, is not very great, and the extra returns for carefully graded and well packed boxes can often amount to from \$2.00 to \$5.00 a barrel.

Scab and Other Apple Troubles

Prof. L. Caesar, Ontario Agricultural College, Guelph.

UP to the present time, August 7, all sprayed apple orchards that I have visited in the province have been almost totally free from scab. Unsprayed orchards, too, are but little affected. There is some scab on the foliage of these orchards, but the fruit is probably 75 per cent. or more clean. There are also fewer worms than usual, both in sprayed and unsprayed orchards.

Shall We Spray Again for Scab?

Throughout July many growers have asked whether, owing to the unusual amount of rain, they should spray again to prevent scab development. My advice has been not to do so yet, because it is very unusual for apple scab to develop in July or the first half of August, even in a wetter season than this has been. This is not true, however, of the latter half of August or of September; for every grower has seen scab develop during this period. My advice, therefore, would be to watch the weather developments after August 15 and, if we have a week or more of dark moist weather, spray at once either the whole orchard, or at least all varieties, such as Snows and McIntosh, which are very susceptible to scab. This spray will also serve as an insurance against sooty fungus, which commonly develops in dark moist weather.

It makes very little difference whether lime-sulphur one gallon to 40 or 45 gallons of water, or Bordeaux mixture of the formula of three pounds of bluestone, five or six pounds of hydrated lime or fresh stone lime to 40 gallons of water is used. The

The writer saw beautiful Fameuse apples last fall that were sold for \$3.75 a barrel on the tree, that if graded and packed in boxes would have brought nearly as much per box and shown a much larger return for the crop. In this case the man was relieved of the responsibility of picking and packing his crop, but he saw the buyer make as much out of the orchard for taking this responsibility as he received in return for his capital, labor and profit.

One of the difficulties in the past has been to secure cheap boxes, but now that barrels are no longer cheap boxes should become more generally used. If the growers of Fameuse and McIntosh would handle these apples in boxes and not attempt to dispose of their crop so early in the season, they could in many cases double their returns.

main thing is to cover the fruit well, using preferably a fine mist instead of a coarse spray. It is not wise to spray in the heat of a very hot calm day, for fear of sunscalding the apples. A cool day or the evenings of hot days should be chosen instead. A wind helps to dry the spray rapidly and prevent sunscald injury.

Poison for Codling Moth

It looks at present as if there will not be nearly so many codling worms this year as usual. This is because the weather was cool up to the end of July, and cool weather for a moderately long period in summer lessens greatly the percentage of second brood larvae. So far as I can judge, it should not be necessary to spray again for codling moth this year in any but the warmer parts of the province, such as the Niagara District and possibly Burlington and the counties along Lake Erie. Even in these districts spraying should not be necessary, unless there were many worms last year. The best time to spray will probably be between August 15 and August 31, because the second brood should be emerging at this time.

If no fungicide is to be used arsenate of lead, one pound of the powder form or two pounds of the paste form to 40 gallons of water, is the only safe poison. This poison is, of course, safe and efficient with either lime-sulphur or Bordeaux mixture. Calcium arsenate (arsenate of lime), is, of course, safe with Bordeaux, but, if used with lime-sulphur, should have three- or

(Continued on page 254.)

Future of Ontario's Apple Industry

P. J. Carey, Orchard and Packing Specialist, Fruit Branch, Ottawa.

THAT the apple industry, as far as Ontario is concerned at least, is, and has been for some time, on the downward path must be admitted, and it will take some time and more than ordinary effort to give it again the place it once held. A number of causes can be summed up as contributing to its present standing, some unavoidable, such as climatic conditions, and many that could have been avoided.

When Apples Were Boomed.

In order to discuss this subject intelligently, it will be necessary to go back a few years to the time when apple growing was boomed in Ontario. The press, as well as scores of public speakers throughout the province, set forth in glowing terms, the fabulous profits that lay in wait for those who went into apple growing.

Naturally this had the effect of bringing into the business scores of men, many of whom had little, if any, knowledge of what was necessary for the successful growing or handling of apples. Amongst those who were enticed into the business were men of nearly all professions—doctors, lawyers, druggists, manufacturers, etc.—who were seized with the fever of getting rich quick.

There was no lack of promoters, and numbers of syndicates and companies of all kinds were formed, and men put in charge who seemed to know little more than draw their salary. Old orchards were leased and new ones planted and, judging from what followed, it would seem that those interested were seized with the idea that all that was necessary was to plant the trees, and after a few years the profits would come tumbling in.

But it did not take long, however, for the fact to establish itself that, in order to grow good apples in Ontario and market the same, it required the best efforts and application of men having the keenest practical knowledge of the requirements of such an undertaking. So, it turns out that when a man makes the assertion that it is easy to grow good apples in Ontario, he is not tell-

ing the truth. On the other hand, eternal vigilance seems to be the price.

The dreams of the "get-rich-quick" fellows were never realized, and after a few years of disappointment they left the field of apple handling as hurriedly as they had entered it. All through the period in question, however, it must be said that there were a number of growers who advanced along business lines, and had splendid results.

Then came the war, and with its new conditions the prices of all kinds of farm products trebled, and the same could be said of wages. In the face of this, there was little chance for the apple orchard, which was almost entirely forgotten—a condition that still prevails. Added to this was the closing out of the exporting of our apples, which had the effect of throwing the whole product of the apple orchards on the home market.

Crushing Blows.

Then came the last crushing blow in the winter of 1917-18, when almost 50 per cent of the trees north of Lake Ontario were either entirely killed or injured by the extreme cold weather.

This set-back, coupled with the many

other adverses, seemed for a time almost to seal the fate of the Ontario apple industry.

A Temporary Re-awakening.

In the winter of 1919 there came a sudden burst of sunshine in the shape of the removal of the embargo on apples to the Old Country, and those who were fortunate enough to have held apples received back fabulous prices, and some dealers were made wealthy.

This fact seemed to have given the industry a new life. The season following, the dealers made a mad rush for the Old Country markets with an expectation that the prices of a year before would be repeated, but they were doomed to disappointment. Owing to many faulty conditions, poor packing, poor transportation, and heavy shipments of fruit, with quality in many cases little better than trash, the returns were very disappointing. This was history repeating itself. It has always been so in the apple export business.

This brings us to season of 1920-21, just opening. A serious handicap faces the handlers in the shape of high-priced packages, high-priced labor, and high freight rates, but prospects are at least fair.

Outlook for Future.

But what of the future? Are we down-hearted? The writer has every confidence in the belief that there are bright days ahead for the Ontario apple industry. The new start is bound to be under more favorable conditions. Those who still have the courage to consider the apple business a good commercial venture will have the advantage of past experiences. They will put the business on a sound basis. They will have a smaller number of competitors. They will have the advantage over those who were in the business in the past, inasmuch as the problems have all been solved. The fallacies and notions surrounding the trade have all been exploded; and the fellows who have been "chasing rainbows," so to speak, have quit the job.



"In order to grow good apples in Ontario, and market the same, it requires the best efforts and application of men who have the keenest practical knowledge of the requirements of the business. . . . The days of the small orchards are numbered. Apple growing in the future will be carried on as a real business."

The days of the small orchards are numbered. It looks as though apple growing in the future will be carried on as a real business, instead of as a side-line. Large growers in the last few years, and especially last year, received prices almost startling. There were several cases of individual Northern Spy trees producing fruit to the value of from \$50 to \$75 each. While this was an exception, it shows the wonderful possibility of the well-cared for trees. It is safe to predict that neither the export nor domestic market will ever be glutted with apples of high quality.

In the past, too much has been expected of the apple orchard; hence, the great disappointment of those who engaged in the business. In the future it looks like the survival of the fittest. When we get into the business men who will make apple growing their centre of interest, the trade will then be on sound basis.

Some Suggestions.

One of the first moves in the direction of the industry taking new life will be the planting of new orchards. New planting has almost entirely fallen off. Owing to the fact that the winter killing of trees has become a serious problem, the prospective apple grower is in need of advice as to the safe lines to follow in setting out an orchard.

In districts where there is danger of winter injury, none but hardy varieties should be planted, but, better still,

What the West Wants in Apples

F. H. Steele, Chief Fruit Inspector for Prairie Provinces.

OWING to climatic conditions, the three prairie provinces of Canada do not grow apples in a commercial way, but as the population is rapidly increasing, the demand for apples is becoming greater every year. Apples are in good demand, from the earliest grown apple to the last apple taken out of storage in late spring.

Summer and Fall Varieties.

This market requires, first of all, reliably packed apples, whether in baskets, boxes or barrels. The higher grades always realize the most satisfactory prices. In the early or summer season sound apples of any variety are welcome, and sell well in small baskets or boxes. Apples in bushel baskets also are fairly popular with the retailer at this time, as he usually sells these by the pound, the prices for early apples generally being so high that the consumer buys only in small quantities.

When the summer season is over



Scarcity of packages of all kinds this season, especially of apple barrels, has made it necessary to adopt and use almost any kind of package that is available. The bushel hamper is being used quite extensively for apples. This picture shows various types of packages used for apples in the State of Michigan. Note the large cardboard box on the table, with each apple placed by itself in a section made of corrugated paper.

plant heavily in districts where it is shown that there is freedom from such injury.

When things in general, including the inflated prices of other agricultural products, will have settled down to normal, it is safe to say that apple growing will again take its place as one of the first industries in Ontario.

so carefully packed as boxes, apples in barrels do not keep so well; at the price, the consumer cannot afford to have much waste.

Winter Varieties.

The demand for winter varieties is very heavy, colored apples again being the ones desired. The apples must be varieties which will stand storing for fairly long periods. In many instances they are not put into consumption until the following spring. If carefully packed, however, and of a good winter variety, they will come out in good shape in the spring.

The different varieties of apples must be handled in their proper season, or there will always be loss from waste. It is well to remember that apples of very high quality are brought into the western markets from all the producing districts in North America, and competition is very keen. For this reason every shipper of apples in Canada should personally see that no fruit is packed that is not in every particular up to the grade requirements indicated by the marks on the package.

The best way to keep celery is to dig it up during the month of October or before severe frost and store it in a dark, cool, well-ventilated cellar which is not wet but yet not too dry. Before storing, some of the outer leaves may be removed and the roots shortened a little, if they are very long.—W. T. Macoun, Ottawa.

Growing Pears For Profit

Lt.-Col. H. L. Roberts, Grimsby, Ont.

MEN who intend to make a success of pear growing in the Niagara Peninsula must be prepared to give eternal vigilance to the job—or grow Kieffers. I know little about growing Kieffers, but my opinion is that the Kieffer grower occupies the same position in relation to other pear growers as the Champion grape grower does to other grape growers, only he has this much excuse for it: the Kieffer is said to be blight-resistant, while the Champion grape is no easier to grow than many better varieties.

The Blight Problem.

Blight is the great pear difficulty. It can be controlled, but only by unceasing vigilance and thoroughness. If a man is not prepared to give the necessary care and attention to it, he had better save his own pocket and his neighbor's by staying out of pear growing. Just on account of this difficulty, I believe, on the other hand, that the man with a full-grown pear orchard will be in possession of one of the most valuable types of orchard in another 10 years, if he has good varieties.

To plant and bring a young orchard into bearing requires considerable difference in treatment to that given a full-grown bearing orchard. Body blight is a serious thing for the pear owner; all trees, until they are large enough to have the thickened rough bark well extended up the main limbs, are comparatively easily affected. Once they have reached this size, if suckers are prevented on the trunk and main limbs, they are fairly easily kept clear of it by regular attention to the removal of twig blight. Blight in the trunk and limbs, besides being a fatal type to the entire tree, is also a difficult one to find. The discolored leaves and shrivelled blossoms call attention at once to twig blight, while body blight requires a minute search. Minute inspection of the trees twice a month through the season is necessary to control blight satisfactorily.

Slow growth of tree must be the aim of the pear grower. Vigorous succulent growth is a direct encouragement to blight, and also causes it to run much more quickly. The aim, therefore, with young pears ought to be to grow trees, not fruit; and cultivation, cover cropping, pruning and fertilizing should all be used or omitted to secure slow growth. A young orchard should be kept cultivated moderately, pruned as little as possible (only to correct bad shape of tree), and fertilized only when absolutely necessary.

In sod versus cultivation of pears, the governing factor is probably the strength of the land. The change from cultivation to sod is easy, but changing from sod to cultivation generally means the loss of the orchard from blight; therefore, a young orchard should be cultivated until you have seen that your trees are growing so strongly that sod or part sod is necessary.

Planting alternately pears and plums in an orchard is considerable help in blight control, but makes more trouble and expense in spraying and picking, and also means more curculio-bitten pears, because the plums, being the curculio's favorite fruit, bring more of them around. I think the advantages of this system outweigh the disadvantages, especially for young trees.

Perfect drainage is just as important with pears as with other fruit trees. The pear tree will not thrive on land that is always wet.

When blight is cut, the tools must always be disinfected. No cutting for twig blight should be needed; if it is properly attended to, the blight can always be broken out by hand, which avoids risk of re-infection. When the trees are searched for hold-over blight, which is best done in the dormant season, these breaks can be trimmed up. Every tree must be carefully searched for hold-over blight, which must be thoroughly removed. This is the difficult part of blight control, because the hold-over blight is hard to recognize. Pear psylla is another scourge dreaded by pear growers, but so far with me has given no trouble.

Treatment of Bearing Orchards.

In an old orchard the trees should be kept vigorous enough to get size on the fruit, either by fertilizers or cultivation (the latter for preference), and pruning should be done only to the extent necessary to prevent misshapen trees. Spraying should be done in accordance with the provincial spray calendar. Disease and insects must be kept in check.

Growth can be retarded to quite an extent by seeding down to a strong-growing cover crop at the earliest date possible in spring. As soon as the spring rains are over and the ground shows signs of hardening, turn in the cover crop. This requires careful watching; otherwise, the ground gets too hard to allow turning in the cover crop, and the trees are then robbed of moisture just at the time they most need it. Sometimes this method does not work. If one turns in the cover crop, thinking the weather is getting dry, and a further period of wet weather comes along, the trees seem to make even more succulent growth than one would have expected in the first place.

Preparing for Market.

A good guide for time of picking is gently to raise the pear until the blossom end is up. If the stem is dry enough, it will break off at the fruit spur. To avoid damage, pears require just as careful picking and handling as other fruits. If pears are to be



"The Kieffer grower occupies the same position in relation to other pear growers as the Champion grape grower does to other grape growers, only he has this much excuse for it: the Kieffer is said to be blight-resistant, while the Champion grape is no easier to grow than many better varieties."

exported, they should be packed as soon as picked and put into cold storage at once. When pears are picked and allowed to lie (unless in cold storage) before packing, their keeping qualities are much affected.

The wrapping and packing of pears requires a good deal of practice, but they wrap and pack beautifully when properly done. To get an even pack they should be sized by machine (I use one of the conveyor type and find it quite satisfactory). On the larger size, I use a 10-inch or 12-inch square paper. The paper is picked up in the left hand, the pear in the right; the first and second fingers of the left hand are kept separated and the paper is held so that a corner comes in line with the space between these fingers.

The pear is placed on its side in the palm of the left hand with the stem pointing to the same corner. The paper is then rounded up over the pear by sweeping the right hand around it, and the whole thing is given a twist by the right hand, at the same time allowing the stem end of the pear to drop in between the first and second fingers of the left hand. The paper end that is sticking out is then folded down and the pear laid in the box with the folded piece of paper down. This manipulation is difficult at first, but is very quick and simple when mastered.

Pears for export must, of course, be boxed and marked in the ordinary way. Particulars of this can be obtained from the Dominion fruit inspectors.

Picking and Marketing Grapes

C. C. Pettit, Fruitland, Ont.

GRAPES should not be picked until they are ripe, unless to be used for jelly. Grapes a little under-ripe jell easier than do thoroughly-ripened ones.

The putting of green grapes on the market does a great deal of injury to the industry, as a consumer who has purchased a basket of "pig squealers" will not care to buy another for some time. Grapes are not like tree fruits. They will not improve in flavor after being cut. One or two varieties will color up some after being picked on the green side, but they never improve in flavor.

In gathering the crop each picker

should be provided with shoulder straps to slip through the handle of the basket, leaving both hands free for the work. Use a knife, or, better still, small shears made on purpose for the job.

The writer has never yet paid his pickers by the basket, as many growers do. We prefer to pay by the hour, as it takes away the incentive for rough handling, not nearly so many are dropped on the ground, and a careful picker will crack very few grapes and will not leave many bunches for the gleaner. Grapes picked carefully arrive on the market in much better condition than those that are handled

roughly and are cracked. This is especially true of the more distant markets, especially the West. Of course, grapes sold for wine do not need to be handled so carefully.

Outside of those sold for wine and grape juice, the bulk of the grapes are sold by the growers to dealers, and they are then put on the market through the order trade, or in carload lots to the wholesale fruit dealers and commission men throughout the country. Quite a trade is developing with American dealers and grape juice firms. No doubt a great many cars will go to the other side this year.

The regular six-quart basket is used for a very large bulk of the crop that is put on the open market. Quite a trade is being developed in some quarters for the "pony basket," but that is in its infancy as yet.

In a normal year the season begins about September 1st, and lasts until about October 20th or 25th, with always a few who are a little later in cleaning up. Bright, warm weather is always good weather for marketing grapes. Cool, wet weather generally has a very depressing effect on the grape market.

Apple Troubles

(Concluded from Page 250.)

four pounds of hydrated or fresh stone lime added to every 40 gallons of the diluted liquid to prevent injury.

In all of the above cases, those who have a duster may feel safe in using either the sulphur-arsenate of lead dust or the poisoned Bordeaux dust as a substitute for the liquid spray.

Apple Aphids.

There has been more than the usual number of small deformed apples this year. These are most common on the lower parts of the trees and are almost entirely due to the attacks of the rosy aphids. This species of aphid is very rare on the trees now, as it has migrated to certain weeds. The aphids now found on the apple foliage are green, not rosy, in color and are known as the green apple aphids.

I should not recommend spraying large apple trees now to kill these insects because, no matter how thoroughly the work is done, it is impossible to secure satisfactory results. It will, however, pay to spray small trees, say trees not set out more than four years, if these are severely infested at this time.

Either Black Leaf 40 with soap, according to the directions on the can, or whale oil soap, one gallon to six gallons of rain water, may be used. It must be remembered, of course, that the aphids will not be killed unless hit by the mixture.



Scene on fruit farm of Lt.-Col. H. L. Roberts, Grimsby, Ont. On the right is an orchard of Seckle and Winter Nellis pears interplanted with Japanese plums (Shiro). On the left is a row of Flemish Beauty pears.

In the Niagara District in August

By the Editor

IN some ways, the Niagara district's worst enemy is itself. In July and August I saw shipments of stuff—it deserved even a worse name—leave the Niagara District for Toronto market and for points far east and west that would give the finest fruit district in the world a name bad enough to take a decade to live down. Green cherries, thinned apples, half-rotten apples, windfalls, tomatoes that were dirty, rough, ungraded, and of all stages of ripeness in the same basket—all being shipped by certain growers as products of a district that prides itself on being right there with the goods! If the careful growers and shippers of the district doubt these statements, "The Canadian Horticulturist" has the names of the offenders and names of witnesses for substantiation. For the good name of the district, and because the law does not cover all such cases, they should be published as examples—and perhaps they will be, regardless of the particular individuals that are hit. It's the honor of the district that such men have in their hands, and they should be exposed in public print. Such cases are exceptions, as everyone knows, but they do immeasurable injury to high-class goods from the same district. Here are two illustrations:

For the Good of the Cause.

At Grimsby Beach station, on August 11, I saw a shipment of Astrachan apples billed for Nova Scotia containing windfalls of all sizes and condition, including from one to six partially-rotten apples in each basket—some so rotten that one could stick his finger through them with ease. The baskets had been packed according to law in these particulars—well filled and with the face indicating the contents—but they contained some apples unfit for use, and they broke the law of good faith with the party at the other end of the transaction. What do the Nova Scotia buyers and consumers of those apples now think of Ontario fruit?

Away from Ontario an incident in the writer's life occurred that is worth the telling. In 1914 and 1915, in the course of duties connected with a St. Louis, Mo., agricultural paper that I was editing at that time, I had the pleasure of spending occasional days and hours in the fruit orchards of Missouri and Illinois. One day on a shipping platform near the Mississippi River on the Illinois side, I heard a fruit grower, who appeared with a load

of trashy apples, get one of the finest calling-downs that man could get from fellow-man. The calling-down did not come from a fruit inspector, because there were no inspectors there in those days, nor did it come from the



A good beginning and a bad ending: Profits of summer's work lost because of careless loading. As fruit nowadays often is shipped long distances, the shipper must take into consideration every factor that will insure the product arriving at its destination in good condition.

buyer-shipper; it came "straight from the shoulders" of that man's neighbor apple growers. And more than that, the shipper was informed that if he accepted that man's load of trash, which would injure the good name of the district, if shipped, he would get no more apples from those present, who shipped only honest goods. That load of trash was turned down. My thoughts then flew back to old Ontario, and I wondered how many growers in this province would have the nerve to protect their own interests by seeing that others obeyed the unwritten law of doing things right.

Tomatoes and Tomatoes.

To return to Grimsby, for the second illustration: That same day, August 11, in Grimsby town, a Dominion Express car was being loaded for Saskatoon, Saskatchewan, with a mixed lot of fruit and vegetables. Much of the load was A1, but the tomatoes, mostly from near the Jordan River, were a mighty poor advertisement for the Niagara District—in fact, they were an absolute disgrace. And most of them came from the farm of a man whose name has appeared in

"The Canadian Horticulturist" two or three times this season as one of the biggest tomato growers of the district. In one and the same basket were placed green tomatoes, half-ripe tomatoes and ripe tomatoes; there was no

attempt at sorting, large and small being jumbled together; fine smooth tomatoes and the roughest of the rough reposed side by side; clean tomatoes and balls of earth (with probably tomatoes inside) mingled in inanimate disgust—all these degrees of conditions for the west, where confidence in Niagara District products can be established and maintained by uniformity and quality alone. A large number of the baskets were not hooked; some were without hooks at all. And it cost just the same—about 50 cents—to carry that stuff to the west as it cost to carry a car of high-class tomatoes that I saw leave Winona the same day!

But there was a difference in those Winona tomatoes that meant even more than dollars and cents. Each basket contained tomatoes that were even in size, only half-ripe (which assured their reaching their destination in the proper condition), and of the same degree of ripeness in same basket, clean and smooth specimens that were a credit alike to the grower and the district. Shipments of this kind are going forward constantly from all parts of the district—and are

being injured quite frequently by shipments of the other kind. How long will the better class of growers and shippers, who are in the majority, stand for this kind of thing—this district defamation of character on the part of those who do not care?

Plum and Cherry Talks.

It is expected that plums will go to the west in large lots this year. Early last month a start was made with some very fine Shiros at various stations in the district, and other varieties followed in order. T. Liddle, of Grimsby, said: "There's a market in the west for every plum grown in Ontario this year. We should develop that market to its fullest capacity."

A practical demonstration of the value of spraying for aphids on cherry trees was seen in the orchard of H. K. Griffith, Grimsby. Trees sprayed first when the aphids were hatching and again a few days later, with Bordeaux and Black Leaf 40, were clean, while unsprayed trees nearby were badly infested. Mr. Griffith said that he consulted Vineland Experiment Station by phone on such matters, and thought that many growers would benefit by doing the same.

"This has been a wonderful fruit season," said David Allan, Grimsby. "Not only has there been a large crop of fruit, but prices generally have been good from beginning to end of the marketing season for each fruit. This was particularly true in the case of cherries. After a high early price, there was no drop, as in former years, with almost the end of the season." Mr. Allan thought that peaches, plums and grapes would average at least 75 per cent of a normal crop. Japanese plums were a good crop for the first time in years.

Mr. Allan told me of grafting with Burbank some plum trees that had been bought for Reine Claude, but turned out a poor type of Gage. The grafts took well and were satisfactory in every way. A few were grafted with Grand Duke, but did not give good results.

Promising Seedling Peach.

A promising seedling peach found in the orchard of A. H. Culp, Vineland Station, is being propagated for testing at Vineland Experiment Station. Mr. Culp said that this seedling was a yellow freestone, a week earlier than Elberta, but not so "oblong" in shape as the latter—"altogether," he said, "a fine peach." Another seedling in Mr. Culp's orchard has many good points, but has yellow flesh, which is not popular in this country. "It's too bad that our markets do not want white-fleshed peaches," said Mr. Culp. "The people are constantly fooling themselves in this matter. Some of the white-fleshed varieties are better in quality than any with yellow flesh. There's no better-qualified peach grown than the Mountain Rose."

The peach orchard of Hamilton Fleming, Grimsby, was one of the many in the district that showed the effects of the wind and rainstorm towards the end of July. Some of the

older peach trees that were heavily loaded with fruit suffered by splitting and breakage of limbs. An interesting feature of Mr. Fleming's orchard operations is the retail fruit and vegetable stand that he maintains by the roadside—the Hamilton-Queenston highway, on which tourists and travellers by the hundred pass through the fruit district daily. While only a minor factor in his orchard business, this stand lures many a dollar from the pockets of appreciative motorists—how many I am not permitted to say, but more in a day than many an editor earns in a week. In effect, if not in fact, it seemed to bear some such alluring sign as:

STOP!

If ye are weary and
—go home heavy laden!

The day of my visit it was indeed tempting with its display of crimson cherries in various-sized packages, of early tomatoes so luscious that they fairly begged to be eaten out of hand, and of fresh young potatoes fit for the pot of a potentate. Later in the month I passed this stand on a motor trip and saw sweet corn, early peaches and other things added to the assortment. Retail stands of this nature are becoming quite a feature in the front-door economics of the district.

Warning re Peach Borers

W. E. Biggar, Provincial Fruit Pest Inspector, Hamilton, Ont.

DURING the past few weeks I have examined many peach orchards throughout the Niagara district, and believe that the peach borer will do an immense amount of damage in 1921 unless peach growers

examine their trees in October and remove the borers. The borers at the present time (August) are in the pupal stage, and will be found in the soil and gum masses close to the tree—a brown, cone-shaped cocoon, covered with brown castings.

At the base of some of the trees I have found as high as 18 and 20 pupas. As each female is capable of laying 600 to 700 eggs, one may have an idea what will happen next year unless something is done to destroy the larvae this fall. The larvae injures the tree by eating or boring into the bark and sapwood just at or below the surface of the soil. Badly-affected trees are much weakened, and are likely to perish during the winter.

The safest and surest way to get rid of the borer is to remove the soil around the base of the tree to the depth of two or three inches, and use an ordinary pocket-knife. Scrape away the gum masses, and you will usually find a hole in the bark where the borer is. Follow the hole with the blade of the knife until you find the borer, being careful not to cut away the uninjured bark any more than necessary.



Scene at railroad station, Clarkson's, Ont., just before the fruit special is due. This season is one of the busiest ever experienced at railway stations throughout the entire Niagara District. At stations where the platforms are raised there is less handling and quicker work done than at stations not so equipped.

Packing Material For Hive Walls

J. F. Dunn, Ridgeway, Ont.

THE relative values of the different materials commonly used in packing single-walled hives and between the walls of double-walled hives has held great interest for me, and I have on an extensive scale used about everything, from re-granulated cork to planer shavings. I might end this article right here, giving my opinion the Alpha and Omega of the whole question; re-granulated cork is the best and planer shavings the poorest.

Principles of Insulation.

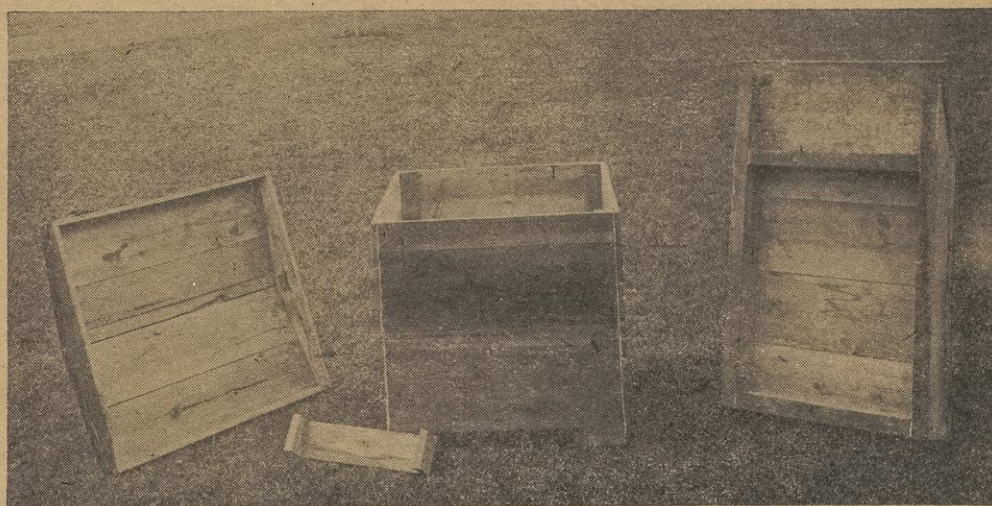
The insulator is some material which is a non-conductor of heat, and hence has the property of resisting, more or less, the flow of heat from point of high temperature to one of lower. The transference takes place chiefly by conduction, or the passing along of heat from particle to particle by contact. It also takes place to a large extent in certain walls by convection. This works out in the following way. If the space between two walls be left empty, the enclosed air on the side next to the high temperature condition (heat of the sun, for example) becomes warmer than the other side, and consequently a circulation is established—the warmer air rising and the cooler air falling; hence the warm air is conducted from the outside to the inside. In a sense such a circulation pumps the warm air through the wall. The better the insulation the slower the heat will pass (say during a zero freeze) from the inside of the hive to outside of the packing case. The principle of radiation also play a part—that is, the flowing back of the heat from the surface the better radiating surface supplying less heat for transference than the poorer radiating surface.

Insulator Values.

Anything of a fibrous nature makes a first-class insulator. Re-granulated cork is the waste product of what is known as "cork-board insulation." The raw cork is treated to remove all moisture, then ground in a somewhat similar manner to flour, put under high pressure and formed into large blocks to place between the steel walls of bank vaults and safes. It then goes through the ovens until everything that hinders insulation is driven out. The large cork boards are then trimmed into blocks several feet square, and the edgings are re-ground fine. "Cork chips," such as grapes are packed in, is simply raw cork broken up, and, in my opinion, very little better than very dry forest leaves

broken up fine. Straw cut up very fine, or just as short as a power cutter can be set to cut it, is, in my opinion, the next best material to re-granulated cork, although I would want about double the thickness of packing than of the cork. Dry forest leaves I place next. If they are several years old and broken up fine I would give them second place, or just as good as second choice. Natural color, untreated cork, which is very much coarser than the dark re-granulated article, I would place third in value; fine chaff would get fourth place with me, dry sawdust next, and planer shavings last. The latter packing is

ferred), before he puts them in the clamps. Try a few packed that way; listen at the entrance during a zero freeze, and then go to other clamps packed in the ordinary way and note the difference. In fact, that is how we "put it up to the bees," and have them tell us what they think about it. We winter about 80 per cent. of our bees in light, double-walled hives, and the heavy insulating paper next the cork packing we consider of more use than the packing, although the hive would be of little value without the packing. There is no such thing as a "dead air space." We have enough of these hives for all of our bees, but every



A good type of single wintering case, showing the construction of the three parts. On the left is the gable cover; in centre, the body of the case with the entrance bridge leaning against same; right, the floor of the case, showing underside. This case is used by F. W. Krouse, Guelph, Ont.

more extensively used than any other because it is the easiest to procure; but it takes more packing space to get good results in winter.

We may tabulate our experience with the various insulating materials, showing the relative value in comparison with re-granulated cork as follows:

Re-granulated cork	.....	100	per cent.
Finely-cut leaves	.....	86	" "
Forest leaves	.....	84	" "
Cork chips	.....	80	" "
Fine wheat chaff	.....	70	" "
Sawdust	.....	65	" "
Planer shavings	.....	55	" "

Wrapping for Winter.

When using poor insulating material thicker packing is required, and the vitality of the bees is lessened by having to warm extra space. The wise beekeeper will wrap his single-walled hives lightly with heavy paper, or, better still, with cardboard (shredded wheat biscuit cartons pre-

winter we put about 20 per cent. of them in single-wall hives and pack them in almost every conceivable way. By listening at the entrance during severe weather, we know which are the more quiet; the amount of brood in the combs at the time of fruit bloom tells the rest.

Sugar Syrup Feeding

H. W. Jones, Bedford, Que.

In actual operation we go at the job of sugar syrup feeding in this way: We have a large boiler, such as farmers use for heating feed for stock, and which consists of a big iron kettle on top of a small stove. We fill this up with about the quantity of water that we expect to use and heat the water until it is boiling hot—the hotter the water is the quicker it will melt the sugar and make a syrup. For mixing the sugar

*Extract from paper read before the Ontario Beekeepers' Association, November, 1919.

and water into a syrup we have a vat made of galvanized iron, about 7 feet long, 18 inches wide, made with a rounding bottom.

The reason why a rounding bottom is to be preferred is because in stirring up the sugar in the water the sugar has a tendency to settle all the time, and when it settles it is rather hard to stir; with a rounding bottom, it is always settling to the lower level, and, with a wooden paddle about three feet long, the whole mass can be stirred very easily by shoving the paddle from end to end across the bottom.

For winter feed, we use a proportion of slightly over two to one by weight, putting in about 45 pounds of boiling water to a 100-pound sack of fine granulated, white cane sugar. In late feeding, when the bees do not have much time to ripen the syrup, it is advisable to mix in about a tablespoonful of salt and two tablespoonfuls of good vinegar to counteract any tendency to granulation.

The ordinary granulation sugar can be purchased in three grades, known respectively as fine, medium and standard. When buying sugar for

this purpose, the finest grade of granulation is much to be preferred, as it absorbs the water and melts into a syrup much more quickly than the coarser grades of refining will.

For winter feeding in bulk, we use the standard Miller feeder. Immediately before putting the syrup on the hives, these are distributed, one or two to a hive, as may be required, then with a large sized watering can we go from hive to hive filling each feeder with the required amount. It may be worthy of remark here that it is necessary to allow the syrup to cool somewhat in the vat before pouring into the feeders, as it would otherwise melt the waterproofing on them. In filling the feeder, if a few drops are allowed to trickle down the opening to attract the bees they come up much more quickly to take it down. Feeding at the time of the year that we endeavor to, the bees will take down 20 pounds of syrup in 24 hours, so that it is not a very long undertaking to feed a couple of hundred colonies. Feeding a large quantity in bulk, the bees take it down and store it away quickly.

young virgin, or laying queen balled or fresh from the mails.

John A. McKinnon, of St. Eugene, Ont., states, "The hardest kind of queen to introduce is a virgin four or five days old." (See *Beekeeper* of June, page 169).

With the royal-jelly method it is as simple as it is short. Remember, it is not of use for one, two and three days after dequeening. The fourth day there is still some percentage of failure, but on the fifth day, it is absolutely safe. See if there are some queen cells in the hive in which you are going to work. If there are any queen cells (unsealed cell preferable), use the royal-jelly found in it. If the same hive has no cell, you may take royal-jelly from any other hive. Take a comb out of the hive to which the queen is to be introduced, with adhering bees. Paint an amount of royal jelly on tips of wings and abdomen of the queen with jelly-spoon or any other tool. Then, release the queen among the bees. Return the comb, bees and all, and the work is over. You will see the queen in the hive peacefully laying at next visit. It is optional whether you destroy all queen cells in the hive or not.

Aluminum Combs.

Years ago I noticed aluminum comb was made in America. I have not had an opportunity to obtain it until last Fall. Then when I ordered some bee supplies from an American dealer, I sent for some aluminum combs. It was received in good condition one day in January this year. It was, of course, not used for my bees instantly, because it was too cold to insert it into the hive. I put the first comb in a colony on April 4th. Two days after, I examined the hive. The little holes at each cell-base of the aluminum comb were plugged by the bees with wax, which looked as if it were old wax from old combs. Next morning I looked at the same frame again. There were some eggs, about three inches square of comb occupied on inner side of the frame. It was ten days later that eggs were to be seen on the other side. Then when the first batch of eggs were hatched, I was surprised to see that the metal walls of the cells were not at all painted with wax, because I believed the metal walls ought to be waxed by bees before it is used for brood rearing.

On April 26th there was some brood emerging out of the aluminum cells. Moreover, there was a second batch of eggs in those metal cells, from which brood had emerged.

I believe the aluminum combs ought
(Continued on Page 261.)

Outdoor Wintering

Wm. Atkinson, Selkirk, Ont.

I HAVE been among bees from my youth and have always been interested in outdoor wintering. In the first place I like to have a sheltered place for my apiary. I have tried board fences about six feet high, and a straight rail fence outside the board fence and still the snow covered the clamps. I think one of the best protected places I have found is a second growth hardwood bush.

I use the eight frame Langstroth hive and a reversible bottom board. I like a young queen and the hive well filled with bees and after they are fed the syrup, to weigh 60 lbs. without the cover.

Bees can be wintered in most any kind of a clamp, providing the packing is kept dry. I think I have tried nearly every kind during the last fifteen years. I have used long clamps, two sizes, shallow and deep. The deep clamps holding 11 colonies, six face the south, and five the north. There are four inches of packing under the hives and three inches on the sides, and about six inches on top and about four inches of air space between the packing and the cover.

My other clamps hold eight colonies, four face the north and four the south. I set the hives on the floor of the clamp with no packing under at all only an air space under the reversible

bottom board, three inches of packing at the sides, four inches on the top at the front and two inches at the back. I leave the queen excluder on and put a layer of cotton on the excluder and two or three thicknesses of newspaper on the cotton and the packing. I fill the low clamp with the packing and the cover of the clamp rests tightly on the packing. The entrances are farther apart when you face every other one in a different direction. I paint each entrance a different color and that does away with the bees drifting to a great extent.

For wintering I prefer the low clamps every time, without any packing under at all. I use entrance protectors to keep out the snow and cold winds. For packing I use forest leaves or oat-chaff.

Notes From Japan

Yasuo Hiratsuka, Tara, Japan.

I send you my method of introducing a queen bee which is four or five days old. This introducing method was originated by my friend, Mr. Yoshizato. The method involves the use of royal-jelly. So we named it "the royal-jelly method."

Wait until the fifth or more days after dequeening a colony, before you attempt to introduce any queen —

The Four-Hive Tenement Case

THE four hives are placed in one box, two facing east and two west. This box provides for about 3 inches of packing on all sides of the four hives, and 8 or 10 inches on top. There is no packing between the hives or under them. The entrances open out through the sides of the box so the bees are always able to fly when weather permits. They are packed up as soon as possible after supers are off, then fed all the sugar syrup they will take early in October.

The Hives.

The size of the box will depend on the dimensions of the hive used. The 10-frame Langstroth hive as made in Ontario is 20 inches long, 16 $\frac{5}{8}$ inches wide and about 9 $\frac{1}{2}$ inches deep. The bottom-board is 22 $\frac{1}{2}$ inches long and 13 $\frac{3}{4}$ inches deep. These are outside measurements. The space inside the bottom-board should be $\frac{1}{2}$ inch deep. The entrance of the hive is left full width all winter. The projecting bottom-board is bridged over by means of a piece of $\frac{3}{8}$ inch board, 21 $\frac{1}{2}$ inches wide and 16 $\frac{5}{8}$ inches long, laid flat and extending from one side rim to the other so as to make a tunnel from the entrance of the hive to the flight hole in the end of the box. After all four hives have been fixed in this way they are ready to put into their box.

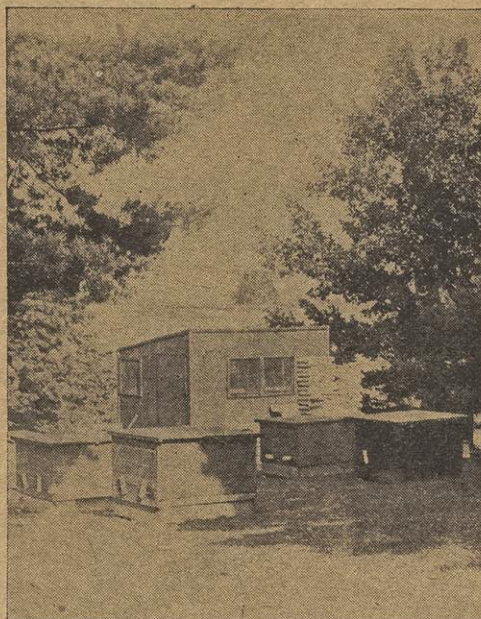
The Wintering Box and Stand.

The wintering box consists of the floor, two ends, two sides and the roof, all finished with cross cleats so that each is a separate piece which can be taken down and piled flat with the others when not in use. Seven-eighth inch matched lumber is used throughout. The sides and ends are placed outside the floor to turn the rain, and are supported by the corner cleats which rest endwise on the corners of the floor. The inside dimensions of the box are 24 $\frac{1}{2}$ inches deep, 40 inches wide and 45 $\frac{1}{2}$ inches long. It has a flat roof projecting 4 inches on all sides and covered with prepared roofing. This box is placed on a stand about 8 or 10 inches high, made of four boards $\frac{7}{8}$ inch by 8 or 10 inches, nailed into a rectangle. The ends are cut 40 inches and the sides 45 $\frac{1}{2}$ inches long.

They are nailed up with the shorter pieces nailed on the ends of the longer ones, and the outside dimensions of the resulting stand are 40 inches by 47 $\frac{1}{4}$ inches. To make the floor of the wintering box, first lay down three pieces each 2 inches square by 40 inches long; then nail on these $\frac{7}{8}$ inch matched lumber, cut

A Detailed Description of the Tenement Case Being Used at the Ontario Agricultural College, Guelph.

45 $\frac{1}{2}$ inches long, making the floor 40 inches by 45 $\frac{1}{2}$ inches. It will be seen that when this floor is laid on the stand it comes just even with it at the sides, but is $\frac{7}{8}$ inch short of it at each end. In other words, the outside length of the stand and of the wintering box are the same, making a smooth surface from the ground up, where the bees have their flight holes, but the stand is made narrower as a



The four-hive tenement case ready for winter, in apiary at Ontario Agricultural College, Guelph.

convenient way of supporting the cross cleats of the floor.

After the stand, with the floor in place, is levelled up with a spirit level using scraps of thin lumber under the corners, a board $\frac{7}{8}$ inch by 4 inches by 36 inches is laid flat across the middle of the floor to support the backs of the four hives giving them a tilt forward toward the ends of the box. The four hives are placed close together with the four corners meeting at the exact centre of the floor. The front ends of the bottom-boards will then come just about to the edges of the floor and should almost touch the ends of the box when put in place.

The wintering box is made 24 $\frac{1}{2}$ inches deep inside so the hives can be supered, if necessary, before they are unpacked. As the outside dimensions of the floor are 40 inches by 45 $\frac{1}{2}$

inches, these will be the inside dimensions of the box whose sides and ends must project down over the floor about 2 $\frac{7}{8}$ inches to cover it and its cross supports and leave no opening between it and the stand. Each side and each end of the box will need an upright at each end of it, $\frac{7}{8}$ inch by 2 inches by 24 $\frac{1}{2}$ inches, and if these are all placed $\frac{7}{8}$ inch back from the end of the lumber a locked joint will be formed which will not admit dampness. The sides of the box are 45 $\frac{1}{2}$ inches long by 27 $\frac{3}{8}$ inches high. The ends would be 40 inches plus $\frac{7}{8}$ inch at each end to cover the ends of the sides against which they are clamped or nailed, or 41 $\frac{3}{4}$ inches long by 27 $\frac{3}{8}$ inches high. When these two sides and two ends are made up and placed together, the outside dimensions of the box thus formed will be 41 $\frac{3}{4}$ inches by 47 $\frac{1}{4}$ inches.

The Entrance Holes.

After the ends are made up the entrance holes should be cut. These must come opposite the hive entrances and should be as deep as the bridge will allow but need not be the full width. They are placed as far apart as possible to prevent bees mixing when they fly. Measuring 6 inches in from each end and 3 $\frac{5}{8}$ inches up from the lower edge of the box-end locates the lower outer corners of the two entrances. The holes are then cut four inches long horizontally, and 1 $\frac{1}{2}$ inches high. In cold weather each is reduced to a vertical entrance $\frac{3}{8}$ inch by 11 $\frac{1}{2}$ inches by means of a piece of thin board 21 $\frac{1}{2}$ inches by 8 inches fastened with a screw or an ordinary wire nail on which it turns as on a pivot. When closed down it comes $\frac{3}{8}$ inch short of closing the opening leaving the $\frac{3}{8}$ inch by 11 $\frac{1}{2}$ inches vertical entrance. A nail driven just below the entrance prevents the block coming down too far. When raised up the opening is full size for cleaning out dead bees, or for ventilation on hot days in spring or autumn. The vertical entrance is less liable to clog with dead bees or ice than the horizontal one would be.

The roof is made perfectly flat and large enough to project 4 inches on all sides. That is, it is 49 $\frac{3}{4}$ inches by 55 $\frac{1}{2}$ inches, allowing $\frac{1}{4}$ inch for play. It is made of $\frac{7}{8}$ inch lumber with a 4 inch cross piece of the same material at each end and in the middle. The middle cross piece should be just 40 inches long to fit inside the box; the end cross pieces fitting outside and

(Continued on Page 262.)

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THE EDITOR'S DESK

The Honey Market

THERE is a decided reticence being shown by wholesale houses toward buying the 1920 white honey crop at the prices offered by beekeepers. The amount of honey which has been handled so far is apparently quite small. Dealers at Toronto claim they can bring honey from New Zealand and South America so as to cost about 23 cents a pound, f.o.b. Toronto, and on this basis quote 23 to 26 cents a pound for the Ontario product.

Very little data has been forthcoming on the average cost of producing a pound of honey. This is a fact beekeepers ought to know. We cannot afford to alienate the interest of the wholesale trade in home-produced honey, and until we are possessed of the producing costs, we are unable to definitely refute the charge of profiteering. To simply say that honey is "not as expensive" as kindred foods only partially satisfies.

The possibility of imported honey finding a place on the Canadian market emphasizes once again the urgent need for a grading system in Canada. We feel satisfied that the best white honey is produced here in Ontario, but at the present time there is no definite standard as to what we mean by "White," "Amber," and "Dark" honey. We have had as many as fifteen different grades of "White" honey, and double that number of "Amber" honey to pass on.

It seems to us that "Grading Honey" would form a useful sphere of association activity, and have a highly educative value. A grading committee could meet from year to year to pass on representative samples of the year's crop, and instruct the secretary. With these samples as a guide, the secretary could then inform any inquirer who submits a sample of his particular crop as to the grading of his crop.

Beginners in beekeeping are invited to send questions to The Beekeeper on any question or problem that bothers them. Answers will be published in the following

issue. Questions that come the first of the month will first be answered by mail.

Each beekeeper likely has some little wrinkle or contrivance that he uses to save time or money and that would be of similar value to others, if they only knew about it. Please send drawings and descriptions for publication.

Bee Advertisements

W. H. Gray in American Bee Journal.

There is a great difference in the way people advertise their products, and I suppose the prospective buyers are differently affected by what they read. So my views on the subject must be taken as entirely personal. When I read over the long list of people who have queens to sell, I wish to know at a glance where they are situated; and here I must confess my ignorance. I cannot always make out the abbreviations used by the postal authorities, and the public, to denote the different States. So, sooner than worry it out, I pass on to an "ad" that tells me where the breeder lives without the help of the atlas. It is very natural that the buyer of bees and queens should want to know the location of the sender. When other things are equal there is no use in ordering from the farthest point on the North American Continent. If the buyer in Quebec orders queens from California, or the buyer in Washington State from Florida, he knows his queens will be a long time in the mails.

Then, again, with so many good, reliable breeders, why should I have to write for the catalog of one before I can get his prices? Why can't he tell at once? And also say when he will start shipping? It would probably be all the better if he stated the other general particulars that the buyer wants to know, such as color, strain, and if safe delivery is guaranteed. Some breeders include Canada in their safe delivery, and they probably get their reward in trade. A conservative buyer might hesitate to order from a very large advertiser whose prices were about half those of the vast majority. But he might give him a small trial order, which might lead to big business later if everything was O. K.

I bought a very good queen last year for 60c, but heard later that the breeder had cleared out with other people's money. If a breeder is shipping diagonally across the continent I think he would be well advised to use the large cage, or two of the small ones fastened together with a hole cut through. In this latter way a queen came from England to British Columbia in splendid condition after 14 days' travelling.

It would be only fair to the breeder if the buyer would always return the cage with the dead queen and bees, if he expects replacement. For I am sure there are people who victimize breeders in this way, depending on him not to doubt their word. On the other hand, I have returned a dead queen and then had a letter assuring me that the queen was probably only numbed, and if I had only put her in a warm place she would have been all right. The same concern sent me a used hive, when I paid for a new one. But it is only very occasionally that these things occur, on account of the care the bee journals take before accepting doubtful advertisements, and if a scamp does get a start, he doesn't last long.

A very important thing for both parties to remember is not to neglect to answer correspondence that needs immediate attention. Openness and honesty will do the rest.

About Honey Labels

Editor, THE BEEKEEPER: In July I read C. B. Alden's letter complaining of the present system of labelling honey. He wants the honey labelled in accordance with the kind of plant it was gathered from—clover, dandelion, goldenrod, basswood, etc.

Now, I have been in the business for over 30 years, and up-to-date I have not found out any way of training my bees to work on any one of the above honey plants, and leave the balance alone, and I have seen my bees working on 15 different plants in one day.

C. B. Alden claims he has had experience along this line. I would like him to come up to my bee yard and show me how to train the bees to work as he wants them to do. As I am "from Missouri," I don't believe it can be done.—A. Buckindale, Hawkestone, Ont.

Mr. Alden Sticks to His Guns.

The foregoing letter was brought to the attention of Mr. Alden, in order that a month might be saved in the publication of his reply, should he desire to answer. He replied as follows:

Mr. Buckindale apparently desires to shift the responsibility for deceptive honey labels from the beekeepers to the bees. The point at issue is the "training" of the men who put up the honey, not the bees that make it. Any experienced beekeeper, especially one or Mr. Buckindale's 30 years in the business, should be able to know clover honey from any other kind of honey, and should make their labels correspond. That was the theme of my recent letter—that beekeepers should distinguish on their labels between clover and all other kinds of honey. As the labels read now, "Pure Extracted Honey," customers who happen to want clover honey, and nothing else, do not know what we are getting until the glass or tin is opened.

In reply to your note, Mr. Editor, in the July issue, I cannot agree with your explanation. No one doubts the difficulty of securing honey of the same flavor and color year after year, or month after month during the season. The fact remains that those consumers, who like only clover honey, are fooled by the present system of labelling—and many of them will not take chances.—C. B. Alden, Toronto.

Impossible to Grade by Source.

Later another interesting letter on this subject was received, as follows:

Editor, THE BEEKEEPER: I read the article on honey labels and also the Editor's footnote. I do not agree with Mr. Alden, that honey should be labelled any different than "Pure Honey," only, as Mr. Editor says, we can grade it by color.

In our locality, this year especially, honey is a poor crop and honey is not ready or ripe to take off yet (July 24), for it is not all sealed; therefore, our bees leave all kinds of honey mixed, including alsike, white clover, basswood, and other flowers, such as catnip, etc., making it impossible to extract it separately, or label it any different than "Pure Extracted Honey."

If Mr. Alden would visit some bee-keeper and sample his honey and buy his honey there, he would get better satisfaction, as sometimes when honey is bottled, the flavor is changed by overheating. Perhaps when Mr. Alden was a beekeeper he lived in a locality where only clover bloomed.—(Mrs.) Beatrice Vincent, Picton, Ont.

Do not let this season go by without having photographs taken of your apiary. Send prints to The Beekeeper for publication.

HONEY CROP OUTLOOK

NEW BRUNSWICK.

The New Brunswick white honey crop for 1920 is much lighter than that of 1919. Reports from different parts of the province would indicate that about an average of from 30 to 35 pounds is all that we can count on.

Clover was a fairly good crop, but the weather was very dry, causing it to secrete less honey and ripen much more rapidly than usual.

A few experienced beekeepers report a full crop. Others predict we will have a heavy fall flow as the hives seem to have an unusual amount of brood for this time of year, which they claim is always followed by plenty of dark honey.

Dark honey cannot be depended on in the northern counties, but in the southern and central counties in some years it yields a large surplus.—L. T. Floyd, Fredericton.

QUEBEC.

The crop of white honey will be slightly inferior to that of last year. We have had dry weather in the district of Montreal, but an abundance of rain in the country sections of Quebec.—C. Vaillancourt, Quebec.

ONTARIO.

The dark honey flow is reported as coming in nicely in most of the buckwheat sections of Ontario so far heard from. A more complete report will appear in the October issue.

QUESTION BOX

Answers by W. A. Weir, Toronto, Ont.

Returning Swarms.

When returning a swarm to the parent hive, how do you get round the fact of returning the old queen?—A. S. M., Mitchell Sq., Ont.

The only occasion we have for returning prime swarms to parent colonies is in the case of a small supersedure swarm. All old queens are clipped in May, are readily found and destroyed when the swarm issues. Conditions in the colony must guide our next move. If we desire to hold the colony together for crop, we must secure a young untested queen from nucleus, destroy all queen cells and introduce her to parent colony.

Will Not Work in Supers.

My bees do not seem to want to work in supers. They will have two or three frames of honey in the brood chamber. I use the 12-frame hive, and it may be too large for the queen to fill with brood. What strains of bees are not swarming ones? My bees have plenty of room, and I tried "increase by division," yet they swarm.—W. S., Dorval, Que.

Three suggestions occur to me. Your queens may have been old and superseding, or your honey flow may have been too light. Possibly your super contained frames with full sheets of foundation rather than drawn out comb. If so, in the event of a light flow, they will not work readily in the super. The third suggestion is that you may have been too late in putting on the additional room and the colony acquired the swarming fever or had the brood chamber combs deeply rimmed with honey before you gave them the super.

As a rule, the Italian bee is credited with a non-swarming characteristic, but you will

find individuals of both the three-banded and golden strains much more given to swarming than others. Careful selection and queen rearing from individual colonies which show little tendency to swarm is the only way to develop or secure non-swarming strains.

Supering.

When should a second super be added? When seven or eight frames in my eight-frame super were plastered with honey, I added another. The result was to have even to three supers full, and hardly a bit capped. At last I extracted, with some of the combs capped half way down, and the honey, clover with some dandelion, was so thick that it would, only under protest, run through the gate of the extractor. Does it pay to wait for the first to be capped before adding the next?—A. S. M., Mitchell Sq., Ont.

Weather conditions must be taken into consideration before deciding this question. When the atmosphere is heavily laden with moisture, ripening and capping of honey progresses slowly—not so honey gathering. Therefore, we like to add the second super just as soon as the first super is nearly full of nectar. We would even add a third or fourth super in a good honey flow under the exceptionally moist conditions prevailing this past July in some parts of Ontario.

Wintering in Nova Scotia

Anthony Birch, Wolfville, N.S.

Little is done by many to protect their colonies against the cold in this province. This, however, is a great mistake, and is accountable for the great loss throughout the province during the past two years. Of the two systems of wintering, indoors in cellar, or outdoors, the latter is the one applicable to Nova Scotia.

The first requisite in wintering is a large force of young bees which have been reared late in the fall. This may be produced by stimulus from some late crop, as buckwheat, or, lacking this crop, by feeding the bees.

A second requisite is protection, which may be considered under two heads: protection from high winds by a windbreak, and protection from cold by packing. The windbreak used may be a screen of woods, a building or other suitable object. The protection by packing is as follows:

Raise the hive four to six inches above the ground and pack shavings or other suitable material under it. About the sides have a space of four inches between hive and case, which should be packed in a like manner, while on top 12 to 18 inches of packing should be placed. The cover to case should not be tight, but should permit the escape of moisture from the cluster. If wintered in this manner with ample supplies colonies should come out strong in spring. Build up rapidly to take advantage of the fruit bloom crop.

If two colonies can be placed in the same case, or better four, there will be a great conservation in heat and less stores will be consumed in wintering over.

Notes From Japan

(Continued from Page 258.)

to be used for our brood chambers in honey production at least, although it is rather expensive. Not only does it solve the storage problem, preventing wax-moth damage and the control of bee-disease, but it is a safeguard against too many drones—decreasing drone breeding, as you see. But I wonder when the aluminum comb is used for brood rearing for many years if its cells will become too narrow, because the larvae cocoons remain and accumulate as in wax

comb. What shall I do for it? How can we clean it away? If we can not, it will be lack eternating like wax combs.

DOINGS IN BEEDOM

ONTARIO.

The Toronto Beekeepers' Association held a field meet at the apiary of Jno. McGillivray, Elgin Mills, Ont., on Saturday, Aug. 14. Mr. McGillivray manufactures his own supplies, and a very interesting afternoon was spent looking over the apiary and its equipment.

BEEKEEPING IN ENGLAND.

A representative of The Beekeeper called on Mr. S. C. Graeb, president of the Canadian Bee Supply and Honey Co., Toronto, shortly after his return from the Colonial Exhibition, which was held in the Royal Agricultural Hall, London, W.C., England, from June 7 to June 20. The Colonial Exhibition was confined to Canadian products, and gave a splendid opportunity of seeing Old Country beekeeping through Canadian eyes.

The interest in beekeeping in England has increased considerably of late. What beekeeping has been practised would be classified by Canadians as keeping bees for a hobby. Lately the Government has appointed a Government Apiarist, Mr. H. Hemsall, with offices at London, to instruct in beekeeping. Moving exhibitions, similar to our "better farming specials," have been travelling on the railroads there, and beekeeping has received its quota of attention as a department of agriculture.

Until very recently the ten-frame Langstroth hive has not been fully recognized. The hive in use contains frames about two-thirds Langstroth comb area, and are very intricate. It is incapable of the commercial possibilities of the modern Langstroth type. The packed hive is now becoming quite popular, and gives good results.

The flora of Great Britain is somewhat the same as in Canada, but the season is much longer. Mr. Graeb reports that the bloom is usually seen on the hawthorne and sainfoin for about two months, commencing with the middle of May. The clover and raspberry are the two other plants from which surplus is obtained. English clover honey sells at about 25 cents a pound in pails. The honey usually served up in the restaurants is largely buckwheat. At the present time, English beekeepers are producing more section honey than extracted honey, using the 4¼" x 4¼" x 1½" beeway section.

The bees which are becoming popular in England are Dutch-Italian stock. Untested queens sell for about \$3, Canadian money, and it is believed by some of the leading beekeepers that the ravages of the dreaded Isle of Wight disease are due largely to the low vitality of the native bee. European foul brood is also present in many sections.

Before commencing to feed with inverted 10-pound pails, see that hive is level.

To light a smoker, get a couple of ounces of saltpetre and put it in some water. Soak in the solution some rotten wood, then allow the wood to dry. You will find this treated wood lights readily and makes fine smoker material.—Wm. Scott, London, Ont.

Wintering in Parry Sound

Jno. D. Brunne, Arnstein, Ont.

IN writing this article, I would not only like to give an outline of our successes in wintering, but also our failures. To do this, I will have to go back a number of years, when first observing the experiments of my father.

When commencing beekeeping here some 24 years ago, we started out with the long-idea wintering case, holding 12 colonies to the case, using dry sawdust as packing. Such colonies usually wintered well, but as the yard increased in size this method was gradually discarded as not practical.

Later we tried pitting a number of colonies by taking some of the long-idea wintering cases, removing the bottoms of same and letting down the walls on two 4" x 4" timbers. A few inches of dry sand was then put on the bottom of the pit. In placing the colonies we removed the bottom boards, leaving a small space between each colony, then, of course, the 4-inch air space all around. At each end of the case a small vent was placed so as to extend above ground. The lid was placed over the case and the case was covered over with earth. The first winter bees wintered splendidly, but the second winter the whole pit got damp and mouldy, with the result that these bees died.

Cellar Wintering.

By this time we had some colonies in individual wintering cases, but after a few winters we decided to try cellar wintering. We, therefore, put up a stone cellar in the side of a hill, banking it well all around. Then came some experimenting on different methods of cellar wintering. The first year we left all the bottom boards on the hives, giving, of course, the wide entrance to the colony and having the bottom tier about eighteen inches from the floor. The result was that the lower tier was badly mildewed and the colonies were weak. The second tier also showed a little mouldy condition, but the third and fourth tiers were quite all right. The next year we removed the bottom boards and placed each colony about eight inches apart, so that the colonies in the tiers above were always placed over the eight-inch space. This method appeared so satisfactory that we have used it ever since. Even with the bottom boards removed, the bottom tier was inclined to show a little mould towards spring, the stone wall drawing the dampness. We, therefore, put in a cement floor, and lined the walls and ceiling with matched lumber, thus forming an air space all around the cellar. This change took out all the dampness, and to aid in keeping the air pure we whitewashed the interior of the cellar. Since doing this we have discovered very little mould in the colonies. An intake vent runs through the cement floor to the centre of the cellar. The outlet vents are at both ends, one going through the ceiling only. The other vent at the end of the cellar goes right up through the roof of the building above.

In our out-yard we have adopted out-door wintering, using the individual wintering cases. These cases have a one-inch air space between the bottom of the case and the bottom board of the colony, and a four-inch space on all sides for packing. The best and cheapest packing we have tried are forest leaves, although shavings or dry sawdust is fairly good packing material. The entrance of the colony to the hive proper is left full width, $\frac{3}{8}$ inch deep. The entrance in the case is $16\frac{1}{2}$ inches long by 4 inches deep. In this case entrance a block is plac-

ed with two 5-16-inch deep entrances (or just sufficient depth for a bee to crawl through). These entrances run three-quarters of the length of the block on both the upper and the lower ends. This block is put in place early in the fall, and the bees will use both the lower and the upper entrance. Later, as frost and snow come along, dead bees and snow clog up the lower entrance, leaving only the upper entrance, which is sufficient for ventilation. This elevated entrance also prevents cold air and wind from getting directly under and around the winter cluster.

For Individual Cases.

For these individual cases we use the ten-frame Langstroth hive only, reducing the colony to eight frames for winter by placing a dummy on each side of the brood nest. Then we place one of the frames over the remaining eight frames, and over this frame a canvas or burlap. Over all we put six to eight inches of packing. We make it a point to move all frames that are to be removed from the brood chamber to the outside of the cluster, so as not to use good new frames for laying flat over the cluster, as they are liable to be destroyed.

On our first examination, about May 5th, we usually replace the packing, but not the frame over the cluster. This is simply done by tipping the winter case backwards so that the packing rolls into the lid, then, after examining the colony, simply drop the packing back into the case. The next visit about May 20th. We usually remove all the packing over the top of the colony, allowing the side packing to remain all summer. (At this visit all colonies but the weak ones are given a super. The colonies which are not quite prepared for a super have a sheet of newspaper placed between super and brood chamber, to keep warmth of bees down. They will gnaw away the newspaper as they increase in numbers.) At first we used to allow the side packing in the case to remain undisturbed during summer and winter, but soon found out there was something wrong somewhere. The first winter a colony wintered perfectly in a new case. The next winter the same colony in the same case would not winter nearly as well. We now renew the side packing and use same as top packing. Just why this makes such a big difference is hard to explain, but it certainly does make a big difference. We, humans, can sleep better under clean, new sheets. Clean, new packing nearest to bees may have the same effect.

Best for Wintering.

Surveying all our experience, we must admit that bees wintered in these cases are usually stronger for the honey harvest than the cellar wintered bees. Although they usually use about ten pounds more stores, they more than make up for this in production. It is possible for them to have a flight in fall much later than cellared bees, and again much earlier in the spring, which is a big advantage, in spite of the extra food consumed and feces accumulated. As they are in a much more protected condition than it is possible to protect cellared bees, there is little danger of brood rearing being held up during a spell of cold weather. During the hot weather in summer and probably cool nights your colony is protected from the hot rays of the sun and the cold of the nights.

There are, of course, disadvantages. Manipulation of the colony in single walled hive is much easier. Again, as experienced in 1915, when, owing to a heavy snow storm with rain and hail following, the yard at

Golden Valley was partly covered with snow and ice. We have had colonies winter in splendid condition when covered a foot or more under ordinary loose snow, but in this case the crust of frozen hail and snow was so hard that all the colonies that were covered smothered. Some we dug out after the storm. Others we took a chance on their surviving, but all were dead with lots of food remaining in the combs, and everything, of course, badly mildewed. This incident has only occurred once in all our out-door wintering experience. You may also have a warm day in spring with bees flying about when snow is still on the ground. Many alight on the snow and never return, but this is not as serious as it looks. Usually a bee that alights on the snow and cannot take wing again is a sickly old bee, and if there was no snow they would probably alight somewhere and crawl away to die where they cannot be easily seen.

The winter case must be mouse-proof, snow and rain proof. Therefore it must be well made and well painted for best results. At the present cost of labor and material it is possible to build a hundred colony bee cellar much cheaper than it is to equip a hundred colonies with good wintering cases here in this section, where lots of stone, sand and gravel are available. There is also no trouble to find a side hill.

The Tenement Case

(Continued from Page 259.)

forming a telescope projection $\frac{3}{8}$ inch deep to prevent dampness from drawing in underneath.

The cover should fit closely enough to exclude mice, but should have openings underneath sufficient for the air to draw through over the packing and take away moisture arising from the bees. This cover is overlaid with prepared roofing.

Packing the Hives.

When the four hives are in place with bridges on, the sides and ends of the box are set up and fastened at each corner with three clamps, hooks or wire nails. The bridges must fit closely, to prevent packing material clogging entrances. If the bees can reach this material at all they will dig out quantities of it and perhaps choke their own entrance. The summer cloths or honey-boards are next removed, and replaced by feeder-boards with burlap spread over them and two or three thicknesses of newspaper over that. The packing is then filled in and crowded down well on all sides until the box is filled to within two inches of the top. At no time must the material touch the roof. The air must circulate freely over it to prevent dampness collecting.

The best packing material is cork chips, which can sometimes be obtained from fruit stores handling Spanish grapes. Forest leaves are excellent, and planer shavings or chaff are good; but sawdust, clover chaff or anything which draws and holds dampness should be avoided. Some use straw, but it is too open and cold unless cut fine.

Renew your subscription to The Bee-keeper before it is due, so as not to miss a single copy.

FOR ADVERTISEMENTS
TURN TO PAGES
263, 264, 265, 266 and 280

Growers Visit Vineland Station

IN spite of the rush of the cherry and raspberry season, about 100 fruit growers took advantage of Director E. F. Palmer's invitation to visit the Vineland Horticultural Experiment Station on July 23. Although the attendance was not as large as expected, it was representative of the entire Niagara District. Keen interest was taken in examining the experimental and plant breeding work and in listening to Mr. Palmer's explanations of the various activities of the station. Although the station has been handicapped for labor, and the soil on the original property is heavy clay loam, some of it fit only for making bricks, the farm as a whole was in fairly good condition. The new area acquired two and three years ago had every indication of being ideal for the work under way, proposed and possible.

Pointers, Rambling and Random.

In passing through the variety test orchards, Mr. Palmer stated that there were 145 varieties of apples, 164 varieties of peaches, 135 varieties of plums, and large numbers of varieties of other kinds of fruits under test. These were examined and various orchard practices discussed. Thinning of fruits was referred to as practised on overloaded trees. It took about one-half an hour to thin a 12-year-old Duchess pear tree, and it cost about 25 cents. Mr. Palmer thought that most peach orchards were planted too close between trees. He recommended a distance of 20 feet at least. He showed examples of the advantages of trees having lots of room. "When far enough apart," he said, "the trees spread out, are more vigorous and more productive." He cultivates the orchards usually up to about the middle of July, but this year the work

was continued later on account of the crust that had formed. He said that the lighter a peach tree was pruned, the less canker there would be, and the less canker, the less injury from breakage by winds. Pruning helped also to control brown rot on peaches and cherries.

In regard to apple pruning, Mr. Palmer pointed out that the less trees were pruned when young, the quicker they would come into bearing. Only very light annual pruning should be practised. "We have been pruning our apple trees too severely," he said. "We should prune more moderately while the trees are young. When the trees commence to bear, the pruning may be more severe." This whole question is discussed in the April circular issued by the Fruit Branch, Toronto. It is dealt with also, as are all the other work and problems of the station, in the annual report of the station for 1919.

Plant Breeding Work.

Hundreds of seedling hybrids and crosses in apples, pears, peaches, grapes, gooseberries, raspberries and strawberries were inspected. Mr. Palmer stated that the station was working towards a definite goal in the case of each of these fruits. In apples, they were striving to secure a good late-keeping red winter apple suitable for export. In pears, the object was to secure commercially valuable varieties immune to blight. In peaches, two avenues of desire were being followed: (1), to secure better quality, yellow flesh, early varieties; (2), to secure yellow flesh varieties with greater hardiness in bud and in wood. In grapes, an attempt was being made to introduce into our standard varieties some of the

quality of the European varieties, retaining at the same time the factor of self-fertility. Gooseberries were desired that would retain their foliage throughout dry, hot seasons. Raspberries were wanted that were earlier and hardier than the present sorts. In strawberries, a general improvement in dessert and shipping qualities was the goal.

Plant breeding work with vegetables also was being done with definite objects in view. In tomatoes, the purpose was (1) to secure varieties earlier and smoother in fruit, and (2) to secure an improved type for canning factory purposes. In greenhouse tomatoes, a variety was wanted that will set fruit freely under mid-winter conditions, and at the same time be smooth and otherwise acceptable. In greenhouse cucumbers, a short green variety that will set fruit without being pollinated was being worked for. Mr. Palmer thought they had already secured the desired cucumber, from work commenced at Guelph and followed up at the station. "It's a wonderful variety," said Professor Crow (who was among the visitors) to THE CANADIAN HORTICULTURIST. It is expected that seed will be distributed during the coming year. Lack of space forbids mention in detail of the breeding work and objects with various other kinds of fruits and vegetables.

Odds and Ends.

Experiments with raspberries were being carried on to study the proper distance apart to plant and the proper height to trim. Mr. Palmer thought that most growers were trimming too severely and thereby cutting away too much of the bearing canes. At the potato variety test plots, Mr. Palmer pointed out that Davies' Warrior was a drought-resister, standing up last year in the dry period when Cobbler went down. A number of strawberry seedlings

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were seen that were said to be very promising. Some of the best had been sent this year to various growers for further tests. When they fruit next year, it is hoped that they will warrant definite recommendations. Exceptionally fine in appearance—growth and health—were the young peach trees on the light newly-acquired ground.

Various other activities were observed and outlined that cannot be reported in the space here available. The 1919 report of the station soon to be distributed tells the whole story. The pleasure of the afternoon included a view of the ornamental grounds from various points of vantage, and a lib-

eral supply of ice cream and soft drinks dispensed by Mr. Palmer and his staff.—A. B. C.

NIAGARA PENINSULA

NEWS AND VIEWS

F. G. H. Pattison, Winona

The plum and peach crops are undoubtedly heavy, and some anxiety is being felt by the growers as to prices. The jam and canning factories say that they require considerable quantities of both, but so far have declined to name a price.

A meeting of the fruit growers' section of the Niagara District U. F. O. was held at Virgil the first week of August. It was called to discuss the special marketing of the large fruit crop. The meeting decided that the various U. F. O. clubs in non-fruit producing districts be approached by circular letters and inducements given them to purchase fruit in carload lots for distribution among their members. The head office in Toronto is prepared to act as a medium to put through sales. Delegates were present from Homer, McNab, Queenston, Virgil and St. Davids.

On Aug. 5, Mr. Doherty, of the freight department of the Canada Steamship Company, had a conference with a number of the largest fruit shippers re the coming increase in freight rates. The result of the conference was that the proposed increase was reduced to 25 per cent instead of 30 over the present rate. Improvements have been promised shippers both as to new trucks and the roadway. Alterations are also to be made in the warehouse.

The Canning Factory Situation.

The canning industry, as a result of the large fruit crop, is experiencing an active season, but a number of adverse factors have developed which are likely to affect both output and profits. Prices for fresh fruits approximate the average of last season, but prices for labor and materials have greatly advanced. There is plenty of sugar to meet requirements, but at prices much higher than last year. A number of canners in the Niagara District are being held up by the scarcity of tin cans. The makers are not giving guarantees of any definite amount for delivery, on account of the uncertainty of getting tin.

In regard to the amount of fruit to be canned this season, the policy of the canners, owing to high prices, is to restrict the pack to actual orders. Costs are running higher than last year, but, as was the case with strawberries, which opened up about 75 cents a dozen, under the expectation of the trade, canners will keep in mind the advisability of getting the goods into consumption the year of the pack, and prices will be made accordingly, even though the profits should be small.

On Aug. 11, delegates to the Canadian Horticultural Association convention, being held in Hamilton, Aug. 10 to 13, held a picnic at the nurseries of M. Offield and Sons, Grimsby. In the morning, the ladies were the guests of Mr. and Mrs. Beaumont, at Breezy Hill Farm, Stoney Creek. The historic battle-grounds were viewed and later they were motored to the picnic grounds at Grimsby.

A report from St. Catharines of Aug. 6, says that the peach crop is heavy, but of excellent quality. Plums and pears are showing up well and grapes will again show a maximum yield and are likely to realize the

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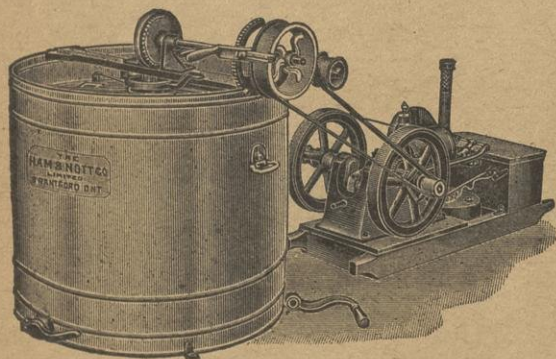
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AMERICAN BEE JOURNAL
Hamilton - Illinois

growers more money than they did last season.

Big Joint Stock Company Formed.

As an aftermath of the mass meeting of grape growers at St. Catharines on Aug. 7, a meeting of local grape growers was held at Winona on the evening of Aug. 11. T. J. Mahoney, Reeve of Saltfleet; Erland Lee, of Stoney Creek, and James A. Livingston, of Grimsby, were the chief speakers. They explained that the special committee appointed to meet the wine manufacturers and dealers reported that the wine men had declined to meet the growers, sending a letter to the effect that it was too early in the season to fix prices. The dealers in package fruit who met the committee were of the opinion that the association could do much to establish business, making for better distribution, uniformity of quality, and prices according to variety and grades.

It was, therefore, decided to form a joint stock company with a charter that would cover every phase of the industry, including manufacturing, the capital to be \$500,000 divided into 50,000 shares of \$10 each, not more than 100 shares to be allotted any one person. 75 applications for stock were received after the meeting on Aug. 7.

Under the plans set forth for the proposed co-operative company, a general purchasing agent will be appointed, with representatives who know grapes, at each shipping station. These men will examine and mark the fruit according to grade, thereby protecting both producer and consumer, and distributing the crop more equitably, preventing both gluts and famines to the consumers.

After the meeting of Aug. 7, a special committee of five went by motor for an inspection trip through the district between Silver Creek and Erie, Pa. Several of these members reported to the Winona meeting that the vineyards in the Chataqua grape belt were not, upon the whole, nearly as well kept as in the Niagara district, and the yield of grapes was much less.

T. J. Mahoney, of Saltfleet, was elected president, and C. C. Pettit, Fruitland, secretary, of the Winona branch. Members present expressed themselves strongly in favor of backing up the new Grape Growers' Association. A similar meeting was held at Stoney Creek on Aug. 13.

Fruit thieves are again reported very active in the eastern portion of North Grimsby and apparently little or no effort is being made by the township authorities to curtail their activities.

A report from Burlington of Aug. 11 says that a splendid crop of plums and pears is predicted. In many places the trees are so loaded down that it has been necessary to prop them to avoid injury to the branches. The fruit crop of Burlington and district is above the average and the chief difficulty growers have to contend with is the lack of baskets. Very few apples have made their appearance yet, but the prospects are good, particularly for the export trade.

Important Grape Meeting

At last the grape growers of the Niagara district appear to have come together in real earnest, and, by doing so, seem likely to obtain a minimum price of \$100 a ton for their crop. Such a large number turned out at the mass meeting at St. Catharines August 7th that the jury room at the court house was unable to hold the crowd, and adjournment was made to the hall over the Standard office. Even then not all were accommodated.

President G. A. Welstead was in the chair and in opening the meeting he recounted

what the association had accomplished last year. Now eleven locals have been organized, having a total membership of about 1,000. They include every part of the district except Vineland, which is represented by the co-operative association there. The wine men paid excess profits to the Government last year because they bought the grapes far too cheap. The growers were entitled to a raise then, but they did not get it.

At the executive meeting held August 6, representatives of the grape growers were present, and of the dealers, but neither the grape juice nor the wine manufacturers turned up. The Welch Grape Juice Company wrote the secretary that they did not approve of the growers having any say in fixing the price. The secretary of the Wine Manufacturers' Association wrote that the wine manufacturers considered it too early in the season to make contracts. The dealers were quite contented with the new arrangement as to price fixing, provided the association would guarantee that there would be no price cutting of grapes in the West by individual growers.

Decide to Incorporate.

Two resolutions were unanimously passed by the meeting on August 7. The first was: "That this association take steps at once to incorporate as a joint stock organization with a capital of \$500,000, to handle all kinds of fruit and farm produce." A charter will be applied for at once in order to enter into legal contracts for the sale of the present

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crop. The second resolution pledged every member to sell their grape crops through the association, and confirmed the action of the executive in fixing the minimum price of bulk grapes at \$100 a ton.

Messrs. Jas. A. Livingston of Grimsby and T. J. Mahoney, reeve of Saltfleet, made strong speeches warning the growers not to sign any contracts for the sale of their grapes to outside parties, as the association could handle the crop to greater advantage.

United States Wants the Crop.

Mr. Fogge, from the Pittsburg office of the American Fruit Company, Incorporated, was present, and offered on behalf of the company to take over the whole crop of grapes or any portion thereof, and guaranteed the growers a minimum price of \$100 a ton, but expected to get more than that for them. This company has a capital of \$50,000,000 and is a thoroughly responsible concern. It is fully expected that at least 250 cars of grapes will be sent across the line this season.

The meeting was very enthusiastic and appeared to be in perfect accord with the ideas of the executive. The proposed new method of handling the crop should work out to the great advantage of both producers and consumers. It will afford the former a decent return for their labor and will ensure the latter grapes of better quality than heretofore at a reasonable price.—F. G. H. P.

Some Grape Pointers

A portion of the grape belt of New York and Pennsylvania was visited early in August by T. J. Mahoney, J. A. Lottridge, and Arthur Spera of Stoney Creek; James Rettie, Vineland, and J. F. Carpenter, Fruitland. The party found that the growers over there had been offered \$100 a ton and were holding for \$125, and heard the same of Michigan. Many of the vineyards of the Chautauquay Belt had been neglected and would not yield half of the crop that they did in pre-war days.

Mr. Mahoney told The Canadian Horticulturist that the New York juice men could buy grapes at \$100 a ton and make a good profit on their juice at \$1 a gallon. "The privileges that Ontario wine men enjoy to-day are due entirely to consideration for the growers," said Mr. Mahoney. The Niagara District grape growers felt that the wine men actually insulted them by declining to attend the meeting that had been arranged in St. Catharines. One grower, in conversation with the editor, contended that the wine men could be put out of business by the passing of only one resolution to that effect at a meeting of the Grape Growers' Association.

Mr. Carpenter was told in New York State that the prohibition laws there permitted consumers to have grapes pressed by the juice men, and then allow the juice to ferment into wine in their own cellars. This concession would increase the demand for grapes. It applied not only to growers but to any person who desired to buy grapes for the purpose.

It is interesting to note that, according to Mr. Mahoney, over 50% of the grape crop of the Niagara District is produced by only 200 growers. These large growers could control the marketing situation for the district.

In mid-August, continued rains caused much rotting of peaches and plums on the trees in the Niagara district. A storm on August 14 caused fruit to fall in some localities.

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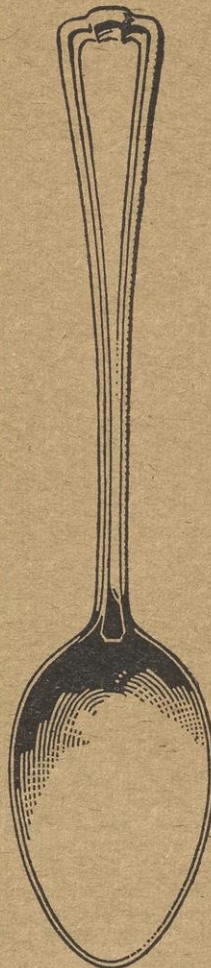
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MARITIME PROVINCES

Notes From Nova Scotia

Eunice Buchanan, Berwick, N. S.

At the annual meeting of the North Queen's County Fruit Packing Company, Clarence A. Crooker was again engaged as manager. The total turnover for the year exceeded \$50,000. It is estimated that the savings to the members from handling their own supplies exceeded \$3,000. This year it was decided to sell their apples independently of the United Fruit Company.

The Annapolis Valley apple crop is now said to be about 1,200,000 barrels, with fruit cleaner than usual. Apple buyers have been numerous and active, offering from \$2.75 to \$4 tree run.

The earliest apples, Crimson Beauty and Duchess (thinnings of the latter) were marketed on August 13.

Fewer tomatoes are being grown. Price in Berwick for first ones was 20c lb. in bulk. Green beans were scarce and sold from 50c to 60c a six-qt. basket. Blueberries ranged between 15c and 20c a qt. Raspberries were in good demand at 25c a qt.

The Dominion Atlantic Railway took a census covering nine miles long by four wide to ascertain how many hives of bees were kept in this area which proved to be eighteen. It is estimated that spraying kills off half of the bees in this valley every year, but probably more have been killed this last season.

Army Worm in Nova Scotia

W. B. Durling, Annapolis Royal, N. S.

The army worm is now very prevalent in parts of Nova Scotia and doing a very considerable amount of damage. Considering this, and remembering the seriousness of the outbreak in 1914, it will be well to be on the lookout for these devastating caterpillars.

Army worms are from one and a half to two inches long and the variety prevalent this year are particularly dark in color. The eggs are laid in low lying areas and the young caterpillars feed unnoticed until large enough to become active, when they assume the marching habit over grain fields.

A good method of control is to dig trenches eight to 12 inches in depth, in advance of the line of march of the caterpillars with post holes every 15 feet along the trench. The side of the trench next to the protected field should be straight and the earth loose so it will not be possible for the



Wheels on a track—the Cletrac way—take less power

Cletrac for the Fruit-Grower

Cletrac is the ideal tractor for the fruit grower. It works in and out amongst the trees, doing every job of cultivation. It is low set, and easily slips under the out-hanging branches without damage. It works close up to trees without barking. It turns short and gets at the out-of-the-way corners. Cletrac's speed is adjustable to the job in hand.

Cletrac travels on its own self-laid tracks. Works perfectly on coal oil (kerosene), and has always an abundance of power. Cletrac does more in a day than three men and three teams. Saves continually on cost and keep.

Out of the orchard Cletrac does every job of hauling and belt work there is to be done.

Cletrac has proved itself the certain way to bigger yields and better quality fruit to thousands of owners.

Write for booklet, "Selecting Your Tractor."

The Cleveland Tractor Company
of Canada Limited

Head Office
WINDSOR, ONT.

Western Sales Office
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The BRISTOL FRUIT BROKERS, Ltd.

21-22 Welsh Back

BRISTOL, ENGLAND

Fruit and General Produce Brokers

Fruit auctions held weekly.

Apples our Speciality

Telegrams: "EMPRESA," BRISTOL.

Correspondence Invited

worms to climb out. The caterpillars wander along the trench and are caught in the post holes and can be killed by pouring coal-oil on them.

Poison Bait.—A poison bran mash has given good results when used as a bait. A strip of poisoned mash is sown along the field in front of the line of march, and if the worms are already in the field it can be sown broadcast (20 lbs. to one acre) with good results. The mixture is as follows:

Bran 20 lbs.
White arsenic or Paris green .. 1 lb.
Molasses..... 2 quarts
Oranges or lemons 3
Water enough to make a paste

Mix the bran and poison, thoroughly in a tub while dry, squeeze the oranges or lemons into the water and cut pulp up finely and add to water. Dissolve the molasses in the water and wet the poison bran with the mixture, stirring at the same time, so as to make the mash into a good paste.

PROVINCE of QUEBEC

Pomological Meeting

The Pomological and Fruit Growing Society held their annual summer meeting at Aylmer, Que., Aug. 17 and 18. The main issue of the meeting was "co-operation," with the resulting subject of better packages and better packing coming in for a good deal of intelligent discussion. Some of the addresses will be reported at greater length later.

J. Dougall, C. P. R. expert, started with a paper on "Co-operation," and was followed by a paper by Prof. T. G. Bunting, Macdonald College, on the packing of apples in baskets, bringing out the value of baskets for marketing the earlier and softer varieties of apples.

W. T. Macoun, Dominion Horticulturist, then gave a very interesting account of his last trip through the west. Special mention was made of the Minnesota Fruit Breeding Farm and emphasizing the great need of such farms throughout the different provinces of the Dominion. He also touched on the matter of winter killing and pointed out that roots need to be dry to enter winter, but soil must have moisture, also trees must be mature to stand winter.

Rev. Fr. Leopold's paper on boxes and barrels and their packing followed. Father Leopold is one of Quebec's most expert packers and therefore spoke with authority. He said the most important factor in good packing was the grading, and then gave advice as to picking.

P. J. Carey, Toronto, read a paper prepared by the Fruit Commissioner, who was unavoidably absent, on The Inspection and Sales Act, and the meeting was brought to a close with a splendid address by J. Forsyth Smith, Fruit Trade Commissioner to the United Kingdom, who explained the working of the auction sales in the largest markets of England and Scotland. He was very insistent that the growers should only send over the best qualities, and that the Province of Quebec should realize the highest market values for their Fameuse and McIntosh apples.

The second day was spent in a practical visit to the orchards and grounds of the Experimental Farm, Ottawa, Mr. Macoun and his assistant, Mr. Davis, doing everything in their power to make the visit both interesting and instructive. The delegates, one and all were of the opinion that, when such good results were obtained by Mr.

Not so with a NEPONSET ROOF

THIS is a portion of an illustration recently used to demonstrate the superiority of metal over wood shingles as a protection against the elements.



It shows the wind ripping great holes in the wood-shingled roof. No such comparison could be made as between a metal roof and a Neponset Paroid roof.

NEPONSET PAROID

is impervious to rain, sun, wind or hail, and gives assured protection to farm buildings. There are many instances in which a Neponset Paroid roof has stood the test of every variety of weather condition for more than twenty years and is still water-tight.

If you consider roofing, don't experiment, don't waste your money—start right in the commencement and use a roofing material that relieves you of all future cares and worries—specify Neponset Paroid and be sure you receive Neponset—the name that spells honest roofing satisfaction.



The base of Neponset Paroid is a high-grade rag felt thoroughly impregnated with asphalt, making it positively water-proof and fire-resisting.

It is further reinforced with a talc surface, grey in color; or with a permanent slate surface, red or green in color.

EASY TO LAY—With every roll of Neponset Paroid is supplied sufficient nails and cement with full directions.

There is a Neponset dealer in your district. Write us for his name and a copy of our illustrated booklet "Roofing Canada."

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"Canadian money, Canadian made, should be spent in Canada for Canadian trade."

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NEPONSET ROOFS

Ontario Ladies' College

WHITBY, ONT.

School Re-opens September 14th, 1920.

Public School to Second Year University, Household Science; Music, Instrumental and Vocal, Commercial, Elocution, Art, Civic and Parliamentary Studies, Gymnasium Work and Swimming. For Calendar apply to REV. F. L. FAREWELL, B.A., Principal.

Macoun, there was surely a great need for a fruit breeding station in our province.

Dinner was served to the delegates by the Horticultural Division at noon, after which there was a practical demonstration in box packing in which a large number of those present took part. Most of the delegates left for home by the afternoon trains, having spent one of the most profitable times at a summer meeting.

Canadian Horticultural Association Has New Name

At its 23rd annual convention, held at Hamilton, Ont., August 10 to 13, the name of the Canadian Horticultural Association was changed to the "Canadian Florists' and Gardeners' Association." The name was changed largely with a view to opening the

way for a national merger of all the horticultural organizations in Canada into a Canadian Council of Horticulture. It was felt that the old name assumed a field that this organization did not actually fill and that the pre-emption of such a name was the greatest obstacle in the way of forming a federation of all horticultural organizations in the Dominion.

A resolution was passed instructing the educational committee to co-operate with kindred organizations with a view to formulating plans for the establishment of a Canadian Council of Horticulture. It was understood that steps would immediately be taken to interest the fruit, vegetable and other associations, including the Ontario Horticultural Association, in the scheme. The chairman of the educational committee is W. W. Gammage, London, Ont.

The plant registration committee was instructed to proceed with plant registration in the most effective and systematic way. The chairman of this committee is H. J. Moore, Provincial Forester, Toronto. A resolution was passed supporting the National Botanical Garden project, with Toronto as the best place for its location, and promising the co-operation and assistance of this association.

An interesting feature of the convention, which, by the way, was commercial and professional rather than amateur, was the many words of sympathy and appreciation expressed for the work of the horticultural societies in Ontario. It was pointed out that the horticultural societies were doing great work in the way of interesting people in flowers and in home beautification.

At the association's banquet, Hon. Dr. S. F. Tolmie, who was the guest of honor, said that the greatest drawback to successful agriculture in this country was a lack of knowing how to do things right. He thought that the people did not make enough use of the experimental farms throughout the Dominion and of the work that they were doing. The experimental farms system was manned by experts who were painstaking and who would not release information until they knew that it was correct. Incidentally, he stated that the experimental farm at Sidney, B. C., was growing and producing bulbs successfully.

W. T. Macoun, Dominion Horticulturist, thought that the change in name was for the good of the organization. The C. H. A. had been sailing to a certain extent under false colors, but that now was remedied, and the C. F. G. A. had a big and bright future. Among the things that the association might do, in Mr. Macoun's opinion, was to see that educational courses for florists and gardeners were introduced at the agricultural colleges. Mr. Macoun supported the botanic garden idea and said that a system of botanic gardens was needed in Canada, beginning first with a big national garden in Toronto, and later with botanic gardens elsewhere—one in British Columbia, one on the prairies, one in the Maritime Provinces, and perhaps others. Rose gardens, like the one in St. Catharines, should be established in every town and city.

The newly elected officers of the C.F.G.A. are: Pres., W. E. Groves, Hamilton, Ont.; first Vice-Pres., C. J. Hay, Brockville, Ont.; second Vice-Pres., Fred D. Clark, Toronto; Secretary, H. J. Eddy, 4425 Sherbrooke St., Montreal. The qualifications for membership, as stated in the constitution, revised at the convention, are: "Any person engaged in the advancement of floriculture, ornamental horticulture, and allied trades, is eligible to become a member of this association."

FARMERS' BUSINESS



For the past 54 years, this Bank has given particular attention to the business of Farmers.

We have helped many over the rough places, and have aided many more to the highest plane of success.

We are prepared to extend you every aid within legitimate banking practice.

Come in at any time and talk over your affairs with us. You are always welcome.

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WRITE OR CALL AT NEAREST BRANCH.

To Fruit Growers and Farmers—

The Dominion Bank is prepared to give special attention to the accounts of fruit growers and farmers.

If you need money to improve your orchard or farm, consult the local manager of any of the following branches:

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ST. CATHARINES
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J. B. A. O'NEILL, Manager
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IF YOUR

Apple Exportation

IS TO BE THE SUCCESS

Your Enterprise

merits, it should reach the consumer with the least possible delay.
There are ten million actual and potential consumers within the

BRISTOL

Distributive Area, and to reach these quickly you should send your fruit to Bristol direct. For this purpose, we place our organization at your disposal.

We have Branches in the adjacent cities of

CARDIFF and BATH

and are in touch with every high-class fruiterer in the wealthy

West of England

This, coupled with our long experience in the trade, is a guarantee to growers that their produce will be sold to their utmost advantage.

Brand your boxes and barrels "H.C.W.," Bristol, and we will substantiate our claim. Our markets are hungering for your produce.

H. C. Williams

Head Office : St. Leonard's Chambers, Nicholas Market, Bristol.

Bankers : "The National, Provincial and Union Bank of England, Old Bank, Bristol."

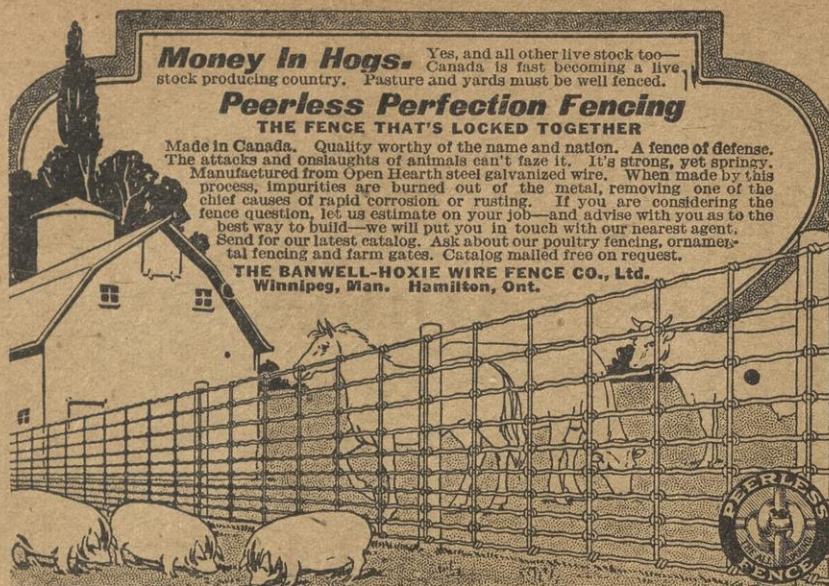
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Money In Hogs. Yes, and all other live stock too—Canada is fast becoming a live stock producing country. Pasture and yards must be well fenced.

Peerless Perfection Fencing
THE FENCE THAT'S LOCKED TOGETHER

Made in Canada. Quality worthy of the name and nation. A fence of defense. The attacks and onslaughts of animals can't faze it. It's strong, yet springy. Manufactured from Open Hearth steel galvanized wire. When made by this process, impurities are burned out of the metal, removing one of the chief causes of rapid corrosion or rusting. If you are considering the fence question, let us estimate on your job—and advise with you as to the best way to build—we will put you in touch with our nearest agent. Send for our latest catalog. Ask about our poultry fencing, ornamental fencing and farm gates. Catalog mailed free on request.

THE BANWELL-HOXIE WIRE FENCE CO., Ltd.
Winnipeg, Man. Hamilton, Ont.



Carhartt Overalls



I FIGURE that when a man wears overalls he wants to be able to bend, twist or stoop freely without being conscious of them. So I purposely make my Carhartt's extra roomy, and double stitch every seam. The suspender buttons stick as if they were imbedded in concrete. Interlacing suspenders give you shoulder ease you never knew before—and they stay together in the wash, while the first-grade denim cloth I use has a staunch durability that ensures a surprising length of service.

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HAMILTON CARHARTT
COTTON MILLS, Limited
Toronto Montreal
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Manufacturers of Men's Overalls and Work Gloves and Carhartt Allovers for Men and Boys



TRADE MARK

CROPS and MARKETS

From Dr. G. C. Creelman

To Ontario Fruit Growers and Shippers:

I have just been to Covent Garden Market and have interviewed some of the big fruit dealers there. They say that this country will have to rely upon imported fruit next winter and spring. This means that there will be a good market here for all kinds of orchard products this fall. In England, only about one apple tree in ten has a crop of any kind and what little there is is of a very inferior grade. The information given out from the government offices is that five per cent of last year's crop is a fair estimate.

The reports from France are for a fair crop of apples, but recent severe storms have badly injured the prospects in some sections. Holland and Belgium expect 50 per cent crop; Portugal and Spain well below the average.

The maximum fixed price in Great Britain for some time has been 9d (18cents) a pound retail. To-day (Aug. 3) this has been lifted and there will be no control of prices of apples until Nov. 15. On that date, 10d (20 cents) a pound will be the fixed price for some time.

The government has also fixed the maximum price which British buyers may pay for Ontario apples, viz.—

Sixty-eight shillings (\$16.32) per barrel of not less than 120 lbs.

Twenty-one shillings and sixpence (\$5.16) per box of not less than 37 lbs.

Twenty-three shillings and sixpence (\$5.64) per box of not less than 40 lbs.

Sixty shillings (\$14.40) per hundred weight for all other packages.

I would advise that farmers secure their barrels, boxes, etc., now, and get ready for the fall picking and packing. The buyers should also see that no orchards are overlooked and that no fruit is allowed to rot on the ground.

It is with the hope of markets like this that the Ontario fruit grower planted and since cared for his orchard. It will be a pity if he does not reap the benefit of it now. The people of Britain are hungry for apples, and are willing and able to pay for them.

It is not necessary to warn the shippers of the scarcity of space on ocean vessels. The situation is improving, but application must still be made early for accommodation at the Atlantic seaboard.—G. C. Creelman, Agent-General for Ontario, 163 Strand, London, W. C.

Special British Reports

During the coming apple season, J. Forsyth Smith, Canadian Fruit Trade Commissioner to the United Kingdom, in addition to the long established service of cables reporting from day to day apple prices at the principal primary distributing points in his territory, will forward to the Department of Trade and Commerce bi-monthly reports covering in detail the condition on arrival of specific apple shipments, additional details as to values, the fluctuation of the market, trade preferences, the condition under which sales are made, variations in demand, recommendations for meeting market requirements, and other matters of interest to exporters.

If growers, dealers and shippers are interested in receiving these reports, their names will be placed on the mailing list on

Scotland Wants Large Supplies Best Class Apples

GLASGOW'S RELIABLE FRUIT SALESMEN

ALEXANDER CAMPBELL & CO.

Receivers and Distributors of All Class Fruits

111 ALBION ST. BAZAAR, GLASGOW.

Cable Address—APRICOT

Established 1873.

Codes used—A.B.C. 5th Edition and Marconi code.

Order Fruit Ladders Now

Growers will be wise to order their ladders for fruit picking at once to ensure early delivery, as materials are scarce, and labor uncertain.

Stratford ladders will give you every satisfaction. They are light, strongly built and made in step extension and single models.

Co-operative Associations

We quote manufacturers' prices on orders for quantities to Farmers' Clubs and Fruit Associations.

If you cannot get a "Stratford" in your town, write us.

We would like you to see our attractive catalogue "E". A postcard will bring a copy.



STRATFORD MFG. CO.

STRATFORD

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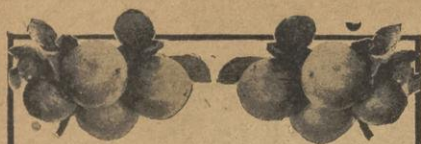
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ONTARIO

Fruit, Produce and
Commission Merchants

All shipments of Fruit and other Produce consigned to us receive our personal attention. Competent salesmen in Fruit Market at all times. Advice Card mailed each evening. Shipping Stamps mailed on request.

Your Shipment Solicited



Plant Hardy Canadian Grown Fruit Trees

Grown Under Government
Inspection

SEE OUR LIST OF

Fruit Trees,
Small Fruits,
Ornamentals,
Shrubs, Roses
and General Nursery Stock for
Fall and Spring deliveries.

Catalogue sent on application.

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Stone & Wellington

The Fonhill Nurseries

Established 1837

Toronto .. Ontario



TREES & SHRUBS

BROWN BROTHERS Co.

NURSERYMEN LIMITED

BROWNS NURSERIES, ONT.

SKINNER

SYSTEM OF IRRIGATION

Control complete. Prevents drought losses. Reduces labor bills. Increases profit. Special Portable Line for \$21.50. Send for new Bulletin.

THE SKINNER IRRIGATION CO.
217 Water Street - Troy, Ohio.

receipt of letters addressed to the Commercial and Intelligence Branch of the Department of Trade and Commerce, Ottawa, stating that they wish to receive the fruit reports of J. Forsyth Smith.

Opinions on Packages

Last month, express agents in three cities in Ontario told The Canadian Horticulturist that they found fruit packages this year to be very poorly made compared with previous years. Many of the climax baskets would not stand the strain of handling; they did not seem to be properly tacked or nailed, as they were far from being solid and firm. The express men spoke also of the lack of sufficient hooks on a large percentage of covers.

One agent referred particularly to the four-tray box as being easily broken open. He said that the sides often come off, because nails at the ends of the side pieces, being driven with the grain of the wood of the end pieces, are easily pulled out. He suggested that such boxes should be tied around the centres with cord or wire.

All the agents spoken to were "death" on the Delaware basket and all others that are much larger in diameter at the tops than at the bottoms. Such packages were difficult to load and handle with rapidity on hand trucks and on wagons or motor trucks. They claimed that baskets of that style were always tumbling over and, besides causing extra work were likely to injure the fruit for that reason. The one package that the agents preferred to handle above all others was the Georgia carrier, it being oblong, firm and easy to carry and load.

Fruit Inspection Results

According to J. R. Hastings, Chief Fruit Inspector for Western Ontario, there has been a decided improvement in pack and appearance of tender fruits since the regulations enacted in 1919 have been in force. At Winona early last month, Mr. Hastings told The Canadian Horticulturist that there had been more care in filling the baskets and that over-facing seldom was found this season. This was due, not only to the vigilance of the local inspectors, but largely to the fact that the growers and shippers were required to put their names and addresses on the packages.

But there have been some growers who have attempted to evade the regulations. Mr. Hastings told of two growers who were fined in Hamilton early in August. One had shipped to a Toronto commission house 18 11-quart baskets of Burbank plums which were so small and immature as to be totally unfit for consumption, and he had also failed to stamp or mark his baskets as the act requires. The other grower had failed to fill baskets for cherries properly and had neglected to remove or obliterate names of other growers which had been stamped on the baskets.

"The act governing the inspection of fruit," said Mr. Hastings, "provides that packages be well and properly filled, and requires also that no grower or packer shall pack fruit in a package intended for sale, on which appears the name of another grower, until such name has been removed or obliterated." The act requires that the name and address of the grower or packer be plainly stamped or marked on all fruit packages. Buyers, even consumers, should refuse to accept packages which are not so marked.

Mr. Hastings said that a vast majority of growers were anxious to see the regulations strictly enforced, and that generally they

were carefully observing the requirements. They realized that the welfare of the fruit industry and of their own individual interests were best served by giving to the people fruit of good quality, put up in clean, attractive and well-filled packages, and that it was not fair to allow a few sloppy and unscrupulous men to bring even a small measure of discredit to the industry.

August Market Notes

Furnished by Fruit Branch, Ottawa.

St. John, N.B. (Aug. 19).—The demand for imported fruit exceeds the supply, especially in pears, which have been selling from \$6.50 to \$8.00 a box. Ontario plums of fair quality are now on the market, but owing to high price of sugar demand is limited. Native tomatoes are now coming in and will supply the local demand. New Brunswick apples from the St. John River District are now on the market, mostly wind-falls; a few Transparents, picked and packed in barrels, have been received; small but clean and well packed. The first Nova Scotian Astrachan apples found a ready sale. Fruit and vegetables in good demand and business generally fair.—W. S. Potts, Inspector.

Montreal (Aug. 20).—Apples in baskets are very plentiful, too many being of poor quality and ungraded, bringing low prices; while 11-qt. baskets have touched \$1 a basket when well graded and of superior quality. No. 1 Transparent and Duchess apples in barrels have sold at \$7 a barrel when well graded and highly colored. Some packers are putting up the No. 3 grade as if everything in the shape of an apple could be packed under this grade, whereas the law requires that the No. 3 grade shall con-

The Fruit & Produce Market

The Commission firms undernoted wish consignments of fruit and general produce. They will be pleased to have you write them for information, shipping stamps, etc., if you have fruit or vegetables for sale.

H. J. ASH

44-46 Church St. - Toronto, Ont

CONSIGNMENTS OF FRUIT AND
VEGETABLES SOLICITED.

Shipping Stamps furnished on request.

DAWSON-ELLIOTT CO.

32 West Market St., Toronto, Ont.

Wholesale Fruit and Produce Consignments Solicited.

PETERS, DUNCAN Limited

88 Front St. E., Toronto, Ont.

See advertisement on another page.

APPLE BARRELS

New standard-machine made, best quality. Delivered anywhere in Ontario and Quebec. Write for prices. Contracts made with Fruit Associations and others.

JOHN HAYNE

SARNIA : : : ONTARIO.

Feed Now Canes, Strawberries, Grapevines & Fruit Trees for Growth — Strength — Yield

Your cane fruits, grapes and strawberries are now building up vigor of root and branch with which to meet winter.

If well nourished they will have made maximum, sound growth, and will repay you in quantity and quality of yield next summer.

Apply 500 to 750 lbs. per acre of fertilizer, analyzing 3 to 5% ammonia, 8 to 12% phosphoric acid and 2 to 4% potash. Scatter between the rows up to within 6 inches of the canes or plants and work into the soil by cultivation.

For full information and literature write:

Soil and Crop Improvement Bureau

of the Canadian Fertilizer Association

H. G. BELL, Director

1111 Temple Building, Toronto

Remember:

That it is the experience of hundreds of successful berry and grape growers that the thing that pays is to---

1. Feed the vines and canes now.
2. Apply plenty of high grade plantfood.
3. Work in the plantfood by thorough cultivation.

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APPLES

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W. S. BUCKOLL

Fruit Importer and Merchant

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I SOLICIT your consignments. Write NOW for particulars of the Buckoll Service

Highest References Given

Telegraphic Address: "Buckoll, Nottingham, England"

Barchard & Co.

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Fruit Boxes

Made Up
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"The Sure Shepherd"

Write for this little booklet by James H. McConkey. A comforting, faith-strengthening message for every Christian. Entirely free. Address

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Alpine and perennials, unique collection; many new varieties unobtainable from any other source. Hardy and adapted for Canadian climate. **HARDY PLANT FARM, ENFIELD, ENGLAND**

SMALL FRUIT PLANTS

Gooseberries—Josselyn, Downing, Houghton. Currants—Perfection, Fay, Ruby, Cherry, Boskoop, Grant, Lee's Prolific, Champion, Victoria, Naples. Raspberries—Herbert, Plum Farmer, Shaffer's Colossal, Columbia, Cuthbert. Asparagus and Rhubarb Roots.

PRICE LIST ON APPLICATION.

WM. FLEMING : Nurseryman : Owen Sound, Ontario

tain no culls. Some No. 3's, which have been branded "below grade" on account of culls, have sold at \$2.75 a bbl., leaving the grower no returns for his fruit.

Approximately 10,000 bags of potatoes have been grown within the city limits this year. Many carloads of imported onions of superior quality were received early in the month and sold at first at \$3.50 a bus., but to-day these are looking for buyers from \$1.50 to \$1.75. The local onions have made rapid growth and are supplying the demand.—E. H. Wartman, Inspector.

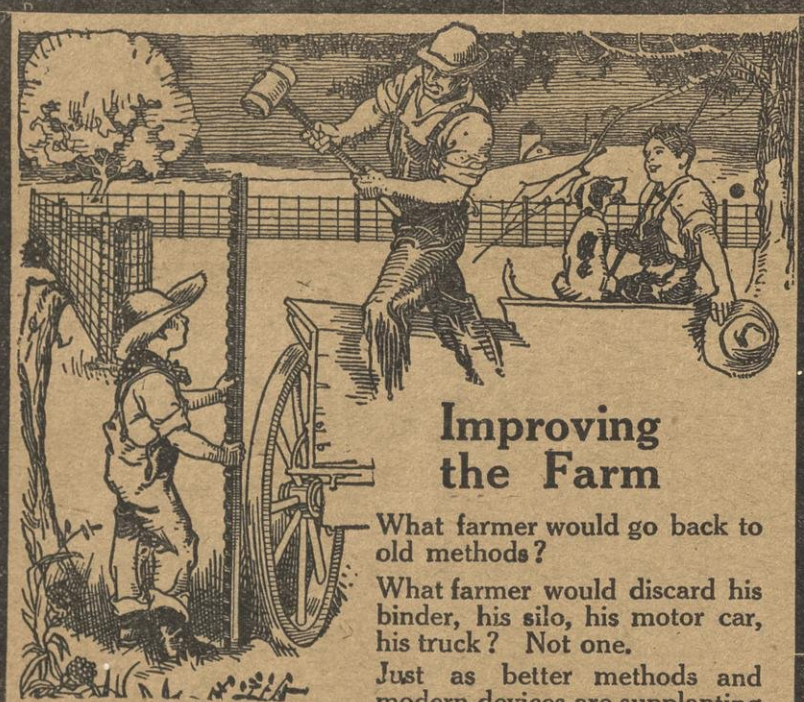
Ottawa (Aug. 21).—Since the last report, several important changes have taken place with respect to prices. Potatoes are now selling at \$1.75 to \$2 a bag. Tomatoes are a glut on the market, and bring from 15c to 20c an 11-qt. basket, according to quality. These very low prices are due to heavy shipments from Western Ontario competing with the local crop.

Apples in baskets are coming on the market in large quantities, Astrachans No. 1 selling from 75c to 80c an 11-qt. basket; Transparent and Duchess, 60c to 75c; jumble pack, tree run, much less. Pears of early varieties are selling at from 40c to 50c a basket; peaches, 70c to \$1 and \$1.25. While the baskets of fruit on this market are better filled than ever before, a certain amount of pilfering has been reported and, if shippers would see that the covers are more securely fastened on their baskets, there would be fewer complaints in regard to under-filling.—C. H. Snow, Inspector.

Toronto.—Plums have been on the market in large quantities and showing a wide range in price. Peaches are becoming plentiful. Large quantities of basket apples are coming forward. One extra good shipment of Duchess sold at \$2.50 a bushel hamper; Duchess of fair quality, \$4.50 to \$5 a bbl.; No. 2's, \$3.50 to \$4; No. 3's, \$2.50. Potatoes are now selling as low as \$2 a bag. Other vegetables plentiful.—H. W. McQuoid, Inspector.

Winnipeg (Aug. 20).—Very little fruit on market; keeping prices firm. Ontario basket fruits arriving in splendid condition so far. Leamington tomatoes coming a little too fast and market falling; a few wasty, but generally in good condition.—F. H. Steele, Chief Fruit Inspector.

The Ontario Horticultural Exhibition will be held in Toronto, Nov. 10 to 12.



Improving the Farm

What farmer would go back to old methods?

What farmer would discard his binder, his silo, his motor car, his truck? Not one.

Just as better methods and modern devices are supplanting the old, so

BURLINGTON STEEL FENCE POSTS

are replacing the costly methods of fence building. Burlington Steel Fence Posts can be driven into the ground in a few minutes. The special "U" shape insures permanent anchorage and prevents sagging or bending. They are rust-proof, decay-proof, fire-proof and last a lifetime. No post holes to dig—no staples to drive. They withstand any farm strain.

For sale by all good fence, hardware and implement dealers, or write us direct. Immediate shipment.

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HAMILTON, ONTARIO

Bulbs For Fall Planting

Your choice free of any one of the following collections on the terms stated, Good only till September 30, 1920.

Collection A—6 Hyacinths

6 Beautiful Double Hyacinths, one each dark red, pink, white, dark blue, light blue and yellow.

Collection B—15 Tulips

15 Single Prize Mixed Early Tulips in assorted colors—red, pink, white and yellow.

Collection C—15 Mixed

2 Hyacinths, dark red; 5 Tulips, single yellow; 2 Narcissi, Pheasant's Eye; 6 Crocus, fine mixed.

To Prospective Subscribers:

Send \$1.00 as a NEW three-year subscription to *The Canadian Horticulturist* (Fruit or Floral Edition) and state your choice of one of the three collections—A, B or C. The collection will be sent free and postpaid.

To Present Subscribers:

Send \$1.00 as a New three-year subscription to *The Canadian Horticulturist* (Fruit or Floral Edition) for a friend, or \$1.00 secured from anyone for a NEW three-year subscription, and state your choice of one of the collections—A, B or C. The collection will be sent free and postpaid.

(These offers are available also for NEW subscribers to the Beekeeping Edition at \$1.00 for one year each).

When Sending Subscription and Choice, state:

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3. To whom collection is to be sent.
4. Name and address of new subscriber.

The Canadian Horticulturist

Peterboro, Ontario

HELP!
STOP THIS FIRE WASTE

MISS ONTARIO

ONTARIO FIRE PREVENTION LEAGUE
IN AFFILIATION WITH THE
ONTARIO FIRE MARSHAL'S OFFICE
DEPT. OF PROVINCIAL TREASURER
George F. Lewis, Secy. Treas.
TORONTO

IT IS A PATRIOTIC DUTY TO PREVENT FIRES

CLEAN UP
FIRE PREVENTION WEEK
OCTOBER 9TH

\$1,000,000
BURNT MONTHLY IN ONTARIO

EVERY FIRE HAZARD ABOUT THE PLACE SHOULD BE ELIMINATED

Fire prevention on the Farm simply means the saving of millions in property and more in life.

The Future of The Apple Trade

Owing to the growing demand for fruits of all kinds, and the ability of the home market to consume the country's entire production when quality and conditions are good, it becomes time for the growers to consider the marketing conditions as an important factor in obtaining the full benefit of their apple crop. Box packed apples are conveniently handled and present the most desirable means of inspection and sale. They adapt themselves to the buyer on account of the size of the package.

Putting up apples other than by the box is wasted effort. Pack in boxes and get the selling profit.

BOXES and BOX SHOOKS

—any quantity

FIRSTBROOK BROS.

LIMITED

Toronto

Ontario

T. J. POUPART

REGISTERED T.J.P. TRADE MARK

COVENT GARDEN

— AND —

SPITALFIELDS MARKETS

LONDON

The Largest Firm
of Fruit Salesmen
in Great Britain

SAM BIRCH, representing T.J.P., will be in
Canada during July and August.



FLOWER POTS

Hanging Baskets and Fern Pans

We make the "Standard" Pot, the best Pot in the world—uniform, best of clay, well burned, in every respect superior to all others.

All our pots have rim on shoulder, thus allowing them to be placed together perfectly and preventing breakage in shipping and handling.

Place your Spring Order NOW.

A complete line and large stock of all sizes kept on hand to ensure prompt shipment.

Send for NEW CATALOG and PRICE LIST.

The Foster Pottery Co.

HAMILTON - ONTARIO
Main Street West.

Graded and Culled

Packages of fruits and vegetables from Canada to the United States must be marked net weight, in accordance with the Food and Drugs Act of the latter country.

Growers who have not secured contracts for barrels are being warned by the Fruit Branch, Ottawa, to plan for winter storage of their apples in packages of some kind or in bulk. The fruit thus may be packed more at leisure and when perhaps the barrels supply will be more plentiful.

A prominent fruit grower near St. Catharines adopted the plan this season of delivering his fruit to customers in Toronto by motor truck, a distance of about 80 miles. He personally canvassed the hotels, restaurants and retail stores of Toronto, and secured a sufficient number of contracts to dispose of his supply.

Road making just west of Grimsby has been tying up traffic and interfering with the movement of fruit from orchards to the stations. In August, a contract piece of highway was being made some two miles west of Grimsby that could not be used at all, especially after a rain, and there was no other road for the use of the growers. Much indignation was felt over this work being

started in the midst of the fruit season. The government had been advised months before to have the work done early, so as not to interfere with the harvest, but apparently no attention was paid to the request.

The shortage in barrels is becoming more acute as the harvesting season progresses. Much of the shortage is blamed upon the new business offered to mill men and coopers by breweries. Some growers had the foresight to order their barrels early in the season, but for the most part this was not done. Even had all growers ordered early, the general situation would not likely have been much relieved.

This season, large numbers of women and girls again came to the aid of the fruit growers of the Niagara District, but the help problem for the harvest is still acute. Women and girls who have the time and desire to spend a few days or weeks in a fruit orchard should communicate directly with the growers or with Miss Tompkins, Government Employment Bureau, Toronto.

It is reported that a half-dozen apple growers in the Newcastle District, on the Lake Ontario front, have sold their combined output at a price which is expected to aggregate about \$40,000. The buyers have agreed to take everything except the culls at \$4.25 a barrel and \$2.50 a box for No. 1. The growers are to provide barrels, pick, rough pack and deliver at the storehouses at the railway stations. The growers who are reported to have joined in the sale are W. H. Gibson, D. J. Gibson, Henry Bowen, Frank Gibson, Wesley Bragg and R. L. Osborne.

The field crop competitions in celery, melons, onions and tomatoes in the Ottawa, Kingston, Belleville and Peterboro districts were judged last month by J. Dandridge of Humber Bay. Mr. Dandridge told THE CANADIAN HORTICULTURIST that, with the exception of melons, all the districts mentioned had good crops this year. The melons showed some unaccountable damage on their sides. In the Kingston district, blight was quite bad on onions. In the Ottawa district there was considerable blight on celery in some of the patches.

HARRY KOOLBERGEN, Nurseryman, BOSKOOP HOLLAND

has appointed Mr. A. P. MARSHALL, of Niagara Falls, Ontario, as his Sole Agent for Canada, to whom can be addressed all letters and orders.

Special grower of Roses, Paeonies, Rhododendrons, Climbing Plants, Fruit Stocks, and rosa Canina stocks. Please write us for prices. No order too small or too large. Cable address---Koolbergen, Boskoop.

'BRUCE'S FLOWERING BULBS

For Wintering Flowering in the House
and Spring Flowering in the Garden

Exquisite colors and fragrance—EASILY GROWN
Must be planted this Fall.



	Each	Doz.	100
Crocus, in 4 colors	\$0.04	\$0.35	\$2.00
Freezias . . . . .	.05	.40	2.50
Lilies, Calla White . . . . .	.25	2.50	
Lilies, Chinese Sacred . . . . .	.25	2.50	
Hyacinths, Roman, 3 colors . . . . .	.12	1.25	9.00
Hyacinths, Dutch, 4 colors . . . . .	.11	1.15	8.50
Narcissus, single, 4 varieties . . . . .	.08	.80	5.50
Narcissus, double, 4 varieties . . . . .	.09	.85	6.00
Narcissus, Paper White . . . . .	.08	.75	5.00
Scilla Siberica, Blue . . . . .	.05	.50	3.75
Snowdrops, single, White . . . . .	.04	.40	2.75
Tulips, single, 4 colors . . . . .	.07	.70	4.75
Tulips, double 4 colors . . . . .	.07	.70	5.00
Tulips, Parrot, mixed . . . . .	.07	.65	4.50
Tulips, Darwin, mixed . . . . .	.07	.70	5.00

All these bulbs will be ready
the end of September

FREE—Send for our 32 page illustrated catalogue of Bulbs, Plants, Seeds and Poultry Supplies, etc., NOW READY.

JOHN A. BRUCE & COMPANY, LIMITED

HAMILTON - Established 1850 - ONTARIO 228

"American Grape-Growing"

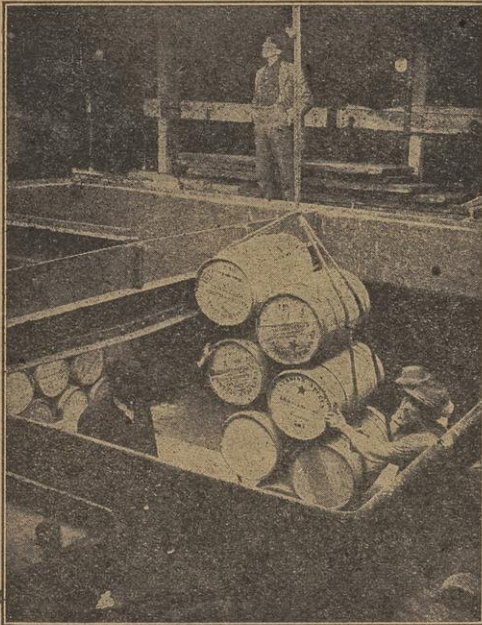
Grape-growers will be interested in a book on grape culture entitled "Manual of American Grape-Growing," by U. P. Hedrick, horticulturist of the Agricultural Experiment Station, Geneva, N.Y. This is a complete popular work on grape growing in North America, including the Niagara region. It discusses the practical questions of climatic limitations, choice of site, land and preparation, propagation, fertilizing, tillage, planting, pruning, training, and marketing. There is also a concise treatment of the diseases and the insects injurious to the grape.

Special attention is given to descriptions of the leading varieties. In this connection, it is interesting to note that the following varieties of Canadian origin are described: Canada, originated by Charles Arnold, Paris, Ont., in 1860; Jessica, Wm. H. Read, Port Dalhousie, Ont., about 1875; Kensington, Wm. Saunders, London, Ont., about 1875; Moyer, W. H. Read, about 1880; Othello (Canadian Hamburg), Chas. Arnold, 1859.

The book contains over 450 pages of information that should be constantly available for reference on the book shelf of each grape man in Canada. It is published by the Macmillan Company of Canada, St. Martin's House, Toronto; price \$2.75.

STANDARD APPLE BARREL STOCK

Government Specifications



*Staves, Hoops,
Heading, Head Liners,
Coopers' Nails*

We can give prompt shipment of dry stock

For apple packers who do not make their own barrels, or where there is no local cooper, we can arrange to supply apple barrels, through the nearest cooper or from our machine shop at Chatham, with a capacity of 1200 barrels a day.

THE SUTHERLAND-INNES CO., Limited
CHATHAM - ONTARIO

Our Aim Is Service!

There is only one way to hold customers, as we have learned from many years experience, and that is to *always secure the most satisfactory returns possible*. We will do this on your shipments of

— Grapes,	— Plums,
— Quinces,	— Pears,
— Peaches,	— Tomatoes,

this month, if you will send your shipments to us.

The efficient selling organization which we have built up, enables us to guarantee to secure you the highest market prices prevailing.

**Won't You Give Us
A Chance?**

Shipping Stamps will be sent on request.

White & Company

Toronto Front and Church Streets **Ontario**
Wholesale Fruit Importers and Commission Merchants

17th Annual Fall Exhibition

— of —

**Fruits, Vegetables
and Flowers**

— at —

Armory, St. Catharines

Wednesday and Thursday, Sept. 15 and 16, 1920

— under the auspices of —

St. Catharines Horticultural Society
St. Catharines and Lincoln Fruit Growers
St. Catharines Vegetable Growers' Association

Prize Lists on application to Secretary,

MISS A. N. LINDSAY,

109 King Street. Phone 699

C. A. HESSON, Treasurer. W. B. BURGOYNE, President
J. M. CAMERON, Chairman of Executive Committee.

FOR SALE AND WANT ADS

Advertisements in this department inserted at the rate of 3 cents per word. Each word, initial or group of figures count as one word. Minimum 30 cents cash strictly in advance.

BEES FOR SALE

HARDY ITALIAN QUEENS—\$1.00 each. W. G. Lauver, Middletown, Pa.

ITALIAN QUEENS—Northern bred, three-banded, highest grade, select, untested, guaranteed. Queen and drone mothers are chosen from colonies noted for honey production, hardiness, prolificness, gentleness, and perfect markings. 1 to 1 doz., \$1.25; more than 1 doz., \$1.10; Virgins, per 100, \$55.00. One grade only—select untested. Nuclei or bees by the pound a specialty. Send for circular. J. H. Haughey, Berrien Springs, Mich.

"SHE SUITS ME"—Italian queens—May 15th, \$1.50 each. After June 15th, \$1.30. Save exchange by remitting Canadian money by registered mail. Allen Latham, Norwichtown, Conn., U.S.A.

FOR SALE—Italian bees on ten-frame hives; strong colonies. Delivery September, 1920. Apply to Jos. Martineau, Maniwaki, Que.

FOR SALE—Small apiary of good bees, free from disease. Twenty hives in new ten-frame Langstroth painted boxes, patent galvanized iron tops, etc. Address, P. O. Drawer 309, Orangeville, Ontario.

FOR SALE—Three banded Italian queens, \$1.50 each; \$15.00 per dozen or more. J. A. Jones, Route 1, Montgomery, Ala. Box 11A.

GOLDEN QUEENS that produce golden bees, selected untested \$2.00, tested \$2.50. Safe arrival and satisfaction guaranteed. Clinton Bradway, Monson, Mass.

BEE SUPPLIES

FOR SALE—Twenty quadruple winter cases; one hundred single winter cases; fifty ten-frame Richardson hives with supers; one Alpaugh Solar Wax Extractor; one Sibbald Wax Press. Duff Bros., Tara, Ontario.

64 COLONIES, mostly Italians, ten frame Langstroth hives. 125 deep and 32 shallow supers, full combs and foundation. 20 hives, 70 supers, empty frames. Excluders, foundation tanks, wintercases, stands, other articles too numerous to mention, all in good condition. Everything goes with ample winter stores for \$1,800.00. Write for complete list and description of outfit. Howard E. McIntosh, R.R. No. 3, Meaford, Ont.

BEESWAX AND HONEY

WANTED—No. 1 Clover Honey. Send sample and price wanted. The Ontario Beekeepers' Supply Co., Guelph, Ont.

I CAN HANDLE all your surplus honey if I can buy it now. Don't wait. G. A. Deadman, Brussels, Ont.

REAL ESTATE

ALL KINDS OF FARMS—Fruit farms a specialty. Write, stating requirements, W. B. Calder, Grimsby.

REMEDIES

GLOVER'S & SPRATT'S DOG MEDICINES. Write for large catalogue of dog and rabbit supplies and books. Morgan's Limited, London, Ont.

RABBIT MEDICINES & FOOD. Write for large catalogue of supplies and books. Morgan's Limited, London, Ont.

SEEDS, BULBS, PLANTS, SHRUBS

C. KEUR & SONS, Hillegom, Holland. Bulbs of all descriptions. Write for prices. New York Branch, 32 Broadway, Room 1014.

YOUR ADDRESS for Holland grown Hyacinths, Tulips, Narcissus, Crocus, Gladiolus, Spiraeas, Dahlias, Dicyclotras, Iris, Paeonies and all miscellaneous bulbs and roots. Gt. Van Waveren & Krutjff, 116 Broad St., Room 40, New York City, U.S.A.

CACTI—Have received two large shipments from the desert. Can make up small collections, or sell fine single specimens at moderate price. J. H. Callander, Weller St., Peterboro.

VAN'T HOF & BLOKKER, AKERSLOOT, HOLLAND. Bulb growers and exporters of roses, etc. Fall and Spring import orders solicited from Societies, Schools, and individuals. Canadian Office, 41 Albany Ave., Toronto, Ont.

WE SAVE YOU MONEY—Write for catalogue of fall bulbs, shrubs, trees, flower pots, etc. Morgan's Limited, London, Ontario.

PLANT

The world's choicest Paeonies for pleasure; also Philox and Iris.

Send for list.

H. P. Van Wagner

HAMILTON, R.R. No. 5, ONTARIO.

POULTRY YARD

Begin to market the old hens as they stop laying. Be sure they are good and fat.

A layer is a hen or pullet devoted to market eggs, and should not be used in breeding pens.

When taking eggs to market, protect them from the sun's rays in warm weather. Ship or deliver eggs twice or three times weekly.

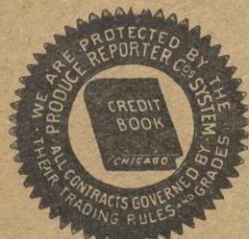
Never allow a green scum to coat the drinking vessels. Such a condition is a disease breeder. Drinking vessels and feed troughs should be kept scrupulously clean.

The Mediterranean or egg breeds are best suited for the production of white-shelled eggs. Representatives of this class are bred largely for the production of eggs rather than for meat production. Among the popular breeds of this class are: Leghorn, Minorca, Ancona, and Andalusian.

Market white-shelled and brown-shelled eggs in separate packages. Eggs irregular in shape, those which are unusually long or thin-shelled, or which have shells otherwise defective, should be kept by the producer for home use, so that breakage in transit may be reduced as much as possible.

During clear weather, the windows and doors of the houses should be opened wide so as to allow the fresh air and sunshine to enter and purify the atmosphere. In short, cleanliness means not only keeping the floor, dropping boards and the walls clean, but also the cleanliness of the air made so by nature's remedies: pure air and searching sunshine.

Pullets to be profitable as winter egg producers must be hatched from strong, healthy stock, and must be hatched early—not later than April. They must receive the best of care on the range, being allowed to grow steadily and uniformly and not forced. They must be handled with great care in the late summer and early fall at maturity, being given clean, sanitary and comfortable quarters, for only under these conditions will they be happy and profitable.



We Solicit Your Consignment

Send for Shipping Stamp

Fruit and Vegetables Solicited

We Get Best Prices

OUR facilities enable us to realize top prices at all times for your fruit, vegetables or general produce. Aside from our large connection on the Toronto Market, we have established branch warehouses with competent men in charge at Sudbury, North Bay, Cobalt and Timmins. In time of congestion on the Toronto market we have a ready outlet through these branches. We never have to sacrifice your interests.

Branch Warehouses:
Sudbury, North Bay,
Cobalt and Timmins.

PETERS, DUNCAN LIMITED
88 Front St. East, Toronto



References: The Bank of Nova Scotia, King and Victoria Branch, and Commercial Agencies.



A Greenhouse Suggestion Well Worth Considering

WORTH considering because it has economy and convenience back of it. Economy in attaching it to the garage, so one boiler can heat both. Economy in overcoming the necessity of building a special work room.

Convenience in having your buildings compactly grouped, adding to the efficiency of your labor.

Of equal importance is the fact that it is constructed with our construction of Everlasting Lastingness, which is an insurance against repair costs.

Let us give you an estimate for a similar one adjoining your garage.

Our Glass Garden Booklet No. 106, you are welcome to.

A representative will call at your suggestion.

*We will be pleased to have you visit our exhibit in the
Horticultural Building, Canadian National Exhibition*

Lord & Burnham Co. Limited.
of Canada

Builders of Greenhouses and Conservatories

Royal Bank Bldg., Toronto

Factory: St. Catharines, Ontario

RENNIE'S HIGH-GRADE BULBS

For Fall Planting

The present indications point to a shortage in fall Bulbs and Roots. We would suggest that you place your order now for early delivery. By doing so, you will avoid any possible disappointment should a shortage occur.

NAMED HYACINTHS — 2nd Size.

Each 18c; dozen, \$1.95; per 100, \$13.00.
Add 3c each, 20c per dozen for postage.

Arentine Arendson (White).
Double La Grandesse (Pure White).
Grandeur a Merveille (Blush White).
L'Innocence (Pure White).
Madame Van der Hoop (White).
General Kohler (Light Blue).
Grand Maitre (Deep Lavender).
King of the Blues (Dark Blue).
Queen of Blues (Light Blue).
Mansfield (Mauve Queen) (Ruby Violet).
City of Haarlem (Golden Yellow).
Yellow Hammer.
Sunflower (Pure Yellow, Double).

SINGLE AND DOUBLE HYACINTHS Unnamed (Red, Pink, White, Blush, Light and Dark Blue, Yellow and Mixed).

Each, 10c; dozen, \$1.00; per 100, \$8.00.

SINGLE EARLY TULIPS — 1st Size.

Add 10c dozen, 50c per 100 for postage.

	Doz.	Per 100
Artus (Bright Scarlet)	\$0.75	\$5.00
Belle Alliance (Brilliant Scarlet) .....	.80	4.75
Crimson King (Crimson) .....	.70	4.75
Dusart (Brilliant Vermilion) .....	.80	4.75
Proserpine (Cherry Red)	1.25	9.75
Queen of Netherlands (Pale Pink) .....	.80	5.25
Rose Gris de Lin (Soft Rose) .....	.80	5.25
Lady Boreel (Pure White) .....	.85	5.50
La Reine (White Shaded Rose) .....	.80	5.00
White Hawk (White) .....	.85	5.50
Chrysolara (Pure Golden Yellow) .....	.80	5.25
Yellow Prince (Pure Yellow) .....	.70	4.50
Prize Single Mixed .....	.65	4.25

DOUBLE EARLY TULIPS — 1st Size and Quality.

Add 10c dozen, 50c per 100, for postage.

Alba Maxima (White)	\$0.75	\$5.25
Boule de Neige (Pure White) .....	.80	5.50
Crown of Gold (Orange and Yellow) .....	.80	5.25
Imperator Rubrorum (Scarlet) .....	.80	6.25
Murillo (Rose Pink) .....	.80	5.50
Rubra Maxima (Deep Rose) .....	.80	5.50
Salvator Rosa (Rose) .....	.80	5.50
Tournesol (Red and Yellow) .....	.95	6.25
Vuurbaak (Scarlet) .....	.90	6.25
Prize Double Mixed .....	.65	4.75

NARCISSUS or DAFFODILS — Single.

Add 15c per dozen for postage.

Barri Conspicuous (Yellow, Crown Edged Red)	\$0.75	\$6.00
Empress (White, Yellow Trumpet)	1.00	7.00
Golden Spur (Fine Yellow)	1.00	7.00
Princeps (Yellow Trumpet, Dbl. Nose) .....	.85	6.00
Sir Watkins (Sulphur, Yellow Cup)	1.00	7.00
Victoria (Pure White, Yel. Trumpet)	1.00	7.00
Poeticus Ornatus (Double Nose) .....	.70	4.50
Poeticus Pheasant's Eye (Double Nose) .....	.70	4.50

JONQUILS

	Doz.	100
Single (Yellow)	\$0.55	\$3.75

SNOWDROPS

Snowdrops (Single), Elwes Giant....	.35	2.75
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OXALIS

Oxalis (Bermuda Buttercup)45	2.75
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SPARAXIS

Sparaxis (Mixed)35	2.50
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ANEMONES

Anemones (Double Mixed)40	3.00
Anemones (Single Mixed)40	3.00



TULIP—SINGLE EARLY.

WM. RENNIE CO. LIMITED
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WINNIPEG

VANCOUVER

WRITE FOR
COMPLETE BULB LIST
FOR 1920