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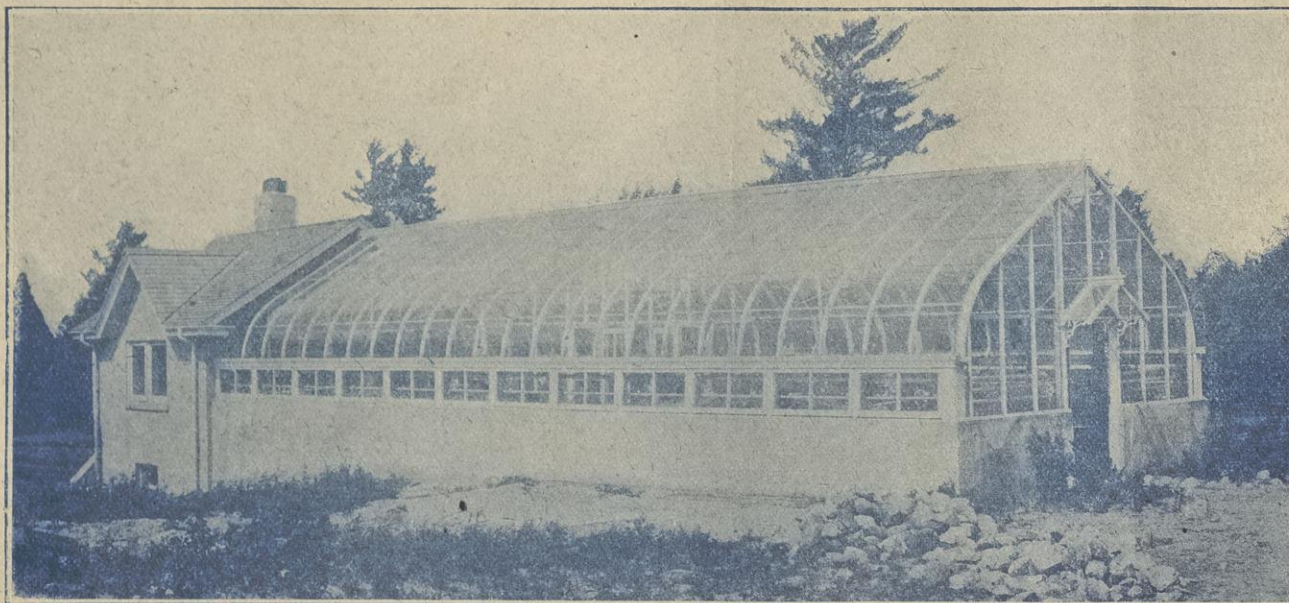
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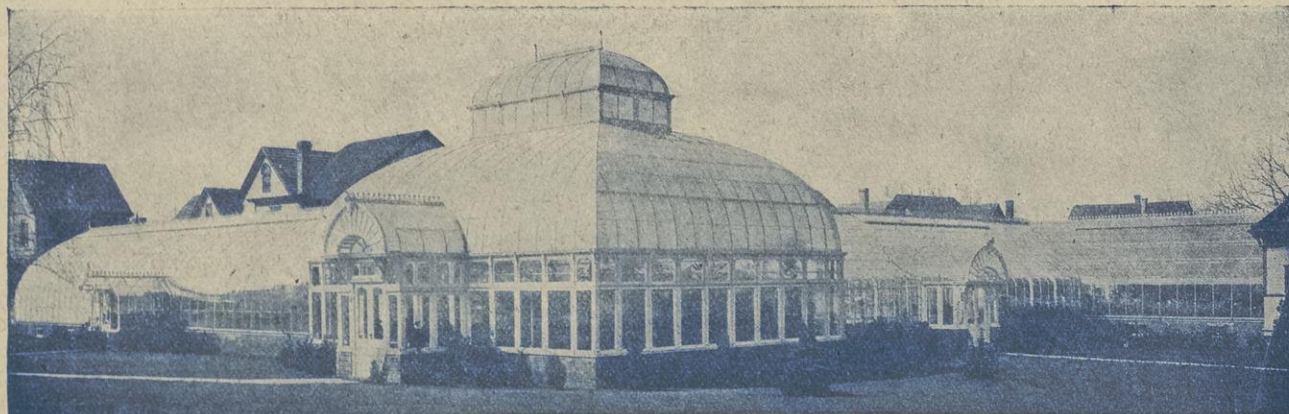
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The Canadian Horticulturist

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THE CANADIAN HORTICULTURIST,
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The Canadian Horticulturist and Beekeeper

(See Pages 223-228)

(See Pages 223-228)

Vol. 29

TORONTO, AUGUST, 1920

No. 8

Handling Peaches by the Carload

THE handling of peaches in carload lots direct from private grower to consumer has been demonstrated to be a profitable business by C. Howard Fisher, proprietor of Dulverton Fruit Farm, at Queenston, Ont. Mr. Fisher's post office is Niagara-on-the-Lake. Mr. Fisher has specialized for some years in selling peaches by the carload. From his experience, he is convinced that farmers in other parts of the province and city consumers, through organizations that they might form for the purpose, should order their peaches direct from the growers in carload lots. "The consumer would save 75 cents on each basket, and the grower would make from five to eight cents more," Mr. Fisher said to the editor of The Canadian Horticulturist who visited his farm early last month. Mr. Fisher was then in the midst of the cherry harvest, but he took time to tell some of the details of his work and methods in growing and handling peaches by the carload.

Some Peach History.

Peaches have been grown on Mr. Fisher's farm for more than 100 years. He showed me a field that had grown peaches almost continuously for over a century. There are trees there now of the Jacques Rareripe variety that are 17 inches in diameter near the butt and 35 years old. Mr. Fisher claimed that the first commercial peach orchard in Canada was established on this same farm before the war of 1812, by a Mrs. James

Durham, a United Empire Loyalist. The farm was procured from the Crown in 1797, and peaches set out some time later. This should be an important contribution to the historical study of the peach in Canada. The writer remembers how difficult it was some 15 years ago, when he prepared an article on the peach industry for publication in a report of the Ontario Fruit Growers' Association (1906), to secure authentic information respecting the early history of the peach in this country. Palmer and Harris' bulletin on "Peach Growing in Ontario," published in 1916, records peaches grown by a Mrs. Simeoe, Niagara, as early as 1793, but not in a commercial way. Gould's book on "Peach-Growing," published in 1918, quotes a reference to peaches growing in Southern Canada in 1748—but, was not "Southern" Canada in those days, under the French, somewhere down along the Ohio River? At any rate, it is all very interesting, and Mr.

Fisher can produce deeds and records to substantiate his contention. Facts on peach history from other sources are requested for publication.

There is a vast difference, however, between growing a few peaches for home use, or even for market, a hundred years ago and growing peaches today for sale by the carload. Mr. Fisher grows the leading varieties, such as St. John, Elberta, and the like, and is always on the look-out for new varieties that will lengthen or fill in the season. He has about 2,000 trees of Rochester, the comparatively new, early yellow freestone. A photograph on this page shows some of his Rochesters when one year old.

He showed me an orchard of the J. H. Hale peach, that demonstrated the fact that peach trees require soil that is well drained. One end of this orchard is on low ground, with poor drainage, and shows most decidedly the effects of such a situation, compared with the other end of the orchard on high ground, well drained,

with trees in first class shape. Mr. Fisher now has his whole farm under-drained. He put in a little over 13 miles last year, and the effect on his orchards can be seen already.

Picking Methods.

"I instruct my pickers to pick by sight, not by feel," said Mr. Fisher. "A peach is ready for picking when the ground color takes on a yellowish tinge. The peach will mellow after picking. The pickers use a picking strap to carry the basket in front of them; in this way, loss



A one-year-old orchard of Rochester peaches on Dulverton Fruit Farm, owned by C. Howard Fisher, Queenston, Ont. At one year, all these trees bore a few peaches, one tree having as many as 32, a good crop for a yearling. This year, as two-year-olds, all the trees have from 60 to 200 specimens each. Mr. Fisher thinned this crop at least 50 per cent. In the background of the picture are some of the buildings on the Larkin Farms.

from bruising is reduced to a minimum. All varieties are picked more than once, excepting the Elberta. Triumph and Rochester require three pickings at least."

The pickers are paid by the basket in the case of Elbertas and by the hour, with board, for all other varieties. Mr. Fisher referred to the great difference in the work done by pickers, even experienced ones. He has one man, every season, who picks as much as any ordinary five men. This man will pick 50 baskets of Elbertas an hour and sometimes makes as much as \$15 a day on piece work. It is Mr. Fisher's system to pay two cents a basket to pickers who pick 350 baskets or less a day, and three cents a basket to those who pick over 350; this means that the picker must produce 350 baskets a day to get the three-cent rate. There is a large boarding house in the orchard for the accommodation of the help.

Grading and Packing.

A mechanical grader (Gifford), operated by gasoline engine, is used for rapidity in grading. This grader stands in the centre of a large packing house. From the orchard the peaches pass through the packing house via the grader to the packing platform and then into railway cars that stand on a

siding at the doors. Mr. Fisher said that his grader does the work very evenly and is satisfactory in every way.

The best grades of St. John are layered in the baskets and occasionally this is done in the case of other varieties. In the rush season, however, and especially with Elbertas, the jumble pack is used, heaped in baskets and covered with leno. All specimens that are defective in any way are not put in the baskets for shipment.

In the shipping season, four cars at one time stand on the siding at the packing house. The cars are not racked. The baskets are loaded two tiers deep; that is, one tier is placed flat on the bottom of the car and the next tier, with the baskets in a slanting position, rests on the handles and ends of the baskets of the lower tier. Sometimes a third tier is used, the baskets in this case being on a level plane on top of the second tier. Mr. Fisher told of sending a car containing 2,046 six-quart baskets to Winnipeg successfully in 1918, packed three-tier deep. Last year the peaches ripened so quickly that it was impossible to ship them in this fashion such a long distance. It is Mr. Fisher's intention to resume shipping to the West this season, in addition to his large and growing car-load business in Ontario.

tree to get size." Mr. Woodruff grows Greensboro for early, and would plant them again, if setting out a new orchard. He thinks also that Carman is well worth planting. Carman is a large-sized, white-fleshed semi-free peach that is quite popular in the Atlantic States as far south as Georgia.

Harvesting Peaches

Jas. Marlow, Grimsby Beach, Ont.

The peach season extends from July to October, beginning with the early white-flesh varieties, followed by Triumph, Early St. John, the popular Crawfords, Elberta, and ending in late fall with Lemon Free and Smock. We use six, seven and eight-foot step-ladders. We pick only well-colored, mature fruit, going over the trees about twice a week until all the fruit on the tree has properly ripened. This requires from two to three weeks for most varieties.

We use a one-horse dray in drawing empty baskets to the orchard and bringing full ones to the packing house. Here they are carefully emptied on a packing table and graded, as required, into No. 1, No. 2, and Selects by experienced packers. "Select" peaches are packed with two layers in a six-quart basket. No. 1's are packed with three layers in an 11-quart basket. No. 2's are thrown in both 11 and six-quart baskets and shaken down.

We are now shipping a large proportion of our peaches in heaped baskets covered with "leno." This method seems to catch the eye of the consumer, since it makes the basket look fuller, and gives it a more attractive appearance. In reality, the basket does not hold as many peaches as when it is packed in layers.

Our packing table consists of a light frame-work, with the edges, about two inches high, padded with heavy canvas. This prevents the fruit from being bruised when dumped on the table. The top of the table is also canvas. We employ girls to do the grading and packing. An experienced girl will pack on an average about 100 baskets per day. Each day's pack is loaded into refrigerator cars for distant markets and ventilated cars for markets nearer at home.

Whether you use stable manure, commercial fertilizer, or plow under legume crops, remember that best results are obtained when these materials are thoroughly mixed with the soil, and also remember that your soil must be made firm and sufficiently fine to hold large quantities of moisture.

Pointers on Peaches

"ALTHOUGH variety tests in fruits have been carried on at our experiment stations and elsewhere for many years, there should be more extensive and more particular experiments with varieties on different types of soil, especially in peaches," said A. Onslow, of Niagara-on-the-Lake, to the Editor of The Canadian Horticulturist last month. Mr. Onslow was referring to the Rochester and other new varieties of peaches, and thought that the Government should determine the suitability of these for culture in the various parts of the district, rather than leave the matter for experiment by the growers themselves. He fruited Rochester last year for the first time, and was very pleased with it. He found it to be a week to 10 days earlier than St. John. Mr. Onslow starts his peach trees with low heads, and by pruning, gradually trains them higher as they grow older.

W. C. Nickerson, near St. Catharines, spoke of the Lemon Free as one of the most profitable varieties. "It never fails," he said, "and is one of the very best canners." He liked the Niagara peach for its size, but it was a shy bearer. All standard varieties are

found in Mr. Nickerson's orchards, and the crop this year promises to be good.

In regard to the Rochester, Wm. Armstrong, of Queenston, thought that it was well enough to try it in a small experimental way, but that the growers should stick to the St. John. "A few days earlier in the season is not in itself sufficient reason," he said, "for allowing any variety to take the place of St. John as the standard in the early market."

On the Elberta peach farm of Armstrong and Calvert, St. David's, paying pickers by the day has not proven satisfactory. The pickers last year were paid at the rate of 15 cents a bushel, and some men made as high as \$9 a day. Part of the crop was sold last year in bushel baskets, similar to those used across the line. A certain quantity was sold to a special trade in Toronto in boxes holding 24 peaches.

Besides St. John, Fitzgerald, Elberta, and other standard sorts, W. E. Woodruff, of St. David's, considered Crosby a very profitable variety. "Crosby is one of the best for canning," he said. "I have got half a cent a pound more for Crosby from the canning factory than for other kinds, but the Crosby must be thinned on the

In the Niagara District in July

By the Editor

WHEN the price for grapes dropped about 30 years ago to five cents a pound, Jonathan R. Pettit, Grimsby, a pioneer grape grower of the Niagara district, took out his vineyard. He claimed that he could not grow grapes profitably at that price. That vineyard never was replanted. In July this year, 1920, the Niagara District Grape Growers' Association stumped the district from end to end to induce the growers to hold back contracts and sales in order that they might get the price up to five cents. In the years since Jonathan Pettit refused longer to grow grapes for five cents, the price has gone down—down at one time to scarcely more than one cent—and has fluctuated up and down at the pleasure of the dealers and buyers. Last year the price averaged about three and one-quarter cents a pound. This year the association intends that the price shall be five cents at least. These facts were brought out by J. A. Livingston, of Grimsby, and others, at a series of meetings held at the end of June and early in July. A full report appears on page 229.

Grapes in the Past and Present.

That series of meetings made July a month of grape thought and action. During a few days that I spent in the district early in the month, I found that every man there, whether he grew grapes or not, was interested in the meetings and the probable outcome.

At one of the meetings that I attended—St. David's—J. A. Livingston said that in the early days of grape culture in this province the consumers paid 20 cents and more a pound, and were glad to do it, because they got grapes that were a delight to eat, grapes that were not cut until they were ripe. No grower in those days would think of putting grapes on the market in a "green" condition. He contended that grapes went down in price because the growers got anxious and contracted too early in the season, and then they commenced to cut their grapes before they were ready.

"The people want quality," he said, "and if they get it in grapes, they will forget the price. We must give the consumers grapes that they will crave for. We must not sell green grapes and varieties of grapes that are no good. I would not grow the Champion grape. Men who grow it are injuring, not only their own business, but the business of every other grape man in the district." In this connection, an opinion from a new book on grapes, "Manual of American Grape Growing," by U. P. Hedrick, that I read recently, is worth quoting: "Champion is a favorite early grape with some growers, although the poor quality of the fruit should have driven it from cultivation long ago."

In a discussion on grapes and other topics at St. David's, before the meeting opened, the opinion seemed gen-

eral that growers should endeavor to use more wood ashes in their vineyards. Mr. Livingston suggested that the growers go or send a representative to the Muskoka district for ashes. Once the word were sent out there that wood ashes could be disposed of at some one or more places in any quantity, large or small, there would be little trouble in securing supplies, he thought, at about 25 cents a bushel. The growers would then have to pay, in addition, the cost of transportation and other handling.

In the St. David's District.

Near St. David's is one of the largest peach orchards of the Niagara district. It contains 80 acres of Elbertas alone, and is owned by Armstrong and Calvert (Queenston, P.O.). I spent a half-hour with the foreman (Colwell), and was told that they expect to handle 100,000 baskets of Elbertas from that orchard this season. Mr. Colwell was enthusiastic over the results obtained from dusting instead of spraying this year. By dusting with sulphur-lead arsenate, the orchard had been freed from pests, including curculio, which latter was quite bad in neighboring orchards that had not been dusted. The dust was applied first when the peaches were about the size of hickory nuts, or when the curculio was first noticed, and repeated about eight days later.

St. David's has a strong fruit com-



As the material success of a commercial peach orchard depends in a large degree on its location and site, the peach orchards of the Niagara Peninsula are especially favored. Peaches grow to perfection in most parts of the district, providing that the trees have been planted on the right kind of soil and in the right way. Adverse conditions in the past four or five years, coupled with some unnecessary neglect, have decreased the total production in this crop, but the possibilities are still there for making peach culture the banner industry of the district. The peaches illustrated are of the J. H. Hale variety.

pany under the management of H. Usher. This concern, known as the Niagara Fruit Company, handles a large part of the fruit of the district. It buys and ships fruit, and also acts as agent between the growers and the commission men in the cities. It does a large business in handling fruit heaped in baskets with leno covers. These leno baskets are shipped in cars racked a number of tiers deep. It costs about \$75 to rack a car. "It would not pay to rack a car for the sake of one carload of fruit," said Mr. Usher, "but we get the same cars back every time, and the expense of racking is thus distributed over many trips." This company does big business also in handling baskets, spray materials and other supplies.

In the Queenston District.

On the Queenston-St. David's road I visited a place that in one year had been transformed from a very ordinary farm to not only the beginning of a very fine fruit farm, but a place of beauty as well. This farm was purchased by W. H. Merriman, of St. Catharines, last year, and immediately steps were taken to put it in the best of shape, both commercially and artistically. The place is being beautified, not by the expenditure of money, but by the use largely of local material and by work at odd times. The manager of the place, Mr. D. Baine, told me that he and one other man cleared the grounds around the house of brush and old trees, graded the banks, built rock walls and rustic arbors, laid out flower beds, gravelled the driveways, etc., only during such times as they could not work on the farm, "and," he said, "there has been no expense to the owner. What we have done so far shows what any farmer or fruit grower can do if he wants to." Among other things of beauty on this place are a number of delightful rose arbors and trellises, that add not only to the appearance of the place, but also to the value of the property. On the farm proper there were planted this past spring about 3,500 peach trees, 3,000 plums, 2,500 cherries, and 3,500 grapes.

Near Queenston, I found Wm. Armstrong, the veteran peach grower of the district, examining a four-year-old peach orchard that he treated last spring against canker, gummosis and pin borer with a preparation that he claimed had proven very effective. Although Mr. Armstrong retired some years ago as a commercial fruit grower, and goes to Florida every winter, he still has a small orchard which he maintains and works for his own pleasure, to say nothing of the profit. The preparation referred to is a mixture of lime, first made into a paste, bluestone

dissolved, and hard soap reduced to a liquid with lye. This is applied to the crotches and branches where needed with a small whitewash brush. It was put on early in April.

These young trees were headed low—12 to 18 inches from the ground. Mr. Armstrong believes in low-heading for peach trees. When pruning, he keeps the centre of the trees well cleaned out to admit air and light. He also thins the fruit on the trees, because, as he said, "that's where you get quality."

All around this small orchard of peach trees is a row of black Oxheart cherries, now 14 years old, and bearing their first good crop. I asked Mr. Armstrong if 14 years was not quite a long time to wait for a crop of cherries, and he replied: "When I planted those trees, I planned for the future. I planted for the next generation as well as for myself. From now on and for many years those trees will be a delight to whoever owns or sees them."

At Dulverton Fruit Farm, under the guidance of the proprietor, C. Howard Fisher, I saw and learned many things of interest. Mr. Fisher was busy with his large crop of Montmorency cherries. The trees were loaded with cherries large in size for the variety and of exceptional quality. I and others of The Canadian Horticulturist's staff in Peterboro can bear personal witness to that fact, because Mr. Fisher generously presented me with a basket to bring home. Incidentally, Mr. Fisher was paying two cents a pound for picking cherries. Elsewhere in this issue is a report on his peach methods and orchards.

At the Larkin farms I failed to find the superintendent, Mr. Ramsey, or the fruit foreman at home, but I drove through the peach orchard, and saw that things were looking in fair shape in spite of rumors to the effect that the management was having difficulty with the labor question. The Larkin farms, in the fruit end alone, is a big proposition. I hope to write up the farm and its methods and achievements later.

Near Niagara-on-the-Lake.

At Riverscourt Farm, owned by W. K. Jackson, the manager, A. Burbach, showed me a feature that he thought every fruit grower should be interested in—poultry as a sideline for profit in themselves and for aid in controlling insect pests. The hens and chickens, when large enough, are allowed to run at will through the orchards. Mr. Burbach claimed that they kept curculio and many other pests at a minimum. Last year, from 500 hens (White Leghorns), 64,717 eggs were sold, and netted nearly

\$1,000 profit. "To make money from laying hens," said Mr. Burbach, "you must feed them right, regardless of the cost." In the plum orchard, I noticed incidentally that the Washingtons, usually a shy bearer, were loaded this year. Around Mr. Jackson's home are beautiful lawns and flower gardens, kitchen gardens, etc., and at one side an interesting park.

Another place of beauty as well as a fruit farm in that locality is the home of Colonel C. M. Nelles. Of particular interest was his rose garden, photographs of which will be reproduced in this magazine. Colonel Nelles said that his fruit crop showed every prospect of being full in peaches, pears and all kinds. He showed me a field of wheat of which he was especially proud. Its excellence he attributed largely to the use of Gunns' fertilizer.

On the Lake Shore Road.

On the 50-acre farm of A. Onslow, all planted to fruit, and beautifully situated on the Lake shore between Niagara-on-the-Lake and St. Catharines, the cherry crop was heavy, plums and apples promised big crops, and the peach prospects were fair to good. Mr. Onslow thought that, while there was a big crop of fruit generally throughout the district, there was not nearly so many bearing trees in existence as formerly. Among the needs of the industry were extensive experiments concerning the inter-pollination of fruits. He had found, for instance, that the Shiro plum was non-productive when planted alone, but bore abundant crops when planted in the vicinity of varieties that would fertilize its blossoms. He said that there was little positive knowledge concerning this matter, and that the governmental institutions that had been established for the benefit of the fruit industry should secure the information by experiments with all kinds of fruits grown under all conditions.

F. L. Furminger's place, nearer St. Catharines, is more of a "horticultural establishment" than a farm. Besides fruits and vegetables of all kinds, flowers are grown in great variety and quantity, both as a hobby and for sale. A striking feature was a beautiful hedge of summer-flowering hydrangeas. Mr. Furminger specializes in quality vegetables for a high-class trade with hotels, restaurants, the best stores, private customers, etc., in St. Catharines. He grows not only what he can make most money from, but also everything any anything that his customers desire.

Mr. Furminger's standing as a fruit grower has often been shown in competition at the Canadian National Ex-

(Continued on page 220.)

The European and American Plums

M. B. Davis, Assistant Dominion Horticulturist, Ottawa

THE *Domestica*, or European, plums constitute the largest commercial class of plums grown in Canada, although, owing to their susceptibility to disease and to climatic conditions, they are grown only in limited areas where conditions approximate the ideal. In general, the cultivation of the *Domestica* plum is similar to that of the apple, varying in a few respects, such as spraying, pruning, etc.

Select a Proper Site.

In view of the results of recent investigations, it would seem advisable to give a little more care to the selection of the site for the plum orchard. It has been shown that practically optimum temperatures and almost ideal weather conditions are necessary for the fertilization of plum blossoms. The rate of pollen tube growth is somewhat slow, and, if slowed down to any appreciable extent, is unable to reach the ovary before abscission takes place, thus rendering contact between male and female organ impossible. As pollen tube growth is affected by temperature, attention to this point is necessary when selecting the plum site.

In districts where the early part of spring is treacherous, plant on a slope which is not too early, and, as the night temperatures are invariably much cooler in low-lying hollows or basins of local extent, avoid these places if possible, for the difference in night temperature for one week may be sufficient to materially affect the set of fruit.

System of Planting.

In the selection of varieties, in the light of recent knowledge, it would hardly seem advisable to adopt some of the recommendations of the past to plant large blocks of only one variety. From recent pollination tests in Canada and the United States, the results go to show that the *Domestica*, or European, plums are practically all good pollen producers and fertile within the species, but most of the varieties are either self-sterile or partially so. Consequently, in planting, it is advisable to select two or three varieties of *Domesticas*, basing the selection on desirability of the varieties for commercial purposes, and considering their date of blooming; that is, varieties which bloom very late can hardly pollinate early blooming sorts, and vice versa.

Best Soils for Quality.

As the competition between eastern and western fruits is becoming keener, the eastern grower must in the future pay more attention to the finer points involved in plum production. In selecting the soil for *Domestica* plums, therefore, it is not merely a question of will plums grow on this soil, but does this particular piece of land possess the optimum conditions for this class of fruit. Regular productiveness and high quality can only be obtained under these conditions, so that more so in



Prunus nigra on grounds at Central Experimental Farm, Ottawa. This type, for its fruit and as an ornamental, is useful in districts where the European plums will not succeed.

the future than in the past must we consider the soil requirements of not only plums, but of all our varieties of fruits.

The *Domestica* plums, although adapted more or less to a wide range of soils, will produce a higher quality of fruit on light clays or clay loams. On too heavy a soil, or too light a soil, quality is lacking, and this point is counting more and more in the market to-day. In addition to the texture of the soil, one with a warm bottom is to be selected in preference to a cold-bottomed soil.

Pruning and Thinning.

Pruning cannot be touched upon in this short space, more than to draw attention to the study that is necessary in order to perform the operation in-

telligently. Generally plum trees tend to become too thick, and thus keep out light and air, producing conditions which are admirable for the development of disease. Any system of pruning must have this in mind, and endeavor to keep the tree somewhat open, although it is easy to err too much in this direction. As each variety has its own characteristics of tree growth, no set of rules applicable to general conditions can be given here, except to caution against any rigorous system of heading or severe pruning.

Thinning is a phase of plum culture which can stand more attention. Trees that require propping need to be thinned to produce a high grade of fruit. Growers could well afford to give this matter serious consideration in the future.

Varieties Recommended.

For canning—Reine Claude, Lombard, Imperial Gage, Gueii.

For market—Grand Duke, Imperial Gage, Monarch (late).

For home market—Gueii (for canning), Reine Claude.

The Americanas.

Within the Americana and Nigra groups we have our hardiest plums, which will survive and endure our most rigorous winters. As money makers in certain localities, the early sorts lead the higher grade *Domesticas*. At the season of the year when our earliest native, or Nigra, plums are on the market there is nothing to take their place, and as they are increasing in popularity for jelly purposes, they bid fair to become a profitable investment for an ever-increasing area.

Best Varieties.

Closely allied to the Americanas, we have a few hybrid sorts of especial value in the severe parts of the province. Two of these deserve special mention. One is the Omaha, a very early hybrid of Americana and Triflora, which is a good cropping and good eating plum. The other is Wanetta, one of Hansen's hybrids, a cross between Terry and the apple plum. This is a large, handsome plum of good promise, and deserving of a trial where the *Domesticas* do not survive.

Besides these, the varieties of Americanas and hybrids recommended are the earliest large natives: Cheney, Bixby, Omaha and Wanetta.

For fuller particulars on plum culture apply to the Publications Branch, Ottawa, for bulletin No. 43.

Grasshoppers and Their Control

Prof. L. Caesar, Ontario Agricultural College, Guelph

MORE than the usual number of complaints of injuries from grasshoppers have been received this year. In every case investigated, the insects have bred in waste lands or old pastures and from these breeding places spread to cultivated fields. This, of course, suggests one of the best methods of prevention; namely, the breaking up of old pastures and the bringing under cultivation of waste lands. It has been found that, if the eggs are buried five inches beneath the soil, the young grasshoppers from these cannot reach the surface and therefore must perish; hence, as eggs are laid in late summer and autumn, plowing in October or early spring destroys countless numbers of the insects.

Poison Bran Bait.

Wherever these steps have not been taken or are impracticable and the grasshoppers are present in sufficient numbers to cause much loss, they can be successfully combatted without much expense or labor by the use of the "poison bran bait" as follows:

Bran	20 lbs.
Paris Green	1/2 to 1 lb.
Molasses	2 quarts
Oranges or lemons..	2 or 3 fruits
Water	2 gallons

Mix the bran and Paris green in a tub or large receptacle or even on a cement floor. Squeeze the juice of the lemons or oranges into the water and run the rind and pulp through a meat-chopper and add these also. Pour the molasses into the liquid and mix well. Then slowly add this sweetened water to the bran and Paris green, stirring thoroughly at the same time. Continue the stirring until all the bran is moist and will fall through the fingers like sawdust. This work, to save time, should be done the day before treating the fields.

Then in the morning early, between five and six o'clock, scatter the mixture very thinly around the borders of the crop to be protected, and also wherever the grasshoppers are present, treating all infested surroundings for about 20 rods back to prevent the grasshoppers coming in from waste lands. Do not apply during rain and, if showers follow an hour or two after the treatment, repeat the next morning. Usually, under favorable conditions, one treatment is sufficient, but sometimes a second or even a third application is necessary.

As five pounds of the poisoned bran is sufficient for one acre, the mixture should be applied very thinly after the

manner of sowing grass-seed, a single handful covering many square yards. The grasshoppers move about and thus readily find the substance. They are also attracted to it from a considerable distance.

Do not look for results until about two days after the work has been done. There is no danger to cattle or sheep when the bran is applied as directed, but poultry should not be allowed in the field for a day or two.

A Cheaper Substitute.

Where bran cannot be obtained, fair results may be secured by using the following substitute:

Sawdust	20 lbs.
Paris Green	1/2 to 1 lb.
Salt	1/2 lb.
Water	2 gallons

The sawdust and Paris green are mixed dry, the salt dissolved in the water and the liquid then added to the poisoned sawdust, which should be carefully mixed until all is wet. It should then be allowed to stand over night and applied just like the bran, early the next morning. Sawdust will not cover quite so much ground as the poisoned bran, the above amount being sufficient in our experience for not more than about three acres, whereas the bran will suffice for four acres.

In the Niagara District

(Continued from page 218)

hibition and other shows, where he has won many prizes. It was said last year and in previous years that expert growers, like Mr. Furminger and others, had the advantage in competition at fruit shows, and should not be permitted to compete in the same classes with amateurs. On this point Mr. Furminger said: "If they do not want professionals at the exhibition (the Canadian National), I will stop exhibiting. There is one thing, however, that they do not take into consideration. When I started to show, I started in a small way, just as others are doing to-day, and I won by learning how to win. Any small exhibitor to-day can win if he grows his stuff right and persists."

In and Near St. Catharines.

At the farm of T. J. Fee I noticed that tomatoes were being grown on stakes. Although I did not see Mr. Fee himself, I learned, on enquiry, that furrows had been plowed, stakes put in place along the furrows with a plant at each stake, then filled in. The staking and planting was done in

double rows, with a comparatively wide space between these to facilitate the work of mulching, picking, etc. While growing tomatoes to stakes in a commercial way is not new, it is far from common. For this reason, we hope later to get from Mr. Fee his opinion of the method and the results. Mr. Fee had in operation also a watering system on his farm that is a modification of the Skinner system. The sprinkling pipe was on the ground, and was movable. I was told that Mr. Fee intended improving upon this method, and probably would put in a permanent system.

Near St. Catharines, Henry Knight, of Knight Brothers, Burke's Falls, has a 110-acre farm devoted to the growing of vegetables on an extensive scale. Last year he had 25 acres of potatoes, and this year 40 acres, the seed for which cost \$4,000. There are also 25 acres of late tomatoes, 15 acres of late cabbage, three acres of onions, and a quantity of other stuff.

On the J. J. Fee estate, which I did not visit, but was told about, some 25,000 cabbage plants in pots were set out this spring. They were set early, and, because of their strong root growth, were claimed to have overcome the attacks of the root maggot, which was prevalent in the district this year.

At the St. Catharines Cold Storage and Forwarding Company, F. A. J. Sheppard, the manager, told me that the company had contracted to supply a Middleport, N.Y., concern with 75 cars of cherries at seven cents a pound, which meant six and one-half cents to the growers. "Those 75 cars will not only be good business in themselves," said Mr. Sheppard, "but they will relieve both the basket situation and the market on this side. The New York company supplies the packages and hauls the cherries across the line by motor truck." The packages supplied were trays, or boxes, holding 20 pounds each.

Mr. Sheppard thought that the grape growers were expecting too much for their crop, when they wanted \$100 or more a ton. "There is too much other fruit in the country this year," he said, "for growers to expect big prices for grapes. Last year grapes ripened early, and the crop of other fruits was light. If the growers can get last year's price for grapes, they may well be satisfied. One grower already has offered me his plum crop at two cents a pound, and others have said they were willing to take four cents for peaches."—A. B. C.

For celery blight, spray thoroughly and frequently with bordeaux mixture of the standard strength.

Fertilizing Peaches and Plums

Henry G. Bell, Soil and Crop Improvement Bureau, Toronto

IF orchardists could be assured that every dollar spent in improvement of the quality of their orchard would return 100 per cent. on its investment, there would be immediately enormous interest in the practice; yet no one will make this claim for plant food on peach and plum orchards in all places and under all conditions.

Certain things we know: First, that the yield of fruit depends very largely on the amount of rainfall; second, that the fruit that is now formed and developing cannot reach its maximum yield of best quality if plant food is short; third, that there are authentic records of very material increases in yield and improvement in quality from the addition of fertilizers to the orchard.

Pennsylvania Experiment Station, in bulletin No. 153, says: "In general,

fruit is forming. If the ground is in a good state of tilth, and if there is plenty of manure, the plant food added in fertilizers will very quickly help to mature the fruit." Prof. John P. Stewart, Pennsylvania Experiment Station, says: "Applications made in any one year will often materially increase the number of blossoms in the year following. This has been shown regularly in the present series of experiments."

For peaches, and in all probability plums, fertilizers carry a higher percentage of nitrogen than for apples. Missouri Experiment Station reports that the addition of high nitrate fertilizers to young orchards brought the young trees into bearing at least one year earlier than where no fertilizer was applied.

Analysis of the tissue of peach trees

potash in combination produced a slight increase. Nitrogen delayed maturity several days. The fruit was not as highly colored in the nitrogen block as in the other."

Increases Vigor of Wood.

The foregoing findings will be of special interest to the Ontario peach grower. Possibly if he had had the information early in the spring, he could have applied plant food that would have made a definite improvement in this year's crop. However, the time for such an application is by no means past. As we have already said, if there is sufficient manure, the addition of plant food any time during the filling of the fruit is of benefit, although the application of such plant food at this time will show its greatest results in the added vigor of wood and leaf growth and the strength with which the trees go into the coming winter. This is practically banking funds for next year's use. The wise orchardist who does it can count on good interest on his money.

For plums, similar fertility treatment may be recommended. The point is to watch the effect of the treatment on the growing tree, so as not to overdo the wood growth and delay the ripening of the fruit, but to get as large a yield of best quality fruit as possible.



Rochester peach trees, interplanted with potatoes, on fruit farm of W. C. Nickerson, near St. Catharines, Ont. The Rochester is being planted extensively in the Niagara District, with the expectation that it will prove profitable as a yellow freestone, earlier than St. John.

if the trees are fairly matured, reasonably sound in health, and yet are bearing only occasional crops of indifferent fruit, and if the foliage in late summer or early fall is pale and sparse, and the annual twig growth average is only two to three inches at the most, one can be reasonably assured that fertilizer is definitely needed, and that its addition will make a decided improvement."

Helps to Mature the Fruit.

As to the time of fertilizing of the orchard, evidence points to favoring an application very soon after the buds start and before the blossoms open. This, of course, is too late for this year's application, yet material improvement has been realized where applications have been made while the

shows that the peach uses larger amounts of nitrogen and potash than it does of phosphoric acid; in fact, experiments of the West Virginia Experiment Station show a high nitrogen fertilizer with low potash and very low phosphoric acid to be most profitable. They report that early work in West Virginia gave better results from the use of complete fertilizers than from incomplete fertilizers. Of the several single elements of plant food used, nitrogen gave the best results. At the end of the second year, the bearing surface of the nitrogen-fertilized trees was two and a half times that of the non-nitrogen-fed block. The yield of fruit was nearly doubled by the use of nitrogen. "The difference in size of fruit was not great, but nitrogen and

VEGETABLE PROBLEMS

O. J. Robb, Vineland Station, Ont.

Celery Heart Rot.

What can be done to prevent the heart rot of celery, which was very prevalent last season?—R. L. P., Markham, Ont.

This is a serious disease which spreads rapidly under certain conditions. Certain sucking insects are supposed to carry the germs which gain entrance in the tender shoots at the heart. Moist, damp weather conditions also favour the development of this disease. Control measures are to destroy affected plants as soon as found, and to spray the patch thoroughly with strong tobacco water, or Black Leaf "40," usual strength.

Potato Bugs on Egg Plants.

What is the best method of controlling potato bugs on young egg plants?—V. C. P., Toronto, Ont.

Spray thoroughly with arsenate of lead or Paris green as often as required. Use same strength as for potatoes.

Cut parsley any time either night or day.—J. D. Nairn, Bartonville, Ont.

Growing Celery in Beds

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

CELERY requires a very fertile soil, and is especially adapted to rich muck land that is well drained. Almost any fertile soil in a good state of tilth will grow celery. In addition to a fertile soil, this crop requires an abundance of moisture, and in a dry season, unless the soil is very

tender stalk as the Canadian-grown crop.

For September, October and early November sale, an excellent way to grow a large crop of celery on a small area is to plant it in beds 6 by 6 inches or 6 by 8 inches. These beds may have from 8 to 12 rows;



Celery grown at Macdonald College, Que., under different systems of culture—in beds, with plants six by six inches apart, and in rows, single and double.

retentive of moisture, the stalks will be short. Irrigation is a valuable aid in growing celery because, when grown under irrigation and good soil, the crop will grow more rapidly and to a larger size, and the stalks will be much more tender and of better quality.

The roots of the celery are shallow and very fibrous, and often some of them are on the surface of the ground. Hot, dry weather destroys many of these, and if the soil dries out to any depth the plants will have a serious set-back. Cultivation should be shallow in order not to injure these shallow fibrous roots.

Canadian Celery Has Quality.

Celery is chiefly grown as a fall and winter crop. It does best in the cool, moist weather of September and October. Much of the crop is marketed direct from the field, and does not go into storage, but for winter use it is necessary to store it. However, of late years so much of it is being grown in Florida, California and other states that this very fine appearing celery is the main source of supply on the Canadian markets during the winter and early spring. This southern celery has not the same high quality and

and be as long as desired. In order to grow it this way, the land should be extremely well fertilized with an abundance of manure, and after the crop is planted and growing nicely, it should be fed with liquid fertilizer, if available, or commercial fertilizers. Several light applications at intervals of 10 days or two weeks are better than one heavy application, but where bone meal or a slowly soluble commercial fertilizer is used, the application should be made just before planting.

Advantages of Bed Method.

When the crop is growing nicely, or six to eight inches high, it should be boarded up on the sides and ends. The celery, being grown so close together, will not spread out, but grow straight and erect, and will be clean and fine in appearance, although the stalks will not be of the same large size as when grown in the single row. The advantages of this method are the very large amount of medium-sized celery that can be grown on a small space of ground, and its fine, clean appearance. This should be marketed direct from the bed, and not go into storage, as it is not suitable for holding. The variety should be a self-

blanching one. We have grown the Paris Golden to great advantage in this way. The labor in handling these beds is not great, compared with the returns.

The object of the double row is economy of land, but is not usually preferred over the single row.

Celery blight is sometimes serious, and, if not watched carefully and sprayed early, may do much damage. In the wide beds it will spread quickly. It is always desirable to spray these beds at least one or two times with Bordeaux mixture to keep them free of the blight.

About Poison Ivy

F. M. Christianson, Niagara Falls, Ont.

There are people who cannot ramble in the woods without swollen, itchy wrists and hands, and often feet, due to coming in contact with poison ivy. Security may be had in knowing the plant, which grows in woods and along creeks. It is a foot high, and smooth, and is often found climbing by rootlets. It has its leaves in threes, and they are irregularly notched.

The jewel-weed is an antidote for poison-ivy, and will usually be found growing near it. Look for it! You cannot mistake it. It is a bright green plant, whose stems are very juicy. It grows from two to four feet high, and has orange-colored flowers, spotted with reddish-brown. The flower has a distinguishing long recurring spur. Crush some of the stems of this weed and apply the juice to the part afflicted with poison-ivy poisoning to allay the irritation.

Another good remedy is a lye made from hardwood ashes diluted with two or three parts of water. This alkali soothes and kills the poison.

Still another: Apply tincture of grindeia. This can be had in any drug-store, and an application soon puts an end to the intolerable itching which characterizes ivy-poisoning, and allays the irritation.

There are two things to keep in mind in treating ivy-poisoning. They are: (1) to keep the poison from spreading, and (2) to dry up vesicles quickly. The first can be best done by bathing the parts with hot water, and the second by the application of one or other of the remedies suggested.

Celery needs a moderately dry, well ventilated cellar for best results.—W. T. Macoun, Ottawa.

Onions are very liable to rot unless kept in a dark place. Keep them spread out as thinly as possible.—W. T. Macoun, Ottawa.

Feeds and Feeding

T. Haberer, Zurich, Ont.

WINTERING is still a great problem, and will be for some time in the future. Some years ago I had the idea that wintering bees was no trouble for me any more. And many of our beekeepers think so yet. Some years ago a beekeeper told us in Toronto that wintering was no trouble for him. He could not even kill the beggars!

Feeding and Young Bees.

We had the poorest honey season last year in our location, in Huron County, Ontario, within many years. This, no doubt, had much to do with the poor wintering. Our bees received from 15 to 30 lbs. of sugar syrup per colony. Feeding was done at the end of September and beginning of October. On an average our colonies were a little weaker than usual, but most of them were plenty strong enough in bees. We had a light buckwheat honey flow that gave us some young bees, but we were far short of the young bees that we should have had. Perhaps this condition was much due to our own fault and neglect, but as we never experienced so little honey gathering in July before, feeding and stimulating has not been necessary.

If we had done some stimulative feeding last year, we would have had more constant breeding, and consequently more bees ready for the buckwheat flow, and still more young bees for the winter. There was not a great shortage of sealed honey in the hives, but as there was nothing at all coming from the field, the sealed honey was not used much for breeding.

We know that work wears out our bees and gives them a short life. For about two months, part of June, July and August, the bees worked very little; they did not have a decent flight. Those bees lived longer, but not long enough to go into late fall and winter. Our colonies, therefore, looked better in fall than they really were.

The winter confinement was long and the weather severe, so that many colonies, especially outside wintered bees, had not the vitality to pull through the winter and cold, backward spring, even if they had princi-

pally good sugar syrup stores. It was not just the weaker colonies that succumbed, but many strong ones. Many weaker colonies got through in fairly good shape.

Winter Stores.

Sugar feeding for winter stores is not always a guarantee for safe wintering! It is true, bees heavily fed with sugar syrup for winter will come better through a long winter confinement than colonies with unsuitable honey; but what is unsuitable honey? It is sometimes hard to say, as honey from a certain source may be all right one year, and not in another. It depends a great deal on the ripeness of the honey and on the absence of honey that causes fermentation or granulation in the combs. Undesirable honey

and inserting the combs in the brood nest. All sealed honey in the brood nest that came from hard maple or dandelion should be opened and used up in breeding. Much of that kind of honey can also be used with nuclei.

Combs in brood nest containing much white honey may be removed and returned to the hives in the fall or winter, provided you have no American foul brood. Combs with fairly pure buckwheat honey are good winter food, and such honey does not granulate in the hive.

Feeding back extracted buckwheat honey alone, without being mixed with sugar syrup, will also granulate. Two years ago we got buckwheat comb honey finished by feeding back thin buckwheat honey, and those sections, even well sealed, granulated in a short time.

Methods of Feeding.

With regard to our method of feeding bees for winter, it does not accomplish perfect wintering as we would like to have it. I am looking for such an authority myself. However, the simplest way to feed bees for winter is to leave a number of well-sealed combs of good honey on each hive and insert them in the brood chamber in the fall. Be sure to have on each side a comb containing pollen. Remove combs with only a little open honey. These may be placed in a super and put under the brood chamber. The bees will carry that

open honey up in a few days, and the empty combs can then be removed. This year, with the high price of sugar, it will likely be no loss to give them good combs of honey in place of sugar syrup. The next shortest plan is to feed them up with sugar syrup, provided we have the sugar. As stated before, hard maple and dandelion honey should have been used up or removed. Colonies not very strong should be contracted with division boards to the size of the colony.

In preparing the feed we take 50 lbs. water to 100 lbs. granulated sugar. Have the water hot and pour it into your tank. Then pour in the sugar slowly, stirring at the same time. Keep at it until well dissolved. Fill pail feeders, or for out-yards we fill



Placing a Gem Jar Feeder Board in position. The same type of board, with two or four holes, is used with 10-pound pail feeders.

we may get at different times right from the beginning of spring.

During a good fruit bloom the honey gathered is of a better quality than it is in other years when there is little fruit bloom and a considerable flow from hard maple and principally from dandelion. Dandelion honey mixed with hard maple is sure to granulate during winter in the hives. In a poor season we get other kinds of poor honey that are not fit for wintering, and very often we hardly know the source of such honey. It would be best to have all early honey transformed into bees in spring, or extracted and sold for what it is. Before the clover begins, and after the white honey flow, is quite a good time to get spring honey used up by uncapping

60 lb. cans and fill the pail feeders at the yard. (It keeps warm for a long time in the 60 lb. cans.)

Covers and heavy boards are now removed, and an empty super placed on top of the open colony. The feeders are inverted right on top of the frames, and the hive covered up well again. We have honey boards with feeder holes in it, but we do not often use them. The bees will take the syrup quicker if pails are right on the frames. The Miller feeder is often spoken of as the best feeder, but we find it the slowest feeder, and they are more trouble to rid of bees.

We fed last fall 5,000 lbs. sugar, and used all kinds of feeders, but prefer the

10 lb. pail feeder for best satisfaction.

Don't leave the pails any longer on the hives than needed, else they will be coated with rust inside. It is best if the feeding is done towards evening, but we cannot do that always. We do it at any time during the day. If the weather is a little warm, some excitement is caused, but we had never any robbing on that account. The opening, placing and closing of the hive is done in a minute. We seldom weigh our hives. We guess their weight, and give them enough. It takes just a little practice. Winter stores should be 30-40 lbs. per colony. Add weight of hives and bees when judging the colony.

should be fed each colony in late September or early October. In view of the fact that honey from one source is liable to be mixed with honey from another source, it is a safe practice to feed at least 15 pounds of sugar syrup to each colony, regardless of the kind of honey they have in the hive. Feeding should be completed as early as possible after egg laying has ceased, which is directly after the first killing frost.

The Best Feeder.

The 10-pound inverted perforated top pail is probably one of the best feeders for rapid feeding at that time. All colony entrances should be materially reduced and the syrup fed quite warm. Each colony should have all the required syrup at one time, so that they will have an opportunity to cap the stores for winter use.

When all preparations are completed, outdoor bees should be packed as early as possible after brood-rearing has ceased. It is much more pleasant for the beekeeper to pack the bees while the weather is still moderate, and also better for the bees.

Nothing has been said about queenless colonies, as it is taken for granted that queenless colonies will not be wintered. The same might be said of diseased colonies.

Thorough preparation of the bees for winter means the elimination of practically all winter loss. It also means much more than this. Bees prepared in the fall, by having a vigorous young queen and an abundance of good stores for winter, mean that practically all of the early spring work is eliminated.

Prepare your colonies thoroughly this winter and watch the results next year.

A Rapid Increase

On the last day of May this year, Mr. A. Terrill, of Wooler, Ont., had one hive of bees. On the 26th of June, he had five colonies. Mr. Terrill is possibly the oldest beekeeper in Ontario. He is 89 years of age and besides his own colonies, looks after a number of colonies which were left under his care this season by a friend. During a recent visit by one of the editors of *The Beekeeper* to his place, a hive swarmed but was soon captured by Mr. Terrill.

In explanation of the rapid increase, Mr. Terrill said that the first day he obtained the colony he divided it and put it in two hives. One of the colonies did not have a queen. It went to work building queen cells. On June 20 there was a swarm from the queen cells; again on the 22nd and again on the 25th. This gave the five colonies. The bees were Italians.

The Beekeepers' New Year

Prof. F. Eric Millen, B.S.A., Provincial Apiarist, Guelph, Ont.

THE winter of 1919-1920 was a very severe one from the beekeepers' standpoint, and while the spring report showed only a loss of 21 per cent. over the whole province, the actual loss was much nearer 50 per cent. Many colonies dwindled badly in the spring and died during April. It must be remembered, too, that when the actual winter loss is so heavy, the remaining colonies are seldom normal in strength.

There are a variety of causes accounting for such a heavy loss, among which might be included starvation, dysentery, granulated stores, weak colonies and poor queens.

Thorough preparation of the bees for winter means much more than lessening the winter loss to the vanishing point. It means not only successful wintering, but a maximum crop of honey the following season, provided, of course, the beekeeper continues to practise skilful management throughout the spring and summer.

Young Queens.

The first step in the preparation of the colonies for winter is to requeen every colony in July or August which does not have a vigorous queen. This is as vital as any other preparation; in fact, if the beekeeper does not complete all the necessary steps for successful wintering it is a waste of time and money to make any one preparation. The young, vigorous queen given in July or August means that, if room is provided, there will be abundance of young bees for the winter cluster. If all beekeepers would appreciate the value of young, selected queens, raised from the best in the apiary, there would be much more requeening and little winter loss.

Strong Colonies.

The second step is to be sure that

no colony is prepared for winter unless there are sufficient bees to cover at least four or five frames in early September, when the bees begin to cluster. A colony should contain not less than 20,000 worker bees. If one is wintering in a thoroughly tested cellar, smaller colonies may be wintered, but with the average beekeeper there is too much risk in wintering weak colonies. It is economy to unite two colonies in September, containing 10,000 bees each, rather than winter the two separately, and probably lose them both in the winter. With honey selling for 25 to 30 cents a pound, and sugar costing nearly as much, it is necessary to winter every possible colony.

The easiest method of uniting colonies in September is to place the weaker colony directly on the stronger colony, with one or two sheets of newspaper between the two brood chambers. Unless one queen is preferred, no notice need be taken of either. One queen usually survives.

Winter Stores.

The third step is the question of winter food for the bees. Very few beekeepers leave sufficient stores in the hive for winter. A colony in a 10-frame Langstroth hive should not have less than 60 pounds of stores in late September or early October. A colony properly wintered may need only 20 pounds of stores from October till March or early April. However, all colonies should be so prepared that they will need no attention until the fruit bloom and dandelion period next May.

Unless the beekeeper is certain the honey in the brood-chamber is thoroughly ripened and from a source which will not granulate early, at least 15 pounds of sugar syrup

Re-Queening and Improvement of Stock

G. A. Deadman, Merlin, Ont.

FOR some years past we have been going carefully over our bees and re-queening all the undesirable queens. We know that bees will supersede their own queens but, wise as they are, they too frequently wait too long, and in many cases we have a weakened colony at a time when a strong one is essential to success. Not only this, but we do not want a superseded queen from one that produces undesirable bees. We now re-queen every other year, excepting very select stock. Better to lose a colony or so from such than to destroy your opportunity of perpetuating their kind.

It is when going over our apiary during dandelion or fruit bloom that we pay special attention to our queens and lay the foundation for the improvement of stock. It is then we slip the queens reared the previous season and write in our queen registry every queen to be replaced the coming one.

But it is not only those nearing the two-year mark or more that we kill, but also those that produce undesirable bees. The results have been so gratifying that I wish I could induce every apiarist everywhere to do likewise. Those that work for improvement of stock have "meat to eat that others know not of." They find a pleasure in beekeeping that those who look only on the financial side know nothing about. It is the same as with the dairyman who sees his herd improve year by year and that of the man who only keeps scrubs.

The Second Examination.

So we begin with the second examination; the first in March or April being too superficial and uncertain. We use very little smoke at anytime, but especially then, for how are we going to tell our quiet colonies, if we smoke indiscriminately? We do not, as so many advise, smoke at the entrance and as you take off the cover-quilt or honey-board, but we wait and see. If they require smoke, they get it, but not otherwise. Colony after colony may not require any smoke and, in that case, they have answered to this first test and the undesirable ones are marked.

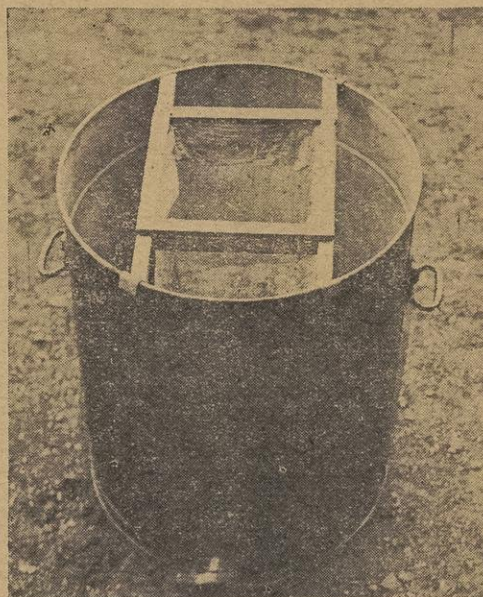
Undesirable Bees.

What do we call undesirable bees? Well, if when the hive is opened they fly at once and are prepared for a fight, we put them in that class. Another colony may have a habit of flying and continuing to fly and buzzing all the while; we don't want those. These have the queen marked "to kill." An-

other has black blood in their veins and the queen is hard to find and, unless handled very carefully are on the go. Their queen is also marked to go and underlined. Some do much unnecessary bridging; and others are insignificant looking and inclined to bunch; we don't want these. Another colony requires no smoke, remain quiet, going about their business as if nothing was happening and both bees and queen are nice to look upon; this we mark "see if rear queens."

The Final Test.

Now, we have made a beginning, but there is one thing more, a very essential thing, viz., good honey gatherers. We



A simple straining arrangement which does good work. The sack is made of strong cheese cloth and reaches to the top level in the tank. An iron hoop is placed in the sack to hold it down when the honey level in the tank rises. See description on page 227.

do not care whether they work on standard or fast-time, so long as they get the goods. It is not so easy judging this as one might suppose for one must not imagine that the colony that gathers the most honey in the super one year is the best, for it may have had a better start. In any event, there are some bees I would not keep no matter how much honey they might gather. We would change our occupation rather than have them about.

When to Re-Queen.

We like to have all our young queens laying in August, etc., when we kill the old queen. By making nuclei, they can be introduced later. I usually plan to have as many queens removed as I have young queens just hatching to re-

place, letting them run on same day. If towards the close of the clover honey, a plan we like is to shake the old queen and bees on a shallow frame, putting in what supers there may be as they were. We then have combs of bees and brood that are in prime condition for accepting a cell or queen and easily handled when you examine to make sure that they are building no cells of their own, or the young queen properly laying.

The old queen can be left on the shallow until frames are filled with brood when she can be killed and the bees allowed to raise their own queen, if good stock, or given a cell, if not. You then have another queen for an emergency or to replace another later, or she can be allowed to remain until you prepare for winter, when you simply kill her and place the shallows with brood and young bees under a deep frame hive with queen, and we have the combination system in practice. It is an ideal way of introducing queens, as no caging is required. There are so many ways, but we are never quite certain and always examine now to make sure when a cell or young queen is given. By this method, we are rid of the old bees which are so numerous, and troublesome when introducing queens, and it does not interfere with the honey crop in the slightest. It is ideal when introducing a bought queen.

Much Encouraged.

This season opened so unfavorably that we decided to leave our bees in our double winter cases. To do this, it was necessary to make some changes. We could not do this without removing one super from the colony in one end, leaving the bee covered queen excluder exposed. We were agreeably surprised that we frequently went down a row without using a smoker, even though we did considerable pounding and nailing so close to these exposed bees. We therefore were much encouraged and felt that we had not labored in vain.

It is not too early to be thinking about the fall meetings of the local and provincial associations. Whether there has been a crop failure or a bumper crop, these meetings should not be neglected. More than likely the comparison of notes will show as much fault with the methods pursued as with the weather man.

Send short articles for publication.

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THE EDITOR'S DESK

The Sugar Situation

REPORTS on granulated sugar at this date (July 31) are more encouraging to the beekeeper, but it is advisable to secure the fall feeding supply before extracting all white honey reserve stores. The Canadian Grocer, issue of July 30, has this to say, in part:

"It is the general opinion among the trade that the peak prices for refined sugar have now been reached. Wholesalers are reluctant to stock up at these figures and many are of the opinion that from now on the trend will be downward. On the other hand, refiners state that there can be no lower prices for some time. Refiners are now working on high-priced raws and even at to-day's cost of raws laid down in Montreal, would warrant keeping refined at the present prices. However, the fact remains that raw sugar has gradually receded. Some six or eight weeks ago raws were selling around 23c and were scarce at that price. To-day the situation is reversed and there are more raws arriving than refineries are willing to buy."

Since the days of sugar control by the Canada Food Board, the government, the wholesale and retail trade, and the public have begun to realize that granulated sugar syrup for bee feeding is imperative in sections where bee disease is known, and it is advisable to feed such syrup in preference to returning capped honey stores, if at all possible.

Sweet Clover

SWEET CLOVER has come to the front this season in Ontario as a honey producer. White sweet clover is not regarded as a safe yielder, but this season correspondents are reporting yields of 25-35 lbs. per colony to date. The yellow variety is not yielding as well as the white variety. The acreage of sweet clover in Ontario this season is far ahead of 1919 and spreading rapidly. Almost fabulous stories come to our ears of the profit per acre harvested by lucky owners of good crops.

Even if this plant does yield a surplus, the grading of such honey is not as good as that from alsike and white dutch. The greatest drawback we see to its production

is its tendency to ferment at an early date. It would seem advisable that some research work be done by the Department of Apiculture on the various honies produced so as to give beekeepers information on the chemical nature, the physical nature, and the best treatment during production, harvesting and marketing.

Honey Exhibits

THE Canadian National Exhibition at Toronto, the Central Exhibition at Ottawa, the Western Fair at London, Ont., and a host of smaller fall fairs are about to open their doors. Are beekeepers taking advantage of this medium to advertise honey and to compare the best of their product? If not, why not?

The following extract from The Toronto Globe of 1864 has been called to our attention by Mr. Morley Pettit, of Georgetown, and illustrates the attitude of the pioneer beekeepers and public toward the exhibiting of apiary supplies and products:

"Notice of the Provincial Fair.—Happily much interest is being awakened all over the country in bee-keeping, and we are glad to see Messrs. Thomas, of Brooklin, and Scott, of Yorkville, on hand with their hives. These hives attracted a great deal of attention, especially those of the Messrs. Thomas, from the fact that one of them was inhabited, and from time to time the proprietor showed the convenience of the hive and the quietness of the bees by opening and exposing the comb, frames, and busy workers. There would be a general rush into beekeeping if people were not afraid of being stung. By taking certain little precautions this danger may be completely obviated, and the most absolute control maintained over the 'little busy bees.' The Messrs. Thomas demonstrated this to the satisfaction of all who witnessed their exhibition of hives and bees."

Mr. Pettit remarks that this extract not only shows the early interest taken in beekeeping at this the greatest annual exhibition in the world, but it shows that the Thomas Brothers, of Brooklin, probably deserve the credit of being the first to bring beekeeping prominently before the Canadian public. In fact, J. H. Thomas published the first and almost the only Canadian book on beekeeping, "The Canadian Beekeeper's Guide," in 1868.

"I do not know who all have demonstrated bees at Toronto Fair," writes Mr. Pettit, "but this demonstration in 1864, was perhaps one of the earliest. Beekeeping has made great strides in the more than half-century since, and great credit is due to Thomas, Jones, and the series of outstanding figures since their day for their part in the advancement of this valuable industry."

From this humble commencement, the Provincial Fair and its apiculture exhibit grew to large proportions. The honey exhibits at the Ontario Horticultural Exhibition before the war were typical of the extent to which the industry has developed in Ontario. One of the largest of those exhibits was erected in the fall of 1913 by the Ontario Beekeepers' Association under the direction of H. G. Sibbald, of Toronto. Such exhibits immediately impress the habitant and the stranger within our gates with the importance of the beekeeping industry in Ontario, and it is to be regretted that such a show of honey is not obtained at the greatest of all fairs—the Canadian National Exhibition.

Aside entirely from the increased consumption of honey caused by such an appeal to the eye of 1,201,000 people, the pro-

fessional pride stimulated in the individual who belongs to the beekeeping profession by such a display is a strong stimuli to strive to produce "fancy" quality; it inculcates higher ideals in honey, wax and bee production, just as the display of fancy live stock raises the ideals of the stockman.

HONEY CROP OUTLOOK

NEW BRUNSWICK.

At the date of writing, July 26, white clover crop is practically all harvested and the prospect is that we will have about an average of 35 to 40 pounds per colony. Last season our average was 60 pounds per colony and we had little or no dark honey. Three-quarter pound jars and five-gallon cans (60 pounds net weight) are the chief packages.

QUEBEC.

Generally speaking the crop has been light up to date and it looks as if the total for the season will be much less than that of the 1919 crop. Clover was very luxuriant here and if the weather had been favorable a good size crop would have been taken off. Rainy, cool weather interfered very greatly however. Clover is still in blossom and yielding honey but the time for the heavy flow has gone by.

Basswood has been yielding quite freely in some localities. There does not seem to have been quite as much buckwheat sown this year as in previous seasons and, in consequence, it does not seem as if there will be as much honey from this source as ordinarily.

ONTARIO.

Reports received by correspondence indicated on July 22 that the average yield will be in the neighborhood of 50 lbs. per colony. Our correspondents are for the most part professional beekeepers so that the report represents the result of the best beekeeping methods. The winter loss of 1919-20 is now known to have exceeded 50 per cent, so that the number of producing colonies is very much below that of 1919.

At the present writing (July 30), the white honey flow is by no means over. Correspondents in sweet clover districts generally report bees working hard on this plant and securing a surplus. They expect an additional 25 lbs. per colony before the buckwheat begins to yield. The showery weather of the past six weeks has been quite general and is resulting in a prolonged bloom of alsike and white dutch clover. There is no report that these two plants are yielding any considerable amount. The hopes for a good crop of basswood honey ran high, the trees in most localities being well loaded with blossom. To date however, there is not much surplus being gathered from that source.

The ripening of the white honey is being retarded by the showery weather, and early samples of extracted honey are too "green" for good marketing. The quality of the later extracting is grading very good; in color, body and flavor, much ahead of the product of 1919. Sweet clover honey is likely to predominate the white honey offerings this season.

The beekeepers of Simcoe, Wellington, Halton, Dufferin and Grey report the best yields running from 85 lbs. to 150 lbs. per colony. The beekeepers of Carleton, Len-

nox and Addington, Wentworth, Lanark and Huron report the poorest yields running from 3 lbs. to 40 lbs. per colony.

The prospect of harvesting a crop of dark honey—buckwheat, goldenrod and asters—in counties usually yielding such a flow is "fair to good." The average buckwheat showing is apparently somewhat less than in 1919, and it is not as far advanced in growth. Considerable "voluntary" buckwheat is now in bloom.

The markets of Ontario are in good shape for the new crop of honey. They are practically bare of 1919 white stock and the darker grades are also pretty well cleaned up. On account of the slow ripening, very little shipping has taken place. Extracting will be general during the first week in August in buckwheat sections.

Granulated sugar prices have advanced to \$24.20 per cwt. f. o. b. Toronto. The better beekeepers are holding a considerable number of combs of capped honey from their white crop pending receipt of profitable offers and a supply of sugar for fall feeding.

The offerings of dark honey this fall will likely be much lighter than in 1919. The smaller number of colonies, the reduced area of buckwheat, the prevailing high price of sugar and the average market value of buckwheat will tend to this end.

Synopsis of Ontario Reports.

(White Honey Crop—July 22.)

CENTRAL COUNTIES

(Including York, Peel, Halton, Ontario, Durham, Victoria).

Average, 100 lbs. Prospect for further white honey, good; dark honey, fair.

Sources of honey: Alsike, white Dutch and sweet clover, buckwheat, goldenrod and asters. Comparisons with 1919 crop: About the same in quantity and quality.

WESTERN COUNTIES.

(Including Waterloo, Perth, Oxford, Middlesex, Elgin, Essex, Kent, Lambton).

Average, 56 lbs. Prospect for further white honey, fairly good; dark honey, none to very limited.

Sources of honey: Alsike, white and sweet clovers.

Comparisons with 1919 crop: More honey and of a much better quality.

NORTH AND NORTH-WESTERN COUNTIES
(Including Simcoe, Dufferin, Grey, Wellington, Bruce, Huron)

Average, 86 lbs. Prospect for further white honey, fair to good; dark honey, poor to fair.

Sources of honey: Alsike, white Dutch and sweet clovers, basswood, very limited buckwheat.

Comparisons with 1919 crop: Better quantity and quality.

SOUTH AND SOUTH-WESTERN COUNTIES
(Including Wentworth, Lincoln, Welland, Brant, Haldimand, Norfolk).

Average, 46 lbs. Prospect for further white honey, poor; dark honey, 50 per cent. poor, 50 per cent. good.

Sources of honey: White lucerne and sweet clover, basswood, buckwheat, goldenrod, and aster in a few counties.

Comparisons with 1919 crop: Little better quantity; quality better.

EASTERN COUNTIES

(Including Peterboro, Northumberland, Prince Edward, Hastings, Lennox and Addington, Frontenac, Leeds and Grenville, Lanark, Renfrew, Carleton, Russell, Prescott, Dundas, Stormont, Glengarry).

Average, 35 lbs. Prospect for further white honey, only fair; dark honey, poor to good, average fair.

Sources of honey: Clover, basswood and raspberry, limited buckwheat.

Comparisons with 1919 crop: Little darker in color or about the same.

Prices Recommended.

The crop report committee of the Ontario Beekeepers' Association met in Toronto on July 31. Reports from 556 members were considered as well as reports from Quebec, New Brunswick and United States. The

committee decided to recommend as follows:

Best Quality Light Extracted Honey—wholesale, 27 to 32c a lb.; retail, 32 to 40c a lb.

The wholesale price recommendation is intended as a guide to beekeepers who are selling to wholesale or retail houses for resale and the retail price governs sale of honey to consumers. On barrels and 60-lb. tins the lower prices would obtain while on the smaller tin containers the higher price should be asked. If honey is put up in glass, higher prices than those given are recommended. All prices recommended are f. o. b. beekeepers' shipping point.

A warning to beekeepers to guard carefully against extracting too early is included in the report.

The comb honey prices recommended are:

No. 1 Comb, wholesale, \$3.75 to \$4.75 a doz.

No. 2 Comb, wholesale, \$2.75 to \$3.75 a doz.

UNITED STATES.

The honey crop and prospect report of the Department of Agriculture dated July 1, 1920, gives the condition of colonies as slightly below average for 1919; the condition of honey plants as slightly better than 1919, and with approximately 50 per cent of the crop harvested the average reported is 25.5 lbs.—practically the same as 1919.

Wisconsin.—It has been raining now for three days and looks as if it might continue all week. Have had fire now for three days and not a bee flying. The outlook for a honey crop in this neck of the woods is anything but optimistic.—Elias Fox, Union Center, Wis., July 6.

A Simple Strainer

W. A. Weir, Toronto.

Straining honey is one of the beekeeper's problems. The illustration on page 225 shows a method which has given good satisfaction. The strainer consists of a cheese-cloth bag suspended inside of storage can. Within the bag is placed an iron hoop to weight the bag down and the bag is sufficiently long enough to hang down to the level of the faucet inside of the can.

The honey from the extractor is now poured or pumped into the strainer-bag and the honey strains through the bottom of the bag until the level of the honey in the tank rises above the level of the bottom of the bag which is weighted. The rising level now permits the benefit of both gravity and cheese-cloth straining. The honey containing the wax particles just as it comes from the extractor continues to be poured into the strainer-bag and the bulk of the wax rises to the top of the honey within the bag. On the other hand, the honey finds its own level within the tank and a portion of the clearer honey strains through the sides of the strainer-bag, in the levelling process.

This arrangement requires two conditions, however, and is limited to tanks of small capacity. Approximately 450lb. tanks. The conditions are, first, that the honey be warm and thoroughly liquid, otherwise the strain of the large bulk within the bag will cause it to burst. Secondly, the tank must be emptied before there is any tendency to granulate. A cheesecloth bag buried in granulated honey would prove very awkward.

The columns of The Beekeeper are open for discussion on any problem or practice that concerns the industry. Tell others what you think and do.

DOINGS IN BEEDOM

ONTARIO.

The wholesale honey dealers in Toronto report having received a carload of New Zealand honey during July.

Manufacturers report a big demand for extractors and honey containers. They are about four weeks behind in their orders for the former.

A well attended field meet was held in York County at the apiary of C. J. Brodie, Stouffville, on July 24. Prof. F. E. Millen, Provincial Apiarist, was the chief speaker.

The new apiculture building at the Ontario Agricultural College, Guelph, is nearing completion. Prof. Millen expects the office will move to its new quarters about the end of August.

The executive of the Ontario Beekeepers' Association met in Toronto on July 31 and decided to hold the next annual convention of the association in conjunction with the official opening of the new apiculture building at the Ontario Agricultural College, Guelph. The dates of the convention will be Dec. 1 to 3, the early days of the opening week of the Winter Fair. The secretary, Prof. F. E. Millen, is making careful plans to ensure ample, reasonable hotel or boarding house accommodation for members, and the plans include a banquet on the evening of Dec. 2. A full program announcement will appear in the October issue of The Beekeeper, and a copy will be sent to all members of the association by Prof. Millen.

NORTHERN ONTARIO.

Jno. D. Brunne, Arnstein, Ont.

Parry Sound District, Apiary at Arnstein (200 miles north of Toronto).—Very favorable weather during first half of clover bloom. Average hive on scales gathered well, considering small amount of clover that withstood the frost this spring and drought last year. The highest average was nine pounds in one day. The week average was four and a half pounds per day. Since July 2, the weather has been steadily cool and rainy. Very little surplus has been gathered as a result.

Basswood looks exceptionally good and the cool rainy weather we are now having should have a good effect on the bloom when it appears about July 18th. Hope to get surplus enough from this source to more than make up for loss in clover.

Temiskaming District, Apiary at Matheson (436 miles north of Toronto).—A wonderful amount of clover in bloom here and bees doing well when they have a chance. A short diary of the results of a three and a half pound package of bees taken from our Parry Sound District yards will give you a fair idea of how changeable weather is here:

June 26, 1920—Released from package on to foundation.

June 27—Very warm with light, floating clouds.—Bees drawn about half of five Langstroth frames and have stored about half pound of honey.

June 28—Cold and windy.

June 29—Cool morning. Bees gather well during afternoon.

June 30—Clear most of day. Gather about one and a half pounds honey.

July 1—Frost. Much clover frozen, but

day very hot, and bees gather about one pound honey.

July 2, 3, 4—Either cold, rainy, or windy. Nearly all honey gathered used as food by now or in building comb. Wax scales at entrance as appears in cold weather when building comb.

July 5—Very favorable; two and a half pounds honey gathered.

July 6—Cool and rainy. Bees work well about two hours.

I would not now like to give any glowing outline of beekeeping prospects here. There is a wonderful amount of clover and fireweed is also available, but if conditions for nectar secretion are not right, a gold mine of bloom is of no value.

BRITISH COLUMBIA.

The Beekeepers' Association of British Columbia will hold a convention of beekeepers at the Vancouver Exhibition, Sept. 15, at 2.30 p.m. The evening session will be devoted to a social gathering, with short addresses on beekeeping topics. Visiting beekeepers are requested to make themselves known to Secretary John Brooks, or to President William Hugh.

NOVA SCOTIA.

Eunice Buchanan, Berwick, N.S.

There will not be much honey in Nova Scotia this year, owing to the long dry spell in May, followed by a sudden and serious dwindling of bees at the end of the apple blossom season, making the stocks so weak that much of the young brood died. Numbers of adult bees were found dead before the hives. The government bee inspector found the same conditions in different localities.

At present, no one is sure of the cause of this disaster, but beekeepers think that it was caused by the new dusting machines being used when the apples were in flower. A sample of brood and comb sent to Ottawa showed no trace of disease, but only a chemical analysis could show the presence of arsenic, and there has been no robbing. Experts advise uniting the colonies and requeening the Blacks with Italians, but where there is no foul brood, Black bees are considered better for the climate of Nova Scotia.

Anthony Birch, of Wolfville, has been appointed Chief Inspector of Apiaries for this Province.

UNITED STATES

American honey is becoming increasingly popular in Great Britain. On account of the shortage of sugar the English people have taken readily to its use, and it now seems probable that the demand will continue even after sugar again becomes plentiful. The clear, strained honey in the glass has the best sale, the preference being for California honeys, according to reports issued by Bureau of Markets, United States Department of Agriculture. In 1914 the total importations by the United Kingdom were approximately 2,600,000 pounds. By 1918 this had increased to 36,500,000 pounds, valued at \$13,150,000. The United States contributed more to these totals in 1918 than any other country, its share being 16,000,000 pounds, valued at \$5,500,000.

We acknowledge receipt of two copies of *Deutsche Illustrierte Bieneuzerzung*, a German magazine, published in Leipzig, Germany. It is printed in the German language and is the official organ of the organized beekeepers there.

NOTES AND COMMENTS

J. L. Byer, Markham, Ont.

Judging by reports received up to date (July 13), it does not look like a bumper crop of white honey in Ontario this year. My reports have ranged from east to west in the province and the highest estimate I have had is 50 lbs. per colony. However, many correspondents state that basswood looks the best in years, and where there are sufficient trees left, some beekeepers are very hopeful of a crop from that source, but, as it is an uncertain yielder, any basswood honey to amount to anything in our apiaries will be a happy surprise indeed. Eastern Ontario appears to have little alsike and not much white clover either this year. Many parts of Central Ontario never had alsike in greater abundance, but for some reason it has yielded little in most places. I have repeatedly stated that beekeeping had more of the gambling element in it than any other legitimate pursuit I could think of and this year that fact has been impressed on me more than ever. For some reason hard to explain, alsike has yielded well in Coldwater section this year, while at Binbrook locality south of Hamilton where the acreage was in abundance and fully as much moisture in soil as up north, the yield has been slow and light. At Fenelon Falls where we had our strongest lot of bees this year, the small amount of alsike there has been entirely lacking in nectar. A friend of mine near there had a few colonies placed right in a large field of rank growing alsike and they did not get more than a living, if indeed they got that, as quite a few raspberries grow near that locality and bees were always on that bloom. Then again, to show the uncertainty of the game, alsike, although in great quantities in our home district and looking in the finest condition, was so devoid of nectar that our bees stored little from that source and when things looked blue indeed, all at once the sweet clover grown near us (for the first time in any quantity) began to pour out the nectar and our bees were rejoicing in an old time honey flow—a flow by the way that looks so good at present, provided we get good weather for a while, that I hesitate to make any estimates of what the bees are going to do. It will bloom well into August by looks of things so this report can be held over till next issue.

Have a Good Understanding.

Some queer things happen to a fellow who is trying to run quite a lot of bees, particularly if the fellow in question happens to be a rough and tumble sort of a chap and not as careful as he might be. About ten days ago after working at one yard till after 5 p.m. I decided to take a run over to another apiary where the sweet clover had bloomed early on some sandy hills near the bees. Arriving there, it did not take three minutes to see that there had been something doing since my last visit and I promptly made a raid to building and began to haul out a lot of empty supers. How a fellow can work under such circumstances when a honey flow starts with a rush, even if weather is hot and sultry! I put on a number of supers and I came to a row of half a dozen colonies that had on three full depth supers and needed another each. I would lift off the top full one and then place an empty super where the full one had been, and then again lift (and here is where the

"lift" comes in) the full one on top of the pile again. Five stories high is pretty well up for a chap of rather short stature to elevate a full super, for with super full of bees and combs full of honey, it needs careful handling. So I hastily improvised a platform by placing a hive extension on the ground and a hive bottom on top of that. It worked well for a time or two but when the third hive was being attended to something happened that made me smile afterwards, but not just at the moment the incident occurred.—I was just about placing the full super on top of the pile when all at once the bottom board I was standing on broke with a crash and of course the fellow on top with a full super containing combs filled with honey and also a few thousand bees, went crashing headlong among some willows that happened to be near the hive.

As combs were wired, and small trees broke force of the fall little harm was done to the contents of super and little injury to the chap responsible for the mishap, but the bees seemed to be greatly annoyed for some reason.

With the growing of sweet clover and it happening to yield honey this year, I have been wondering what would happen if alsike should yield like it does some years and then sweet clover break right in before alsike was over, and last right up to August when buckwheat starts to supply the bees. Such a prospect looks alluring from the honey standpoint but also looks like mighty hard work for both the bees and beekeeper. With a long flow lasting from June 10 till September 1 I have an idea that bees would clog brood nest with honey and that queens would wear out fast. But I shall not worry, as such a combination is not apt to occur although quite a few localities have the three sources of honey at present.

Last Chance for a Queen

If you want a queen this month free of charge, take advantage at once of the "Special Queen Offer" of *The Beekeeper*. The queens are to be delivered in August; so this is your last chance. Here is the offer:

The Canadian Horticulturist and Beekeeper, new subscription for one year...\$1.00
One Italian Queen, worth \$1.25 to.....\$2.00

Combination offer\$3.00
.....\$2.00

This offer is for new subscriptions only, not renewals. Present subscribers may secure a queen by sending a new subscription to *The Canadian Horticulturist and Beekeeper* for a friend, accompanied by \$2.00, or by securing \$1.00 from any person for a new subscription and sending \$2.00 to the Canadian Horticulturist and Beekeeper for the new subscription and the queen.

The queens will be from the apiary of a reliable breeder and will be untested. The more new subscriptions you send or secure, the more queens you will be entitled to. Don't miss this! Queens are scarce. Send the \$2.00 with name of new subscriber to *The Canadian Horticulturist and Beekeeper*, Peterborough, Ont.

Readers of *The Beekeeper* are requested to contribute articles and letters for publication.

NOW TURN TO PAGES

230 to 236, and 244

Grape Growers Want Fair Prices

THE Niagara District Grape Growers' Association held an important series of meetings at the end of June and early in July, at which the status and possibilities of the grape growing industry were reviewed and prices for this season discussed. The grape men were asked not to sign contracts or make advance sales in any way until such time as the executive of the association could meet the wine men, juice men and other buyers and decide, if possible, upon a price that would be satisfactory to all concerned. Local meetings were held at 11 different places between and including Stoney Creek and St. David's. The executive then met at St. Catharines on July 10 and decided to try to meet all the buyers and dealers, wine manufacturers and juice men in the district on July 24 to discuss the situation.

At this meeting, July 24, arrangements were made, with representatives of some of the wine manufacturers, to meet a properly authorized committee of buyers at a later date to discuss the question. This meeting was held on August 4, and the wine men absolutely refused to talk prices. At the annual meeting of the Grape Association in St. Catharines on August 7, the price problem will be thoroughly, and perhaps finally, dealt with. A representative of a large fruit incorporation in the United States is expected to be present with a proposition to handle the entire season's crop of the Niagara District.

The Jordan Meeting.

The first meeting was held at Jordan on June 28. President G. A. Welstead, in the chair, opened the meeting by a short rehearsal of what the organization did last year. Local associations were formed, the

president and secretary of each forming the executive, which meets at St. Catharines.

T. J. Mahoney, of Saltfleet, said that the grape growers in the western portion of the Niagara district were quite willing to co-operate with those in the east in organizing an association. The grape census taken last year is of great value. It shows that both acreage and tonnage are much less than was supposed. If each person in Ontario used eight pounds of grapes, all the crop would be taken care of. There should be a good market for our grapes at a higher price than last year. Near Cleveland last year, grapes brought \$150 a ton; in Tennessee, \$180, and in New York State the average price was \$95. Our grapes are of superior quality, and we are the only grape district in Canada. We ought to have some say as to the price of our own product and the buyers should not fix the price.

W. W. Armstrong, of St. David's, said that the grape industry was one well worth taking care of, and after estimating the crop a fair price should be fixed. To hold our own we must organize. The wine men, juice men and dealers are all necessary, but we can sell a large proportion of our crop without them. The growers in the east are willing to keep the organization going. The American grape growers have a very powerful organization with over 700 members and over one million in money. Mr. Welstead went as a delegate to the wine and grape-juice men last season, but they said they "were going to fix the price."

J. A. Livingston, of Grimsby: "Peaches have advertised this district, but I doubt if peaches have any superiority pecuniarily

over grapes. They are easier grown and give a steadier return. In time the grape industry will lead all others in the Niagara district. Grapes respond rapidly to good care. Saltfleet has some of the finest vineyards in the district and there are some fine vineyards around Jordan. We must increase our crop and its quality, and make people eager to get our grapes. Grape growers wish to work in harmony with all the agencies selling grapes. Manufacturers fix their price. Everybody, indeed, fixes prices, except the tillers of the soil.

"The growers are not antagonistic to the dealers. The wine and grape-juice industries are the backbone of the grape industry. They take the bulk of the crop without baskets and take it off the general market. The wholesale dealers also are in a legitimate business and are a helpful agency in handling the crop. But the growers should have some say in the selling of their product and they should be consulted in fixing the price. We can't do this by sitting at home. A uniform price must be arranged for so that one dealer must not fix the price in the West by getting some of the growers to sign a contract at a fixed price and then quoting to the West a price a little above that. A man near Jordan last season bought grapes under 30 cents a basket and fixed the price in the West of 34 cents. The grape grower is to blame for this—the man who signs the early contract. It is easy for one or two men to spoil the whole industry's price. No one should sign contracts independently. All should get the same price.

"Wine men are making a large profit at the present prices of wine and they should pay a higher price. Five cents a pound is a low price, or \$100 a ton. The dealers are making money all along the line from the

Premium Bulbs for Fall Planting

In order that we may secure a large number of NEW subscribers to the Fruit and Floral Editions of *The Canadian Horticulturist* during the next two months, the following choice collections of bulbs are offered as special premiums:—

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

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

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

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THE CANADIAN HORTICULTURIST, Peterboro, Ont.

Niagara River to Hamilton. The executive intends holding a meeting shortly with the wine men, grape-juice men, and the dealers to talk the matter over and to fix a fair and uniform price."

Col. R. W. Gregory, St. Catharines, said: "Local organizations have been successful in the United States. We, however, have been selling our grapes below cost. This should be ascertained, and we should have a price fair to us and to the consumer. Wine manufacturers have paid an astonishing sum to the Government in excess profits. We need an organization which will include all the grape growers."

Secretary H. K. Clemens, of St. Catharines, said: "The price paid last year of \$65 a ton is not equal to the increased cost of everything we have to buy, which has increased from 200 to 800 per cent. A few years ago it cost \$100 an acre to plant and bring an acre of grapes into bearing; now it costs \$300. It costs over \$70 now to cultivate an acre of grapes without taking into account fertilizing, cutting, or baskets. The average yield is about two tons an acre in the Niagara district."

"We are in close touch with the Chautauqua and Lake Erie Grape Growers' Association. Last year they held 100 cars of grapes for a week and steadied the grape market, and it rose afterwards and stayed up. We never sell on a rising market. The C. and E. Co. control 30,000 acres of grapes and we have only 4,500 acres. The only reason organization here has not been a complete success is because the growers are not all loyal to the organization."

At the close of the meeting a local branch was formed at Jordan, with W. G. Haynes, president, and A. L. Scott, secretary.

The Peachland Meeting.

On June 30, a meeting was held at Peach-

land. C. W. Workman, of Peachland, was in the chair; Erland Lee, of Stoney Creek, was the first speaker. He said: "We ought to trust one another better. Dealers regulate the quantity going to each market properly. The N. D. G. G. A. has already accomplished a good deal, \$65 a ton for grapes is not quoted this year, but \$100 to \$115. We should discuss the price with the dealers, wine men, etc. Grape growers must unite in one organization. Grapes are a thing we can hold. This organization is a step in the right direction and it is having a successful start."

Col. H. P. Van Wagner, of Stoney Creek, said: "Farmers are a joke; they take what they can get; all other professions are organized. There were great vicissitudes in grape growing in California. The European grapes they planted died of Phylloxera, then prohibition hit them hard, but they were saved because they grew three classes of grapes, wine, table and raisin; and the juice men are taking much that went into wine. If a manufacturer's costs go up, he passes it on to the consumer. The farmer takes what consumers give him. We must organize and alter this. Both our governments ask for greater production. There is a great shortage of farm labor and it is of a poorer quality, so he must get increased prices."

J. M. Chrysler said: "The chief motive of the Grape Growers' Association is to persuade our people not to sign contracts until the growers' organization meet, consult, and arrange a fair price for our grapes. We should go to the dealers, etc., and state prices to them and not have the dealers state them to us. We started too late last year. Many had signed up. Even now some growers have signed up with the grape juice men without a stated price, and

have to take what the grape juice men offer. We are striving to alter this. There are three factors in a business—capital, management, and labor. Each factor must receive remuneration, but the farmer has to put up all three in many cases. The mass of farmers have only received wages; only a few have received a dividend and salary. Manufacturers base their selling price on the cost of raw material plus cost of manufacturing. The winemen, etc., fix the price of our raw material, and farmers and grape-growers have been selling it at less than cost, and so have had to work 12 to 16 hours a day, and their wives and children work for nothing."

"It costs at least \$300 an acre to plant a vineyard and bring it into bearing. The care of a vineyard in bearing costs \$105 an acre, to which must be added the cost of marketing the crop, baskets, etc. There is no profit for the grower at \$70 a ton and we must get a price considerably above that figure. Tilling the soil is the most honorable occupation in life, but we are duped by every line of industry. We pay what they ask and take what they give us. We must get more than just the cost of production. We don't want to dictate prices, but we must be consulted."

F. D. Cole, said: "We have no enmity to the wine men, or dealers. We have received an offer from a powerful organization of California fruit growers offering to market all our grapes. They have \$50,000,000 back of their association. The attitude of our dealers, etc., last year was not very favorable."

F. G. H. Pattison, of Winona, pointed out that in every business, besides capital, management and labor, there was another element that must be taken into consideration, namely, the public. Where this was

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not done disaster usually followed in the long run. He advocated ascertaining the exact cost of producing grapes per ton and letting the public know by means of the press, so that the public might understand that the growers were not soaking the consumer, but only asking a fair price.

At Homer.

A fairly well attended and enthusiastic meeting was held at Homer on July 5. President G. A. Welstead was in the chair. He said: "The Chautauqua people are organized up to the hilt and control their own sales system. One dollar a ton will give salaries of \$10,000 for an office staff and manager. Salesmanship is not a difficult matter. An organization will be a good thing for the buyers, as it will provide them with a standard article of better quality than they are getting now, insure them against price cutting, and not interfere with their profits, but rather increase them."

"I am going to ask you to elect a chairman and secretary of the Homer local association. I think that we can move 200 cars this fall. We are going to ask the wine men, grape juice men, and dealers to meet us and see if they can't make a fair deal with us; if not, we will sell to the American buyers."

The other speakers were Col. H. P. Van Wagner, of Stoney Creek, and F. G. H. Pattison, of Winona. The local association met and elected R. H. Secord, president, and R. E. Cudney, secretary. W. H. Durham, J. Newhouse, and W. A. Welstead were elected a committee to secure new members.

Winona and Stoney Creek.

On July 7, there was a good sized and very enthusiastic meeting at Winona. John Bridgeman, of Winona, was in the chair. Secretary H. K. Clemens was the chief speaker. He said: "The cost of planting and bringing an acre of grapes into bearing was \$125, seven years ago; now it costs \$300, or over, to do it. Since their grapevines have advanced from \$25 per 1,000 to \$250; labor from \$1.50 per day to \$4.00; baskets from \$32 to nearly \$100 per 1,000; posts from 15 to 50 cents each; fertilizers from 300 to 900 per cent, and other things

in proportion. The least possible price we must have to break even is \$100 a ton, and we can only do it by establishing an iron-clad association. The wine manufacturers are figuring on paying 3¼ cents a lb. It takes 100 lbs. of grapes to make 13 gallons of wine and the price of wine is to be from \$4.50 to \$5.00 a gallon this year. Our crop will be less than last year, and we expect a bigger price.

"In New York State buyers cannot buy at \$100 a ton. California grapes are selling at from \$130 to \$150 a ton. We ought to get more for our grapes than the Americans, who are only growing half the crops they did. It takes \$150 an acre to get the crop ready for market and then there is 12 per cent commission to pay for its sales. The wine and grape juice manufacturers last season paid large excess profits tax to the Government."

Other speakers were: T. J. Mahony, A. M. Cochs, C. C. Pettit, J. R. Hastings, John Bridgeman, and F. G. H. Pattison.

The meeting at Stoney Creek on July 9 was the largest and best of all. Geo. Millen, of Stoney Creek, was in the chair. Excellent speeches were delivered by Reeve Mahoney, secretary; H. K. Clemens, Erland Lee, H. E. Maycock, of Vinemount Orchard

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Italian Queen Bees for sale. Northern Bred for business from my best SUPERIOR BREEDERS, gentle, roll honey in, hardy, winter well, not inclined to swarm, three banded. Queens a specialty; twenty-six years' breeding experience. Satisfaction guaranteed. Safe arrival in U.S. and Canada.

Unt., \$1.40; 3, \$3.75; 6, \$7.00; 12, \$13.00.
Sel. unt., \$1.65; 3, \$4.50; 6, \$8.50; 12, \$16.00.

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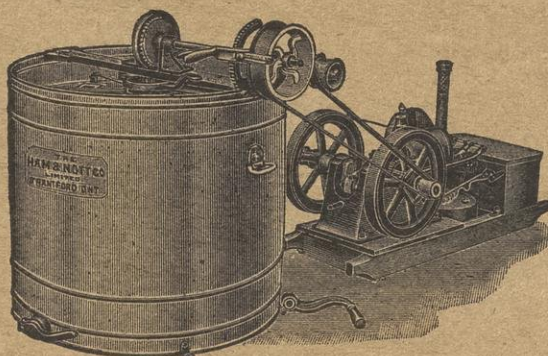
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If you are considering a power outfit this season it will pay you to write to us at once.

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Mr. Beekeeper! Which Do You Prefer?

Black Queens

that are so good at playing hide and seek when you want to find them in the wing-clipping season.

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that stop egg-laying in the fall of the year so early that you have principally aged bees to go into the winter with, the result being SPRING DWINDLING.

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that are excitable and run out the entrance of the hive as soon as you open the cover; that sting at every opportunity; and that lay right down on the job and die when EUROPEAN FOUL BROOD attacks them.

Italian Queens

that stick right on the comb and even continue laying eggs when the frame is lifted, and are so readily seen when looking for her in clipping season.

Young Italian Queens

that continue egg laying until quite late in the fall, even though there is no honey flow, giving you a good bunch of fresh young bees to go into the winter, bees that have sufficient vitality when spring comes to nurse the new brood and gather EARLY pollen, while the queen is on the job EARLY in the spring ensuring a GOOD STRONG COLONY of bees for the first honey.

Italian Bees

that stay on the combs and can be handled with a minimum of smoke or discomfort because of stings, and that WHEN ATTACKED BY EUROPEAN FOUL BROOD ARE BETTER ABLE TO RESIST IT THAN ANY OTHER KNOWN BREED.

We specialize in Canadian bred Italian Queens—For sale at fair prices.

Untested 1 for \$1.50	12 for \$17.00	50 for \$70.00
Select Untested . . . 1 for 1.75	12 for 20.00	50 for 80.00
Tested Queens—\$5.00 each.		

We will also offer for sale, one hundred colonies of bees in 10 fr. Langstroth hives at \$20.00 each F.O.B. apiary. Delivery or shipment after August 1st, 1920. Cartage \$2.50 extra if you wish them delivered F.O.B. express trains at Sarnia, G. T. R. or P. M. Ry.

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Every beekeeper who has re-stocked his apiary with our queens knows what fine-looking bees they produce. The queens themselves are plump and active, with broad yellow bands and are of the leather-colored variety, hardy in wintering, and their bees are very gentle, and can be handled with a minimum of smoke and annoyance from stings. They are of great assistance in combatting European Foul Brood also.

We solicit your orders for these queens at the following prices:

August, September.	
Untested	\$1.40
On lots of 25-50 queens 5% discount off above prices.	
Tested queens	2.00
Select Tested queens	2.50
Breeding queens	6.00

We can furnish a limited number of very fine Breeders during August. These breeding queens will be shipped out by express in a regular pound package cage with a half-pound of bees with each queen.

If you plan to re-queen in early September, place your order with us now and be sure of getting the queens when you want them.

All orders receive our prompt, careful attention.

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QUEENS of MOORE'S STRAIN of ITALIANS

Produce Workers
That fill the super quick
With honey nice and thick

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Untested queens.. \$1.50; 6, \$8.00; 12, \$15.00
Select untested \$2.00; 6, \$10.00; 12, \$19.00
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Circular free.

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F. ERIC MILLEN.

Co.; R. H. Dewar, and Homer Carpenter, of Fruitland, and others. A number of members joined the local association. It was decided that every grape grower was to be canvassed for membership.

Meetings were held also at Beamsville, June 30, and Grimsby, July 5, with addresses and discussions along the same lines as at meetings reported.—F. G. H. P.

Virgil and St. David's.

In opening the meeting at Virgil, July 7, J. M. Crysler, in the chair, explained the objects of the association and the purpose of the meetings. He pointed out that the growers had been selling below cost of production. The growers should know the actual cost and were entitled to a fair profit. The association was now working on both these problems and looked to the growers for support. In discussing the outlook for a market, Mr. Crysler stated, among other things, that there was a growing demand in our cities from foreigners for grapes with which to manufacture their own wine.

"Grapes can be grown," said Erland Lee, "on almost every acre from Hamilton to the Falls. One reason that more grapes are not grown is because the growers cannot get a profitable price. The association this year will endeavor to secure for the growers of the district a price that will be fair and that the buyers can well afford to pay." Mr. Lee brought out also many other points that he gave in addresses elsewhere in this series of meetings, as reported above by Mr. Pattison. He appealed to the growers to join the association. While scarcely more than a year old, it already had done important things for the industry. What was needed and what would come eventually was a big central distributing agency to handle and sell the grapes of the entire district.

That the growers were not getting nearly enough for their crop was demonstrated by Jas. Bertram, of Salt Creek Township, in the fact that one ton of grapes would make at least 150 gallons of wine. He advised the growers not to contract too soon. When one man sells, the others usually follow, like a flock of sheep. There was plenty of time for making contracts. The association was working to see that contracts would be made on satisfactory bases.

"No matter whether a grape man grows one acre of grapes or 100 acres, he has grapes to sell, and if he sells low," pointed out Fred D. Cole, "he establishes a price in his neighborhood, and the buyers play on that for the rest of the season." Mr. Cole urged the growers to join the association and to be loyal.

A. B. Cutting, editor of THE CANADIAN HORTICULTURIST, thought it singular that the growers were only now attempting to determine the cost of production. The industry had been in existence for a half a century or more. It should be known by this time what it cost to grow an acre of grapes, even with increasing costs in labor and materials. The important point just now, however, as these meetings were bringing out, was the selling price this year. The growers would act in their own interests by joining the association as a body. If they followed a leader, like a flock of sheep, as Mr. Bertram suggested, they should take care that they did not follow a black sheep; they should allow the executive of this association to act as "bell wether" for 1920. Mr. Cutting thought that the dollar membership fee would be returned to the growers many times over in service and price by the association, if the growers would back the association to the limit and stick.

At the St. David's meeting, July 9, Presi-

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Every beekeeper should be well acquainted with the flora, not only of his immediate section, but of those surrounding him. This book was gotten up for that purpose.

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AMERICAN BEE JOURNAL

Hamilton

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Illinois

dent Welstead presided. He told the growers that large fruit concerns both in California and in one of the eastern states had intimated that they wished to negotiate for the handling of the entire 1920 crop of the Niagara district this year. Mr. Welstead explained the purpose of the association and called on J. A. Livingston, of Grimsby, for the leading speech of the evening.

Mr. Livingston's speech was along the same lines as delivered at Jordan. "It is the retail man in the cities, both east and west, who makes the money and who virtually owns the vineyards of this district, that is, among those who handle fresh grapes between the vineyard and the consumer. The grower is entitled to a much larger percentage of the profits made in selling grapes to the city consumer, either in the fresh state or in the form of wine or juice." Mr. Livingston thought that the eight townships that grow grapes in the Niagara district could organize as easily and as effectively as the great state of California has organized its entire fruit industry.

Short speeches were made at this meeting also by W. W. Armstrong and J. M. Crysler. Mr. Armstrong said that there was no sense in anyone signing a contract until the various interests concerned had decided upon the price. Mr. Crysler advised the growers to wait awhile. The wine men

and others wanted the grapes, more this year than ever before. There was no danger of the crop begging for a market.—A. B. C.

Vegetable G.A.A. Convention

The Vegetable Growers' Association of America will hold its 12th annual convention at Columbus, Ohio, Aug. 25 to 28 inclusive. This organization is made up of some of the most progressive gardeners in the United States and Canada. A good program has been arranged which will include side trips and entertainment. There will also be a trade exhibit held in connection with the meeting. Both will be held in the Horticultural Building of the Ohio State University; headquarters will be at the Southern Hotel.

Any gardeners who can possibly get away from home for this meeting will find it well worth their while. It combines an opportunity to have a brief vacation with a period of contact with co-workers and a chance to get posted on the latest developments along various lines affecting the industry.

Anyone wishing to reserve rooms in a private home should write Prof. L. M. Montgomery, Ohio State University, Columbus, Ohio, and those wishing to receive a copy of the program should write Samuel W. Severance, Sec'y, Louisville, Ky., care of the Market Growers' Journal. Anyone interested in making a trade exhibit should write C. W. Waid, East Lansing, Mich.

Potato grading would be a great benefit eventually to both grower and consumer.—G. H. Poat, London.

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How many of you, let me see, have tested out the Hand-Moore bee? Our bees get honey by the ton, and honey's what brings in the mon'. So if you want your honest share, and are not content with just the tare, buy Hand-Moore Queens, that's what I say, and do it, yes, and right away. Untested only \$1.50 each; 6, \$8.00; 12, \$15.00.

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Three Banded and Golden Italian Queens



Untested—\$1.00 each; 6 for \$5.50; 12 for \$10.00.

Select Untested—\$1.25 each, straight.

Send for Price List. Cash with Order.

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Queen Breeder. RIDGETOWN, ONT.

MOTT'S Northern Bred Italian Queens

I have breeding mothers in the south for April and May queens. Plans "How to Introduce Queens: Increase," 25c.

For summer and winter laying birds, try a setting of my Golden Campines.

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Any quantity handled.

Excellent Prices Offered

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NIAGARA PENINSULA

NEWS AND VIEWS
F. G. H. Pattison, Winona

The two most interesting events to the fruit-growers of the Niagara Peninsula during the past month were: (1) the hail storm of July 3; (2) the meetings of the newly-formed Niagara Peninsula Grape Growers' Association. The reports of the hailstorm were exaggerated in the press. The area affected was much less than reported, and the damage will not seriously affect the crop of the district.

Having attended a large number of the grape meetings personally, and having heard the whole proposition thoroughly explained by the officers of the association, and well criticized and discussed by the growers, I am of opinion that the association is thoroughly deserving of all the support the fruit growers can give it; that its principles are correct, its officers capable and energetic, and that by no other means than an association of the kind proposed will the grape growers ever get their fair share of the profits pertaining to the grape industry.

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.

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CONSIGNMENTS OF FRUIT AND
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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.

What attracts me most is the reasonableness of the attitude taken by the association. They do not start out by abusing the dealers, or the wine and juice manufacturers, or the public. They say that they are quite willing that the local dealers, the wine men, and the grape juice men should continue to handle the crop as before, at a fair profit, but they are determined to be consulted as to the wholesale price. If the dealers, etc., are not prepared to grant this, then they will dispose of the bulk of the crop through other channels.

The Grape Situation.

What proposition could be more reasonable than that the men who own the land, incur all the expense of setting out the vines, carrying them along to bearing age, do all the work in pruning, cultivating, fertilizing, spraying, preparing them for market, and finally take all the risk of bringing the crop to the marketing stage, should have a say in fixing the price? It is in accordance with every principle of justice that they should have not only a say, but the chief say. The only way to accomplish this is to have the grape growers united in one association, the executive of which can deal collectively with the different bodies of persons who wish to handle the crop. The latter are all organized already, so they are completely out of court if they object to the growers organizing.

This is an age of organization, and an unorganized mass of growers has no more chance of getting its fair share of profits in dealing with organized bodies than a mob of undisciplined fighters has against a well-trained and disciplined army. Moreover, this organization has no idea of starting out to soak the public. They only desire a reasonable profit over the cost of production to enable them to make a decent living, to keep up the quality of their product, and the fertility of their land.

There is no doubt whatever that, in the past, tons and tons of grapes have been sold by the growers at less than the cost of production figured in a business-like manner. During the last five or six years particularly the cost of producing grapes has gone up much faster than the price of grapes has. Previous to the war grapes were selling at about \$3 a ton wholesale, and last year the average price paid the growers was about \$65 a ton. This is an increase of slightly over 100 per cent. But labor, which was then \$1.50 a day, is now \$4; baskets which were \$32 a 1,000, are now nearly \$100; posts which were 15 cents each are now 50 cents; grape vines, which used to be 5 cents each, are now 25 cents each in lots of 1,000; wire has gone up 300 per cent.; as to fertilizer, potash, which used to be \$45 a ton, is now \$450; nitrogen, which used to be \$60

a ton, is \$150 to \$200; phosphoric acid and lime have also more than doubled in price. Spray material has also gone up 300 to 400 per cent. Therefore, the proposition that the price of grapes should be advanced to a minimum of \$100 a ton, or 5 cents a pound, is a very moderate one.

Last year, by the action of one Vineland dealer, the price of grapes was fixed at 34 cents in the West—a most unfair price to the growers here, and one which greatly inconvenienced some of the other dealers who had agreed to sell at a higher price. In the past the owners, by making individual contracts and allowing the buyers to fix the price, have got the worst of it both going and coming, to use the stock broker's language. When they buy they have to pay the other fellow's price, and when they sell they have to take the other fellow's price. It is the old story of the bundle of sticks—apart they are easily broken, but bound together, a very different proposition.

Statistics show that the grape-growers are in a very strong position, and no grower has the slightest need to hurry into a one-sided contract. Consider the following facts: Area under grapes in the Niagara district, 4,500 acres; estimated crop this season, slightly over 8,000 tons. This amount is the only home source of supply for the whole Dominion, let alone the demand from the U. S. A. Wine manufacturers are making large profits; grape juice men and wholesale dealers are making good profits, and there is a demand for grapes in the U. S. A. at high figures. The profits of all these prospective buyers depend on getting your grapes, and there are not nearly enough of your grapes to go around. Why should any grape grower want to commit suicide, as it were, by either making a blind contract with a dealer or by hauling his grapes on the market early in the season, without giving the association a chance to deal collectively with the buyers and ensure him a fairer and better price than he could possibly get alone? My advice to every grape grower is to join the association and be loyal to it. Then you will see the grape industry put upon a proper footing. Otherwise, you will be gradually forced out of business and your vineyards will disappear.

Crop Conditions.

Sour cherries are an excellent crop all the way from Hamilton to the Niagara River, and pickers are in great demand. Sweet cherries are only a moderate crop confined entirely to the Niagara district, and prices are good. The cherry slug has made its appearance and is doing considerable damage where spraying is neglected.

Plums are a heavy crop all over the dis-

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trict, and Japanese varieties are exceptionally heavy. Peaches are also a good crop all over, but the number of bearing trees has been considerably reduced from that of former heavy crop years. Pears are not a large crop, especially Bartlett's, except in the vicinity of Niagara-on-the-Lake.

The apple crop is better than for some years, and all varieties are pretty good.

Raspberries are not looking well. Indeed, there is going to be a decided scarcity, and prices will rule high. Blackberries are a failure, and black currants are quite a light crop. Red currants and gooseberries are fair to good.

The grape crop is not as large as last season. Red grapes, particularly, are not much more than 25 per cent. of a full crop. The grape crop as a whole is not more than 65 to 75 per cent. of a full crop.

New Companies.

A good deal of local interest is being evidenced in the new wine factory at Jordan. This factory, although in its first season, will probably be in the market for 400 tons of grapes.

A new company, termed the Grimsby Pickle Company, with headquarters at Grimsby, has been incorporated to deal in fruit and agricultural products, also to manufacture all kinds of canned products of the garden, orchard and farm.

On account of the continued pilfering of fruit, North Grimsby Council has appointed a constable at a salary of \$125 a month to look after the safe-keeping of the orchards in the vicinity of Grimsby Beach.

A report from Jordan says that that part of the Niagara district is keeping up its reputation. On June 26, a Saturday—a day

when not much fruit is shipped as a rule—20,000 boxes of berries were shipped at Jordan Station, 10,000 of them being sent out by C. Herald, and the other 10,000 by J. A. Wills.

Robins Vs. Cherries

("Cutworms and insects form 42 per cent of the robin's food; cultivated fruit averages under 5 per cent.")

The robin does much good by stealth,

Some harm by open stealing;

When grateful trees set forth their wealth,

Might man not share the feeling?

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MARITIME PROVINCES

Notes From Nova Scotia

Eunice Buchanan, Berwick, N.S.

Owing to the drop, the apple crop will not be as heavy as was expected a month ago. Some orchards have big, clean crops; others have much spot on leaves and fruit; apple trees, which have been neglected in fertilizer and spray, look poorer than usual.

In June, a fruit broker contracted with a Berwick house for 15,000 barrels of this year's apples at the following prices: King, \$4.50 to \$3; Golden Russets, \$4.25 to \$2.50; Gravenstein, Ribston and Blenheim, \$3.75 to \$2.

At the quarterly meeting of the United Fruit Companies, Ltd., at Kentville, the board of directors instructed General Manager A. E. MacMahon to proceed with the establishment of canneries and vinegar factories for the disposal of apples which do not come up to the Nova Scotia standard for shipment. Aylesford is to have the first cannery and vinegar factory of this concern, which hopes to be ready for business this autumn. Another matter decided by the U. F. C. was that, hereafter, Nova Scotian apples will be packed in boxes instead of barrels, which will put them on a par with western fruit.

Douglas Chute, manager of the Berwick Strawberry Exchange, visited several towns in the province and secured fresh markets for berries, where there is a good demand, with good prices. The first berries were shipped on June 21. The season has been successful so far as prices are concerned, which ranged from 35c to 18c, but the crop itself with some growers was little more than half of last year's, especially on dry soils and old beds. On heavy soil, berries have done much better.

Dealers are offering \$1.50 a bushel for the potatoes now growing. Old tubers are selling at from \$3 to \$4 a bushel.

A district exhibition, which will include King's, Hants and Annapolis Counties, is to be held at Aldershot this fall. The secretary is G. H. Oakes, Kentville, N.S. Another exhibition is to take place in Lunenburg County, at Bridgewater, in September. The F. W. Clark Company, of Bridgewater, have made arrangements with the Board of Agriculture of Trinidad, B.W.I., for an exhibit of West Indian products to be on view.

Barrel manufacturers are now required to pay a tax of \$20 on every \$1,000 worth of barrels sold.

The apple sucker is gradually spreading, and the inspectors are following it up. They report it in localities as far apart as Wolfville, Mount Uniacke, Cobequid and Coldbrook. Cutworms and other garden pests have been exceptionally numerous. On the Short Line Railways, the late train from Pictou was twice held up for some hours on account of running into a big bunch of caterpillars which were stripping the fruit and other trees near Malagash and Hansford.

N. S. Shippers' Association

The annual meeting of the Nova Scotia Shippers' Association was held at The United Fruit Companies' office at Kentville, on July 12. Special committees were appointed to deal with the transportation problems of the coming apple and potato season. These committees will hold conferences with the various railroad and steamship officials

interested so that arrangements for handling the crops can be completed before the season opens. Discussion also took place with regard to the manufacture of the standard apple barrel, grading of potatoes and other matters.

The following were elected to hold office during the coming year: Pres. A. E. McMahon, Kentville, (Manager of the United Fruit Companies Ltd.); vice-pres., S. B. Chute, Berwick; sec.-treas., Stanley Craze, Kentville; auditor, J. Howe Cox, Cambridge.

Spraying and dusting was carried on this year in Nova Scotia orchards to an extent never before practised. Many carloads of materials were used and the results so far reported have been most gratifying.

The steamship lines operating between Canada and the United Kingdom now require that all boxes of apples or other green fruits must be strapped or wired. While there are various ways of strapping and wiring, the Fruit Branch, Ottawa, recommends that a wire be placed securely and firmly at each end of the box under the cleats. Railway agents have been instructed not to accept shipments for export unless strapped or wired.

S. B. Chute, of Berwick, N.S., who last year harvested 22,000 barrels of apples from his 320 acres of orchard, expects a larger yield this year. Mr. Chute follows every modern method that stands for quality and production. This year he had two dusting machines on the job and used over 15 tons of dust.

The annual meeting of the United Fruit Companies, Ltd., was held at Kentville, N.S., on June 29. The past year was reported to be the most successful that the company had ever had, the turnover being around \$3,000,000. Officers were elected as follows: Pres., F. K. Bishop; vice-pres., E. H. Johnson; sec., K. L. Pineo; board of management, President Bishop, E. H. Johnson, V. D. Leonard, and Dr. P. N. Balcom.

At the annual meeting of the United Fruit Company, Ltd., Kentville, N.S., held in June, it was decided to put up a U.F.C. box pack, to include the best of between 6 and 12 of the highest quality and best colored varieties. The Berwick Register reports: "By putting up a box pack that is as good as the best from Oregon, and not allowing any but strictly high class fruit to go in the boxes, it was the opinion of the company that, with our better flavored fruit, the Western boxes could be ousted from the markets that are within reach and the barrel trade still be retained in the present markets."

The 45th annual convention of the American Poultry Association will be held on August 10 to 14 at Kansas City, Mo. For official program, write T. E. Quisenberry, Kansas City, Mo.

Every reader of THE CANADIAN HORTICULTURIST is welcome to these columns with articles or letters on any subject that has to do with horticulture in any way.

The hailstorm of July 4 in the Niagara District was greatly exaggerated in the press. The heaviest part of the storm was confined to a very small area near Niagara Falls, and the damage, excepting in the case of a few vineyards and orchards, was not serious.

BRITISH COLUMBIA

Apples in British Market

On July 5, J. Forsyth Smith, Canadian Fruit Trade Commissioner, in the United Kingdom, addressed a large meeting of fruit growers and others at Vernon, B.C. In the course of the address, Mr. Smith said that the markets of Norway, Sweden and Denmark showed a marked tendency for box apples of a red color. Belgium, Holland and France were exporters and trade was prohibited at present on account of exchange. Switzerland also exported apples.

Five ways of disposing of apples in the British markets were indicated by the speaker: (1) consignment to primary centres, (London, Liverpool, Manchester, and Glasgow); (2) consignment to private dealers; (3) consignment to importers at secondary centres; (4) outright sales; (5) through resident sales representatives.

The auction sales at the primary centres were recommended and the process was described by which the apples were thoroughly inspected by the buyers and value was given according to quality. By studying the market and adapting the pack, brand, quality, etc., a shipper was enabled to secure a premium per barrel of three to five shillings over regular price.

Mr. Smith said that the prospects in Great Britain for an apple crop this year were from 25 to 50% of last year's crop. Prospective prices of imported apples were good. Red apples were most popular, Jonathans, Spitz, Winesaps and Wealthy were mentioned as highly prized. Cox's Orange and Yellow Newton had some sale.

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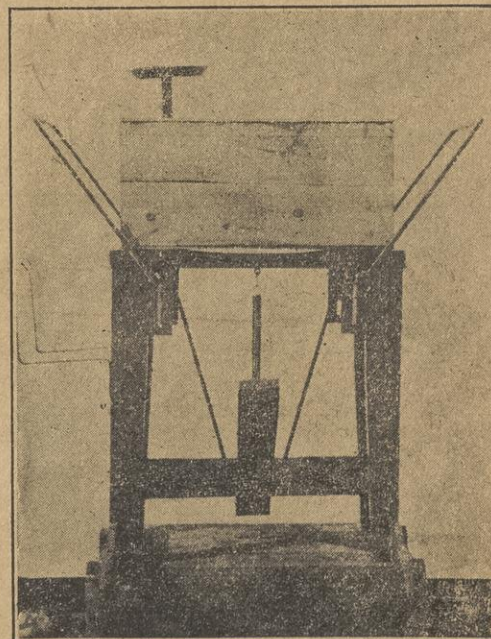
Used by all leading apple packers in Canada, United States and England. It is equipped with a new improved foot, which allows of catching the lapped hoops.

All fruit growers' supplies carried. Ladders, felt pads, rackers, etc. Write for prices and complete information. Special quotations to associations.

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This is one of the famous "Daisy" Apple Packer's Outfits. It is light, yet strongly built to meet rough usage. It folds compactly and can be readily carried from place to place in the orchard. It is thoroughly tested for strength and efficiency.

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but McIntosh and Delicious were not appreciated. Large sized apples should not be shipped but used at home. The sizes and prices were given, weight per box being an essential.

The use of corrugated paper in packing was advocated as protection from frost. The results of experiments with and without corrugated paper were given and were much in favor of the former. The demand for box apples was increasing and Mr. Smith believed that the barrel eventually would be crowded out.

The Vancouver Market

R. C. Abbott, Coast Markets Commissioner.

Complaints are made that prices are not high enough, and we believe that prices here on berries have not been as high as Calgary prices, for instance, but let me ask: Do you ship the same class of stuff to Calgary or do you send here the crate your shipper turns down as not fit for Eastern markets? This is for those that the cap will fit. One has to be reasonable and a dealer cannot be expected to return as high a price for half-filled crates or rotten stuff as good stuff. Some growers boast that they get just as good returns. If this is the case, then the dealer is not honest as he has to steal from some honest shipper. We believe that prices this year will be governed by grade and quality more so than ever, as the high prices will warrant no other method of trading. It would be a good thing, under present market conditions, for the grower to market every ounce of stuff, but be satisfied on receiving its value and do not expect to get a "gold mine" for cull products.

(The above is published in order that it may reach all, as there may be some who neglected writing us "love letters" in regard to "poor prices." Let us give a definition of the last two words as we see it. "Poor Prices" mean the money value remitted for ungraded products received in the following condition: "Immature," "half-filled packages," "put one over," "camouflaged," "two-faced." By the latter, we mean "over-faced" farm products sent to any market.)

In our six years' work, we have taken particular notice that when farm products are cheap many growers unload everything—good and bad—and they say "it won't pay to grade it." When the price is high, the same thing happens and they say "we will get just as much for it as if we graded it as the market is bare." These two cases are very conspicuous. It is an undisputable fact that the best graded farm products come forward when the prices are uniform, stable and profitable to the grower.

WESTERN PROVINCES

Official Horticulturists

The third annual convention of the Official Horticulturists' Association of the Northern Great Plains was held at University Farm, St. Paul, Minn., July 6 to 8. The sessions, which were attended by representatives from the various parts of the plains' regions, both of the United States and Canada, were most successful throughout, and demonstrated, very clearly, that an organization of this nature has a most important mission to fill in this region. One of the fundamental problems of the plains' region is the question of hardiness. This and other related problems came in for discussion. The meetings were presided over by the president, Prof. F. W. Broderick, of the Manitoba Agricultural College, Winnipeg.

Prof. LeRoy Cady, of the horticultural department, Minnesota College, gave an interesting talk on "Successful Hardy Ornamentals and Hedge Plants in Minnesota." Prof. Cady was followed by W. T. Macoun, Dominion Horticulturist, Ottawa, on "Hardy Ornamentals of the Prairie Provinces of Canada." These valuable papers, which caused a most interesting discussion, were dealt with jointly.

Mr. Wilson, of the Federal field station at Mandan, N.D., gave an interesting outline of the results of the work in tree planting throughout their region. F. E. Cobb, of the same station, followed Mr. Wilson with a discussion of the north-west poplar. These papers brought out much interesting information relative to dry land problems. Dr. Ruth, of the Illinois station at Urbana, gave an outline of the work at Urbana, and Prof. S. A. Beach brought greetings from the State of Iowa.

F. A. Yeager gave an outline of the work in horticulture at Fargo, N.D., where some work in vegetables improvement is being carried on. Mr. Krantz, of Minnesota station, gave an outline of some interesting studies in degeneracy of the potato which were being carried on under his directions at University Farm. A paper was read on "The Wild Fruits of Manitoba," by Prof. F. W. Broderick.

Prof. W. G. Brierley, of the Minnesota station, outlined the work that was being done in Minnesota in the cultivation of the blueberry. Prof. Frank E. McColl outlined work which was being carried on in horticulture at Brookings, S.D., and J. H. Beaumont, of the University of Minnesota, discussed "Fruiting Types in the Plum."

On July 7, the party visited the state's



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fruit breeding farm at Zumbra Heights. Supt. Charles Haralson briefly outlined the work that was being done. Numerous crosses and selections were being made with plums, apples, cherries, raspberries, strawberries, and other fruits. The party visited the various parts of the farm to examine the material which was growing there. A point of exceptional interest was the fruit breeding greenhouse, in which was found growing a number of fruiting plants and trees in tubs. Practically, all the crossing work at Zumbra Heights is done under glass. Later, short addresses were given by Profs. Beach, Macoun, Brodrick, and Dorsey.

On July 8, at University Farm, the following papers and addresses were given: "Artificial Freezing Tests," by Prof. G. F. Potter, University of Wisconsin; "Some Phases of Bud Injury in the Plum," by Prof. P. D. Strausbaugh, Wooster College, Ohio; "The Reaction of Certain Plum Crosses to the Test Winter of 1917-18," by Dr. M. J. Dorsey, University of Minnesota. These papers were of a technical nature, and gave much interesting information on the question of hardiness.

F. L. Skinner, of Dropmore, Man., gave an outline of the native fruits of his district. The following papers were also given: "What the Hardiness Tests of Fruits at Crookston Have Shown," by Prof. T. M. McCall, Crookston, Minn.; "Prunus Nigra," by W. R. Leslie, Supt. Trial Station, Fort William, Ont.; "Methods of Determining the Value of New Seedlings," W. T. Macoun, Dominion Horticulturist, Ottawa; "Forestry Seedbed and Nursery Methods," by W. H. Kenety, Supt. Forest Experiment Station, Cloquet, Minn.; "Fruit Breeding at Charles City," by Prof. Lance, State Trial Station, Charles City, Iowa.

That evening a short business session was held. On an invitation from Mr. Macoun, it

was decided to hold the next meeting at Ottawa. The following officers were elected for 1920-1921: Pres., Prof. M. J. Dorsey, University of Minnesota, St. Paul; vice-pres., W. T. Macoun, Ottawa; sec., W. R. Leslie, Experimental Station, Fort William, Ont. Directors—Prof. W. H. Alderman, University of Minnesota, St. Paul; Prof. L. A. Beach, Iowa State College, Ames; Prof. N. E. Hansen, University of South Dakota, Brookings; F. E. Cobb, Trial Station, Mandan, N.D.; Norman M. Ross, Forestry Station, Indian Head, Sask.; Prof. F. W. Brodrick, Winnipeg.

Changes at C. N. Exhibition

Important changes have been made in the department of floriculture at the Canadian National Exhibition for 1920. It has been felt for a long period that the prize list did not conform to seasonal conditions, and the committee has finally announced a number of revisions that should result in a more representative and greatly improved display.

It has been decided to stage all made-up floral work on the opening day, Saturday, August 28, instead of Tuesday, as heretofore. Increased prizes to the extent of \$125 have been appropriated for displays. Palms have also undergone a substantial revision upwards, as have the ferns in groups. Single specimens of ferns must be exhibited in pots of not less than 12 inches in diameter, while sets of six are to be shown in pots of not less than 10 inches. The prizes for hanging baskets have also been increased.

The competitive classes for decorative dinner classes have been stricken out, and the prize money, \$125, appropriated for Mr. McVittie to purchase the necessary

decorations and set up a table as a model. A sweeping elimination was made in the case of cut flowers. Asters remain, but dahlias are out with the exception of displays. Gladioli remain. Asters and collections of dahlias and gladioli will be repeated the second week.

The competition for rock gardens also disappears, but the money, \$200, has been set aside for the Sheridan nurseries to spend on a model rock garden.

It was decided to purchase considerable new equipment in the way of pedestals, vases, pot coverings and table coverings.

Blueprints of plans and specifications for a frost-proof apple warehouse have been prepared by the Dairy and Cold Storage Branch, Ottawa. Fruit growers' associations and fruit growers individually who contemplate the building of storage houses should send to Ottawa for copies and further advice.

Prof. John Macoun, one of Canada's leading botanists, who for many years was a resident of Ottawa, died on July 18 at his home in Sydney, B.C. He was 90 years old, and was known from coast to coast as one of the great contributors to the science of botany. Mr. W. T. Macoun, the Dominion Horticulturist, is a son.

British Columbia McIntosh Reds, Jonathans and Delicious made a hit in the United States markets, say a report in the Vancouver Province. Repeat orders are being booked by the Okanagan fruit shippers. E. C. Skinner, manager of the Mutual Fruit Company, said: "Our apples are firmer and hold up better than those grown in the South, which is all in our favor."

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CROPS and MARKETS

July Market Conditions

Furnished by the Fruit Branch, Ottawa.

St. John, N.B., (July 19).—There has been very little change in prices of imported fruits during July; plums, peaches and tomatoes have been very firm. On account of scarcity and high prices in the American markets the quantity of green vegetables imported has been much smaller than usual. This has curtailed business to some extent. Native grown strawberries have been quite plentiful, the price ruling around 18 to 25c. a box for good reliable packs, while the smaller fruit (due to dry weather) has sold at from 15 to 18c. Raspberries are now coming on the market, selling from 28 to 35c. a box.

Domestic potatoes are quite plentiful and the price holds firm at \$5 a bushel. The season is one week later than usual. Onions scarce. Trade is good in all lines of fruits and vegetables.—W. S. Potts, Inspector.

Montreal, (July 19).—Market conditions are very encouraging and in most instances prices good. The local market in every respect remains firm and business good. Early potatoes, onions, cucumbers and other field and garden products are being sold in fair quantities, prices remaining fair.

Owing to the fact that the strawberries in the Province of Quebec were to a great extent winter-killed, those coming in from Ontario found a ready market and good prices. Ontario strawberries made their last appearance on the market about July

17. New Brunswick berries are coming in now, in good condition, with the market remaining firm, and prices very satisfactory. Fruit from California is on the market in fair quantities, but the quantity received this year to date is less than in former years. Prices for this fruit have reached a very high level, and in some cases touched record prices.—E. R. Robinson, Inspector.

Ottawa.—The season for small fruits, which opened on this market June 25, has been very brisk. The high price of sugar has not diminished the sale of these fruits as much as one would imagine, judging by the ready sale at advancing prices of all fruit in good condition. Strawberries are over, having sold at prices ranging from 18 to 30c. a box. Currants and Gooseberries are still being offered and bringing good prices. Raspberries are not at their best and command a price from 35 to 40c. a four-fifths quart box. The cherry crop was never finer in Western Ontario than this season, and so far prices have been very good and the sales brisk. Red, white and black cherries are on the market in profusion. Early Richmonds sold at 60 to 75c. a six-quart basket and at \$1.25 to \$1.50 for 11 quarts; Montmorencies, \$1 to \$1.10, six quarts, and \$1.50 to \$1.75, 11 quarts. Sweet cherries sold readily from 90c. to \$2.75 a six-quart basket, depending on quality and variety. Most of the small fruits have arrived in good condition.

Boxes and baskets have been exceptionally well filled this season and the majority of the growers have stamped their names on the packages. The growers this season are to be highly congratulated with regard to the marketing of open packages and the filling of the same.—C. H. Snow, Inspector.

Toronto.—Strawberries sold from 20 to 22c. a box for good sound fruit and where

the boxes were well filled; some exceptionally poor and wet, sold as low as 10c. The strawberry season was prolonged on account of plenty of moisture. Red raspberries scarce, selling from 30 to 40c. a box; red currants, 75c. for sixes, \$2.50 for elevens; black currants, \$1.50 for sixes, \$2.50 to \$3 for elevens; cherries, 65c. to 75c. for sixes, and \$1 to \$1.25 for elevens of the early sour varieties; Montmorencies, \$1.35 to \$1.65 for elevens. Several shipments of exceptionally good Elkhorn and Windsor cherries sold from \$2.50 to \$3 for six quart baskets and \$5 for elevens; these baskets were well filled and the fruit of the best quality, and buyers were scrambling to get them. Gooseberries are selling at \$1.50 to \$2 for elevens, black caps, 35c. a box. Two cases of Lawton berries received during the week ending July 24th sold for 35c. a box.

New potatoes, domestic grown, are becoming more plentiful and are selling from \$4.25 to \$4.50 a bushel, the market having been largely supplied by imported stock. Tomatoes are selling from \$3 to \$3.50 a 11-quart basket, but with heavier shipments, which are expected shortly, prices will decline.—H. W. McQuoid, Inspector.

Winnipeg, (July 21).—Local growers are supplying the demand for vegetables, particularly green bunch vegetables. Some few local potatoes are coming in, but very slowly. Leamington (Ont.) tomatoes, which arrived this week, are very fine. They sell wholesale for \$4.50 a 11-quart basket and are better value than the crates of imported tomatoes at \$4, which have been of very poor quality.

Apples are cleaned up, only a few being in stock; a car of faced and filled Transparents from Washington expected any day now. British Columbia cherries have been on the market, two cars arriving this week

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.

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in good shape, but so far the market is slow. First car British Columbia raspberries arrived this morning; the berries were opened in Regina and some two or three hundred taken out and the balance of the car arrived in first class condition.—F. H. Steele, Inspector.

Poor Express Service

During the two rush weeks on cherries in the Niagara district about the middle of July, the Canadian Express Company did not have sufficient help and equipment to handle the fruit fast enough to make connections. As a result, much of the fruit arrived in Montreal and Ottawa the next afternoon instead of early in the morning. It thus missed the buyers, who do most of their business in the morning and some of it had to be held over until next day. This meant loss to both growers and buyers. When the fruit arrived in the afternoon, it had to be handled very quickly and suffered as a result. Much of it lost in appearance and quality and brought lower prices. In Toronto also the Express Company did not have adequate facilities for transferring fruit for Eastern shippers.

Both these matters were improved towards the end of the month, but after the damage had been done to the cherry industry. Extra trains were put on to pick up the fruit in the Niagara district and a special fruit train is being run through from Toronto to Montreal.

The customary enormous crop of peaches in Georgia did not materialize this year. Lateness of the season and the presence of much defective fruit, due to insects and rot, caused a falling off in the actual crop available for market.

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Grades for Peaches

A. H. Culp, Vineland Station, Ont.

Government grades are desirable for peaches, but this is a very difficult problem to handle, and should be gone into very cautiously. It would be unfair to set one standard for all varieties.

In grading, I think there should be a "Fancy," a "No. 1 Commercial," and a "No. 2." The grade should be plainly stamped on each package by the grower, and should not be removed until it reaches the consumer. At present the dealer profits more by a high quality pack than the grower.

Niagara District Storms

The hailstorm in the Niagara District on July 3 was not nearly so destructive or so extensive as reported in the press. It did considerable damage in one part of the district. It started about half-way between Jordan and St. Catharines and travelled in a south-east by east direction to the Niagara River. The 15-mile creek on the Queenston-Grimsby stone road seemed to be the starting point and the storm gradually widened until it covered a strip about three miles wide by the time it reached Thorold.

G. H. Welstead, president of the Niagara District Grape Growers' Association, told THE CANADIAN HORTICULTURIST that in Stamford township grapes were injured about 30 per cent., and peaches and plums were even more badly affected. "Grapes were knocked off the vines," he said, "and many of those that were left will not be of good quality. Some of the peaches that were hit are rotting on the trees and others less affected have a lump of gum on the side, which will make them grade poorly. Plums and apples show bad spots." Little or no damage was done in other parts of the district.

On July 23 a severe rain and wind storm, with hail in spots, swept the Niagara district from Hamilton to the Niagara River. Rain fell in torrents, and did considerable damage by soil washing. The wind caused some breakage to trees, especially old, heavily-loaded peach trees that had been weakened by the severe winter of 1917-18 and by other causes. In some sections the hail marked the fruit. Considering the great severity of the storm, however, the actual damage done was wonderfully slight.

Graded and Culled

On invitation from Director E. F. Palmer, representative fruit growers of all part of the Niagara District, between Burlington and St. David's visited the Horticultural Experimental Station at Vineland Station, Ont., on July 28, and spent the afternoon examining the experimental and plant breeding orchards and plantations. The visit will be reported in next issue.

J. Fred Carpenter, Dominion Fruit Inspector for the Hamilton-St. Catharines District, expressed the opinion to THE CANADIAN HORTICULTURIST recently that growers should be more particular about covering climax baskets. He said that two hooks should be used on each side and one hook on each end of covers on 11-quart baskets and that one hook should be used on each

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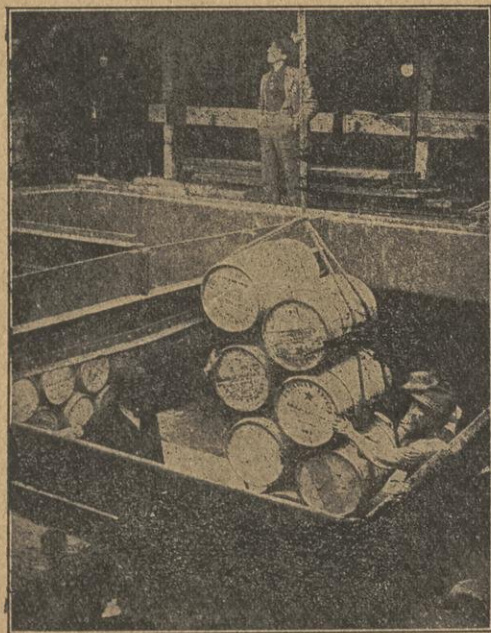
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side and end of 6-quart baskets, excepting perhaps in the case of grapes, during the rush season. These extra hooks prevent pilfering and make the basket firmer and better in appearance.

Circular B. I., entitled, "Fruit and Fruit Packages," issued last month by the Fruit Branch, Ottawa, contains sections of the Inspection and Sale Act, with notes of special interest to fruit growers and shippers. The requirements of the Act are clearly given in plain language. Copies may be had from the fruit inspectors or on application to Fruit Branch, Ottawa.

A large fruit show will be put on in connection with Horticultural Exhibition that is to be held in St. Catharines next month.

At a representative meeting of fruit-growers and shippers, coming from various parts of the province and held at Presqu' Isle Point, near Brighton, last month, a resolution was passed, after much discussion, asking the transportation companies to reduce the ocean rate of \$2.20 a barrel to \$1.80. It was pointed out that owing to the exceedingly high cost of barrels and also of labor, it would be difficult to handle the large apple crop with any measure of success unless such reductions were made.

Nursery Control

Editor, THE CANADIAN HORTICULTURIST:—Your July issue takes up matters of real interest. One, for instance, is the Act re nursery control. I know of no greater setback to the fruit-growing interests than the persistent sending out of stock untrue to name by nurserymen supposed to be reliable. Errors will occur, and I do not endorse the

Act as it stands, yet something should be done to punish carelessness, if not absolute fraud, by nurserymen supposed to be reliable and to stop the selling of trees just for profit.

We all know that the errors Mr. E. D. Smith mentions are liable to happen once in a while, and can be overlooked, but the sending out of trees of all varieties not true to name is all too frequent a source of great loss and the cause of a ragged orchard. Mr. Smith goes only into one half the nursery tree business as practised in Canada. The truest part about his letter is the last paragraph, headed "Present contract, short and plain." Yes, it is short and plain, and to the point, that those who sign it are put wholly into the hands of the nurseryman.

Mr. Editor, I wish not only to see this thrashed out, but I wish to see action that is justice to the nurseryman as well as to the fruit grower. The nurseryman has had it his own way too long. I have been forced to buy my stock from the States, because I find that they are much more careful there. —A. Bonar Balfour, St. Catharines, Ont.

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

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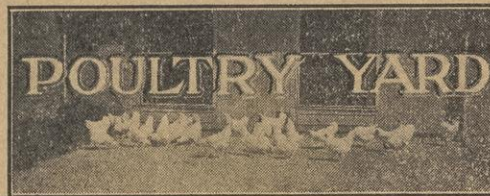
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Poultry Pointers

The hen's greatest egg-producing periods are the first, second, and third years, depending upon the breed. The heavier breeds, such as Plymouth Rocks, may be profitably kept for two years; the lighter breeds, such as Leghorns, three years.

The poultry yard should be stirred or spaded frequently if not in sod. This will not only tend to keep down any odors which might arise, but also allow the droppings to be absorbed into the soil more readily and therefore keep the yard in better condition for the hens.

The summer months should be made to produce the maximum results. The young chicks should be kept growing, and every hen, so far as possible, made to "do her bit." Instead of killing off all breeders, keep those that will produce summer eggs until they begin to moult in the fall before killing them. Kill only the non-producers, such as old hens and weaklings.

During the hot weather see that the eggs are gathered two or three times a day. Leave the eggs in the sun as little as possible.

Now is the time for a thorough house cleaning of the poultry house where the hens were last winter. Take out all furnishings, and leave them in the sun for several days. Thoroughly scrub and clean the house, disinfect with Zenoleum or other

good disinfectant, and give a new coat of whitewash before the furnishings are replaced.

Get After the Mites

If the best results are to be expected from the poultry flock, the buildings must not be allowed to become overrun with mites. Mites are more troublesome and more harmful than lice. They do not live upon the birds like the lice, but during the day hide in the cracks and crevices of the roosts and walls of the house, and at night they come out and get upon the fowls. They suck the hen's blood, and if allowed to become plentiful—as they certainly will if not destroyed—will seriously affect her health and consequently her ability to lay eggs.

Mites may be eradicated by a few thorough applications of kerosene or some of the coal-tar products which are sold for this purpose, or crude petroleum, to the interior of the poultry house.

The commercial coal-tar products are more expensive but retain their killing power longer, and they may be cheapened by reducing with an equal part of kerosene. Crude petroleum will spray better if thinned with one part of kerosene to four parts of the crude oil, according to poultry specialists of the United States Department of Agriculture. Both the crude petroleum and the coal-tar products often contain foreign particles, so should be strained before attempting to spray. One must be sure that the spray reaches all of the cracks and crevices, giving especial attention to the roosts, dropping-boards, and nests, and the treatment should be repeated two or three times at intervals of a week or 10 days.

The Western Fair

London's popular exhibition will be held this year Sept. 11 to 18. The prize list is a very attractive one, especially in the poultry department; \$2,800 is offered in prizes in this department alone, and should draw a big entry of the best birds in Ontario. Poultry breeders and exhibitors have come to the conclusion long ago that a win at London's exhibition means considerable. Look over your birds and bring the best you have, for you will be in fast company. Prize lists, entry forms and all information from the secretary, A. M. Hunt, London, Ont.

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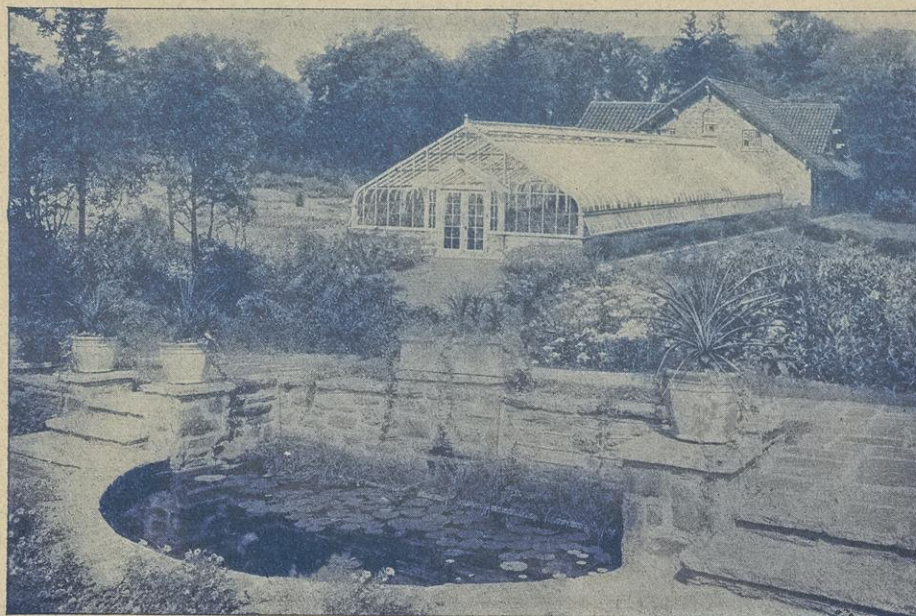
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Add 3c each, 20c per dozen for postage.

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Double La Grandesse (Pure White).
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La Reine (White Shaded Rose)80	5.00
White Hawk (White)85	5.50
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Prize Single Mixed65	4.25

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Prize Double Mixed65	4.75

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Single (Yellow)	\$0.55	\$3.75

SNOWDROPS

Snowdrops (Single), Elwes Giant35	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.

W^M. RENNIE CO. LIMITED
TORONTO

Also — MONTREAL WINNIPEG VANCOUVER

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