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Color and Quality First in Apples

PROF. F. C. SEARS' contention that fruit growers would be well advised to grow only red varieties of apples in future, as expressed by him at the convention of the Ontario Fruit Growers' Association, was discussed by a number of nurserymen and fruit growers in the April issue of The Canadian Horticulturist. Others of Canada's best-known authorities on fruit culture were asked their opinions. Prof. J. W. Crow, O.A.C., Guelph, wrote:

Quality Counts, Not Color Alone.

"Professor Sears' statement as to the preference of the public for red apples is, of course, correct, but I would not go so far as to advise the planting of red varieties only. I should be inclined to approach the problem from another standpoint entirely and to say that the marketing of varieties deficient in quality is detrimental to the apple trade, regardless of the color of the fruit. The public is hungry for good apples and I will go so far as to state that it would pay the apple growers to advertise the quality of the better varieties and to educate the public away from this color preference.

"It is the quality of the McIntosh and Delicious apples which is bringing them into favor on all markets and causing them to be so widely planted. I am delighted that such is the case, because every good apple of these varieties sold creates a market for more. The public appreciates the difference between the quality of the McIntosh and the Baldwin. Neglect of the quality factor in our Canadian apples is responsible in a large measure for the falling off in the apple trade. For many years the Province of Ontario was represented in European markets principally by the Ben Davis variety. It is unthinkable that we could ever expect to expand our market on the reputation of this variety.

"I do not know whether the readers of The Canadian Horticulturist realize fully the extent of the decline of apple growing in the Province of Ontario. I do not know either, whether they are aware that there is going on at present in several important apple producing centres of the United States very heavy planting of apple trees. Incidentally, it might be pointed out that, as a result, we in Ontario are certain to be up against much more severe competition in the future from United States points. The matter raised by Professor Sears is, I believe, fully answered in the fact that the varieties being most heavily planted are high quality sorts, among which yellow and green varieties, such as Grimes' Golden and Newton Pippin, figure conspicuously along with such red varieties as McIntosh, Delicious, Jonathan and Winesap."

The red apple desire starts early. Here's a basket of Fall Pippins that not only pleases the eye, but whets the appetite as well. There's a good demand for summer and early fall apples in our cities, if well grown and attractively marketed.

Mr. W. T. Macoun, Dominion Horticulturist, Ottawa, wrote:

"I endorse what Professor Sears stated. By far the largest majority of consumers want red apples and no others. Four apples which I would recommend most for this part of Canada are Duchess, Wealthy, McIntosh, and Fameuse, with a smaller number of the last than the other three, as in very cold weather they suffer badly. Two other sorts which I am now recommending as being very hardy for this district, and desirable, are Dudley and Okabena."

From British Columbia.

A British Columbia grower thinks that "Professor Sears must have completely forgotten Yellow Newton Pippin. This variety is a long keeper of high quality. The tree is perhaps not very hardy in its earlier years, if extraordinarily cold winters should come. The results for Newtown Pippin of the crop of 1919 will, we think, be higher than any variety other than Delicious.

"I remember," he continues, "that years ago Professor Sears was smitten with the desirability of the Grimes Golden. I can quite imagine that he has been in the long run disappointed with that variety. It is very beautiful, but, as the tree gets larger, the apples almost invariably become too small. It seems almost impossible to export them without their arriving in a bruised condition.

"There may be other yellow apples suitable for other districts in Canada besides the Newtown Pippin, but I refer to it chiefly, as if Professor Sears wishes to bar out all yellow varieties, a serious loss would result to grower, shipper and consumer.."

Fertilizers in Nova Scotia

W. S. Blair, Experiment Station, Kentville.

Fertilizer for our extensive apple areas is a matter of great importance. Considering that we have 30,000 acres in orchard in the Annapolis Valley and assuming we were to use 100 lbs. of nitrate of soda per acre, we would require 1,500 tons. If we use 500 lbs. of slag per acre, we would require 7,500 tons of this material. If we use 300 pounds of acid phosphate per acre, 4,500 tons of this fertilizer would be required. Similarly, if one ton of limestone were used per acre, 30,000 tons would be required for our orchards alone. The above amount per acre, 100 pounds nitrate of soda, 500 pounds of slag, or 300 pounds of acid phosphate, is probably the least annual amount per acre we could hope to get along with. If judgment is used, such annual applications will return a good profit. However, it may be desirable to increase this materially to put the orchard in good condition to start with.

It might be interesting to state that the United Fruit Company handled 344 tons of nitrate of soda, 1,410 tons slag and 784 tons acid phosphate, 925 tons mixed fertilizer and bone and 1,370 tons limestone. It is fair to assume that one-half the fertilizer at least is handled by this company. When we consider that the potato and other crops are being supplied from these amounts as well as the orchard we are forced to the conclusion that on the average our orchards are not receiving the amount as indicated above.

Tests made at Berwick, covering seven years on a block of Golden Russet, on poor sandy land, indicate that 600 pounds per acre of a fertilizer containing four per cent. nitrogen, equal to 150 pounds nitrate of soda, was as profitable as 900 or 1,200 pounds per acre containing four per cent. nitrogen. The striking feature of this test was that the average yield per tree on this block of 39 Golden Russets was 50.9 pounds in 1913, the year the experiment started, and since that time the yield per tree has been: 1914, 177.6 pounds; 1915, 187.8; 1916, 227.8; 1917, 208.2; 1918, 256; and 1919, 370.5. This orchard, we are told, never yielded profitable crops up to 1913 and since that time, except 1918, when there was very little bloom and only 35.6 pounds fruit per tree, the average yield has been 234.3 pounds per tree.

The tendency during the past few years has been to use more nitrogen. This is a move in the right direction and the cheapest form of this element is nitrate of soda, of which 100 to 150 pounds per acre should be ample. For phosphoric acid, 500 to 800 pounds of slag should meet all requirements, and, if acid phosphate is used instead of slag, 300 to 500 pounds should be enough. Results would indicate that a better growth of tree and foliage is secured where lime is used, and certainly, leguminous crops cannot be successfully grown on many soils as cover crops unless it is used. Unlike the other fertilizers, the annual application of lime is not necessary. It seems desirable to use two tons as a first application and thereafter one ton every three years. Moderate annual applications of nitrogen and phosphate are desirable rather than large amounts one year and small amounts another.

Orchard Fertilizers Pay

Experiments in apple orchard rejuvenation, conducted in southern Ohio sections, show a gain of 80 barrels an acre as an average for a five-year period where fertilizers have been used to stimulate the apple crop. With apples selling at $7 a barrel this means an increase of $560 an acre. The cost of fertilizing is about 35 cents a tree, or $12 an acre.

The fertilizing program now recommended for orchardists consists in the application of five pounds of nitrate of soda, (or four pounds of sulphate of ammonia) and five pounds of acid phosphate, applied in a circular form under the outer extremities of the branches of the trees.

The grass-mulch system, which consists in mowing the grass produced by these fertilizers and allowing it to lie under the trees where cut, is also favored. It has been found that the tillage-cover-crop system does not produce larger yields than the grass-mulch method, while the cover-crop system is more expensive in operation.

Tests in orchard fertilization which have been carried on for more than ten years by the Ohio Experiment Station have practically revived a lost industry in southern Ohio, the state regaining the place in apple growing which she held 50 years ago.

Fertilizer Tests

The Ohio Agricultural Experiment Station, which has been conducting orchard fertilizer tests since 1910, showed in its bulletin No. 301 that, in an orchard of Ben Davis apples, by adding 12½ pounds of high-grade fertilizer per tree, the yield was increased from 20 barrels to 49 barrels per acre. The same treatment the year following showed a yield of 46 barrels from the same number of trees fertilized, against 9 barrels from an equal number unfertilized.

As an average of three years' work, the Main Experiment Station reports on the results of fertilizer tests at their Highmoor Farm as follows: Without fertilizer since 1912, the average yield of apples per tree of Ben Davis was 135.9 pounds. The average yield per tree where the trees received 7.2 pounds of a 5-8-7 fertilizer was 143.1 pounds. The average yield where the trees received 14.4 pounds of 5-8-7 was 166.6 pounds.

The Crimson Beauty

W. T. Macoun, Dominion Horticulturist

The Crimson Beauty apple, if it were better in quality and a better shipper, would be a prize indeed. As it is, it is proving a profitable variety to a few who have bearing orchards of it.

This variety was originated by the late Francis Peabody Sharp, at Woodstock, N.B., but outside a few orchards in New Brunswick and a few in Nova Scotia, it is practically unknown, although one grower has made it well known in the Annapolis Valley.

Its chief merit is in its extreme earliness in colouring. At Ottawa, where we have many hundreds of varieties bearing, it is the first red apple to colour. In 1918, it was coloured at the end of July, and was quite ripe before the middle of August.

It, like most of the other early varieties, is too poor in quality to start the season with, and something better is needed. It is acid and has practically no flavour. It is a poor shipper and must be handled carefully for best results. At Ottawa and at Macdonald College, Quebec, where it is being tested, it has not borne well so far, although trees have been planted about twelve years.

Fertility must be kept up. Manure can be readily applied during the winter months, direct from the stables, if you are fortunate enough to have sufficient on the place, or it may be teamed from a distance much more economically on sleighs than on wheels. Most of our orchards require more liberal applications of manure than they have been getting.—Dr. J. A. Grant, Thedford, Ont.

Rotting of the heart of celery in storage is induced by lack of ventilation, too warm a cellar, and by watering the plants from above. These conditions should be avoided to lessen this trouble. —W. T. Macoun, Ottawa.

In the Niagara District in September

By the Editor

THIS should be an exceptionally good year for increasing and developing the export pear business. Mr. J. Forsythe Smith, Dominion Fruit Trade Commissioner to the United Kingdom, who addressed meetings of apple growers in various parts of Canada during July and August, told the editor of "The Canadian Horticulturist" that the English pear crop was an absolute failure this year, and that the way was open, as never before, for bringing Canadian pears to the attention of the British consumer. While several of our pear men had been exporting pears with much success for some years, there was an opportunity this year of greatly increasing the trade. Mr. Smith thought that no other class of Canadian tender fruits had a brighter outlook on the British market.

A Practical Outlet.

In regard to export and to the pear business in general, a prominent grower and dealer in the Grimsby district, who asked that his name be not published, said: "Interest in exporting pears to Old Country markets was increasing up to 1914, but rates and transportation difficulties during the war interfered with shipments. This, however, is a practical outlet to be kept in mind.

"The demand in Canada for pears earlier than Bartlett is negligible, but this variety heads the list of important fruits during its season. California and other Pacific Coast states can deliver Bartletts to our markets and canning factories in perfect condition. Unfortunately their shipments overlap our picking season, and we often find local markets not ready for our pears.

"Last season large quantities of Canadian Bartletts were stored and later offered on a surfeited market with consequent loss to shippers. Our 11-quart basket is not all that could be desired for storing pears. This package is too fragile for stacking in large quantities, and very frequently the fruit does not come out in attractive condition.

"For future planting, our fruit growers would do well to remember that we are producing only a part of the Bartletts used in Canada; actual figures might reveal that it is really a small percentage."

A Good Crop to Have.

H. K. Griffith, Grimsby, thought that pears were a good crop to have these days. They might be planted more extensively because there did not seem to be so much blight in the country now as formerly. Too much and improper pruning, with little or no attention to the disinfecting of tools, had helped to spread blight, but the growers now knew better.

"If I were going to plant an orchard of pears, I would plant Bartletts almost entirely," said Drysdale Carpenter, of C. P. Carpenter & Sons, Winona. "I would have a few other varieties for special seasons and purposes, but not many. Bartlett is the best pear grown—for quality, productiveness and money." Mr. Carpenter stated that pear conditions were better in the district between Stoney Creek and Grimsby Beach than anywhere else in the Niagara Peninsula. Blight had practically cleaned out the pear orchards from Beamsville to Niagara Falls.

A vineyard of Catawba and Vergennes grapes planted in rows alternately. These varieties are standard red grapes in the market. The Catawba in some seasons and districts does not ripen fully before frost comes. The Vergennes is a certain cropper and sometimes overbears. Photo taken in vineyards of Lt.-Col. H. L. Roberts, Grimsby, Ont.

Picking and Packing.

Pear trees are gone over at least three times when picking in the orchards of E. J. Woolverton & Sons, Grimsby. This is done in order to have each picking of a uniform stage of maturity. H. C. Woolverton told the editor that they layer all pears, if not too large, in 11-quart baskets, first grading them into No. 1, No. 2, and No. 3. The packing was done, not as usual layer by layer, but by packing one end of the basket first and moving across the basket obliquely until filled; this method made packing easier and gave a smoother surface or top. Mr. Woolverton advised the planting of Bartletts above all other varieties; an extensive grower would have also a small proportion of the best other varieties, including a few trees of Seckels. He did not think much of Kieffer, excepting as a pear to plant where no other variety would grow.

Fall Spraying of Peaches

Prof. L. Caesar, O.A.C., Guelph.

Sufficient tests have, in our opinion, now been made to justify growers, who wish to do so, spraying whatever portion of their peach orchards they desire in the fall of the year. All those who have reported on their tests so far, and who had done thorough work state that they have obtained excellent results from fall spraying. Therefore, we would recommend that each grower satisfy himself on this point by spraying a portion of his peaches this fall after the leaves are off and leaving the remainder until next spring, and then comparing the results next year. The same strength of lime-sulphur should be used as in the spring and, of course, just as much care taken to see that no part of the tree is missed.

It is a little more difficult to do thorough work in the fall than in the spring because the trees have not been pruned. Nevertheless, it is a great advantage to have some of the spraying over and avoid the rush that a wet spring often causes, and also the risk of not being able to treat the whole orchard. Fall spraying of peaches will control the San Jose scale in addition to the leaf curl.

Small Versus Large Hives

C. B. Gooderham, Ottawa.

DURING the past year there has appeared in the various bee journals several articles discussing the merits of some of the hives now in use among beekeepers. Those that have received most attention are the eight, ten, and twelve-framed Langstroth and the Jumbo hives. The latter is two inches deeper than the first three mentioned. Judging from these articles, it would appear that, although the two smaller hives have their supporters, there is a growing tendency towards the larger hives, and while there is a diversity of opinion as to which is the better, the majority seems to favor the deeper hive.

During the past two or three years the writer has had the opportunity of making a few observations in several small apiaries in which the eight and ten-framed Langstroth hives are used; also of making a few notes on colonies that were transferred to Jumbo hives last spring. It is with the object of placing these few notes before beekeepers that this article is written.

Seasons of 1918 and 1919.

The season of 1918 was a good one for the bees to build up and prepare for early swarming. Colonies in which the queen was confined to a single eight or ten-framed Langstroth hive were either swarming or preparing to do so during the latter part of May, when nectar was coming in from dandelion and fruit bloom, and again at the beginning of the main flow from clover in June. These preparations for swarming, however, did not occur in colonies where the queen was allowed to go up into a second full depth super, but did occur where only a shallow super was used.

The same thing occurred in 1919. Wherever the brood nest was enlarged by giving the queen a second full depth chamber, swarming was brought down to a minimum. It was also noted that these colonies having the double brood chamber were a good deal stronger at the commencement of the clover flow than those having only a single brood chamber. This, no doubt, was due to the queens not being restricted in egg production and to less energy being wasted in preparations for swarming.

Aim at Maximum Strength.

Every beekeeper knows that to produce a maximum crop of honey he must have his colonies up to a maximum strength just at the beginning of the main flow of honey. To do this he must prevent natural swarming and encourage the queens to their full egg-laying capacity so as to produce the greatest number of bees possible in time for that flow. The small hive, however, encourages swarming, it becomes clogged with brood, pollen, and honey, and overcrowded with bees, and just at the time when we want our colonies at full strength they become weakened by losing practically all their working force in the shape of a swarm. If, however, the swarming is checked by manipulation other than enlarging the brood nest, we do not then remove the restriction which the small hive places upon the egg-laying capacity of the queen. A prolific queen, well fed by her bees, will develop eggs faster than she can find cells for them in the small hive, and large numbers of eggs may be lost even if the queen is deprived of cell room for only a short time. The writer has often seen a queen lose eggs when forced to hunt for an occasional empty cell. A loss of eggs when preparing for the honey flow means a loss in the honey crop. To reduce swarming and to get the largest number of bees in time for the honey flow we must give our queens more breeding space, that is, a larger brood chamber.

Enlarging Brood Chamber.

As I have mentioned before in this article, there is a tendency among beekeepers to use a larger brood chamber, but there is a difference of opinion as to how it should be enlarged. Those who are in favor of the smaller eight and ten frame hives increase the size of the brood nest by giving a second chamber. Where weekly examinations are practised, this method has its objections, as it entails too much manipulation because of the double number of combs that must be handled. It also places a check on the queen by forcing her to pass from one chamber to another. The two larger hives speak for themselves; the brood nest is enlarged in one case by giving a greater number of frames in a wider hive, and the other by giving the same number of combs as are used in the ten-frame Langstroth hive. These combs, however, are two inches deeper.

Extending Brood Nests.

It is a well known fact that a good queen usually deposits her eggs in circles, beginning at the centre of the comb. With the long shallow comb, this tendency is checked, especially it there are several rows of stretched cells just below the top bar. It has also been noticed that a queen does not deposit eggs as readily in the outside combs as in those towards the centre of the hive, and that she will usually go up into a second chamber in preference to the outer combs. In other words, the queen prefers to extend the brood nest vertically rather than laterally. The wider hive does not allow for this, as the frames are long and shallow. The Jumbo hive, however, allows for a deeper brood nest, giving the queen a greater laying surface without so much travelling from comb to comb. With the wider hive, the regular equipment that a beekeeper may have, such as floor boards, supers and covers, cannot be used. With the Jumbo, however, these may all be used. The wider hive would also appear to be clumsy to handle.

Last Year's Experience.

The colonies that were transferred to Jumbo hives last year fully justified the transfer. Although they were placed on foundation only at the time of the flow from dandelion and fruit bloom, as much honey was produced, and in one case more than in any of the smaller hives. During the month of September the combs were well filled with brood from corner to corner, and there was at least a third more brood in the Jumbo hives. This meant more young bees for the winter, and every beekeeper knows the value of young bees for wintering. In October, at the time of feeding, there was also from ten to twenty younds more honey in the right place over the cluster; this meant less feeding. It has also been proved that a deep brood chamber gives the best results in wintering. In conclusion, then, we may state that:

Some Conclusions.

1. To obtain the maximum honey crop a colony must be at its maximum strength at the commencement of the main honey flow.
2. That the smaller hive encourages swarming and restricts egg production; therefore, is not best suited to produce the strongest colonies.
3. That a larger single brood chamber is desired to reduce swarming and to encourage the queen to her greatest capacity in egg production.
4. That enlarging the brood chamber by giving a second chamber causes too much manipulation.
5. That the Jumbo or deeper hive lends itself to the requirements better than the wider hive.

Measure your locality. Any place which after June 1st will furnish a harvest for 35 days sufficient for one colony of Italian bees of good honey-gathering strain to gather a surplus of 100 lbs. of extracted honey is a fairly good location.

The Value of Honey

Wm. A. Weir, Toronto.

AT the present time there seems to be an urgent need to reiterate the statements of our food experts and chemical experts so that the public through the beekeepers may become more intelligent on the value of honey. It is well known, however, that people do not buy what they eat solely on the basis of scientific pronouncements, so that the subject must be treated from the standpoint of palatability and economy as well.

Food Value of Honey.

Like most foods, honey, although preserving its general character, varies more or less from the average composition. The variations are of interest in so far as they may affect the food value or the way in which the honey can be used to the best advantage in cookery.

So far as its food value is concerned, honey may be roughly described as a syrup with a distinctive flavor and aroma, made up of four parts sugar to one part water. There are several kinds of sugars present in honey, including cane sugar (sucrose), grape sugar (dextrose), and fruit sugar (levulose), the last two together being called invert sugar. Some dextrin is also present as well as a variety of other substances in very small amounts. According to the data furnished by chemists, honey on an average contains from 16 to 18 parts of water, 74 to 78 parts carbohydrates, .07 to .2 parts mineral substances or ash and about 4 parts undetermined substances, such as pollen grain, gum, bee glue, formic acid, volatile oils and other flavor substances. These are **average values, and** there is considerable variation in individual honeys. The proportion of water, for instance, runs from 12½% to 25%, being caused by the moisture in the air at the time honey is produced, the stage of ripeness when extracted, and the dryness in which the honey is kept after extracting.

Mineral Constituents.

The most abundant mineral substances in honey are magnesia, lime, phosphoric acid, and iron. Since honey contains less than one part per hundred of mineral matter, it is obvious that even if eaten in large amounts it could not contribute greatly to the total mineral matter of the diet. However, it is claimed that unless care is taken in selecting foods there is a possibility that the diet may contain too little lime, and for this reason it is worth noting that honey contains this constituent. In respect to its ash content, it is more comparable with maple syrup than with cane sugar, from which the mineral substances originally present in the plant juices have been removed during the process of refining.

It is interesting to note that the crystallizing characteristic is influenced by the proportion of dextrose (grape sugar) and levulose (fruit sugar) present. Honey will granulate easily if the proportion of dextrose is large, but this is not the case if levulose predominates. However, the preponderance of dextrose or levulose does not affect the food value of the sample.

Cane Sugar and Dextrine.

The proportion of cane sugar and dextrine is always very small in normal or nectar honey. It is so small, in fact, that it affects neither the food nor cooking value of the honey. But it is different with honey dew, which contains so much dextrine that it requires to be specially handled when it is being used in cooking.

Since the principal ingredient of honey is sugar, it is obvious that it should be classed with the "Fuel Foods" which supply the body with energy rather than tissue. This value is expressed technically in the number of calories by chemists, and the following table is interesting in this connection, showing the number of calories yielded per pound of food mentioned:

Honey yields	1,485	calories.
Cane Sugar yields....	1,860	„
Flour (White) yields..	1,655	„
Bread (White) yields.	1,182	„
Cornmeal yields	1,643	„
Rolled Oats yields....	1,825	„

If honey did not contain any water, its energy value would be practically the same, pound for pound, as that of cane sugar.

A discussion of the food value would not be complete without pointing out that the change effected by the bee in the sugars of the nectar is the same as that effected by digestive ferments, and the principal sugars may, therefore, be considered to have undergone the first step of digestion. For this reason honey has been found to be very beneficial in certain cases of indigestion disorder, and the evidence in favor of its use in preference to cane sugar products is growing very rapidly in practical experience.

Economy of Honey as Food.

To compare food materials is no easy task, because they vary in price with time and place, and may differ widely in the kind and quantity of the nutrients they supply, palatability, and the care they require to preserve for use. To compare, for instance, cane sugar and honey on a purely chemical basis of caloric value, we would find that sugar would have the advantage. When sugar was selling at 21c per pound on this basis honey should sell for 18c in order to be an economical substitute, but honey is not only probably more digestible and nourishing, since it contributes sugar in a readily assimilable form, but it far exceeds cane sugar in palatability and need of preparation. It is ready to serve in its natural state as a spread, filling, or sweetener.

Icing Made With Honey

Icing made with honey or with part honey and part sugar, according to the recipe given below, has the same advantage that honey cakes have. Such icing has been tested and at the end of 10 months found to be soft and in as good condition as when originally made. It would, therefore, seem to be suitable for cakes that are to be kept for a long time. One cup granulated sugar, ¼ cup water, ¼ cup honey, 1 egg white. Boil together the sugar and the water for a few moments, and then add the honey, taking precautions to prevent the mixture from boiling over, as it is likely to do. Cook until drops of the syrup keep their form when poured into cold water, or to about 250 degs. Fahr. Beat the white of the egg until stiff, and when the syrup has cooled slightly, pour over the egg, beating the mixture continuously until it will hold its shape. This frosting is suitable for use between layers of cake, but it is rather too soft for the top. It remains in good condition and soft enough to be spread for many weeks, and, therefore, can be made in large quantities for use as needed.

Do not spoil a good product by poor packing for shipment. Crate all honey 60 pounds to the crate before shipping. "Safety first" in this respect will keep the freight rates within reason, and give much better satisfaction to the consignee. There have been ominous threats of increased rates owing to careless shipping of honey.

"It is unwise to attempt to winter colonies that are not strong enough to have brood sufficient to fill three or four Langstroth frames two months before the first killing frost."—Dr. E. F. Phillips.

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THE EDITOR'S DESK

The Honey Market

THE honey market in Ontario is still in a condition of dullness, with very little trading going on between the wholesale houses and beekeepers. Reports coming to this office indicate that there is a steady flow of shipments westward at good prices. The following extract taken from the Toronto Globe during the past month gives a fairly good statement of both sides of the case:

"The question of honey prices continues to be a subject of much difference of opinion between producers and wholesale produce dealers. As has been made plain in the Globe frequently this season, there has been a wide spread between the prices which dealers were willing to pay and those which the producers were asking, the former ranging from 23c to 25c per lb., at which price purchases have actually been made, while the beekeepers are asking considerably higher than that. The produce men claim that, with honey from New Zealand available at 23c to 24c per lb., delivered Toronto, some of which is now actually on the way here from Vancouver, they do not feel like giving more than 25c for the Ontario product, and so far as can be learned, none has been bought at a price higher than this. Very little honey of any kind so far has come to market, and outside of a limited quantity of comb honey, it has been impossible to obtain quotations at which dealers will sell to the retail trade.

"The position of the producers is stated below in an interview given to the Globe by Mr. R. F. Holterman, of Brantford, who is working between 800 and 900 hives of bees, and who has been editor of the Canadian Bee Journal and also lecturer in beekeeping at the Ontario Agricultural College, Guelph. Mr. Holterman claimed that the price quotations on honey in the Toronto papers had been misleading. He said he had visited what are known to be the large wholesale honey dealers, and in every instance they had no stock of honey on hand—at least, not worth mentioning, and absolutely no 2½, 5 and 10 pound tins. The 60-pound tins are there in very limited quantity. There is a certain amount of New Zealand honey coming in, but that is still in the future, he said, and it is practically all in 60-pound tins. To put this upon the market in smaller packages will mean to liquify and put it in the smaller packages, which cannot be done short of a considerable outlay.

"When it comes to Canadian honey, no matter how public a statement is made, no one can challenge the statement that over half of the bees in Canada perished last winter and spring, he said. On the top of this a cold spring weakened colonies, and they did not gather the usual amount of surplus. He would not deny that a few beekeepers had obtained large yields of honey, but they were comparatively few, and there was a good opening for honey at reasonable prices."

The New Zealand honey mentioned in this extract is now being offered to the trade at 26c to 27c per lb. It is put up in 60-pound net weight tins, and apparently the supply is not very plentiful. We have seen a sample of this honey. It is quite light in color and has a fairly good body. To the ordinary consumer the flavor would be quite satisfactory, but the expert can detect quite a decided difference between the imported material and the home product. The sample we saw had been put up by the New Zealand Co-operative Honey Producers' Association, Limited.

The Dark Honey Crop

REPORTS which have reached us to date indicate that the dark honey crop for Ontario will not be very large. Our own experience makes us think of the remarks of the late Mr. E. W. Alexander relative to the behavior of buckwheat in nectar secretion. In March, 1907, he wrote:

"Several years ago I kept nearly 200 colonies in a location where there was barely 100 acres of buckwheat within reach of my bees—that is, within four miles, or in a circle eight miles in diameter. Still, with this small acreage per colony it was no uncommon thing to harvest a surplus of 15 to 20 lbs. of nice buckwheat section honey per colony. This caused me to feel very anxious to keep bees in a buckwheat location where thousands of acres was raised annually, so I moved to this place. But I soon found out, to my sorrow, that the amount of bloom had but little bearing on the amount of surplus I obtained, and in this respect buckwheat is no exception to other flowers, aside from the fact that it does its best when we have quite cool nights followed by a clear sky and a bright, hot sun with little or no wind. Then from about 9 o'clock in the morning until 2 in the afternoon it secretes nectar very fast. We seldom find a bee at work on it much earlier or later in the day. . . . The time will come when many will realize that what is commonly called the 'season,' which is the condition of the ground as to proper moisture and the temperature and the electrical condition of the atmosphere at the time the flowers are in bloom, will have a thousand times more bearing on our surplus than the amount of bloom or the number of colonies we may have in one apiary."

Our experience with buckwheat has been gleaned in King township, North York County, Ontario. We have had an apiary ranging from 25 to 100 colonies in this district since 1914, and the average acreage of bloom within two miles of the apiary would be approximately 500 acres. Only two years out of the six years can be credited with a buckwheat surplus, and the experience gleaned tabulates with that quoted above.

Sweet clover has been yielding well under conditions which would ordinarily have given a beekeeper "the blues," and we have come to the conclusion that there is a profitable field for investigation by our scientific apiculturists in endeavoring to find out just what relation soil saturation, temperature, humidity, electrical condition, etc., have toward nectar secreting conditions. Practically nothing in the way of a definite guide is known at the present time.

DOINGS IN BEEDOM

ONTARIO.

The Ontario Beekeepers are holding their 40th Annual Convention at the Ontario Agricultural College, Guelph, on December 1, 2 and 3, 1920.

Ontario has always been noted for largely attended and interesting conventions. This year a record attendance is expected, in view of the fact that the new apicultural building will be formally opened by one of the members of the Ontario Cabinet.

The program includes some of the most prominent beekeepers of both the United States and Canada.

The secretary is making all arrangements for rooms to ensure comfort while attending the meetings.

The Ontario Beekeepers' Association issues a hearty invitation to all beekeepers both north and south of the invisible line to attend this convention. Programs and full particulars will be gladly sent by the secretary, F. Eric Millen, Ontario Agricultural College, Guelph.

Manufacturers of bee supplies have announced the cancellation of current price lists, and the outlook is an advance of as much as 50% in some of the apiary supplies. Manufacturers of honey cans have also issued a new price list announcing a further advance. The total advance in honey cans since the beginning of the present year is in the neighborhood of 30%.

Under the association by-laws, the county beekepers' associations which are affiliated with the Ontario Beekeepers' Association are arranging for their fall meetings.

The Toronto Beekepers' Association will hold their fall meeting about October 29. Members are requested to get in touch with the secretary.

The Honey, Fruit and Flower Show will take place at Toronto on November 11, 12 and 13. A splendid exhibit of honey has been arranged for.

UNITED STATES.

A bee succeeded in shutting off the electrical current of Maryland towns. It stung the Rev. John Brandon Peters on the nose while he was driving his auto, he lost control of the machine, which knocked down a pole carrying the wires from the power house at Laurel, Del.

JAPAN.

Since the latter part of April there has been a decrease in the price of everything excepting sugar and a few other items. The honey and bee demand has also decreased. Honey taken off in the Genge region was rather good.

County Beekeepers' Association

Morley Pettit, ex-Secretary Ontario Beekeepers' Association, Georgetown, Ontario.

THE benefits of organization among beekeepers are three-fold,—social, educational and co-operative, or, to express it differently, get together, exchange ideas, and pull together. The two former have been of great benefit to the industry, the latter is equally important but of slower growth. In order to keep on familiar ground the writer will deal with the organization of beekeepers in Ontario, and draw some conclusions.

There are no records of beekeepers' meetings in Ontario previous to 1889, when the Ontario Beekeepers' Association was formed at a meeting of about 60 representative beekeepers held in the city of Toronto. County beekeepers' associations began to be formed independently about the same time. In 1884 we have the first record of a deputation from a county meeting waiting on the directors of a fall fair, the Western Fair, held at London, Ont., with a view to securing better accommodation and inducements for beekeepers wishing to make exhibits. At the same time legislation relative to bees affected with foulbrood was being sought by another county beekeepers' association, and the provincial association was being stirred up by the same local with a view to securing co-operation in the effort. Needless to say, the legislation was secured; but it was five or six years late, after other locals had urged and the provincial had sent a delegation to the provincial legislature. Other legislation for the benefit of beekeeping has been secured from time to time, in every case originating in a local convention.

In 1907, after resolutions from locals, the secretaryship was taken over by the Ontario Department of Agriculture. This, coupled with the annual government grant, has been of great benefit. Then in 1909 the present writer was made Provincial Apiarist with one of numerous duties to develop local organizations. At present more than half the counties are organized.

Work of County Organizations.

Now as to the work of these county associations. The purpose of the first beekeepers who called conventions was very similar to that of those who call them today, simply to get together and "talk bees" the same as any two beekeepers do when they get together, the only difference being that the bee-talk is conducted in a sort of organized way, with someone in the chair and a secretary to report the proceedings.

In addition to getting together and talking bees the next step was to get someone who was supposed to know more about the business than ordinary people to attend the meeting and give an address on some particular part of beekeeping. Then there were discussions, questions and answers, and reports on crops or wintering.

Next, matters pertaining to the business of beekeeping received attention, such as exhibits at fairs, legislation, financial help from the government, and also the purchase of supplies and sale of honey. As soon as the Provincial Organization had secured an annual grant from the Department of Agriculture each local joined in affiliation with the central and received an annual grant of money. These grants were used at first to encourage exhibits at local fairs, but have finally settled down to the purchase of journals, queen bees or other premiums for members. In addition to these premiums from the local, members receive the organ of the provincial as a premium for membership in that association.

Many of the societies when first organized thought that they could hold meetings every month or every three months at least, but they very soon found that if they met spring and fall and got a fair attendance they were doing very well. So the regular thing for the county association is to hold a meeting in the spring as soon as beekeepers are able to tell how well their bees have wintered and another in the fall in time to elect a delegate for the Provincial Convention. At the spring meetings when interest in the approaching active season is fresh, methods of management are discussed and at the fall meeting resolutions are drawn up for presentation at the provincial meeting. In fact, almost everything that has been done for the advancement of beekeeping as a business in Ontario has originated in some one or more of these local conventions of beekeepers where twelve or fifteen men have gotten together and talked things over and sent up a resolution to the Central Organization to be acted upon or endorsed and passed on to higher authorities.

A Question of Leadership.

The chief difficulty the county association has met has been that of keeping alive. It is entirely a question of leadership. Sometimes the president is a live-wire and keeps the interest up, but officially the secretary is the heart and soul of the association. If the right selection is made in filling this most important office all is well, if not, the society may expect an early demise, or a postmortem existence awaiting retarded interment.

About Co-operation.

Aside from an active secretary, however, a society must have a real reason for existence. If co-operative business is not undertaken the social and educational features must be developed efficiently. Much depends on the method of conducting conventions and apiary meetings. First of all these meetings must be widely advertised amongst all who by any chance might be interested. It is not enough to put notices in the papers and send postcards to the members. Postcards should be sent to all persons interested in the district. This requires a large mailing list, of course, and money for printing and postage. It is not enough to merely state that there will be a meeting of the association on such a date and beekeepers are expected to be present. If that is all you tell them not many will come. You must tell a man who the speakers are to be, and what they are going to talk about. If possible you should tell him the same thing in different ways two or three times before the meeting, sending him a final notice, just about the last day. By the time he has received two or three postcards and has read about this bee-meeting in the papers he will think there must be something doing and decide to go and find out what it is.

The first time such meetings are so well advertised in a community the attendance will be most gratifying. It is now up to the officers and speakers to see that succeeding efforts meet with a like response. A selection of the best speakers available is the first consideration, then, subjects suitable to the needs of the community and the experience of the speakers. The meeting should begin promptly at the hour advertised and the program put on as advertised so far as possible.

The point is, after you have brought the people out by curiosity you must feed them on something that will benefit their business, and if you do so from time to time they will continue to come. But if they are men who are not interested in their business because they are mere bee-owners, they are not going to come to your meetings very long, and it is a question whether the giving of premiums to secure the membership of such is justifiable. The falling away of such, however, is no cause for discouragement. I had rather a small gathering of thoroughly interested persons, than a larger meeting of indifferent ones.

In Ontario apiary demonstrations conducted under the direction of the Provincial Apiarist have largely supplanted indoor meetings. These are arranged and advertised from the Apiculture Department of the Ontario Agricultural College, where office help and mailing machinery are available, together with a mailing list of about eight thousand names of beekeepers arranged geographically. The local inspectors conduct them and the total attendance has grown to nearly two thousand in a season. The gratifying feature is that the average attendance is maintained with a slight increase from year to year. I believe that aside from providing a good program, well advertised, the most important factor leading to success has been punctuality in starting the program. The demonstrators are urged to start promptly even if only a few have come, and they have done it until they have become a byword by the saying, "Why don't you start on time like the bee demonstrations?"

A Reason for Existence.

Referring to the threefold benefits of organization mentioned in the opening paragraph it will be seen that the third point, co-operation, has been practically untouched in this article. The fact is that for various reasons co-operation among beekeepers in Ontario has not got far beyond the annual crop report and recommendation as to prices. This is largely due to the fact that so far the annual crop report has been a sufficient stabilizer to make prices fairly remunerative from year to year. Another and equally important reason is that co-operative efforts have usually been undertaken at the wrong end of the line. It is a fact unquestioned that successful co-operation has always started in a small way locally among a few men who were really interested financially. When these successful locals merge they form a successful central.

Even in the beekeepers' association which stops short of financial co-operation it is a question if the application of the same rule would not bring greater success. How many provincial and state beekeepers' associations are struggling for their existence, or are at least coming far short of what might be expected of them because they have been formed and maintained by a few earnest enthusiasts who gain a great deal of pleasure and profit, meeting and exchanging ideas from year to year; but do not really represent the province or state at large. When this condition exists the great danger is that business will be submerged in the social interest, and that officers will be elected for personal and not business reasons.

It may be that the development of strong locals with the central as a federation of them would solve the problem. The locals must have leadership and their meetings a definite business reason for being held. In fact, it is difficult to see how a natural growth can be insured without the equilateral triangle being completed,—Social, Educational and Co-operative effort.

Where these three are combined the co-operation of different locals in forming a federal central is natural and easy. The purpose of the central would be to do for the industry what the local or individual cannot do.

Relation to Governments.

This raises the question of government assistance and interference in the affairs of agriculture. So long as other branches are receiving assistance beekeepers should have their share. The danger lies in the fact that other industries have an equal claim on the government with agriculture, and the assistance given to the latter tends to direct agricultural development along lines which will be the most beneficial to the more powerful interests. Just as a good beekeeper does not encourage his bees to increase the number of peaceful bee-homes or colonies, but rather to increase production of that which will benefit himself. Take a case in point. A number of years before the war a high official in the Ontario Department of Agriculture opened his heart to the beekeepers' convention and urged co-operation and elimination of needless middlemen so that the consumer might get some of the "spread" as well as the beekeeper. He was immediately attacked by the association of grocers and compelled to seek cover.

Government assistance has been and is now of great benefit to the beekeeping industry; but it must be borne in mind that from the very nature of the case such assistance is not disinterested. The industry is quite strong enough to do for itself all that the governments are doing if it were properly organized and imbued with the spirit of co-operation.

NOTES AND COMMENTS

J. L. Byer, Markham, Ont.

In August "Beekeeper," some remarks were made in regard to a flow of sweet clover honey that had just started and that promised to be above the average in quantity, provided the weather was favorable. Just here let me say that this sweet clover flow was responsible for the fact that "Notes and Comments" were absent from September issue of the "Beekeeper." We simply had more work than we cared to look after, and anything that could be let go at all was neglected, and, of course, "Notes and Comments" came under that heading. Naturally none too fond of work as we get older, every opportunity presented is taken advantage of to gratify that particular weakness. But to return to the sweet clover question, the weather was anything but favorable, as we usually size up the situation as beekeepers. For all that, the sweet clover nectar poured in even when it was so cool that an overcoat was worn in going to and from the yards. At two yards where we had a big acreage in reach of the bees, our average was by far the heaviest we have ever harvested, and all the other yards in the home district did fairly well, practically all the honey here being from that source, for, although alsike was in abundance, practically no honey was stored from that source at the home apiaries. As to the quality of sweet clover honey, tastes differ, and so here is a question to be decided upon by the consumer. It is very white in color and of fair body, but not as heavy as alsike or white clover. The flavor is peculiar to itself, and, while most people like it all right, our folks, after using it for a few weeks, much prefer the alsike or white clover brand.

As to the future of the sweet clover question here in Ontario, opinions differ. Hundreds of acres are sown for next year all around us, but the price of seed has collapsed, and some are talking of burning the crop. Of course, that means that much sown for next year will be either plowed under or left for hay and pasture, consequently of little, if any, use for the beekeeper. The disturbing situation as I see it is that if it is not grown for seed any more in the near future, the growing of alsike in one section is badly crippled already. A farm that has grown sweet clover for seed is, in my estimation, about done for alsike and red clover seed for some time. Sweet clover is very persistent, and once the seed is in the ground it is there for some time. Already we notice that about every field of alsike and red clover is more or less mixed with sweet clover. However, no matter what the future of sweet clover is to be, its presence this year in quantity lots has dispelled some of the notions formerly held by many beekeepers. Lack of acreage must have been the cause of the claims being made that it is a slow yielder. A friend of mine near me had a very strong colony on the scales, and one day they gained 23 pounds—nothing slow about that. One very strong colony at one of our outyards stored just about 500 pounds in five weeks, and fully one-third of the days were unfavorable for bees working. But this colony has during the last three years stored about double the amount of any others in the yard.

Drawn Comb and Increase

F. W. Osler, Toronto, Ont.

Among amateur beekeepers there is usually a shortage of drawn comb. This is a serious handicap to those wishing to increase. Unfortunately, the amateur does not realize the enormous amount of work bees must do to build up colony strength for winter with little else than foundation to start on.

I have seen men who should have known better take a frame of brood with an uncapped queen cell on it and make up a nucleus late in August and expect the queen to hatch and produce enough bees to carry that colony through the winter with perhaps two combs to start with, the rest foundation. Now, just let us stop for a minute to figure out what the bees had to do, and the time they had to do it in. If that queen cell was well advanced it might be capped in two days, hatched in five more, and mated or laying on the tenth or twelfth day. Then it would take about thirty-five more days for her to produce a field bee, allowing her eggs twenty one days to hatch and two weeks more for nurse bees to become field bees, about forty-five days all told, which would carry the colony into late September. In the meantime, the amateur expects that poor little nucleus to feed what brood it has and keep them warm; draw comb on cold nights; guard its entrance from robbers, which are numerous at that period of the year, and build up to full colony strength for winter. On top of all this expectation, he guesses that the winter will be short and mild, so, on account of the high price of sugar, he gives them about one-half the quantity of feed they should have. Then when he finds them dead in the spring he calls it hard luck.

Would it not be better for the owner of one or two colonies to plan his increase a little farther ahead and first secure enough drawn comb for his purpose? Then next year take one of the colonies, and, at the sacrifice of part of the crop, split it up and make two of it. If you do this successfully you can try still more rapid increase another year. You may think this is a slow method of becoming a beekeeper. It is slow, but beekeeping is not learned in a day or a year. The one or two colony man should go slow on increase and study the game well; read all he can on bees, and he will be well repaid for his trouble and patience; get the comb drawn out in a super over a strong colony during a honey flow; use full sheets of fairly heavy foundation and well wired frames. Be sure and fumigate the combs with carbon bisulphide before they are put away in the fall. If you don't, you will very likely have them destroyed by wax worms. Then when ready you can increase to your heart's content and do it successfully, too.

HONEY CROP OUTLOOK

THE HONEY CROP.

Judging from belated reports, I believe that the crop of honey in Ontario is larger than at first reported at near the close of the white honey flow. If there had not been such a heavy loss of bees last fall and so many weak ones this spring, possibly the crop would have averaged up with those of past bumper years. Personally, our crop is "good, bad and indifferent," but averaging fair for the whole outfit. With bees in seven counties, naturally quite a variation is to be expected. The buckwheat flow is very short here in York County, but down near Dunnville the flow is good, as some 50 colonies moved from Binbrook to the buckwheat fields stored 4,000 pounds surplus. Prices seem to be a bit draggy, but our crop is about all sold. New Zealand honey has been coming in freely and is quoted by wholesalers at from 26 cents to 27 cents at date of writing. If it gets no lower, Ontario producers will not suffer much. Orders from the West that have come in so far have in nearly every case been double the amount called for last year. Evidently fair crops of high-priced wheat are making the farmers out there open up their purses. Sugar is now easily obtained, but the price is still over $21 per cwt. With a falling market in sight, large purchases are not being made, so quick delivery is assured if sugar is wanted.

The honey crop committee of the Ontario Beekeepers' Association met at Toronto on Thursday, Sept. 23. The secretary reported a surplus of about 200,000 pounds from 200 scattered corresponding members. The average per colony is reported as 24 pounds, and the amount of pure buckwheat honey is very limited. The most of this surplus will grade as an amber honey.

The prices recommended for the amber grade are 21c to 25c, wholesale, and for the buckwheat grade, 17c to 20c per lb.

The general trend of reports from members as to how the white honey crop is selling is very favorable. The committee do not think that importations of honey will affect the Ontario market toward lower prices than those recommended in the white honey report.

Labelling Canadian Export Apples

WHO grows Canadian apples anyway? We have Canadian standard grades for apples, but nobody seems to grow any "Canadian" apples. We grow "Nova Scotia" and "Okanagan" and "Norfolk" apples, or apples with some other provincial or local name. Boxes with the above stencils or labels are common on the foreign markets, along with "Ontario" apples and, very seldom, "Canadian" apples. Why shouldn't all apple boxes and barrels that go to foreign markets, in addition to bearing their local or provincial name, be labelled "Canadian Grown Apples?"

Ontario Growers' Opinions.

As this question is of general interest to apple growers and shippers in all parts of the Dominion, a representative of THE CANADIAN HORTICULTURIST secured opinions from several fruit growers in Ontario. F. G. Stewart, of Homer, did not think that the growers would consider changing their labels at this late date. F. A. J. Sheppard, of St. Catharines, believed that, by leaving the various labels as they are, we help Canadian trade, because the more competitors on the English market the harder each individual company will strive to get and hold their market. He also believed that even with the very little prominence given to Canada on the various boxes, we get sufficient advertising.

"If all boxes shipped from Canada bore the stencil 'Canadian Grown,' it might be all right," observed Mr. Sheppard, "but supposing a certain district shipped poor apples, that would reflect on Canada as a whole. Now, when each company uses its own separate label, whenever any company ships poor apples that district gets it in the neck, and the sales of the other apple growing centres are not hurt."

For and Against.

W. England, near London, Ont., also thought that each apple producing centre

should use its own separate stencil but for a different reason: He believed, with Mark Twain, that everybody should "toot their own horn," as it is the only way to advertise one's district.

Opposed to these views was A. T. Baker, St. Catharines, who believed that all boxed and barrelled apples exported should bear the one legend, "Canadian Grown Apples." "You want to keep only one name before the public," remarked Mr. Baker. "If you put several names, such as Nova Scotia, Ontario, Canada, and Okanagan apples on the market, the foreign buyer will get confused and maybe ask for Oregon apples, in his doubt. Use the one name, 'Canada,' and keep it in the foreign buying public's eye, and they will remember the name and ask for those apples. Every Englishman is not sure that Nova Scotia means Canada. Anyway, why should there be different names for the various apples when they are all of the one Canadian legal standard?"

Interesting Viewpoints.

At the Ontario Horticultural Exhibition last winter, the question was put to R. J. Lightle, a retired fruit grower now living in Toronto, and B. Tucker, of Allanburg. Both these men believed that all Canadian apple boxes should bear the label "Canadian Grown Apples," as they were sure that this would give Canada a better name in the Old Country. Mr. Tucker stated that he saw no reason why Canadian growers should compete against themselves on the foreign markets, and, bearing in mind the old proverb, "In union there is strength," he thought that Canadian growers would be just as successful with a Dominion-wide shipping organization, as with the present various provincial co-operative associations. Jos. Tweddle, of Fruitland, believed, on the other hand, that

the stencils should be different for each fruit growing centre.

"There is practically no competition against Canadian apples on the English market," said J. J. Gilbertson, of Simcoe, "so I think it is of advantage to the Canadian fruit industry to have the growers in the different districts compete. The volume of United States apples on the English market is falling off annually."—R. B. C.

Birds on Fruit Farms

(Philip H. Wismer, Jr., Jordan Station, Ont.)

On our farm in 1919 I found 56 robins' nests. Some of these raised two broods in the same nest. While the robins attack the cherries in large numbers, we consider that the cedar waxwings do more damage to the cherry crop, bird for bird, than the robins. Eating a few cherries is the robin's only fault, while it destroys great numbers of cut-worms and other injurious pests.

The blue bird, downy woodpecker, chickadee and nuthatch are all beneficial to the fruit farms, as they live upon the insects and their eggs. The sparrows, of which there are a large number of species, are also an important factor in keeping down the insect and worm pests which are so destructive to crops. The oriole, or golden robin, is another very beneficial bird, chiefly by eating the hairy caterpillars. Very few other birds will eat these.

The meadow larks and bobolinks live entirely on injurious worms and insects in this part of North America. In the States, where rice is grown, they are accused of eating large quantities of rice. Another rarely seen bird is the rose-breasted grosbeak. This bird is very fond of potato beetles and is about the only bird that cares for them.

The warblers consist of a large family. Although most of them migrate farther north, they catch a large number of flying insects. The vireos are close relatives to the warblers and are equally industrious in the catching of insects and their larvae. The house wren is found on every farm, and as it lives on insects, it should be made welcome.

All these birds can be had in large numbers on the fruit farm, if they are given a little protection, and they will pay for their protection many times over.

Robins and Blackbirds

"The law should allow fruit growers to shoot the robin and the blackbird, without permit or other restriction," said H. K. Griffith, Grimsby, to the editor of THE CANADIAN HORTICULTURIST, who visited his orchard in cherry time. "The editorial in THE HORTICULTURIST about robins was to the point, but it did not go far enough. It should have advocated the legal shooting of these birds. Both the robin and the blackbird destroy other kinds of birds that are really valuable to the fruit industry, and they do enormous damage to cherries and other fruit crops in some seasons. I have tried tin cans, scarecrows and all other devices for getting rid of them, but they are still with us in greater number each year."

Mr. Griffith instanced the case of 10 trees of an early English cherry that bore 15 baskets to the tree last year, and were again loaded this year, but the birds took them all; he did not get a sound cherry. These were the first to get ripe and were, of course, the ones to be most troubled by birds. On account of the heavy crop of mid-season and late cherries this year, the effect of birds on them was not so noticeable as in years of lighter crops.

"Commercial Rose Culture"

One of the most valuable books on the subject of growing roses under glass and outdoors is "Commercial Rose Culture," by Eber Holmes. This work recently was revised and expanded. It is pronounced by authorities as a model educational book on rose culture. In plain, concise language, easily understood, it gives up-to-date practical information on the best way to be successful in growing roses.

The book is beautifully bound and printed. The illustrations of commercial roses of to-day alone are worth the price asked for the book, which is the most complete and comprehensive ever published on the subject of which it treats. The beginner and the old-timer, the grower, the dealer, and the retail florist all need this book just as much as they need a useful and money saving implement for a device. The book may be secured through the Horticultural Publishing Co., Peterboro, Ont., for $1.90, which price covers postage and exchange.

Death of Wm. Hunt

The horticulturists of Canada will sincerely regret to learn of the death of Mr. Wm. Hunt, lecturer in floriculture at the Ontario Agricultural College, Guelph. Seized with an attack of heart failure while en route to Guelph from Waterloo, Mr. Hunt was taken from the train at Kitchener, placed on a baggage truck, and died before medical aid arrived. He had attended a cricket match at Waterloo and was on his way home. In his younger years, Mr. Hunt was a well-known Canadian cricketer and his enthusiasm for the game continued to the end.

Mr. Hunt was 69 years of age, and was born in England. He came to Canada about 34 years ago, and was employed for three years in Toronto and then for 23 years in Hamilton as a gardener and florist. In 1902 he was chosen by the faculty of the O. A. C. as the best man available in the province to place in charge of the conservatories, greenhouses, and outdoor floral activities of the college. Later he was appointed lecturer in floriculture. He attained great prominence in floriculture and in horticulture in general. He was consulted in these subjects from all parts of the Dominion and of the United States. Under the pen name, "Hortus," Mr. Hunt contributed to the columns of THE CANADIAN HORTICULTURIST when this paper was published by the Ontario Fruit Growers' Association. During the past 15 years he continued the contributions under his own name, and also answered questions on floriculture and general gardening.

Highly respected and likable in every way, his death will be felt personally by all persons who had the privilege and the pleasure of knowing him. Especially will his loss be felt in horticultural circles everywhere.

Long Distance Spraying

On truck-growing farms, it is not always possible to go into the fields with a wagon when it is necessary to spray for bugs and blights. Down in New Jersey, a special spray wagon is used with a windlass on the back, on which 200 feet of hose is reeled, to be let out or taken in as needed by a boy.

The spray wagon follows a road through or at one side of the field while the men walk across the field with the nozzle or a long series of nozzles. This system is used for melons, cranberries, and so forth.

FOR SALE and WANT ADS

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

BEES FOR SALE

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

FOR SALE—Good 8-frame Colonies Italian Bees on Hoffman frames in one story single wall hives, at $12.00. In shipping cases at $10.00. Bees free from disease. Wilmer Clarke, Earlville, Mad. Co., N.Y.

FOR SALE—30 Colonies Italian Bees in model nine frame hives, painted white, with super for each, full of frames with extracted comb and wax foundation. Queen excluder for each; $16.00 per colony, or $480.00 for the lot. G. T. Hews, Papineauville, Que.

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

FOR SALE, CHEAP—A quantity of 9 and 10 frame Langstroth hives and supers in A1 condition. Some new. Apply J. J. Charlton, 47 George St., Brantford, Ont.

BEESWAX AND HONEY

WANTED—Clover and Buckwheat Honey. Write for prices. Wilber Swayze, Dunnville, Ontario.

MISCELLANEOUS

GOLD FISH, Fish Food and Sea Weed—Write for large catalogue of supplies. Morgans, Limited, London, Ontario.

MILK TESTERS, Scales and Wood-soled Shoes Write for catalogue of all dairy supplies. Morgans, Limited, London, Ontario.

EXCLUSIVE CANADIAN AGENCY for Max Steins full note rollers. Shipped safely anywhere. Circular free. Giles' Aviary, London, Ontario.

FOR SALE OR EXCHANGE—One horse-power Gasoline Engine, good as new. Reason for selling, am extracting with electric motor. Will take honey in exchange. A. A. Ferrier, Box 203, Renfrew, Ontario.

REAL ESTATE

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

FOR SALE—Nine acres land, stock and implements, brick house, good outbuildings, with plenty of feed. All kinds of fruit, from strawberries to winter apples. In connection is good paying apiary, with full equipment. Possession December 1st. Price, $6,000.00. For list and description of place phone or write Geo. M. Cunningham, Collingwood, Ont.

SEEDS, BULBS, PLANTS, SHRUBS

BULBS OF ALL DESCRIPTIONS.—Write for prices. C. Keur & Sons, Hillegom, Holland. New York Branch, 82-84 Broad St.; also 10418-113th St., Richmond Hill, L.I., N.Y.

VAN'T HOF & BLOKKER, AKERSLOOT, HOLLAND. Bulb growers and exporters of roses, etc. Fall and Spring import orders solicited from Societies, Schools and individuals. Canadian Office, 430 Brunswick Ave., Toronto.

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

Grape Growers Organize

Through the efforts of the Niagara District Grape Growers' Association, an incorporated company of grape growers has been formed, to be known as the Niagara District Grape Growers, Limited, with a capital of $500,000. A charter has been granted. The provisional directors are: G. A. Welstead, reeve of Grantham; H. J. Clemens, Grantham; J. A. Livingston, Grimsby; T. J. Mahoney, reeve of Saltfleet and ex-warden of Wentworth County; W. W. Armstrong, Niagara; W. C. Thompson, Clinton, and Fred D. Cole, Louth. H. K. Clemens, R. R. No. 2, St. Catharines, is the secretary. The objects of the association are to buy and sell fruits of all kinds, to buy and sell supplies necessary in production and marketing, and to manufacture fruit packages and probably other essentials. A considerable amount of stock has already been sold, and applications from new shareholders are coming in steadily.

The American Fruit Growers, Incorporated, of Pittsburg, has been engaged as selling agents for this new Niagara company. This firm has agents in all American and Canadian markets, and is in a position to place the crop to the best advantage. The new company has made contracts for the purchase of a large percentage of the grape crop of this district.

The new company has taken steps to obtain sufficient baskets to handle the crop. On Sept. 10, H. K. Clemens sent the following information to THE CANADIAN HORTICULTURIST: "We have purchased the output of a basket factory that can start deliveries at once at the rate of three cars a day, until our needs are supplied.