THE CANADIAN BEE JOURNAL

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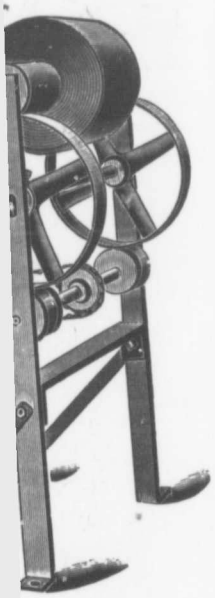

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The Canadian Bee Journal

Devoted to the Interests of Bee-Keepers

JAS. J. HURLEY, Editor

Published monthly by
The HURLEY PRINTING CO.,
Brantford, Ont.

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JAS. J. HUR

Vol. 20, No. 1.

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PUBLISHED MONTHLY

JAS. J. HURLEY, EDITOR, BRANTFORD, ONTARIO, CANADA
W. WHITE, ASSISTANT EDITOR.

Vol. 20, No. 1. JANUARY, 1912 Whole No. 563

Ourselves in 1912

At various times we have received most encouraging letters from our friends who appreciate the efforts of the conductors of this paper, to produce a journal representing and promoting apicultural interests in the Dominion of Canada. We believe we cover a field that no other periodical at present in existence can reach. There are at least three other bee journals published in this continent, and between ourselves and our American friends there exist the very strongest bonds of friendship and brotherhood. But we are none of us competitors. We each serve a distinct purpose and there is room for us all. Many of our subscribers take in addition to the C.B.J. the three American papers, and we would urge upon all others who possibly can to do the same. It will pay them to do so. As regards the Canadian Bee Journal, we realize that with the opening up of vast territories upon which a great bee industry may thrive there is a distinct need for a journal which will act as a vehicle of thought and information regarding the special phases assumed by the bee-keeping industry in those regions. We aspire also to be the means of bringing together east and west and south and north and to help the bee-keepers of Canada to realize the bond that should hold together units situated necessarily a great distance apart.

A perusal of the index inserted in this issue will show what degree of success has been achieved during the year just gone. Let us say that we have every reason to believe that during the coming year we shall be able more closely to approximate to the ideal bee journal. We have on hand, ready for publication, a goodly number of interesting articles upon a wide range of subjects, and by men whose names will furnish ample guarantee as to the usefulness of the information imparted. We trust that our readers will co-operate with us. Every subscription enables us to put better work into the paper, and it is here that we require most assistance. Let every reader do his best to obtain one or more new subscribers and he will be performing a service as well to the bee-keeping fraternity generally as to ourselves.

* * *

"Summer and the Bees"

The Farmer's Advocate recently paid us a flattering compliment by borrowing from our columns and reprinting in extenso Miss Robson's fine verses on "Summer and the Bees." Our distinguished contemporary, after the fashion of the great, overlooked the small duty of acknowledging their source.

* * *

A Bee Journal for South Africa

We are glad to welcome the advent of the new apicultural periodical, the South African Bee-Keeper's Journal. Bee-keeping, as a craft, is comparatively new to the southern half of Africa, but during the two decades or so which make up its history, great and rapid strides have been made, and United South Africa boasts of a flourishing bee-keepers' association, of which our contemporary is

the official organ. Mr. G. S. Oettle, Rock House, Hunter St., Bertrams, Johannesburg, is the editor. Judging from the contents of the first issue now before us, the S. A. Bee Journal has a most useful and successful career ahead of it, and we congratulate Mr. Oettle upon its production.

* * *

The Australian Bee Bulletin

At the same time we learn of the demise of the Australian Bee Bulletin, or rather of its incorporation with the Australasian Bee-Keeper. Editor Pender in referring to the amalgamation of the two papers remarks that the production of a monthly issue of a bee paper is not one of the easiest things imaginable, nor is it always a profitable undertaking. We sympathize with our brother, but at the same time take the opportunity of congratulating him most heartily upon the high level of excellence attained and maintained by the Australasian Bee-Keeper in the past, and we trust that with an increased circulation which will be insured by the amalgamation our contemporary will be enabled to achieve yet greater success in its efforts to promote the interests of the bee-keeper and of the bee-keeping industry in Australasia.

* * *

The "Big" and the "Small" Bee-Keeper

Whilst at the recent Toronto convention we were discussing the ethics of the bee-keeping industry with a successful producer of honey and we were considerably surprised at the lack of sympathy which our friend exhibited towards the small bee-keeper. With him the latter was a sort of bug-bear, a creature to be crushed or exterminated. "Tax him out of existence" was his cry. The same spirit showed itself when we touched upon the matter of co-operation. Our friend, skilled in his profession, and fortunate in his markets, did not recognize the need of any combined ameliorative efforts seeing that he himself was not requiring any such assistance to attain a high degree of success.

We fear that his was not an isolated case. In spite of all the arguments advanced in favor of an effort to organize the honey producers, the matter was allowed to drop in Convention without any pretence to a debate. The fact is that the hundred or so big bee men that attend Conventions cannot be said to be at all representative of the thousands of bee-keepers scattered through the country, the majority being located at distances far too great to permit of their being present at these annual deliberations. We wish to be frank. A truly representative gathering should be ready to consider more particularly the needs of the great mediocrity, who, as in all walks of life, after all form the majority.

Whilst we do not suggest for one moment that anybody should be called upon to make the slightest sacrifice on behalf of his neighbor, yet we may be permitted to remark that the sympathetic consideration of the needs of our less fortunate brethren is a religious duty, look upon it from any standpoint we will. The editorial letter files contain ample evidence as to the necessity of some endeavor being made to assist the smaller bee-keeper. Morley Pettit, in organizing the county associations is doing much along these lines, and could the rank and file be made to realise their obligations in the matter, they would not be content to rest until such times as they received a stimulus from headquarters to bestir themselves. The County Associations in fact furnish the bee-keepers of Canada with ample opportunities of getting together and forming co-operative societies. Net in the small bee-keeper, educate him, teach him the real value of following modern methods of manipulating his bees and marketing his honey, and he will become a valuable

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By J. E. Ha

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asset to the bee-keeping fraternity, instead of a "bug-bear" or a "menace" as he has frequently been described lately.

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A Novel Suggestion

Everybody nowadays is interested in the matter of the "elimination of the swarming instinct" and many are convinced as to its practicability. An interesting and to us a novel suggestion is made by a recent writer to the effect that "the No. 1 gland system of the worker" plays a prominent part in the "mechanism which controls swarming." He proceeds to state that an excess of the secretion gives rise to the construction of queen cells and the desire to swarm. A contracted brood nest acts therefore by limiting the opportunity for its use. On the other hand, the removal of sealed brood gives extra scope to the queen and to the nurse bees. Incidentally it limits the, etc., etc." The same writer if we remember rightly, furnished an equally ingenious explanation of the bees' submissiveness to smoke!

We almost forgive a certain learned doctor for his recent acid remarks anent the pseudo-scientific bee-keeper.

PARTHENOGENESIS AND CELL STRUCTURE

By J. E. Hand.

'Tis said that open confession is good for the soul. I note in the December number of the C.B.J. that Mr. Gray frankly admits his error in assuming that the drone is not a product of his mother. Notwithstanding this concession, however, he is still in error in his statement concerning the alleged "freak" queen. I am not willing to believe that Mr. Gray would wilfully misquote an opponent for the sake of gaining a point in an argument; if he will refer to my article he will see that the alleged freak is a creation of a rather vivid imagination. If all queens that are unable to unerringly duplicate themselves in their queen progeny, are freaks, then there are far more freaks than normal queens.

To write for the rank and file of bee-keepers, instead of for a few, is a noble sentiment, and worthy of emulation. We should bear in mind, however, that the reader of an article is benefitted in proportion to the correctness of the theory advocated. In this connection, be it said, that the idea of cell structure as a possible factor in connection with the theory of parthenogenesis, was given as a theory for what it was worth, supported by such meagre evidence as had come under my personal observation. It matters little to me that this is not a popular theory; we have abundance to show that the largest crowd is not always on the right side of the fence. I am free to confess, however, that there would be small consolation in standing alone on the wrong side, and therefore I am not going to vouch for the correctness of this theory until it has passed the theoretical stage

Yes, friend Howe, I have known queens to lay eggs in cells before they were completed, but I can't prove that such eggs were not removed by the bees, and others deposited a few hours later, after the completion of the cells. The workers have full control of the egg business and the queen is supposed to deposit eggs only in such cells as have been properly constructed, and prepared to receive them. Whenever the queen oversteps the bounds of propriety, and deposits eggs in unprepared cells, I believe the workers exercise their prerogative by promptly removing them. In view of what has already been advanced upon this subject, it is in order for me to state more fully my reasons for entertaining the idea that cell formation may, perhaps, be an important factor in con-

nection with the theory of parthenogenesis.

In our operations as a breeder of queens, it is our custom to place full sheets of drone comb in colonies containing our best breeders in order to increase the supply of drones from select stock, and it sometimes happens that a colony having a vigorous queen will object to so much drone comb, in which case the bees will proceed to remodel the cells by contracting them at the mouth with a surplus of wax to the worker size, after which the queen will deposit eggs in them that produce workers. To some this incident may be regarded as of little consequence, but to the careful observer of bee nature it is prima facie evidence of the inability of a normal queen to deposit a female egg in a drone cell of ordinary construction; in the face of such convincing evidence as this, those who advocate the theory that the power to decide the sex of the egg rests entirely with the queen should at least be able to offer some tangible evidence in support of their pet theory.

Concerning the statement that queens lay eggs in queen cells ⅓ of an inch in diameter, permit me to repeat my former statement to the effect that a closer scrutiny will reveal the fact that before the egg is deposited in a queen cell, said cell must undergo a radical transformation, which changes the cell cup to a queen cell proper, having been lengthened, and contracted at the apex to about one-half its diameter at the base. An expert queen-breeder can tell to a certainty whether or not a queen cell contains an egg or larva, merely by a glance at its external formation.

In our daily manipulations with queen cells and cell cups, we have learned to distinguish between them, as well to regard cell formation as an important factor in the successful grafting of larvae, and all our cell cups undergo the shaping process before being used in grafting. Such cells will be accepted by the bees without any hesitation and will be liberally fed from the start, and as a rule, will produce better queens, other things being equal. On the other hand, larvae that are transferred to open mouthed cups ⅓ inch in diameter will be viewed with suspicion by the bees and will not be accepted without a vigorous protest, during which period the royal larvae are robbed of the supply of food provided by the operator, and the future sovereign receives a shock to her sensitive organism from which it is doubtful whether she ever fully recovers.

During the swarming period our breeding colonies are provided with artificial cell cups, in which the queen is allowed to deposit eggs exactly as in natural swarming; these cell cups are under our daily observation, and since we have never yet known a queen to deposit an egg in a cell cup that had not been subjected to the shaping process as above described, I think I may be excused for believing that such an occurrence is rarely met with except in cases of abnormality.

This brings us to the subject of parthenogenesis, and the purity of drones from a mismated queen. I am fully aware that parthenogenesis is a stern reality that every successful bee-breeder must, sooner or later, recognize at its real value. While the underlying principles of parthenogenesis are too apparent to be lightly ignored, it is a deplorable fact that certain phases of its power and scope have been over-estimated to the detriment of the bee-breeder who would aspire to the development of a strain of bees of known purity. For example, the idea prevails to an alarming extent among bee-keepers that the blood of the male issue of a queen is not contaminated by her mating with a drone of another blood. My conclusions concerning this matter have been forced

upon me by facts that my personal observati the testimony of other great confidence, and qualified to judge of s

Mr. G. M. Doolittle, on subjects pertaining comes out squarely u indeed I can not better upon the subject than paragraphs from his Queen Rearing," a wo pletely revolutionized methods. Among othe "Now I am not prepa or wherein, the drones the mating of the quee know, that drones **are** a certain extent by th queen of one blood, wit other blood. Anyone ca in four generations, by each time to these pur bee can be produced t tell from a hybrid. Th ination does not show i is the reason, I believe, has been accepted by n truth."

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Mr. G. M. Doolittle, an authority upon subjects pertaining to bee-breeding, comes out squarely upon this subject; indeed I can not better express my views upon the subject than by quoting a few paragraphs from his book "Scientific Queen Rearing," a work that has completely revolutionized queen rearing methods. Among other things he says, "Now I am not prepared to say how, or wherein, the drones are changed by the mating of the queen; but this I do know, that drones **are** contaminated to a certain extent by the mating of a queen of one blood, with a drone of another blood. Anyone can prove this, for in four generations, by mating the queen each time to these pure (?) drones, a bee can be produced that no one can tell from a hybrid. That this contamination does not show in the first cross, is the reason, I believe, that the theory has been accepted by nearly all, as the truth."

"Worker bees and drones do not show a little variation of purity, as much as does the queen, hence if we would know of the stock which we have we must rear queens from them. Failing to do this we often decide that we have pure drones for breeding purposes, because these same drones look all right." After going into detail at considerable length to explain how the impurity of drones from a mismated queen can be proven, the author ends his remarks with the following sentences. "Let no one be longer deceived about **pure drones** from a mismated queen; for if such drones are allowed to fly in your yard, you cannot expect any satisfactory degree of purity from queens reared therein. I have been forced to this conclusion by many carefully conducted experiments as already described."

These are the words of G. M. Doolittle, of Borodino, N.Y., than whom, there is no better authority upon subjects pertaining to queen rearing, and I believe Mr. Alley, entertained like views upon this same subject. Mr. Mel. Pritchard, is well known as superintendent of the queen-rearing department of the A. I. Root Co, and is consisered one of the best informed queen-breeders in the United States. When at Medina, not long since, I asked for an expression of his views upon this ubject and he unhesitatingly replied to the effect that he would not allow drones from a mismated queen to fly in his yard. I believe that a misconception of the power and scope of the law of parthenogenesis is responsible to a great extent for the fact that so little progress has been made along the line of establishing fixed characteristics in bees. It should be apparent to the thinking bee-breeder that a judicious system of line breeding will have a tendency to remedy this difficulty. It is a deplorable fact that the bee-keeping literature of this country is sadly at fault for accepting the statement of German scientists concerning a matter that can be so easily discredited.

In conclusion, let no man delude himself with the idea that he can establish uniform traits in bees, without a recognition of the law of parthenogenesis, at its true power and scope; for it is a scientific impossibility to establish a pure strain of bees by breeding to drones from a mismated queen.

Birmingham, Ohio.

AMERICANS AND CANADIANS

Why Lose Fifty Per Cent. Profit?

Indexed

By Samuel Simmins.

What is wrong with American and Canadian bee-keeping? With a look of astonishment, the reader will at the first glance reply "Nothing! Nothing! Why

should there be? Surely we are making rapid strides in management, and breeding the best stock obtainable."

But the writer fails to see where the improvements come in. Certainly large apiaries and extensive working plant are often in evidence, but where are the evidences of larger yields than could be obtained twenty or thirty years ago? Where then is the progress? I am thinking of the results, the great thing that matters, rather than of general appliances. I am referring rather to the size of hives and frames, and the kind of stock for securing the largest and most profitable results.

It is often admitted that an outsider, glancing over the whole field has often a clearer vision than those who are plodding away inside, with their noses almost on the ground, so that their surroundings are somewhat obscured. Each laborer is busy at his own plot, making the most he knows how, but he has no time to be looking around the whole field.

Well, that is my excuse for the remarks I am making, and where I am wrong it will only add to my own knowledge if some kind brother, without taking offence, will stand up and let a little more light into my understanding.

The Langstroth Frame

First of all I am compelled to assert that this frame is too shallow for wintering in all cold climates, indoors or out. It is too shallow for securing the best results in temperate localities, and vastly too small for securing the largest results in tropical and semi-tropical regions. Hence the natural conclusion is that it is too small for the honey season in any locality.

I am fully aware that some bee-keepers adopt sectional brood chambers, using two for a stock; but that does not alter the fact referred to. While the divisional chambers make more work, it will be found that a single deep frame will winter better and safer than a divided chamber, while the bees will build up more rapidly on the single deep frames.

I am also aware that the shallow brood chamber is still further reduced before supering; but this is only a confession of weakness in management, and can not bear comparison with the removal of one of two deep brood chambers at the right moment.

It is more reasonable and more profitable in the end, to secure a pre-ponderance of workers over a fairly large brood chamber, rather than to curtail both space and brood with chambers already too shallow, in securing a temporary preponderance only, which is soon reduced so that the remnant is not fit to set up for winter.

Editor E. R. Root states that the average yields, taking the United States all over, would probably be 35lbs comb honey, or 75 lbs. extracted. Has bee-culture so degenerated that even to-day the results from the old let-em-alone style of bee-keeping can not be exceeded? Surely intelligent management plays no part where bees are allowed to dawdle in this way.

What then is wrong? Is it really nothing after all? My friends will excuse my presumption, because, like themselves I am anxious to get at the bottom facts of the whole matter.

American Langstroth frames and hives are used largely in South Africa, as elsewhere, but even there, where in some places I am assured the bees can work every day of the year, the average yield is barely 100 lbs. per colony.

The trouble first to be considered is that the Langstroth frame is too small; certainly it is too shallow; and these small frames are frequently limited to eight in one chamber, or at the most, ten. Can any self-styled progressive bee-keeper expect to obtain large yields of honey from diminutive hives such as these? It is an impossibility, and the

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few who are using large chambers will fully agree with my remarks.

But, say some: "A large brood chamber will wear out the queen sooner than usual." So much the better say I; she can be replaced several times over if only ones output is doubled or trebled. "One queen one year" has been the motto I have endeavored to get bee-keepers to act up to ever since the publication of my 1886 pamphlet, which many American friends procured at the time; but neither on the American continent nor in Europe have bee-owners yet fully realized the advantage of that rule. And yet it is a fact that a queen reared in June is of no use during a late harvest of the same year. Nothing will induce her to produce sufficient brood so that the late flow may be fully taken advantage of.

If one persists in keeping queens that can only use eight to ten Langstroth frames, and even then leave some of the outer combs for stores, he certainly has not yet procured the best that can be had.

Suppose, as a test, some reader will try eleven or twelve frames measuring 16 by 10 inches in place of eight or ten Langstroth; he will be getting on the road toward greater profits, and the results will soon induce him to drop the shallow Langstroth; but he must not trust to a queen which only wants eight Langstroth frames.

When in the Argentine, Mr. Eddowes, (now in Jamaica) wrote me that he found the British Standard frame and the Langstroth **nowhere** by the side of the 16 by 10 inch size that I have recommended for more than 30 years past. He got some 330 lbs. extracted honey from the 16 x 10 inch frame stock, while from the shallow frame hive he secured 150 lbs, less than half; and he says with far more trouble in manipulation of the latter; the stocks being started equal on the same day.

I must repeat that a single eight or ten frame Langstroth stock hive will never produce a population sufficiently large to yield highly profitable results. Occasionally one may get 100 pounds therefrom, but the average must often fall below Ed. E. R. Root's showing.

A client of mine secured 350 odd pounds of extracted honey from a queen I sent him, but she started the season with the equivalent of two 16 x 10 inch eleven frame chambers crammed solid with brood. Had she been restricted to ten Langstroth frames the result must have been less than half, possibly even a third.

It is admitted that when working for extracted honey the Langstroth frames may often be used in two stock chambers to which the queen is freely admitted; but this is seldom done where comb honey is worked for; and yet for this purpose even a larger population is needed, such as a single eight or ten frame Langstroth will never provide for.

One may search far and wide before finding two Langstroth chambers crammed with brood before section supers are placed on one of the two; first removing one and leaving the bulk of the bees and the fullest combs of brood at the right moment. The chamber left solid with brood will not be so readily crowded down as where the bees were already limiting the queen's available space in the one-chamber method of working.

If the removed chamber is not placed over a stock worked for extracting, it makes a very good nursery for starting a young queen and eventually supplying the working stock with further strength. In the first event all the bees are left with the parent stock.

A few years since, like the flash of a meteor in the night of darkness, Dr. Gandy showed how useless the single Langstroth chamber was, as also the still further cramping of the bees' en-

ergies by using over this diminutive stock chamber that bug-bear of modern apiculture—queen excluders. He was able to give practical demonstrations that large brood-nests and large hives **alone** can be made to produce magnificent results—in one instnce up to an average of 400 lbs. per colony from 75 colonies in his home yard.

When he began the average yield in his locality was about 50 lbs; soon his own average was 150 lbs. and for the later six years his average was 300 lbs. per colony while working over 500 stocks distributed in different yards.

And why have not other American bee-keepers endeavored to do likewise? Because they would not realize that Dr. Gandy gave the whole truth in a nut-shell. Many prefer to sit in darkness rather than alopt colossal hives and secure therefrom colossal results. Who can imagine that starting with a puny eight or ten frame Langstroth chamber he will ever secure from it 300 or 400 lbs. of honey?

Heathfield, Sussex, Eng.

(To be continued.)

BEESWAX

From the Bee to the Foundation Mill.

By W. J. Craig

Beeswax as a product of the bee, comes second in importance to that of honey. It has its origin in the honey consumed by the bees and transformed by them into fatty matter by a process of digestion and secretion, coming away in the form of scales from the wax glands and plates underneath the abdomen. There are certain conditions essential to the secretion of beeswax, such as the honey flow, temperature, etc.

Conclusions regarding the number of pounds of honey necessary to produce a pound of beeswax vary so widely that it is scarcely safe to make a statement. It has been estimated at 10, 16, 18, 19 and 20 pounds. Prof. Cook agrees with Huber in placing it at about 20, but says that such experients conducted under abnormal conditions must be received with caution. Bees fed on sugar syrup will produce wax; in fact, it is said that they will produce more on sugar syrup than on honey, and that those fed on brown moist sugar will yield the largest quantities.

The manipulation of the wax scales and comb building would perhaps be a subject beyond the scope of this paper. Suffice it to say that the wax is essential to the existence of the insect and nothing so far discovered will absolutely take its place. Real beeswax retains ductility and tenacity under a greater range of temperature than any mineral plant or insect wax. Combs made from foundation containing adulterations of paraffin or ceresin waxes are liable to break down in the hive in hot weather.

Pure beeswax has a specific gravity of between .960 and .972 and a melting point between 143 and 147 degrees F.

The modern system of bee-keeping does not admit of a large annual production of wax for the bee-keeper. It must necessarily be limited, and in consequence every particle of wax and comb is valuable and should be cared for like "gold-dust." We would like to advocate the retaining of the wax as much as possible in bee-keeping channels for bee-keeping purposes. The prices sometimes offered for it for other purposes is a temptation, of course, that might test the loyalty of the most of us.

We might at this point suggest a regular system of converting old and deformed combs into beeswax. I think that many of us are inclined to "hang on" to our old combs too long. If this work is carried on systematically and regularly we will not only have more beeswax, but our combs will be in much

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The subject of rendering wax, which includes the wax extractors, presses and capping melters—their merits and demerits, is altogether too comprehensive to take up here, so I will merely mention it. There is a matter in this connection, however, that has been impressing itself upon me during the last season, with all due respect to the inventors of these very excellent wax-saving and time-saving machines. I am inclined to think that the introduction of the wax-press is going to give us a softer grade of wax than we have been receiving by the old method. I am not prepared to say how or why this should be; I am simply speaking from observation.

Another season I would like to request the department at the O.A.C., Guelph, to conduct a series of experiments along this line from samples, which I shall be pleased to supply. The Provincial Apiarist, no doubt, would be able to report to the Association from these something of the relative values of blended, capping and comb waxes for comb foundation.

We handle many tons of beeswax annually and receive it in all shapes and conditions. Advanced bee-keeping, with better facilities in recent years has made a marked improvement in this commodity. We seldom get the mushy messes that were formerly consigned to us, but there is still room for improvement with the small bee-keeper, who does not think it worth while to purchase a wax extractor. If we could only convince these people of the value of the article there would be more wax around about swarming time and fewer miller moths.

Every pound of wax that comes into our factory is remelted under live steam no matter how clean it may be. We do this for the protection of our customers, to prevent any possibility of disease germs being carried in the foundation. Very dirty wax we treat with sulphuric acid. When the wax is thoroughly melted, it is allowed to stand for about 24 hours hours, until all the water and sediment settles to the bottom. It is then run off into flaring vessels from the top, by taps set at various points in the tank, the lower tap being four or five inches above the water mark. This leaves all the sediment in the water or adhering to the last cake of wax which is left in the tank.

When the wax is sufficiently cooled for handling the cakes are again subjected to a melting process, the temperature of which is gradually reduced by passing from one receptacle to another, until just at melting point it is brought in contact with the revolving cylinder of the sheeter, through which a current of cold spring water is continually passing. This cylinder takes up the wax now congealed or in a plastic condition and forces it through an aperture in continuous belt-like sheets, which are caught on a reel and rolled up ready for the milling machines. These rolls of sheeted wax are submerged in luke-warm water and passed through the mills in the same continuous sheets. Steam-heated automatic knives cut the foundation to the desired sizes and a heavy canvas belt carries it forward for papering, boxing and shipping.—Read before the Ontario Bee-keepers' Association, Toronto, November, 1911.

DISAPPEARANCE OF QUEENS

By Thos. Martin.

Last spring I noticed a number of my colonies dwindling and found that some of them had been queenless for some time. As the season advanced the trouble continued. Strong colonies with year-old queens would suddenly begin to supersede and the old queen would disappear. In some cases these young

queens after beginning to lay would die also. This continued all through the season. I wrote to Mr. Morley Pettit about it but he seemed to think that the bees were getting run out and that requeening would cure them. I sent to Brantford for Italian queens but some of them met with the same fate. I will mention one colony in particular. Finding it queenless I gave it some Italian eggs but it destroyed these. I then introduced an Italian queen which laid eggs on both sides of two combs and then disappeared. I united this colony with another queenless colony and gave them a queen-cell. This hatched out, but the weather being cold the queen did not mate. She laid a few unfertilized eggs and disappeared. I had an experienced apiarist to inspect these colonies. He pronounced them to be all right so far as he could see. The hives are clean, the cells shiny, no dead brood, no smell, nothing abnormal in any way other than the death of the queens . In spite of the weakened condition of the colonies resulting from the loss of their queens, from 57 colonies spring count, I have extracted 5000 pounds of honey and increased the number of colonies to 77. Three colonies have been lost this fall on account of the queen trouble. Can any of our readers explain cause or cure?

Forest, Ont.

[We have in reply to our correspondent an article pointing out where he erred in his methods. Meanwhile we shall be glad to hear from others who may have experienced similar difficulties.—Ed.]

WOMAN'S DEPARTMENT

In consequence of our going to press with this issue somewhat earlier than usual, we did not receive Miss Robson's contribution in time for it to be included in this month's journal. This valuable feature of the C.B.J. will be resumed in our next issue.

THE INSPECTION OF APIARIES IN ONTARIO

By Morley Pettit, Provincial Apiarist.

(From the annual report read at the Convention of the O.B.K.A. at Toronto, November 16th, 1911.)

The main new feature of the work for 1911 was the series of Apiary Demonstrations conducted by the Provincial Apiarist, the apiary inspectors and others, under the auspices of the Apiculture Department of the Ontario Agricultural College, and with the assistance of the local associations. The value of such demonstrations is apparent. The average person learns how to do things far more quickly by seeing them done than by being told how. The Inspector cannot afford to show everyone individually how foul brood is treated. He must simply give an explanation, leave printed instructions and go on. But if a score or more people, by appointment, meet in an apiary, he can meet with them and show the lot at one time exactly what the disease looks like, how it should be treated to cure, and how wax can be saved from the diseased combs.

Apiary demonstrations were held at the following places:

Brant County, Cainsville, 50, Paris 35; Carleton County, Burnstown, 30, Leitrim, 30, C. E. Farm, Ottawa, 45; Dufferin County, Orangeville, 33; Elgin County, West Lorne, 40; Essex County, Essex, 50; Glengarry County, Lancaster, 20; Hastings County, Crookston, 40; Huron County, Zurich, 12; Northumberland County, Frankford, 40; Oxford County, Ingersoll, 10, Wolverton, 11, Tillsonburg, 15, Tavistock, 27; Prescott County, Curran, 25; Russell County, Cumberland 12; Simcoe County, Thornton, 20, Hillsdale, 20; Welland County, Fonthill, 30; Wellington County, Hollen, 17, Metz 14; Wentworth County, Lynden, few, North Glanford, few, Ham-

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ilton, 18; York County, Islington, 75.

Twenty-seven demonstration meetings were held in seventeen counties. They were remarkably well received by the local bee-keepers, the average attendance being about thirty. Great credit is due the Canadian Bee Journal, also local newspapers all over Ontario for advertising and reporting these meetings.

Another feature was the employment for the first time of men from the Agricultural College for Inspection work. The necessity for making some change has been evident for several years. Our best inspectors have been dropping out from year to year because they found it more profitable to look after their own bees than to go out in the busy season and attend to their neighbor's bees. It has been very difficult to fill their places and supply the demand for more inspectors with competent men. At the same time there are bright men studying at the college who purpose making a business of bee-keeping. They are there where we can give them the special training for the work and have their summer free to devote their whole attention to it.. Having no established business which must be neglected when they go inspecting they do not require so high a wage for their time. Their expenses are also materially reduced by using the college rate of one cent per mile on the railways. The employment of three college men during the season has shown that with some revising the plan can be worked with good success. The greatest difficulty is to hold these men for the inspection work. One of them has already bought bees for himself, and the other two are expecting to buy next year. It certainly shows they have confidence in the business they are undertaking.

The inspection season was marked by a greater interest on the part of bee-keepers and inspectors than ever before. More letters than usual were received from bee-keepers who wanted their neighborhood inspected. These requests received as prompt attention as possible. After attending to such special cases inspectors were advised to visit only such apiaries as were strongly suspected of being diseased. Apiaries found clean last year were by no means to be gone over again. This restriction is absolutely necessary because of the limitations of the appropriation.

Work began on the 15th day of May and was mostly completed by the end of June. At that date the appropriation was found to be so nearly used up that the inspectors were requested not to undertake any new work unless specially notified. At the same time each inspector was advised that if he had special cases still needing attention he should report them at once to headquarters. Several of these were reported and in every case received prompt attention so long as the money lasted.

Each inspector was requested to complete his work as early as possible in July. The importance of this will be seen by every bee-keeper who has had experience in treating foul brood. The shaking method of treatment is practically the same as making an artificial swarm on starters. Colonies treated early in the swarming season and made strong by uniting where necessary will thrive and work about as well as early swarms. Colonies treated after the swarming season is over require as much nursing to build them up as swarms hived at that time. Even where a fall flow follows the bee-keeper would rather have cured colonies with combs built ready to take advantage of it than colonies depleted by disease and compelled to build comb and stock up for winter.

With this in view the Department does all in its power to get the early weeks of the inspection season used as fully as possible by inspectors. During the season of 1911 some of the inspectors were

unable to do much work at that time because of their own work at home. The result was that a larger share of the money was used in districts where the inspectors were able to go to work at the proper season and so put the money to the best use.

The following table shows the time spent by inspectors before and during the early part of the swarming season:

WEEK	Inspectors Working	Days' Work	Per Cent of Full Time
May 15-20	5	15	20 %
May 22-27	6	12	15 %
May 29-June 3	6	21	26 %
June 5-10	10	32	40 %
June 12-17	11	45	56 %
June 19-24	12	37	46 %
June 26-July 1	12	38	47½%

Owing to illness one of the inspectors was unable to do any work. This leaves fifteen inspectors with a possible 80 days' work each week.. It will be seen that in not a single week did all the inspectors work even one day each, and there was only one week of these important inspection weeks when as much as half time was put in. This is largely accounted for by the inspectors being busy at home, so if any districts having much foul brood did not get their share of attention the Department can hardly be held responsible for the neglect.

There is nothing specially new in the disease situation. American foul brood is still with us. Some bee-keepers are keeping it in check or getting rid of it. Others are not. A more rigid enforcement of the law will be necessary before much headway can be made. Bee-keepers who fail to carry out instructions of inspectors should have the conditions of Sec. 3 of the act pointed out to them, and enforced. This section provides that "Wherever the said inspector is satisfied of the existence of foul brood in its virulent or malignant type, it shall be the duty of the Inspector to order all colonies so affected, together with the hives occupied by them and the contents of such hives, and all tainted appurtenances that cannot be disinfected, to be immediately destroyed by fire under the personal direction and superintendence of the said inspector." It will be seen by this that the primary remedy provided is FIRE. It is only in cases where the Inspector has reason to believe that it may be entirely cured that he "may, in his discretion, omit to destroy." Now in this work the inspector is the "doctor" but not the "nurse." The appropriation will have to be very much increased before the department can provide nurses and hospitals as well as doctors for bees. In the meantime the diseased material which owners fail to clean up within a reasonable length of time should, in the interest of other bee-keepers, be destroyed.

The disease known as European Foul Brood is carrying out its own program according to schedule. Steadily, and not slowly, it is spreading from the centres already reported, until the following counties are now affected: Carleton, Russell and Renfrew, Northumberland, Hastings, Prince Edward, and Welland. A slight outbreak was reported in York. The only remedy is to introduce some other race of bees than black bees. Italians have been most thoroughly tested and found almost immune to this disease. Carniolans are reported by some to be quite as good as Italians in this respect. An extra amount of work was done by inspectors in the counties named principally along the line of urging the introduction of Italian queens. Those who have heeded the warning are pulling through and recovering lost ground. Black bees are, of course, being exterminated. A series of bee institutes should be held in these and adjoining counties in order to warn bee-keepers of

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COUNTY	Apiaries
Brant	2
Bruce	1
Carleton	8
Dufferin	
Durham	
Dundas	28
Essex	11
Frontenac	6
Glengarry	11
Grey	101
Haldimand	2
Halton	6
Hastings	71
Huron	13
Kent	10
Lambton	7
Leeds	34
Lincoln	28
Manitoulin	25
Middlesex	4
Norfolk	3
Northumberland	52
Ontario	5
Oxford	38
Peel	3
Perth	65
Prescott	6
Pr. Edward	46
Renfrew	7
Russell	56
Simcoe	75
Stormont	1
Victoria	7
Waterloo	6
Welland	66
Wellington	15
Wentworth	20
York	45
Total	1013

* E.F.B.

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The following table shows the inspection work done in the different counties:

COUNTY	Apiaries Visited	Apiaries Diseased	Colonies Diseased
Brant	29	4	74
Bruce	16	8	335
Carleton	89	46*	688
Dufferin	2	2	36
Durham	4	1	107
Dundas	28	4	136
Essex	11	5	45
Frontenac	6	2	282
Glengarry	11	0	
Grey	101	42	980
Haldimand	2	0	
Halton	6	3	70
Hastings	71	36*	520
Huron	13	0	
Kent	10	2	110
Lambton	7	4	98
Leeds	34	0	
Lincoln	28	2	5
Manitoulin	25	6	90
Middlesex	4	1	65
Norfolk	3	1	140
Northumberland	52	38*	426
Ontario	5	3	17
Oxford	38	18	345
Peel	3	1	
Perth	65	21	136
Prescott	6	1*	60
Pr. Edward	46	28*	414
Renfrew	7	4*	6
Russell	56	21*	532
Simcoe	75	32	419
Stormont	1	1	17
Victoria	7	4	362
Waterloo	6	2	14
Welland	66	38*	532
Wellington	15	6	131
Wentworth	20	10	253
York	45	17*	421
Total	1013	414	7806

* E.F.B.

Brant County bee-keepers took the law into their own hands in a very commendable way and used some of the funds of their thriving association to pay for inspection work in addition to what the Department was able to do for them.

In Carleton the disease is all European Foul Brood. Mr. E. F. Millen, Inspector for that district, reports as follows, his report having reference to the counties of Prescott, Russell and Renfrew as well

"European Foul Brood is the great enemy of the bee-keepers in almost every part of the territory, and causes much anxiety to the bee-keepers, especially where the treatment for its cure is not thoroughly understood or carried out.

"The bee-keepers with a few exceptions were glad to see an inspector and rendered all possible assistance, knowing that the visit was made for their good and not for destruction only. The men, where disease was found, who treated and requeened early suffered little loss from E. F. B., but those who left the treatment until later in the season lost the greater part of their honey crop, while some who shook but did not requeen had the disease reappear.

"As a symptom of E. F. B. to the bee-keeper who has little experience or time to look at the interior of the colony, I would add that the entire or almost entire cessation of swarming should be looked upon with suspicion until the colony has been examined, this especially refers to sections where E. F. B. is present.

"In some districts the bee-keepers are Italianizing ahead of the disease, and if this becomes common, must help to stop the spread of the disease to some extent.

"The formation of Bee-keepers' Associations too, is a good move, both in fighting the disease and educating the beemen. I would like to give one instance. In one section there is a bee-

keeper with about one hundred colonies. Last year he sold over $1000.00 worth of honey. He belongs to an association. In a second case, not twenty miles away, there is another bee-keeper also having about one hundred colonies. Last year he sold just over $100.00 worth of honey and was pleased. There was no organization in that district.

"The demonstrations as carried out during the summer, seemed very popular especially in those places where the disease was seen, and treated as part of the demonstration. A practical demonstration of the disease and treatment seem to make it more easily distinguished and treated by the bee-keeper himself.

"Although E. F. B. is spreading rapidly throughout the territory, it has been proved that where thorough treatment has been given the disease has been conquered, and so gives us hope that the day will come when E. F. B. shall be a thing of the past.

The bee-keepers want a greater education on the value of keeping bees for profit and not merely for satisfying the need of the house for a little honey. Too few beemen realize how much work a colony of bees really will do if given the opportunity during the honey flow."

Mr. John Artley of Blantyre, the inspector for Grey County reports that bee-keepers in his county appreciated the inspection work to its fullest value, saying that it was doing the country hundreds of dollars worth of good.

Mr. W. A. Chrysler, inspector for Essex, Kent and Lambton found a few new cases of foul brood in each county. The season being a poor one for honey it has been more difficult to cure and many would rather lose their bees than tackle the job. Mr. Chrysler suggests that the average bee-keeper cannot cure foul brood and have it stay cured, and states that other measures than what are now used will be necessary to rid the province of the disease.

Col. I. B. Checkley, Inspector for Lennox and Addington, Frontenac and Leeds, states in his report that he found foul brood in two apiaries in Frontenac. Owing to the cold wet spring followed by the prolonged drought during the honey season and the entire absence of basswood honey he reports the poorest season for honey for many years. Notwithstanding the information which has been freely distributed among bee-keepers he found many who never opened a hive unless to put on or take off the supers. Col. Checkley recommends that every apiary in Ontario should be inspected at once and the diseased colonies immediately destroyed or removed to quarantine stations where they could be treated by the Inspector, charging the expense of transportation to the owners of the bees. He considers that the Ontario Bee-Keepers' Association should send a delegation to the next session of the legislature in order to ask for an increased appropriation for the inspection of apiaries. Col. Checkley also feels that the pay of the inspectors is not sufficient to secure good men for the work, considering the busy season during which the work must be done

The inspector for Manitoulin, Mr. Herbert Dougherty, reports as follows: "In the course of the work I met with American Foul Brood and Pickled Brood. An inspector on this island has many disadvantages, namely bad roads, also long distances to travel and have to drive to each place. I think this is a splendid district for the bee-keeping industry, in fact I say the best in Ontario. But the Inspector is given too limited a time to give the work the attention he should."

Mr. Warrington Scott, inspector for Northumberland, Hastings, Prince Edward and Peterborough has given us the following report:

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"My report for the season of 1911 is as follows: I did all my work in Northumberland, Hastings and Prince Edward counties. I did not visit Peterborough county.

"I found European Foul Brood greatly on the increase; I was unable to cover all the diseased territory, so I do not know the exact number of square miles affected but believe I am safe in saying it covers fully one thousand five hundred square miles. I found that the bee-keepers who Italianized ahead of the disease were well paid for the investment, as the disease made much less headway and in most cases the shaking treatment could be avoided. To Italianize ahead of the disease is the best thing that can be done to check it. I found that the bee-keepers are taking a greater interest in Italianizing this year than ever before; they are waking up to the fact that they must Italianize or go out of bee-keeping. The disease has reached such proportions in my district that I think there should be at least one inspector for each county.

"I would say to those who expect to have European Foul Brood to contend with in the near future: Don't grow discouraged, but prepare for the battle by Italianizing your bees, and keep only strong colonies, then you will be in the best possible condition to fight the disease. In this neighborhood, where the disease first broke out we are getting our colonies back to their original number, as when the disease first commenced in 1907, and are getting a higher average of honey per colony than ever before. This is due mostly to the improved strain of Italian bees we now have."

In Perth and Waterloo counties inspector David Chalmers began work on May 27 and finished up on the sixth of July. During that period he put in sixteen days, in which he visited 75 apiaries representing 502 colonies, 250 of which he inspected and found 60 diseased with A. F. B. Mr. Chalmers states emphatically that his mind is unchanged about the need of quarantine stations.

Henry Johnston who is inspector for Simcoe and Muskoka visited in 1911, 107 apiaries in which he examined 891 colonies. 34 of these apiaries were found diseased, but all were left clean on the second visit.

In York county one case of European Foul Brood was reported by Inspector H. W. Burke. In this case all diseased material was immediately destroyed by fire. Mr. Burke states that there is enough disease in York county alone to keep one man going the full season to do the work properly. He states very emphatically the need for increased appropriation for inspection work.

Wentworth and Lincoln were in charge of R. C. Fretz, one of the College men, who reports as follows:

"My work for the season of 1911 was confined mostly to the counties of Lincoln and Wentworth, although I assisted Mr. Armstrong for a week or so in Welland county.

"Lincoln county is almost free from disease, as I only found two infected apiaries. These cases were in the hands of men who handled it carefully, and at my second call this fall there was no sign of the disease.

"In the county of Wentworth I found disease in the apiaries to a much greater extent. Generally speaking I believe it is diminishing slowly. From my observations I believe that this slow decrease is due to a lack of knowledge of the true nature of American Foul Brood, thereby causing a lack of thoroughness in its treatment. In some of these apiaries disease has been lurking for years in spite of the fact that the same apiaries have been treated almost as many years. I tried to impress upon these people the fact that by a more careful treatment and thorough cleaning up they might

reduce the returning disease to a minimum.

In the county of Welland the disease known as European Foul Brood was spreading towards the north. I sent out a circular letter to the bee-keepers of Lincoln county urging them to insure their apiaries against European Foul Brood by Italianizing before the disease gets a start.

"With regard to the situation in the vicinity of Thorold, I may say there are a very discouraged lot of bee-keepers. Several of them having stock worth $1000.00 and over have had to step out of the business as well as lose their live stock. I have only one suggestion to offer and that is, that the Lincoln and Welland County Bee-keepers' Association take the matter up at once, if they have not already done so.

"I did not hear any complaints as to winter loss. Bees as a rule were quite strong and built up well in the early part of the season.

"The honey-crop, although not poor, was a little below the average. The first flow was short and fast, but was cut off on account of the severe dry weather which prevailed in the Province. There was little or no fall flow."

THE CO-OPERATIVE MOVEMENT

Its Principles, Policy, and Progress

By Geo. Keen,
Editor of "The Canadian Co-operator."

PART II.

As the working men's societies spend half a million dollars annually in co-operative education and one-fourth of the people—the cream of the industrial population—are interested in the movement one would imagine that practically every one in Britain would appreciate what co-operation represented. There would seem to be good excuse for the ignorance of our people when the British Agricultural Organisation Society felt itself under the necessity recently of sending out a communication to the press calling the attention of the agricultural community to the danger of the misapplication of the term co-operation in agricultural developments, and insisting upon the economic methods I have described.

Although there were only 13 agricultural societies recognized by the A. O. S. in 1901 they had increased to 396 at the end of last year. 145 of them were for the supply of requirements and sale of produce such as I understand is in contemplation in the honey industry, 19 were dairy, bottled milk and cheese-making societies, 161 were small-holding and allotment societies, which will not apply to any considerable extent to this country, 39 were agricultural credit or banking societies, 20 egg and poultry, 3 auction marts for the sale of members produce, one central co-operative bank, an Agricultural organization society for Scotland and an agricultural and general co-operative insurance society. Some societies pay particular attention to the improvement of live stock. The Leicestershire and Rutland Cattle Improvement Society is expressly for that purpose. It was formed with the object of increasing the yield of milk per cow in those counties. The committee of the society does not confine itself to the purchase and hiring out to members of pedigree stock only, but to inspection of their herds as well, which is considered to be of great advantage to the small farmer. A similar policy as to horses is pursued by the Tiverton Farmers and Shire Horse Society as to the improvement of the quality of horses in that district.

The British Societies affiliated with the Agricultural Organisation Society increased their membership from 19,500 on December 31, 1909 to about 24,000 last December, the aggregate turnover increasing from $4,300,000 to $5,500,000 in the same period. They are operating

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The Movement in Europe

During the last generation co-operation has made remarkable strides on the European continent. Before 1882 there was no Co-operative dairy in Denmark. To-day there are more than 1200 and you have, no doubt, heard of their influence in the British market. Retail societies were almost unknown in Denmark prior to the eighties of the last century. In 1906 there were 1200. In Sweden, in the ten years ending 1906, 3162 co-operative societies of various kinds were registered. Finland in 1901 had one co-operative society—a store. In 1908 there were 310 stores, 308 dairies 206 banking and 192 for miscellaneous purposes. In a little more than six years 1016 societies came into existence. In Roumania there are more than 2000 credit societies, among the peasants, who were almost unacquainted with such institutions 15 years ago. In Hungary distributive co-operation was actually unknown in 1890. To-day there are more than 800 societies federated with the "Wholesale" organized in 1898. In Switzerland while the movement in its initiation was almost contemporary with that of the Rochdale pioneers, the great bulk of the existing societies have been formed during the last 20 years. No less than 2138 societies were established in that, the smallest country in Europe, between 1900 and 1907. Co-operative societies in Holland run into the thousands, organised during the last fifteen years.

The progress of the movement in Germany has been remarkable there being no less than 25,714 societies of various kinds in existence. In the agricultural section 13,127 were credit and banking, 1699 raw material, 3294 productive, being mostly dairy, and 892 miscellaneous. In France Austria, Italy, Norway and Russia the movement is also well represented and indeed nearly every country in the civilized world, including Japan and India, a co-operative union having recently been organized in the latter country.

I am afraid I have given you a surfeit of statistics, but while I cannot expect in a rapid review their portent to be fully appreciated, they will give some idea of the extent to which the co-operative faith in our social relations is accepted throughout the world, and that while men may differ in temperament because of their racial origin, national environment or religious opinions they can agree in the moral virtue and social value of this great international co-operative movement, which would substitute harmony, economy and justice for the prevailing industrial unrest, economic waste and class privileges, prejudices and hatred.

Canada and United States

The United States and Canada have been long regarded as the Sahara of the movement, the great desert upon which it is difficult for the seed of co-operation to take root. There is, however, considerable activity on both sides of the line. A few weeks ago a convention was held at Minneapolis of leading agricultural authorities, including the assistant secretary of Agriculture from Washington, to define true co-operation which it did on the lines I have mentioned. In Canada considerable progress is being made in distribution, the Canadian Union having thirteen societies in affiliation and a number of others in process of organization.

Co-operation and Trusts

Co-operation is bound to make headway on this continent. It is the only possible alternative to trusts, and with intelligent activity on the part of our people will eventually be found to be a substitute, gradually taking the place of capitalistic exploitation, in the same manner as local prohibition seems to be

gradually replacing the licensed system. A democracy will not permanently tolerate the ever-growing tendency of trusts to dominate trade and commerce in the interests of the few.

Co-operative Sale of Honey

Every form of genuine co-operative effort is looked upon with favor by the movement. In your own case it would take the form of the co-operative sale of your produce and the purchase of your supplies. The latter feature will, I should imagine, although I have no personal experience, be relatively unimportant.

You will have gathered from my remarks that in my judgment, the only genuine co-operative method would be for each producer to sell his crop to the Society at the market price, to accept a flat rate of say 5% or 6% interest on his capital and for the net profits of sale to be divided among the members in proportion to the value of the product each contributes to the society. Such a society ought to be of great value to producer and consumer alike in eliminating unnecessary expenses in distribution and in maintaining a standard of quality, a most essential feature in all food products.

I know nothing of the honey industry so am not qualified to give technical advice, but, looking at the subject in a common sense light, I would suggest that a capable business man, with the necessary tact to work in harmony with the members and also possessing the technical experience of the business to efficiently manage the institution and sell the produce, should be appointed. Members should each have one vote only and it should be given in person. Care is needed that the members through the directors, control the policy and supervise the business, and to that end directors should be appointed with the necessary co-operative spirit and possessed of good common sense. Short of this qualification it will mean that while your society will in form be co-operative, it will in management really be proprietary, and in course of time you would find, as is frequently the case on this continent, the business gravitating into the individual ownership of the manager and the conditions you are now seeking to avoid will be restored. One of the difficulties I anticipate, you will have to meet with will be the exercising of a close oversight in the conduct of the business, your directors and members being drawn from such a large area as this province. Unless a considerable section of the members take an intelligent interest in the affairs of the society, it will soon cease to be one in fact. To overcome the difficulty I would suggest that county sections should be formed, if they are not already in existence, and that each county or a combination of adjacent counties, should elect its director to the Board of the Society, which will no doubt meet in Toronto or some other central place, and that the general meeting should be held in sectional districts, each sectional director submitting the policy and proposals of his Board to the local members, the view of the majority of the members of all the sections so ascertained by their votes prevailing as the authority of the members in general meeting assembled.

One Billion Dollars Saved

Reverting to agriculture generally I may say that while during the last half-century one billion dollars have been saved to British Co-operators by their associated efforts in the purchase of merchandise and in one city alone—that of Edinburgh—the savings so effected have in the last 26 years reached the extraordinary total of $21,379,035, their opportunities, by the nature of the industries in which they are engaged, are more circumscribed than those of the farming community of this country

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Agricultural Development

In the case of the farmers of Canada, they finance, by personal or borrowed capital, their own labor and market its produce so that they can effect by co-operative effort great savings both "coming and going," that is to say in the production and sale of the commodities they have to market as well as in the purchase of the merchandise they need to buy.

Notwithstanding the enormous success of British Co-operation it will be seen from the figures I have given that but a very small percentage of my fellow co-operators in the old land benefit by the co-operative employment of their labor.

In every agricultural trading centre in Canada might be gradually evolved a co-operative institution which would not only organize the farmer's demand for merchandise and eliminate the middleman's profit therefrom, but it might at the same time organize the sale of his produce also by placing it in the hands of the consumer direct, through his own distributive societies, developing along parallel lines in Canadian towns and cities, and with the great British co-operative consuming population.

Social Advantages

Such an institution would do more. It would replace suspicion of each other's motives by fraternal confidence in each other's integrity and good intentions. It would, as in Britain and other countries, provide opportunities for social intercourse, recreation and education, and do as it has done for British co-operators to a remarkable extent, give the farmers of the country better opportunities for acquiring personal experience in the transaction of business and the treatment of public questions, thereby providing for the service of the state a body of men truly democratic in their habits of mind, fraternal in their social ambitions and intellectually equipped for the development by pure, good and progressive methods of government, of this great Dominion of Canada so fraught with opportunities for the advantage and happiness of mankind

COUNTY BEE-KEEPERS ASSOCIATIONS AND THEIR WORK

By Morley Pettit, Provincial Apiarist, Guelph

(At the Annual Convention of the Ontario Bee-Keepers Association, Toronto, November 15th, 1911)

In speaking of County Bee-keepers' Associations and their work it will be of interest to have first of all a brief historical sketch of the organizations which have had their part in making bee-keeping what it is in Ontario to-day. In preparing this sketch recourse has been had to the early records of the societies concerned, where such were available, and to the then current volumes of the Canadian Bee Journal and the American Bee Journal. Also the reports of the Ontario Bee-keepers' Association. Unfortunately none of these sources gives complete reports and it is to be hoped that any who are able, from memory or otherwise, to correct the statements given will correspond with the writer.

We have no record of bee-keepers' meetings in Ontario previous to 1880, when "On Tuesday afternoon, the 14th inst., (August) about sixty bee-keepers, representing all sections of the Provinces and several from the United States and Manitoba, met in the City Hall, Toronto, Mr. R. McKnight of Owen Sound in the chair, and Mr. Greenslade or Toronto, Secretary.

"The chairman, after briefly acknowledging the honor conferred upon him, referred briefly to the necessity of a Canadian Bee - Keepers Association, through which the freest interchanges of thought and experience in reference to this important industry could be had.

There was sufficient indication given of the capabilities of honey production in Ontario in the case of Mr. Jones, whose apiary yielded 70,000 pounds of honey per annum, gathered from a single township. He hoped they would endeavor to get as much practical information as possible during the meetings of the convention pertaining to apiculture and the marketing of bee products."

"On motion a committee was appointed to draft a constitution for the association, also a committee to select subjects for the discussion."

A constitution was drawn up and the following officers elected: Pres. D. A. Jones, Beeton; vice-presidents, Dr. Shaver, Stratford, and Hon. Lewis Wallbridge, Belleville; secretary-treasurer, R. McKnight, Owen Sound; executive committee, F. Webster, Toronto; W. F. Clark, Listowell, J. G. A. Wallace, Brighton, J. B. Hall, Woodstock, Mr. Duncan, Embro

"The duty of filling up the list of County Representatives was left to the executive committee, as was also the duty of drafting a set of by-laws.

"Mr. D. A. Jones and W. F. Clark were appointed delegates to the convention of the National Bee-keepers' Association to be held in Cincinnati."—(A.B.J. Vol. XVI., 1880, p. 509).

The name of this association was soon changed to the Ontario Bee-keepers' Association. Annual conventions have been held continuously since the first meeting in 1880.

Probably the next oldest association in Ontario is the Norfolk County Association. In fact I do not know which is the older of the two. The first report we have of it is in A.B.J. Vol. XX., 1884,, p. 442. This was the fourteenth regular meeting and was held June 7th, at Simcoe, with Pres. Moses Kitchen in the chair. Elias Clouse was secretary. After some practical discussions the meeting adjourned to meet again Sept. 6th. One would infer that meetings were held quarterly, and this would date the first meeting in March 1881.

This old association has thrived and done much for bee-keeping, not only in Norfolk, but also in the whole of Ontario, particularly in the matter of getting increased inspection of apiaries. It is alive and well at the present day.

The next association to be formed was the Haldimand County Association, which was organized in 1882. The second meeting is reported in A.B.J. Vol. XVIII., 1882, p. 729. The following is taken from this report:

"A meeting of the Haldimand Bee-keepers' Association was held at Cayuga, Ont. on Friday, October 27th, 1882, at 1 o'clock p.m., the president, E. Decew, Esq., in the chair. The president explained the object of the meeting, viz., the adoption of a constitution for the association, and the election of additional officers. The constitution was adopted fixing an annual fee of fifty cents for membership."

Methods of management were discussed and township representatives elected. E. C. Campbell was the secretary and proved the best reporting secretary of early times.

There seems to be no break in the continuity of this society from the first to the present time and several of the first members are still active workers.

In 1885 the Eastern bee-keepers got together and formed the Bay of Quinte Bee-keepers' Association. Their organizing meeting at Trenton in October of that year is well reported in A.B.J. Vol. XIX, 1883, p. 640. P. C. Dempsey was elected president and J. H. Peck secretary. This Association seems to have thrived for about six years, meeting in various towns of the district. But in 1888 there was a very poor season and the meeting in Belleville was "small but representative." (C.B.J. Vol. IV. p. 571)

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The Bay of Quinte Association is not heard from again.

A Hamilton District Association is also reported as having met on Nov. 10th, 1883. W. J. Whitfield, Dundas, President, and A. Robertson, Carlyle, Secretary. After discussion of methods of management the convention adjourned to meet again Apr. 12th, 1884. (A.B.J., Vol. XIX, 1883, p. 608). If they did meet again there is no record of it.

In 1884 Middlesex bee-keepers organized as follows:

"A meeting of prominent bee-keepers was held at Ailsa Craig last week, for the purpose of forming an association to advance their mutual interests, and discuss matters pertaining to bees and bee-keeping. The following officers were elected: President, Mr. Campbell, of Parkhill; vice-president, Mr. Atkinson of Ailsa Craig; secretary, Mr. Stewart, of Ailsa Craig. A profitable and interesting discussion followed on "Bees and their Habits and Improvement," after which a deputation consisting of Messrs. Aikes, Campbell and Atkinson was appointed to interview the directors of the Western Fair, with a view of securing better accommodation and inducements for bee-keepers wishing to make exhibits. The next meeting will be held in London, Ont." (A.B.J. Vol. XX., 1884, p 182). The Association was first called "North Middlesex," but the "North" was soon dropped. Its life has been, I believe, continuous to the present time and it has had some of the largest county meetings.

Another county organization formed the same year and still working has about an equal reputation for good meetings. This is the Oxford County Association. The American Bee Journal (Vol. XX. 1884, p.313). gives the following report of the organizing meeting.

"The bee-keepers of Oxford County, Ontario, held their first general meeting at Woodstock, on Saturday, April 19, 1884, at 10.30 a.m. After the routine business was disposed of, President J. B. Hall gave a report of his visit to Toronto in reference to the passage of a bill relative to bees affected with foul brood.

"A motion was passed authorizing the secretary to correspond with the secretary of the Ontario Association, with a view to bringing about such united effort as will result in the passing of such a law."

We see how early present day problems were receiving the careful consideration of local associations.

Whether the Listowell Association was organized in 1884 or earlier I do not know. C.B.J. Vol. I. p. 14, reports a convention on Feb. 18, 1885, with 100 in attendance. D. A. Jones was the chief speaker at this as at many meetings in the eighties. This Association thrived until about 1895, then died.

An Elgin County Association was also formed in 1884.

"The bee-keepers of Elgin met at St. Thomas on Tuesday last (January) when Mr. S. T. Pettit of Belmont, was appointed president of the convention; Wm. H. Hill of St. Thomas, vice-president, and John Yoder of Springfield, secretary-treasurer. It was resolved that this association be known as the Elgin, Ont., Bee-keeper's Association, after which suitable constitution and by-laws were adopted, and that this association believe that the honey interest of Ontario demands legislation to enable bee-keepers to successfully contend with foul brood, and that a director be appointed to act with the Executive Committee of the Ontario Bee-keepers Association in that behalf. Adjourned until the 29th inst." (A.B.J. Vol. XX. 1884, p. 88).

Another session is reported in C.B.J., Vol. 1, 1885, p. 201, with attendance much greater than at any previous session. This is the last heard from this association.

In 1903 the Elgin Bee-keepers Association was re-organized (A.B.J. Vol. 43, 1903, p. 804). and one meeting held in 1904. It died again and has not been revived.

Another fragmentary record is that of the Waterloo Association which held a convention at Elmira, May 4, 1885, S. Kinsey, president, in the chair. Met again in September 1885 and adjourned to meet in September 1886, but there is no record of their having done so. (C. B.J. Vol. 1., 1885, p. 142, also Vol. II. p. 191).

In 1885 a Mount Forest Association organized and elected officers on the 18th of June. About 35 members were received at a membership fee of twenty-five cents. Regular meetings were appointed for May, June and September. (C.B.J. Vol. I, 1885, p. 236).

The last meeting of this association to be reported was on June 17th, 1886.

In 1886 we have the following report from the bee-keepers of Fergus:

"A meeting of those interested in bee culture was held at Fergus a short time since for the purpose of forming a bee-keepers' Association in the County of Wellington. There was a fair attendance of those interested in bee-culture. The Rev. J. R. Black of Belwood, was called to the chair and Mr. Jas. Clyne was appointed Secretary. It was resolved to form a society to be known as the Bee-keepers' Association of Wellington. A membership fee of twenty-five cents was fixed upon. The meetings will be held quarterly from the time of the present meeting. The following officers were elected: President, Peter Jerrie of Belwood; secretary-treasurer, Henry Switzer."

There seems to have been a feeling on the part of some Guelph men that the Fergus meeting was not sufficiently representative to organize a county association. At any rate this new "Wellington" association was not heard from again, but a "Guelph Central Association appears on the scene, in August of the same year. The following report of the organizing meeting is taken from A.B.J. Vol. XXII., 1886, p. 518.

"The Guelph Mercury of August 5 reports the proceedings of a meeting held the day previous for the purpose of organizing a bee-keepers association. Mr. Thomas Simpson was elected Chairman and A. Gilchrist secretary pro tem. It was then moved by Mr. Clark that a bee-keepers' Association be formed, called "The Guelph Central Bee-keepers' Association." The following officers were then elected: President, W. F. Clark; vice-president, J. Ramsay; secretary -treasurer, A Gilchrist." A discussion followed on various matters pertaining to apiculture.

This too is a short lived association and drops out of sight after holding a meeting on March 23rd, 1887.

In the spring of 1911 a Wellington County Association was again formed, and we are hoping for better things.

The district convention idea has been more successfully carried out in Brantford than anywhere else in Ontario, due largely to the organizing ability of R. F. Holtermann, who was secretary of the first meeting held Feb. 24 and 25, 1886, with about 40 in attendance, F. Malcolm and W. F. Clark acting as chairmen.

This was "the first solely Canadian convention having a sitting of five continuous sessions" and is quite fully reported in C.B.J. Vol. I. 1886, p 807.

In May 1886 the Brant Bee-keepers' Association was formally organized with President W. R. Brown; Secretary R. F. Holtermasn. Arrangements were made for the Association to make a display of honey, etc., at the Brantford Fall Fair. (C.B.J. Vol II. 1886, p. 231).

A meeting was held in September. (C.B.J. Vol. II. 1886, p. 231).

On December 29 a resolution was passed suggesting "that the Ontario Bee-

keepers' Association
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1889. p. 41).

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ber" (C.B.J. Vol. II. 1886,

keepers' Association appoint Inspectors to go through the country and report the condition of any and all apiaries of those selling sees, and also ask the Ontario Legislature to prevent the spread of the disease." (A.B.J. Vol. XXV, 1889. p. 41).

It seems to have had a continuous existence in affiliation with the Ontario Bee-keepers Association up to the present time.

A district convention was held again in 1903. At this meeting county inspectors were asked for. It was also asked that Mr. G. C. Creelman, Secretary of Associations in the Department of Agriculture be made secretary of the Ontario Bee-keepers Association. Mr. C. C. James was present and advised the bee-keepers to get more in touch with the department. (A.B.J. Vol. XVIII, 1903, p. 357).

District conventions have been held every winter since 1903.

Lambton was another county organized in 1886 and to Alvinston bee-keepers is the credit due. The first two meetings are reported as follows:

"The bee-keepers of the village of Alvinston held a meeting Saturday evening 31st July, 1886, for the purpose of considering the advisability of forming a bee-keepers' association in this village. The following officers were duly appointed: Messrs Adam Clark, chairman, J. R. Kitchen, secretary, and James Newell, treasurer. After considerable discussion they formed themselves into a body to be known as "The Alvinston Bee-keepers' Association." They intended holding a convention at the village on the 1st of September, when invitations will be sent to the bee-keepers of of Lambton and Middlesex to attend and discuss the best modes of wintering and handling bees. It is the intention of the members to extend this to a county association at the convention in September" (C.B.J. Vol. II. 1886, p 394).

"The first meeting of the Lambton Bee-keepers' Association was held in the Council Chamber in the village of Alvinston on Wednesday, Sept. 1st, R. Auld, of Warwick village, was appointed president and Dr. Harvey of Wyoming vice-president, with J. R. Kitchin secretary, and James Newell treasurer, both of the village of Alvinston. It was then extended from the Alvinston Association to the county." (C.B.J. Vol. II., 1886, p. 524).

This association was in existence in 1891, where the records break down, but it has disappeared in '97 where the record is taken up again.

In 1887 the Western Ontario Bee-keepers' Association was organized at Tilbury Centre, Jan. 12, 1887, with president D. Stewart, Stony Point; secretary E. Burgess, Tilbury Centre. (C.B.J. Vol. II. 1887, p. 870).

This association disappears after the year 1897.

The Bruce County Bee-keepers Association was organized Saturday, December 1st, 1888, at Walkerton, with 14 members. President John Hockley; secretary D. McKay. (C.B.J. Vol. IV. 1888, p. 773).

(To be concluded.)

BEE-KEEPERS' CONVENTION AT LONDON, ONT.

On February 29 and March 1 next, the bee-keepers of Middlesex and of Brant Counties will meet together in convention and a most admirable program is being prepared by Mr. David Anguish for the occasion. The following speakers amongst others will be present: Messrs. E. B. Tyrrell (Bee-Keepers' Review); John W. Clark, Cainsville; Orel Hershiser, Buffalo, N.Y.; Morley Pettit, Guelph; W. White, Brantford.

The complete program will be announced in our next issue. This is one of the most useful and enjoyable of gatherings, and a large attendance of bee-keepers is anticipated. Ladies are especially invited.

PROGRAM OF APICULTURE SHORT COURSE AT GUELPH, ONT.— JANUARY 9-20, 1912

The following arrangement of subjects will be adhered to as closely as possible. No changes in advertised speakers or subjects will be made, unless absolutely necessary.

Lectures will, as far as possible, be illustrated with lantern slides and the actual objects under discussion.

Tuesday, January 9th

9.30—10.30: Mr. Morley Pettit, Provincial Apiarist, O. A. College. The Anatomy of the Bee.

10.30—11.15: H. G. Sibbald, Esq. Toronto. Importance of Good Queens.

11.15—11.45: Discussion by members of class.

2.00—3.00: Mr. Morley Pettit. Life History of the Bee.

3.00—4.00: Mr. P. G. Clark, Marietta, N.Y. Queen Breeding. Demonstration No. 1.

Wednesday, January 10th

8.45—9.35: Mr. Morley Pettit. The Home of the Bee and its Food.

9.35—10.25: Prof. T. D. Jarvis, B.S.A. Associate Professor Entomology, O.A.C. The Physiology of the Bee and the Cause of Disease.

10.25—11.15: Mr. H. G. Sibbald. Wax Rendering. Demonstration.

11.15—11.45: Discussion.

2.00—3.00: Mr. Morley Pettit. How Bees Produce Honey.

3.00—4.00: Mr. P. G. Clark. Queen Breeding. Demonstration No. 2.

Thursday, January 11th

8.45—9.35: Mr. Morley Pettit. Natural Increase of Colonies.

9.35—10.25: Prof. S. B. McCready, B.A., Professor Nature Study, O.A.C. Structure of Flowers.

10.25—11.15: Mr. H. G. Sibbald. Elements of Success in bee-keeping. (1) The Man. (2) The Location. (3) The Bee and Hive. (4) The Market.

11.15—11.45: Discussion.

2.00—3.00: Experimental Union.

3.00—4.00: Mr. P. G. Clark. Queen Breeding. Demonstration No. 3.

Friday, January 12th

8.45—9.35: Mr. Morley Pettit. How Increase May be Controlled or Prevented.

9.35—10.25: Question Drawer.

10.25—11.15: Mr. L. Caesar, B.A., B.S.A., Lecturer in Entomology, O.A.C. Nature's Control of Insect Life.

11.15—11.45: Discussion.

2.00—3.00: Mr. Morley Pettit. Artificial Increase.

3.00—4.00: Mr. P. G. Clark. Queen Breeding. Demonstration No. 4.

Saturday, January 13th

8.45—9.35: Mr. Morley Pettit. Management for Extracted Honey.

9.35—10.25: Prof. J. W. Crow, B.S.A., Professor of Pomology, O.A.C. Influence of Bees in Orchards.

10.25—11.15: Mr. W. J. Craig, Brantford, Ex-President Ontario Bee-keepers' Association. Bees Wax from the Bees to Foundation.

11.15—11.45: Discussion.

2.00—3.00: Mr. W. J. Craig. How Bee Hives are Made.

3.00—4.00: Mr. Morley Pettit. Management for Comb Honey.

Monday, January 15th

Visit to Bee Supply Factory in Brantford.

Tuesday, January 16th

8.45—9.35: Mr. Morley Pettit. Care of Bees in Winter and Spring.

9.35—10.25: Mr. Crawford. The Use and Care of Tools.

10.25—11.45: Report of Brantford Trip by Members of Class.

2.00—3.00: Mr. Morley Pettit. Benefits of County Organization.

3.00—4.00: Prof. R. Harcourt, B.S.A., Professor of Chemistry. Chemical Properties of Honey and Beeswax.

Wednesday, January 17th

8.45—9.35: Mr. Morley Pettit. Diseases of Bees.

9.35—10.25: Dr. C. J. S. Bethune, M. A., D.C.L., Professor of Entomology, O. A.C. The Relatives of the Bee; Bumblebees, Wasps, Etc.

10.25—11.15: Question Drawer, opened by Mr. E. R. Root, Editor "Gleanings in Bee Culture," Medina, Ohio.

11.15—11.45: Discussion.

2.00—3.00: Mr. P. W. Hodgetts, Director of Fruit Branch, Department of Agriculture, Toronto, Ont. The Benefits of Advertising.

3.00—4.00: Mr. E. R. Root. General Handling of Bees.

Wednesday Evening

Public Meeting in Massey Hall.

Dr. G. C. Creelman, B.S.A., LL.D., President O.A.C. The District Representatives and what they can do for Bee-keeping.

Mr. E. R. Root. Th
Future of Bee-keeping. (
Lantern Views.)

Thursday, January

8.45—9.35: Mr. Morley
Ontario Foul Brood Act.

9.35—10.25: Prof. J. E.
Professor of Botany, O.A.C
soms are Fertilized.

10.25—11.15: Mr. E. R. R
of Bees to Horticulture.

11.15—11.45: Discussion.

2.00—3.00: Mr. Morley
ent Races of Bees.

3.00—4.00: Mr. E. R. R
from Hive to Consumer.

Friday, January 1

9.00 a.m. and 2.00 p.m.—
Conference, addressed by
Hodgetts, Director of Fru
Parliament Buildings, Toronto
ley Pettit, Provincial Apiari
Local Inspectors of Apiaries.

Discussion.
[r. Morley Pettit. Arti-

Ir. P. G. Clark. Queen
onstration No. 4.

ıy, January 13th
Ir. Morley Pettit. Man-
:tracted Honey.
Prof. J. W. Crow, B.S.A.,
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Mr. W. J. Craig, Brant-
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Discussion.
Ir. W. J. Craig. How Bee
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Mr. Morley Pettit. Man-
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Supply Factory in Brant.

ay, January 16th
Mr. Morley Pettit. Care
ıter and Spring.
Mr. Crawford. The Use
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Report of Brantford Trip
f Class.
Mr. Morley Pettit. Bene-
Organization.
Prof. R. Harcourt, B.S.A.,
Chemistry. Chemical Pro-
ley and Beeswax.

sday, January 17th
Mr. Morley Pettit. Dis-

Dr. C. J. S. Bethune, M.
rofessor of Entomology, O.
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Etc.
: Question Drawer, opened
Root, Editor "Gleanings in
Medina, Ohio.
: Discussion.
Mr. P. W. Hodgetts, Dir-
Branch, Department of
Toronto, Ont. The Benefits
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Mr. E. R. Root. General
Bees.

dnesday Evening
ing in Massey Hall.
Creelman, B.S.A., LL.D.,
.C. The District Represen-
hat they can do for Bee-

Want and Exchange Column

Advertisements for this column will be received at the rate of 50 cents for 25 words, each additional word one cent. Payments strictly in advance, as the amounts are too small to permit of book-keeping. Write copy of ad. on a separate sheet from any other matter, and on one side of the paper only. Say plainly how many times ad. is to be inserted. Matter must reach us not later than the 23rd of each month.

BEES-WAX WANTED—We pay highest prices for bees-wax, feathers of all kinds, furs, hides, wool, tallow, etc. Prompt returns. Send for price list. The Canada Fur and Feather Co., Dept. 8, 605 Ontario St. East, Montreal.

QUEENS FOR SALE

ITALIAN QUEENS from my Jamaica, B.W.I., yard, mailed any month in the year after May 1st from my Yonkers yard, untested 75c., tested $1.50; breeders, $3.00; **Carniolan, Cyprian, Caucassian and Banats, 25c. extra. Honey packages and supplies. W. C. Morris, Yonkers, N.Y., U.S.A.**

Mr. E. R. Root. The Present and Future of Bee-keeping. (Illustrated with Lantern Views.)

Thursday, January 18th

8.45—9.35: Mr. Morley Pettit. The Ontario Foul Brood Act.

9.35—10.25: Prof. J. E. Howitt, B.S., Professor of Botany, O.A.C. How Blossoms are Fertilized.

10.25—11.15: Mr. E. R. Root, Relation of Bees to Horticulture.

11.15—11.45: Discussion.

2.00—3.00: Mr. Morley Pettit. Different Races of Bees.

3.00—4.00: Mr. E. R. Root. Honey from Hive to Consumer.

Friday, January 19th

9.00 a.m. and 2.00 p.m.—Foul Brood Conference, addressed by Mr. P. W. Hodgetts, Director of Fruit Branch, Parliament Buildings, Toronto; Mr. Morley Pettit, Provincial Apiarist, and the Local Inspectors of Apiaries.

THE LARGEST BEE-KEEPERS MEETING EVER TO BE HELD

N.Y. State Bee-Keepers' Association

Just as we are going to press, the Secretary of the New York State Bee-Keepers' Association, Dr. Schamu, asks us to notify our readers of the fact that the N.Y. State Bee-Keepers are holding a moster nmeeting o nthe 30th and 31st of January at Syracuse, N.Y., in the Onondaga County Court House. Dr. Schamu issues a special invitation to Canadian Bee-Keepers to attend this, the "largest bee-keepers' meeting ever to be held," and we trust that many of our readers will be able to avail themselves of the invitation.