

The Canadian Bee Journal

VOL. XV.

APRIL 1907

No 4



Published Monthly by

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Brantford, Canada

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Devoted to
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Incorporated March 1886

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- Secretary—P. W. Hodgetts, Department of Agriculture, Toronto.
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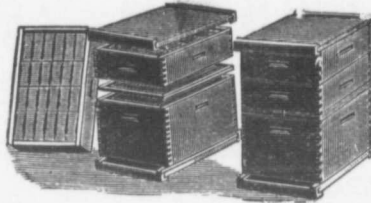
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New Series
Vol 15, No. 4

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BRANTFORD, CAN., APRIL, 1907

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Notes and
Comments

By J. L. BYER

Loaf Sugar for Feeding Bees.

Much has been said lately in different periodicals about various ways of feeding bees in the winter or late in the fall. Some have advised the use of thick sugar syrup, some a candy made of sugar and honey, while others use hard candy made of pure sugar.

Probably all of the foregoing will answer the purpose, but, in my estimation, none of them are as convenient as another article which has lately been mentioned by Mr. Alexander in "Gleanings," viz., common loaf sugar. Mr. Alexander tells of having, one fall, a lot of light colonies when the bees were put in the cellar, and as something had to be done to save them, he decided upon loaf sugar, using it as follows: Rims, two inches wide, were made to fit the tops of the hives, and inside of the rims, directly over the frames, was placed the blocks of loaf sugar. The sugar was slightly moistened and then covered over. Every colony thus treated came through in grand condition. It certainly is a simple and convenient way of getting out

of a bad position, and at the risk of displaying my ignorance, I am going to confess that I did not know that loaf sugar could thus be assimilated by the bees. Have no doubt that it would be a fine thing to feed any colonies with that should happen to be short of stores in the early spring.

Moth Balls to Keep Moths Out of Combs.

Some one at the recent San Antonio convention said that if combs were stacked up in supers, and a few moth balls were placed among the combs, that there would be no danger of the combs being destroyed. A good thing, if it is to be depended upon, but personally I would prefer to test the plan thoroughly on a small scale before risking a great many combs very long, without looking at them. The longer I use carbon bisulphide for the above purpose the more I am pleased with it, and last year, in caring for a large number of combs taken off the hives in August, I proved to my satisfaction that a box or room does not necessarily have to be nearly air-tight for the drug to do its work effectively. In hives in which bees have died early in the winter the eggs of the moth are destroyed by the frost, but in hives where the bees have spring-dwindled, experience has taught us that the combs will soon be riddled unless looked after. In such cases, close the en-

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trance securely and place on top of the combs, in a shallow tin or other receptacle, a small quantity of the bisulphide, cover all quite closely, and see how completely the moths, eggs and larvae are destroyed. Formerly, our local druggists charged me five cents per ounce, but now I buy all I want from them at 25 cents a pound, and I surmise that at that figure they have a "reasonable" profit. If you have many hives full of combs to treat, carry them into a building and stack them up five or six storeys high, put the bisulphide on top of all and cover securely, and you will be surprised and pleased to see how little of the drug is required to treat a large number of combs. Sulphur may be a trifle cheaper, but it does not destroy the moth eggs, consequently it has to be used more than once, and it is besides a very disagreeable article to handle.

Some Further Remarks re the Gemmill Press.

This past week I have been rendering up quite a quantity of bits of pollen-filled combs and scrapings of super combs, etc., into wax, and I find that by not using too heavy burlap, and being careful to fold same in carefully from the sides of the form before applying pressure, that there is no difficulty in lifting up the follower at any time; consequently, it is not necessary to lift off the form to get at the slum-gum, as I stated in the February Canadian Bee Journal. Formerly I have had at times some trouble by reason of the burlap wedging between the sides of form and follower, but by careful folding-in, as stated, there need be no trouble from this source. Another thing I forgot was to warn all to be extremely careful when malling up the combs, and never for a moment leave the room when the boiler full of comb is anywhere near the

boiling point. Of course, this advice is more for beginners, yet I have known old bee-keepers to very nearly burn their buildings, just by being careless about this matter. Whenever rendering is going on, I always have a pail of water and a dipper at hand, and if the wax shows any attempt to boil over, a dipperful of the cold water stirred in promptly settles things.

Wintering Outdoors With Sealed Covers on Hives.

One of the hard things to understand is that while certain systems work finely in some localities with some bee-keepers, those very same systems in other localities, and with other bee-keepers, refuse to work successfully. For a number of years I have heard such practical men as Messrs. Armstrong, Miller and others declare that their preference was for the sealed cover over brood-nest during winter. Only a short time ago Mr. E. R. Root, in "Gleanings," declared this factor to be one of the essentials for ideal outdoor wintering. Instead of allowing the moisture to pass out over the cluster slowly, through some dry absorbent, he declared it best for this moisture to condense on the sides of the hives and run out of the entrance. That Messrs. Miller, Armstrong and others who practice wintering with sealed covers are successful no one will dispute, but, do you know, for some reason I cannot understand, with me it works disastrously every time. Last fall, instead of removing propolized quilt, as I generally do, the quilts were left on six hives, and in addition four or five thicknesses of newspaper were laid on each quilt. Over this was placed the usual amount of forest leaves. Every colony so treated is, at date of writing, either dead or in such a condition that their demise is only a question of a few days. The mois-

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ture went just where Mr. Root says it does, with a vengeance; in fact, the whole of the hives are reeking with dampness and the combs are moldier than if they had been in a damp cellar all winter. The bees died right on the combs, with abundance of honey near them. That the sealed covers were responsible for most of the trouble is a settled fact in my mind, and in future I shall leave experimenting along that line to the "other fellow." To be sure, we had a very steady, cold winter. With a mild season and a number of spring flights results might have been different, but I am beginning to think that every fall we should so prepare our bees as though we were sure we were going to have an exceptionally severe winter.

Difference in Methods of Foul Brood Treatment.

Speaking along the lines of difference in systems as of wintering reminds me that at the present time there is an immense difference of opinion throughout the American continent as to the best methods of combatting foul brood. Here in Ontario we are pretty generally agreed that the McEvoy system of shaking the bees first on starters, and then later on full sheets of foundation, will cure diseased stocks every time. At the San Antonio convention, Mr. J. F. Rankin of California stated that very few of their inspectors now recommend the shaking treatment, as the time occupied in so doing was of more value than the bees were worth. The method in vogue there is boiling up the diseased bees and combs in a large tank. Why the bees are boiled Mr. Rankin failed to say. Mr. Scholl of Texas said shaking was not satisfactory there, and they now sulphur the bees and burn the infected combs. On the other hand, Mr. Smith, inspector for Illinois, only shakes once on start-

ers of foundation, and said he had been successful in nine out of every ten yards treated. If I am correct, Mr. McEvoy admits that in the majority of cases the one shaking will effect a cure, but he believes, and rightly so in my opinion, that it does not pay to take the risk when we know that a small percentage will fail to be cured by the single shaking.

Markham, Ont.

THE HYGIENE OF HONEY.

The Medical Value of Honey as a Substitute for Sugar.

The use of honey in cough cures is well-known, but instead of paying a high price for these it would be better to use honey daily, for regular users of honey say that their children are seldom troubled with coughs and colds. For such troubles use the following remedy: Thin some honey with lemon juice, or even vinegar (honey vinegar is to be preferred), add a sprinkling of ginger or cayenne pepper, and take in small doses. Honey is also a good remedy for any other form of throat or lung trouble, as I can testify. I have also had further proof of the curative powers of honey. I have been able to remedy indigestion by eating lumps of comb honey. This may be partly due to the laxative influence of honey, for those spells of my stomach are always accompanied with constipation. I am a great lover of sweets (for who is not?), yet I have to be exceedingly careful in the use of sugar, for my stomach is liable to object. Now I often eat, without distress, honey in larger quantities than I would dare of sugar. This is not hard to explain, for cane sugar, when taken into the stomach can not be assimilated until first changed by digestion into grape sugar, but this is not necessary with honey, for it has already been trans-

formed by the bees, and can be assimilated without taxing the stomach to such a great extent as with cane sugar. But what follows if cane sugar, on account of a weak stomach, is not changed into grape sugar? Well, physicians tell us that it will be absorbed without change, and then removed by the kidneys, and may result in their breakdown. The dreaded Bright's disease of the kidneys is said to be the result of an excessive use of cane sugar. While acidity or sour stomach catarrh of the stomach and various disturbances of the liver, also obesity (fleshiness) for sugar is a heat energy or fat producer, are mostly the result of an excessive use of cane sugar.

Honey should partly replace the use of sugar, for we can hardly do without some form of sweets. The craving for sweets is natural, especially with children. Dr. J. L. Gandy, of Nebraska, who is an extensive bee-keeper, says: "I have practiced medicine nearly forty years, and I never knew a consumer of honey or a bee-keeper to die from that dreaded malady, Bright's disease of the kidneys. There can be no doubt that the use of honey instead of sugar tends to prolong life, and I have known many invalids affected with supposed incurable diseases, to recuperate, and get well under a diet composed largely of honey."

But to what is due the medical qualities of honey? Someone may ask. I can hardly give a satisfactory answer, yet I can say to what it may possibly be due. Honey is said to contain some fifteen hundredths of one per cent. of mineral matter, among which is iron, as has lately been discovered, or at least I first saw the statement made by Prof. G. De Runge of Germany. Iron plays an important part in the blood. Should the blood be devoid of it, as is sometimes the case, one should eat plenty of honey and other food which contains iron, and leave the patented

iron tonics alone. As is well-known by bee-keepers, honey always contains formic acid, which is one of the best germicides known, and so by eating honey regularly we will be constantly fighting disease germs with one of the most powerful weapons at our command. Solomon said (13th verse of 24th chapter of Proverbs) "My son, eat thou honey, because it is good."—Fred Strohshein in "The Farmer's Voice."

Brant and Adjoining Counties Bee-keepers Convention

Thursday, the 21st January, 9 a.m.—
"How Can the Bee-keeping Industry be Improved Through Local Associations and Otherwise?" address by Mr. P. W. Hodgetts, Secretary Agricultural Associations, Department of Agriculture, Toronto.

Mr. Craig in the chair.

Mr. Craig—Gentlemen: The subject this morning is "How Can the Bee-keeping Industry be Improved Through Local Associations and Otherwise?" address to be given by Mr. Hodgetts; and I have pleasure in introducing to you Mr. Hodgetts, our newly-appointed Secretary of the Ontario Bee-keepers' Association. We bid him a hearty welcome here this morning and will now ask him to speak.

Mr. Hodgetts—Mr. Chairman, Ladies and Gentlemen: This is my first appearance before a Bee-keepers' Association of any kind, and I hope this will be but the first of many such pleasant meetings. I was introduced as the newly-appointed Secretary, so you will note that I am not as yet very well acquainted with the bee-keepers. Three years ago, when the Honey and Fruit Show was started at Toronto, I had the pleasure of meeting the four repre-

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representatives from the Honey Association, including Mr. Couse and Mr. Sibbald. Since then I have met Mr. Smith and quite a number of the others in Toronto, and I think I have indeed fallen into pleasant company.

I am not a bee-keeper. The position I fill in Toronto excludes that. The land there is valued by the inch. About all one has is 17 feet 8 inches space, so I have not much room for keeping bees, unless I kept them on the roof, where probably there would be more room than anywhere else. However, I have pleasant recollections of my boyhood days with the bees. Some one asked me if I had ever been stung. Yes, I have been stung, too. I can remember, years ago, chasing the swarms with tin pans and pails of water, and trying to hold them until my father would get back to his business; but this is some time ago, and I have had very little experience with bees since, so I cannot speak from that standpoint.

I have had a little bit of experience, however, with organization work. Since accepting the position of Secretary last fall I have been running over your reports of the Provincial Association for the last 12 or 15 years, and particularly in reference to this question of affiliated associations. I find that in 1905 there were 11 associations, and in 1895 you had 13 affiliated associations. My experience in this respect is very much the same with the Fruit Growers' Association, with which I have had probably more to do than with any of the other associations, and I thought this morning that I would give you a little bit of their experience in the past, and what they intend to do in the future. The Fruit Growers' Association has been in existence some 47 or 48 years, somewhat longer than the Bee-keepers' Association, and it

has had a very varied experience. For the first 30 or 35 years the work taken up was purely educational. They discussed such topics as the varieties of apples, orchard pruning, and such questions as these—the proper time of picking and packing and a little bit about marketing. In later years they got into the habit of taking up the commercial question. About 10 or 15 years ago it was suggested that we form affiliated associations throughout the province. We were doing a great deal in connection with amateur fruit and flower growers, and we sent out organizers all over the country, with the result that we got a membership of about 5,000. Then there was a movement to reach the practical fruit-growers. There were organized in two years some 40 associations, with a membership of about 600. Their work was purely educational. The directors received reports of these organizations, and were greatly pleased with the results, and thought that the Association was on a substantial footing and ready to go ahead with a great deal of new work. Two years later, however, the Association could hardly be recognized. The horticultural members were dissatisfied, as they claimed they were working under a board of directors composed of fruit-growers, and they organized an Association of their own. The first year they had several meetings, the second year showed considerable decrease of membership, and the third year there were only three or four of these associations in existence.

The directors were rather discouraged, but at the next annual meeting they got together and talked the matter over thoroughly, and came to the conclusion that the trouble was in not giving the association something to hold them together. We had heard that in the States they were holding

association meetings in orchards, showing the members how to pack and ship their fruit. In Ontario also we discovered that there were two or three associations that had got together in this way and determined to work along these lines.

The first year, at our meeting in Leamington, we got a man from Ohio to address the convention. He came and gave a good address. As soon as the meeting was over a committee was appointed, representing the various districts, to talk this matter over. We organized about five of these associations the first year, including the three already in existence. It was a small start. That is three years ago. This past year there were some 40 strong associations, banded together in the province, shipping their fruit in this manner. The growth has been at the start wonderful, and so far there seems to be no chance of these associations breaking up, and we think we have struck the source of success.

Now you may say we have not exactly accomplished our end. The aims of the Fruit Growers' Association are largely educational. The Provincial Association sends out lecturers, who deliver addresses on the methods of marketing, etc., and in this way the educational side is kept up. Not only that, but since the farmers began to receive money from their orchards they begin to take an interest in these things; they begin to pay some attention to their orchards; they subscribe to magazines and consult current literature, so now we think we are working a co-operative scheme and reaching the man both from an educational and commercial side of fruit-growing. As I said, formerly at our annual meetings nothing but purely educational topics were discussed. Now this is all changed. We still endeavor to keep a

number of educational topics on our programme, but the main part of it is given to assisting this co-operative shipping association. We believe the fruit-growing industry in this province can be revolutionized through this association. When we started, two or three years ago, from one of these associations in St. Catharines there was one carload of fruit shipped to the West. That carload went as an experimental shipment. Last year there were 60 carloads sent to Winnipeg from that one association, and 160 carloads went to different parts of the province.

Now it seems to me that the substance of all this is that there must be some commercial aim to hold you men together in this Association. I notice in the last reports of the Ontario Beekeepers' Association that there was considerable discussion as to whether the number of these local associations should be increased, and whether the number of members should be increased. The idea was that if the membership was increased to a greater extent than it has been that the industry would boom, and there might be an over-production. The same could have been said of the fruit industry five years ago. The markets in Ontario were glutted. The method of shipping to the Old Country markets, up to two or three years ago, has not been at all satisfactory. Since the Co-Operative Associations have been organized the large English firms have been sending buyers to Ontario and buying the fruit right at the station.

Now, why I mentioned these orchard meetings. This is one plan whereby greater interest could be aroused in the bee-keeping industry. When the orchard meetings were started a number of years ago, we would advertise that on a certain date, in a certain

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man's orchard, and at a certain place, there would be a meeting of fruit-growers. Generally we had two or three during the year. The first, for the pruning of the orchard, was held early in the spring, March or April, and we would distribute these circulars through the mails, and have it advertised in the local papers and have a prominent man send out postcards and get the men together. We would send a practical fruit-grower around, one who knew something about pruning, and we would get these men in the orchard and show them how it should be done, and then get them to try it. We found this very serviceable. We did the same thing in the spraying season, and again in the packing season. We got fruit experts from the Dominion Department to go around and show the men how to pack the apples, and we got the Dominion Department to bring in men from British Columbia, California, etc., where they make a specialty of this, and we have done a great deal of good.

Now, I see no reason why you should not have apiary meetings in the same way. I think in this way your local associations could make a step in advance. I think it would be very interesting and instructive, probably much more than a meeting here just talking over matters.

Now, so much for what you could do as an association. Now as individuals, I think the main thing is to increase your markets. Mr. Smith gave us some pointers last night. As far as honey is concerned, Toronto is probably the largest market in the province. Now, what are you doing as bee-keepers to advance the markets in these larger cities and towns? I go into a store and get honey without any label on it. As stated last night, it was pretty pure, but I think it is up to you bee-keepers

to educate the people in that respect. Mr. Briggs, of the Steele, Briggs Co. was telling me recently that he bought some honey as a sample, intending to buy more, but they would not eat it as it was full of bee-bread and tasted wax.

Now, I suppose he will not buy as much more honey this season. You have got to educate the people to the quality care and uses of honey. I think one of the best ways is the little honey pamphlet Mr. Smith brought with him. Your local associations could get hold of them, it would be a good thing, or the Ontario association would have them printed. You take them to your meetings and distribute them to the people. Several years ago, in Toronto there were a lot of these distributed. I think this year it is up to the beekeepers to make a fine honey exhibit there. Think of the advertising industry is going to receive there. Do it there with the intention of advertising the industry as much as possible. Get the Ontario Association to give you 5,000 or 6,000 of these pamphlets and distribute them there. Toronto and these larger cities will form your local markets for a long time, and the markets there could easily be worked in. A good many of you in smaller towns can get your grocers to fill their windows with honey, and that does a great deal to advertise the business. There is nothing shows up better in a shop window than comb or extracted honey in glass. Keep second-grade honey out of the stores and hotels.

Now, another point—that is, the press. This is probably one of the best sources by which you can inform the public of the value of honey, there are very few households now that do not take one or more newspapers and if it is a family in the country, or more agricultural papers. Now,

These papers there is very little, if any, in regard to honey, bee-keeping, or anything relating to the product. I think this is a great mistake, and it is one that you bee-keepers can remedy. The editors would be only too glad, I think, to receive local items; for instance, as to your meetings like this. Those of you from different parts of the country give them something about his meeting and what you have done. Tell them about your apiary—what you have been doing. I think your editors would be glad of short items, and have them publish it from time to time throughout the year. We are great readers now-a-days, and we consult the papers for information along all lines.

The ignorance of the people is deplorable in regard to honey. Another delusion is that of keeping comb honey in the cellar. Two years ago, at our Honey Show, I purchased some comb honey and put it in the cellar and left it there. I began to notice that it was rather sour, and before spring it was spoiled. Another thing they do not know is that you can take one of these sections of comb honey, for which we pay 20 or 25 cents in Toronto now, and very few people know that one of these combs will go as far as a quart of fruit. A quart of fruit costs all the way from 50 cents up. Very few people know that, and they prefer the fruit, thinking it will go further. It will not. That is another thing you must impress on them—the value of honey as compared with other foods. Now, I think it is up to you bee-keepers to correct these ignorances and educate these families. I think you cannot patronize these larger exhibitions too much, where thousands of people are passing all the time. It is the place here you can get after the public, and I think you should take advantage of

it more than you have done in the past. There has been some criticism of the way the bee-keepers have acted toward the Toronto Exhibition in the past. You have now one of the best buildings on the grounds, and you have a chance there to meet the public that you have not at any other time in the year.

The more you can enlighten the small bee-keepers on the keeping of bees and the various operations throughout the year the better for you. You can do this in various ways, through bee-keepers' meetings, local conventions and otherwise. Then, for instance, your own bee-keeping papers. The statement was made at one of your meetings that there were 8,000 bee-keepers who were taking no bee-keeping journal. I know it is very hard to get farmers to take these papers. The Fruit Growers' Association had a journal of their own for perhaps 16 to 20 years, the "Canadian Horticulturalist." We kept it up until two years ago, when we decided to form a joint stock company to take over this paper.

I think this organ of yours, the "Canadian Bee Journal," deserves more of your support than it has had in the past, and I cannot impress upon you too strongly the value of having a good live paper as your representative throughout the Province. With the exception of these meetings which you hold now and then throughout the season, the only way you can get together is through your bee journal. There are lots of your operations throughout the year that you would like to tell your fellow-bee-keepers about, which you can do through the "Bee Journal." With all respect to Mr. Root, I think you should patronize first your home journal. We are a young country, but we are growing pretty rapidly, and I

think we every way you is through your job to advise got to until the Support then, if y of the A

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I think we need to support each other in every way. I think one of the best ways you can support the bee industry is through the "Journal." Support your journals. If you have anything to advertise, advertise it. You have got to keep supporting these papers until they can support themselves. Support your own journals first, and then, if you can do so, take one or more of the American journals.

Now, as to the Department. In some ways the Department can aid you. You will remember, two years ago, Mr. Monteith, the Minister of Agriculture, attended your meeting in Toronto and talked over matters as to how the Department could co-operate with you more closely than in the past. At that time the foul brood inspection work was taken off your hands and placed in the hands of the Department. Last year the Minister appeared before you again and made various suggestions for the extension of the inspection by the division of the country into six sections, instead of having one inspector for the whole Province. This will be put into operation this year, and we, of course, solicit your support in the work of this coming season. We can do nothing without the co-operation of the bee-keepers themselves.

Our first work has been to gain as much information about the industry as possible. We knew nothing about it in the Department. We had a few statistics, but outside of that we knew very little. The first thing we have done is to make a list of all the bee-keepers in the Province. We are endeavoring now to make this list complete. When we do we can distribute our literature direct. There are many bee-keepers who are not reached through the local and Provincial Associations, and we hope to distribute literature in respect to foul brood, and

the annual reports if necessary. We wish to get these men interested in the industry, and we hope by distributing our circulars in reference to foul brood to be able to make better progress in the suppression of the disease. From reports in the past, it is doing a great deal of damage, and we are not aware whether it has been got down to normal again.

The report for 1901 was that there were in Ontario 116,000 hives, while in 1891 there were 146,000 hives. You notice there a decrease of 30,000 in ten years. If such a decrease had taken place in any other industry the Department would, of course, have been anxious to know the reason. Had it been any other industry, we would have endeavored to have remedied it at once by holding conventions and distributing literature and by sending out speakers. For instance, last year we were anxious to find out about the horse industry in the Province, and the Government has been spending a great deal in finding out how the industry stood. The Government is anxious to do as much for any industry; they are promising double the amount of money this year for the suppression of foul brood. Now that this work has been taken over by the Department, with the co-operation of the bee-keepers, we are going to work together far better than in the past.

There is no doubt that you have an industry in which there is much profit. It seems to me that by working together through local associations and annual conventions and the Department, that there will be no trouble about the markets. I was talking with Mr. Laing just before the meeting, and he asked me why it was that years ago honey was up in price and eggs were 10 cents, and other things in proportion. Now eggs are away up and

honey is away down. As far as poultry is concerned, the bulk of our production is exported both to the West and to the Old Country. We have worked up enormous markets, and they are taking the great bulk of our crops, with the result that the price has gone up. In Ontario the prices for fruit were so low that there was little encouragement in the industry. Now, through shipping associations and the prices we are receiving in the Old Country and the Western markets are so high proportionately that it pays us to ship the best there, and what little of good quality remains in the country we must get a high price for it or we cannot allow it to stay here. I think the same is true of eggs, etc.—prices have gone up enormously, which I think is largely due to the exporting. I do not think there is very much of your honey exported. It seems to me that this is something you could work the Department at Ottawa up to. Probably they do not look upon the bee-keeping industry as of very great value. You must impress upon them that it is one of the leading industries in the Province.

It is almost impossible for any one man or a few men to go to the expense that is necessary to work up these markets. As I said, you have a profitable industry, and I think it is up to you as bee-keepers to improve the markets and the industry through some of the methods I have mentioned. Some of them may not be practicable. These are just suggestions.

Mr. Holtermann—We individually desire the power to make the Government act, as far as the market goes and the exporting of honey, etc. I take the same view as Mr. Hodgetts as to the possibilities of the exporting business. There has been a greater measure of success than failure. But one

person can write again and again to the Department, and they will say: "We will give this our careful attention," and you hear no more about it. But let us get together and stick together and we will get it.

Mr. Root—I want to say I think you members of this Association should be congratulated on the man you have got back of you here. I do not know what Uncle Sam would do, but I certainly would like to see that man come across the line. I could endorse a great many of his suggestions, particularly in reference to bee-keepers and that you want to be loyal to your own Journal. Mr. Laing asked why fruit has gone up and honey down in price. You cannot duplicate the fruit, but you can duplicate the honey by the stuff you showed here last night. What I want to say is this, in reference to the pure food law of the United States. I sometimes have to wake up and wonder if that law has been passed. I think now we are going to see better times in the advance of prices. It seems to me that one reason honey has gone down is that you cannot duplicate the chickens nor the eggs, but they go on selling something that purports to be honey, and many ignorant people buy it and suppose it to be honey. This honey has been holding down our price. If you can get this law, I think you are going to drive glucose into a hole.

Mr. Holtermann—Gentlemen, we are going to expect a great deal from Mr. Hodgetts in conducting the work which he has outlined. We have got to have Mr. Hodgetts, and we are going to do it. Individual people can get a great many things. The papers are open to receive a great many items. But when everything rests on one or two men they can do little. There is not a man here who could not supply items to bring the honey industry before the

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publia. I am afraid of the slipshod bee-keeper, and the man who puts a poor article on the market. Unripe and inferior honey has done more harm than all the adulterated goods put on the market. We want to educate the bee-keepers and the public how to judge the article. I think we are to be congratulated on our new secretary. His business is to be a secretary, and as I have said, he has got the material, he has men under his hands, he has the department with him, and he can do the work as secretary more effectually. But in regard to bee-keeping, educate the smaller men and let us educate ourselves in producing a better article and then we are going to accomplish more.

Mr. Craig—Gentlemen, we have heard Mr. Hodgetts with pleasure and profit this morning and have received quite a favorable impression of the new secretary of the Ontario Bee-Keepers' association. Mr. Hodgetts may not know very much about bee-keeping, but he understands the bee-keepers and their needs, and the value of association work properly conducted. In his dealing with the Fruit Growers' associations in his address there are many points that we might be able to apply in connection with our local associations. These orchard meetings, for instance. We often have difficulty in getting bee-keepers to attend our meetings, if we could arrange to have apiary meetings, say two of the four meetings of the year, I have no doubt but they would be profitable and successful. Such meetings, as Mr. Hodgetts says, would probably bring a great many bee-keepers that we could not induce to come to a meeting in the city hall or court house. Then in reference to the exhibiting of honey at Toronto Exhibition, it occurs to me that a large association exhibit would be more of an advertisement for the

industry that exhibits by individual bee-keepers. There are some features in connection with this that would be worth considering. Mr. H. D. House, who has been with us here, is lecturer for state schools in New York, speaking of this mode of giving apicultural information he told of delivering an address at a school in a small town and how the children went away so enthused about honey that in nearly every home represented honey was purchased with the result that the stores were cleared of all the honey they had in stock.

The subject is now open for your discussion, and I am sure Mr. Hodgetts will be pleased to answer any questions.

Mr. Laing—Mr. Hodgetts was speaking about adulterating and the market in the west. I agree with him as far as the market is concerned. Undoubtedly there is going to be a great opening there for the sale of honey. I just want to call attention to the statement of Mr. Holtermann in reference to one pound of adulterated in one thousand. I am not saying he is wrong, though this is one pound too much. Of course, if it is only that it is comparatively a small matter. What I was going to say is this: A thing of that kind should be taken hold of immediately by the Ontario Association, and the government. Adulterating should not be allowed if we are going to have a good market in the west for our honey. Bee-keepers, especially members of this association should not send out anything that is not absolutely pure. Mr. Hodgetts was mentioning another matter also that I was taking note of and that was regarding the price of fruit. He said the larger producer of fruit got the same price in co-operation as the smaller producer who might have an inferior article. Was I correct in that?

Mr. Hodgetts—Not quite correct. For

the first few years, as I said, the larger man has got to help the smaller man. There are a great many small lots of a great many varieties come in from the small producers. The larger grower has fewer varieties, and he has to suffer for the time.

Mr. Chrysler—A number of years ago, in the Ontario association, some of us members had an idea of a honey exchange. This seemed to flatten out, but still I have great faith in some such organization for bee-keepers. I have noted what Mr. Hodgetts has said about this co-operative association and the fruit growers. I am very closely connected with the Chatham Fruit Growers' association, which he spoke of. It is mostly composed of men who do not pretend to make fruit growing a business. This co-operation has done a great thing for the marketing of early apples and pears. I might say in a way it has been conducted on the percentage basis. There are two men who have formed a board of directors and appointed two men to handle the fruit for a certain percentage, 10%. We have a man in the Northwest who sells it to the best advantage and it has been a success. Last year we organized into a joint stock company and every member pays in from one to ten shares of stock at \$25 a share, which he pays in fruit. I think it is possible to apply this to our honey trade. We have, I am very confident, in the Northwest a market that is more than we can supply. I do not think it is possible for Canada to produce more honey than can be profitably sold and at better prices than we ever have received before. I do not think we can overstock the market provided we do our part in distribution.

Mr. Holtermann—If we are going to make our association a good association and our local societies thrive, our officers and men must be men who have a right to the respect of their

fellow-citizens in their vicinity. If they are not, then other men are going to say, "If these are our representatives then I want nothing to do with the association."

Mr. Byer—I have been here now for a couple of days, and I want to say I have been used right royally. I feel like the boy who was sent out by the Fresh Air Fund to a farmer's home, and when asked why he was so happy, he said: "They use a feller good." I am sure I have enjoyed myself and I take pleasure in moving a hearty vote of thanks for the kindly way that we from adjoining counties have been entertained.

Mr. Miller—Before that is put I wish to add a word. The hospitality of the local association here, I think, has been exceptional. We have had a meeting that has been both profitable and enjoyable.

Mr. Craig—On behalf of the local people we are grateful to you for your hearty vote of thanks, and it was a pleasure indeed to have you here, and the hearty way you have entered into everything in connection with our meeting, and we hope to have you here again another year.

Mr. Holtermann—I might say that I feel that we owe very much to the men who have come to this meeting, and I think we should move a vote of thanks to our American friends. They have brought men here and they have held their own when they got here. I would be very pleased indeed to move a vote of thanks to the American delegates and would suggest that they be written to by our secretary who has already done a good deal of work in this connection, and that our vote of thanks be sent to them.

Mr. Miller—I second it.

Mr. Smith—There is one little thing I think we should do and I take much pleasure in moving a hearty vote of thanks to our secretary of this association for the very able manner in which he has got up this convention.

Annual Convent

Mr. Holtermann—A matter of a good wish to bring not an advocate of thanks. I think of time wasted sometimes. We the new arrangement of the Department of Agriculture, I think, is amended by this William Couse will longer; for some desirous of retaining his own record, Hodgett, or some department be appointed, I think it will be that he should be he has so long occupied a hearty vote of thanks to our association. I have known Mr. or more, and he in position, or in an which he sincerely may not always believe he has seen faithfully and we best of his ability, a very hearty vote work he has done for the past, and our is personally concerned, withdrawn from the same time, I would and believe that in the new secretary be able to do work which a private in do, and which will of the association. Mr. Holmes—It is that we learn of Mr.

<i>Annual Convention</i>	<i>Ontario Bee-keepers Association</i>
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Mr. Holtermann—There is a little matter of a good deal of importance I wish to bring to your notice. I am not an advocate of mere formal votes of thanks. I think there is a good deal of time wasted over that sort of thing sometimes. We understand that by the new arrangement suggested by the Department of Agriculture, and recommended by this association, Mr. William Couse will not be secretary any longer; for some time he has not been desirous of retaining that position. It is his own recommendation that Mr. Hodgett, or someone else in the Department be appointed secretary, and I think it will be contrary to our wish that he should leave the position that he has so long occupied without a very hearty vote of thanks on the part of our association. I want to say that I have known Mr. Couse for 25 years or more, and he is a man who in this position, or in any other will do that which he sincerely thinks is right. We may not always agree with him, but I believe he has served this association faithfully and well, and to the very best of his ability, and I would move a very hearty vote of thanks for the work he has done for this association in the past, and our regrets, so far as he is personally concerned, that he has withdrawn from the position. At the same time, I would say that I hope and believe that in the place in which the new secretary is situated he will be able to do work for the association which a private individual could not do, and which will be in the interests of the association.

Mr. Holmes—It is with deep regret that we learn of Mr. Couse's intention

to sever his connection with us as secretary of this association, and it is with great reluctance that we bow to his decision. It is with very great pleasure that I second the motion that the best thanks of this association be tendered to Mr. Couse for his valuable services.

The President—It is a pleasure to me to put that motion to you. I have, of course, had a good deal of experience under Mr. Couse. I started with him when I was 11 years old. I was a very good boy and did what I was told, for when he told me to clip the queens, I clipped everything in sight. I think that he loves this Association, and that he is sorry in one sense to give up the secretaryship. I believe if it had not been for that love he would have given up the position a number of years ago; his other duties are so numerous that he has been making a great sacrifice in doing the work. You might possibly have retained him, only he feels confident that the work can be done better in another way, and he still be serving the interests of this association. I therefor tender to Mr. Couse the vote of thanks moved by Mr. Holtermann and seconded by Mr. Holmes.

Mr. Couse—I really appreciate this. It was with reluctance that I accepted the position something over 21 years ago. I had been with Mr. D. A. Jones of Beeton three years, and I suppose I served him fairly well. He came to me at the convention in Toronto. (He usually called me Willie.) "Willie," he says, "we are just going to make you secretary." I replied: "I don't think so." "Well, you will be," says he. I answered, "I really don't want it. I don't feel that I can do it. I cannot do the position credit." "Well, never you mind," said he. "Do as I tell you and never mind the rest." He simply made me do it, and he threw the re-

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Editor, W. J. Craig.

APRIL, 1907.

EDITOR'S CORNER.

The Canadian market will be in excellent condition for the new honey crop when it comes. There should be no need of cutting prices.

* * *

Maple syrups are carefully marked "mixtures" this season, have you noticed? So much for the carrying out of our Adulteration act.

* * *

Reports of wintering are fairly satisfactory from most districts, and we would conclude that on the whole the bees are coming out in fairly good condition, where it has been otherwise honey-dew or other inferior stores have been responsible.

* * *

Middlesex County Association will meet in the City Hall, London, on Saturday, May 4th, morning and afternoon sessions, morning session to commence at 9.30 o'clock. President Miller is expecting a number of prominent bee-keeping visitors, who will take part in the program for the day. A hearty welcome is extended to all who can come.

* * *

Spring meetings of the various local bee-keepers' associations will be held within the next few weeks. Secretary Hodgetts of the O. B. K. A., has sent out circulars to local secretaries drawing attention to the recent changes in the O. B. K. A. by-laws relating to

affiliated societies. According to these every affiliated society must have at least ten members, who are also members of the Ontario Bee-Keepers' Association. Formerly five such members could claim affiliation. The new by-laws, however, counterbalances this by reducing the membership fee in the Ontario Association to members of such societies from \$1 to 50c, the section reading as follows:

"Membership fees of affiliated associations shall be at least fifty cents. Any such members may become members of the Ontario Bee-Keepers' Association by paying an additional fifty cents to the secretary of the affiliated association who shall forward said fee to the secretary of the Ontario Bee-Keepers' Association."

* * *

We have just received the following very interesting letter from friend Jacob Alpaugh, who has been spending the winter in California:

Newhall, Cal., March 26, 1907.

Friend Craig:

It is now some little time since I left Ontario, Cal., where I spent most of the winter and had a royal good time. Newhall is 30 miles north of Los Angeles, and seems to be one of California's best sections for honey, and bee-keepers have got in around here so thick that there is hardly standing-room. I called on a number of them, and they all seem jubilant over the amount of rain they have had this winter. All Southern California has had more rain this winter than there has been any one year for 50 years. Around Newhall they have had over 40 inches, and up in this canyon, where I am staying at present, there has been nearly 50 inches. I am stopping with a bachelor bee-keeper who learnt bee-keeping with me when we were in St. Thomas. His name is Ben Hickin. Where he is just now seems to lack

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but little of being out of the world; in fact, I am not sure if his bees do not get some of their honey from some of the other planets. He is within ten miles of being on the top of the summit between Los Angeles and San Francisco, in San Fransquito Canyon, 20 miles from Newhall, which is the nearest postoffice, store, station or settlement. Hickin was to have met me at Newhall, but just at that time there came a heavy rain, which raised the water in the canyon, so that he could not get down for seven or eight days. That gave me a good chance to visit the bee men around Newhall. He finally got down. We left Newhall in the morning and got here in the evening. We crossed the stream 72 times, and I thought sometimes we would be washed away and drowned sure. I don't believe there are figures enough in existence to tell you how many boulders and rocks we bumped over before we got here. From what I can see, however, I believe my friend has one of the best bee locations in California. He is isolated, and every place is covered with white button and black sage, also an endless variety of trees and shrubs that bloom before the sage, which puts the bees in fine condition for sage-flow. My friend has done well since he has been here, and expects 300 pounds per colony this season. He has only about 250 colonies, but says he has a location for 1,000. I expect to leave here in about a week for Canada again, going by way of British Columbia and over the C. P. R.

Yours very truly,

J. ALPAUGH.

* * *

Drs. White and Phillips of the U. S. Department of Agriculture, describe two forms of foul brood more or less prevalent on this continent—the American or form that we are most familiar with, and a less virulent class

generally called "black brood," which they speak of as "European foul brood." Mr. Thomas W. Cowan, editor of the "British Bee Journal," and who has had many years' experience with brood diseases in the old land, does not agree with the distinction, and gives his objections in the following editorial:

"That there are two forms of foul brood, a mild and a virulent one, has long been admitted, but we are certainly not yet prepared to allow that these differ from American foul brood upon the slender evidence adduced. The symptoms and characteristics of American foul brood, as described by Dr. Phillips, correspond with those of foul brood as we have it here, and such as we found in the United States when we first visited the apiaries at Medina, in 1887. We have since that time had the opportunity of seeing specimens of foul brood in the States and Canada, and in every case the symptoms were similar. Slight variations occur but there was always the distinctive ropiness and unpleasant odor, which can be compared to bad glue. We have also seen many specimens from different parts of Europe and Africa, always with the same characteristics.

Our first acquaintance with black brood, or "New York bee-disease," as it was at that time called, was made some years ago in California. This was sent from New York state by Mr. West, a State bee inspector, and on examining it we at once saw that it differed from what we called foul brood, for, although the outward appearance of the comb was similar, the distinctive ropiness and odor were absent. Notwithstanding that our experience with foul brood was pretty extensive, and dated back for more than 35 years, this was the first time we had come in contact with black brood. It was entirely unknown to us

except from descriptions in the journals, and not a single sample had been sent to the "British Bee Journal" office for diagnosis. Last year, however, we began receiving from time to time specimens of dead brood differing in a marked degree from any we had previously seen in this country, and which corresponded in nearly every particular with the description given of black brood, and they at once reminded us of that we saw in California.

Black brood is of quite recent occurrence here, and we naturally hesitate to accept the statement defining it as "European foul brood," or the assertion of Dr. White, that it is caused by *Bacillus alvei*. To say the least, it is quite possible that Dr. White has made a mistake, just as others have done, and has cultivated one of the numerous saprophytic bacteria found in bees. It appears to us that the most important test has been omitted, and until that has been made successfully our judgment must be suspended. The test we allude to is to prove that the disease can be reproduced in healthy larvae from a pure culture of Dr. White's *Bacillus* larvae, showing the characteristic symptoms of foul brood—that is, the ropiness and odor. We know that this was done by Mr. Cheshire with *Bacillus alvei*, but we cannot see that Dr. White has hitherto been able to reproduce the disease with his microbe. Until this has been done the investigations and the conclusions arrived at are of little value so far as solving the question is concerned."

Honey is especially recommended as likely to be beneficial in cases of dyspepsia, rheumatism, asthma, hoarseness, shortness of breath, and all affections of the chest, consumptive people are known to have derived great benefit from its continued use, and it is said to have been recently often used as a substitute for cod liver oil with very satisfactory results.

BEGINNING BEE-KEEPING.

April is about the best month to buy a stock*. The risk of winter being over, all that remains is to bring the stock to full strength in time for the honey flow, which is sure to come, be it early or late. The stock may throw off a swarm, which will give a little surplus. In selecting a stock, one that has swarmed last season is to be preferred, for the queen will be in her prime. The combs should be well and evenly built out, with brood evenly deposited on five or six frames. If healthy, the larvae will be plump and of a pearly whiteness, and, when quite young, lying curled up in the cells much in the form of a C. Capped brood should be evenly sealed over, without being punctured or indented in any way. If the brood presents any other appearance clear out from that apiary as you would from a mad dog, and disinfect your clothes and wash your hands with carbolic soap before going on another visit. Foul brood being largely on the increase, it would be well, when in doubt, to get advice before deciding to purchase.—*Irish Bee Journal*. [*A month later would be better in this climate. The rest of the advice is sound and applicable everywhere.—Ed.]

From the remotest times honey has been valued as a wholesome and nourishing food and the habitual use of it generally regarded as highly conducive to health. So thoroughly were its valuable properties appreciated that it is mentioned by old writers, along with flour and milk, as one of the necessaries of life.

But it is not only as a palatable and nourishing food that honey has become so highly appreciated, it is now generally acknowledged to be a really valuable medicine.

Helpful Ex

(By E. D. T.

Last spring our bees were wintered in pits taken out of the ground last week of March. They were taken out as soon as the ground was frozen of the ground. We had their winter quarters on April 15th, but have had no swarms when they were taken out as the frost is out. The pits have no ventilation. The bees have no ventilation. The pits have no roof. The rains seem to be. Then, we think of April and May to be in condition for the flow.

To Remove Bees With no Annoyance Flying Bees

As soon as the time comes on their stands, and all of weather that day will be suitable. We go to a yard, and throw the pits in this yard, or enough so to get out and fly from just at night, when the bees can't fly, then remove the balance. Leave the bees in the straw. Leave the bees in the straw, when they will be in their hives, and their summer stands. A single bee fly

Helpful Hints in Extensive Bee-keeping

(By E. D. Townsend.)

Last spring our bees here at Remus were wintered in clamps (buried) and were taken out of their winter quarters the last week of March. We begin digging them out as soon as the frost is out of the ground. We have left them in their winter quarters as late as April 15th, but have had rather better results when they were taken out as soon as the frost is out of the ground. The pits have no ventilation, and when the bees are removed, the hives and clamps are quite damp and mouldy. As the pits have no roof over them the driving rains seem to make matters worse. Then, we think the bees need to be taken out of April and May to breed up, and get into condition for the early June honey flow.

How to Remove Bees From a Clamp With no Annoyance from Flying Bees.

As soon as the time arrives to set them on their stands, and we get such a spell of weather that we think the day will be suitable for the bees to be taken out, we go to a yard with shovels and forks, and throw the dirt off from the pits in this yard, except an inch or two, or enough so that the bees can get out and fly from the pit. Wait until just at night, when it is so late that the bees can't fly, then go and carefully remove the balance of the sand or straw. Leave the bees alone until morning, when they will be all nice and clustered in their hives, and can be taken to their summer stands without a single bee flying. Before

adopting this plan we used to dig them out, and then set them directly upon their stands. This is the first time the bees have seen daylight, or had a whiff of fresh air, in months, and by the time we could get them set down on their permanent stands they would be ready to fly; and the only time we ever had any mixing up, or drifting from one side of the yard, uniting with those on the other side, leaving the colonies on one side of the yard almost depleted of bees, was when they were handled this last mentioned way.

What to do if the Bees Mix Up.

If one should get into a mix-up like this, the only alternative is to do a little hustling in changing places with the colonies that are getting the most bees, and those that are getting the least. In this way something may be done to even up the flying force of the yard. When you get through, you will probably conclude that you have done a pretty poor job; and, when night comes, and you have a breathing spell, you will form a resolution, to never get caught in such a mess again if it is possible to avoid it.

If the entrance is contracted, so that only a few bees can fly at a time, it helps to keep them flying at a more moderate rate. We sometimes throw a shovel full of sand into the entrance, then, with a small stick, make an opening at one corner, so that only a few bees can fly at a time. This certainly helps to keep them from mixing. I am sure the whole secret lies in so managing that only a few bees fly at a

time. In other words, so manage that the strong colonies, are not allowed to show their extra strength in flying force, and with the entrances contracted, the strong colonies cannot throw out a force much, if any, stronger than the weak, or moderately strong colonies. It seems that with this first, mad rush for a flight, the bees forget all about marking their location. Their whole bent seems to be to rush out and get that much-needed flight, regardless of consequences. They remember nothing of their previous season's location; or, perhaps, they are set upon a new stand, and, later, when the desire to fly is satisfied, they begin to think of home, and it is then that the mixing is done. They seem to get started to entering a few hives, then a great share of the bees in the air are attracted to these few hives; with the result that these few colonies get the lion's share of the flying force. This condition seems to be aggravated if a stiff breeze is blowing, so as to blow a cloud of bees over to one side of the yard; for not many of these flying bees have any idea of which hive is their home, so they are ready to enter the first hive they come to. In this case this leeward side of the yard gets the larger share of the flying bees.

The Value of Outside Protection.

Quite a considerable of this drifting of bees when set from their winter quarters, would be prevented were the apiary located in a protected spot. The ideal place would be to go into a cut-over location, where the timber is a thick under-growth, and clear off an acre or so. If there is a thick growth of timber, 30 or 40 feet high, this will cause the wind to blow over the apiary, not through it. Outside of the benefit derived from preventing this drifting, there are many other advantages. Likely the most benefit derived from outside protection is during the

bad weather of April and May, during the heavy breeding season when the field workers that gather the main white honey crop in June are being reared. So much better do the bees build up in these protected locations, that instances are on record where bees were wintered in the same repository, one-half of them being taken to a sheltered location, and the other half to an unprotected location with pasturage the same, and the protected yard built up strong; and the unprotected yard built up weak. It is an upper story with honey, before the bees in the unprotected yard are strong enough to need an upper story.

I am sure that this question of outside protection has never been given the half enough prominence. Outside of the benefit to the bees, there is a benefit to the apiarist sufficient to make it an object to select a sheltered location.

Is it any wonder that the Pine Lake yard and the Isabella yard get special care? They are beautifully located in the virgin forests, where the chipmunk and red squirrel are at home and the chipmunk link rises and welcomes us as we approach.

After knowing these things, is it any wonder that we all want to have these especial yards? This is a special advantage in out-yards. We are not compelled to keep our bees in these ideal locations. This is an idle dream; for we have it well illustrated in our Heminger yard, where there is no shade whatever. It is the boys who will go with me to the Heminger yard to-day, the answer usually: "I guess I will go to the Isabella, or Pine Lake, or the Wagon yard."

Bee-Keepers' Review

When children are allowed a supply of honey it will largely satisfy their inordinate longing for honey and other sweets.

the Bro

view of the wide spread of infectious brood diseases in the United States that all bee-keepers should be particularly watchful of the diseases which frequently happen to the bees badly infected with the disease. It is a fact that any disease may be that any disease noticed in the brood is chilling. In this case start which makes the benefit to the bees, there is a benefit to the apiarist sufficient to make it an object to select a sheltered location.

There are two recognized diseases of the brood, European and American foulbrood, which are particularly common in the United States. These diseases resemble each other in many respects, but there are certain characters which make it possible to differentiate the two.

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The Brood Diseases of Bees

BY E. F. PHILLIPS, Ph.D.,
Apicultural Expert.



Aplary, With Special Reference to Bee Diseases," by Dr. G. F. White.

American Foul Brood.

American foul brood (often called simply "foul brood") is distributed through all parts of the United States, and from the symptoms published in European journals and texts one is led to believe that it is also the prevalent brood disease in Europe. Although it is found in almost all sections of the United States, there are many localities entirely free from disease of any kind.

The adult bees of an infected colony are usually rather inactive and do little toward cleaning out infected material. When the larvae are first affected they turn to a light chocolate color, and in the advanced stages of decay they become darker, resembling roasted coffee in color. Usually the larvae are attacked at about the time of capping, and most of the cells containing infected larvae are capped. As decay proceeds these cappings become sunken and perforated, and, as the healthy brood emerges, the comb shows the scattered cells containing larvae which have died of disease, still capped. The most noticeable characteristic of this infection is the fact that when a small stick is inserted in a larva which has died of the disease, and slowly removed, the broken-down tissues adhere to it and will often stretch out for several inches before breaking. When the larva dries it forms a tightly adhering scale of very dark brown color, which can best be observed when the comb is held so that a bright light strikes the lower side wall. Decaying

view of the widespread distribution of infectious brood diseases among the United States, it is desirable that all bee-keepers learn to distinguish the diseases when they appear. Frequently happens that an apiary becomes badly infected before the owner realizes that any disease is present, and may be that any dead brood which is noticed in the hives is attributed to chilling. In this way disease starts which makes eradication

there are two recognized forms of the brood, designated as European and American foul brood, which are particularly virulent. In many ways these resemble each other, but there are certain distinguishing characters which make it possible to differentiate the two. Reports are sometimes received that a colony is infected with both diseases at the same time, but this is contrary to the experience of those persons most conversant with these conditions. While it is possible for a colony to have a mixture of both diseases at the same time, it is not by any means the usual case, and such cases are probably not generally reported. Since both diseases are caused by specific bacilli, there is absolutely no ground for the theory advanced by some bee-keepers that starved brood will turn to either of these diseases. In the absence of the best practical observations also in keeping with this discussion of the causes of these diseases the reader is referred to Bulletin Series No. 14, of the Bureau of Entomology, "The Bacteria of the

larvae which have died of this disease have a very characteristic odor which resembles a poor quality of glue. This disease seldom attacks drone or queen larvae. It appears to be much more virulent in the western part of the United States than in the East.

European Foul Brood.

European foul brood (often called "black brood") is not nearly as widespread in the United States as is American foul brood, but in certain parts of the country it has caused enormous losses. It is steadily on the increase and is constantly being reported from new localities. It is therefore desirable that bee-keepers be on the watch for it.

Adult bees in infected colonies are not very active, but do succeed in cleaning out some of the dried scales. This disease attacks larvae earlier than does American foul brood, and a comparatively small percentage of the diseased brood is ever capped. The diseased larvae which are capped over have sunken and perforated cappings. The larvae when first attacked show a small yellow spot on the body near the head and move uneasily in the cell. When death occurs they turn yellow, then brown, and finally almost black. Decaying larvae which have died of this disease do not usually stretch out in a long thread when a small sick is inserted and slowly removed. Occasionally there is a very slight "ropiness," but this is never very marked. The thoroughly dried larvae form irregular scales which are not strongly adherent to the lower side wall of the cell. There is very little odor from decaying larvae which have died from this disease, and when an odor is noticeable it is not the "glue-pot" odor of the American foul brood, but more nearly resembles that of soured dead brood. This disease attacks drone and

queen larvae very soon after the colony is infected. It is as a rule more infectious than American foul brood and spreads more rapidly. On the other hand, it sometimes happens that the disease will disappear of its own accord, a thing which the bee-keeper never knew to occur in a genuine case of American foul brood. European foul brood is most destructive during the spring and early summer, often disappearing in late summer or autumn.

Treatment of Infectious Diseases.

The treatment for both American foul brood and European foul brood is practically the same. It is impossible to give minute directions to follow in every case, but care and common sense will enable any bee-keeper to succeed in fighting diseases of brood.

Drugs—Drugs, either to be given directly in food or to be used for cleaning combs, cannot be recommended for either of these diseases.

Shaking treatment.—To cure a colony of either form of foul brood is necessary first to remove all of the infected material. This is done by shaking the bees into a new hive on clean frames with fresh foundation, care being taken that the infected honey does not drop into the healthy combs. The healthy combs may be saved, provided there is enough to make them profitable, by piling up combs from several infected hives on one of the best of the diseased colonies. In a week or ten days all the brood is worth saving will have emerged at which time all these combs may be removed and the colony moved to the case of box hives or skeps may be drummed out into new frames and foundation or preferably into a hive with new frames. Box hives are hard to move, and the field

bees in the neighborhood where disease is spreading should be shaken at a time when the bees in the apiary are not spreading disease. This can be done after bees have emerged during a good season. They should be exercised by shaking material away until it can be covered or the combs removed from the disease. Bees rendered by soiling with high heating is used in a regular wax extractor. A diseased colony should be burned by sterilizing by heat for at least half an hour, if possible to the bees. If it is not possible, it should be cleaned, and special care should be taken that no infected material is left in the hive. It is frequently necessary to remove the foundation in new frames every five days. The bee-keeper must determine when it is necessary, but when it is necessary, it is safer to run than to run the bees. If repeated, the bees should be destroyed. Bees from deserting colonies on the queen may be removed or a queen-excluder placed at the entrance. Bees with bee escape treatment may be shaken instead of shaken in the hive in the combs the hive is moved, and in its place frames and foundation is at once transferred, and the field

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there when they next return from the
 field. The infected hive is then placed
 on top of or close beside the clean hive
 and a bee escape placed over the en-
 trance of the hive containing disease,
 so that the younger bees and those
 which later emerge from the cells may
 leave the hive, but cannot return.

They therefore join the colony in the
 new hive.

Fall treatment.—If it is desirable to
 treat a colony so late in the fall that
 it would be impossible for the bees to
 prepare for winter, the treatment may
 be modified by shaking the bees onto
 combs with plenty of honey for win-
 ter. This will be satisfactory only
 after brood rearing has entirely ceased.
 In such cases disease rarely reappears.

In the Western States, where Amer-
 ican foul brood is particularly viru-
 lent, it is desirable thoroughly to dis-
 infect the hive by burning the inside
 or by chemical means before using it
 again. This is not always practised in
 the Eastern States, where the disease
 is much milder. Some persons recom-
 mend boiling the hives or disinfecting
 them with some reliable disinfectant
 such as carbolic acid or corrosive sub-
 limate. It is usually not profitable to
 save frames because of their compara-
 tively small value, but if desired they
 may be disinfected. Great care should
 be exercised in cleaning any apparatus.
 It does not pay to treat very weak col-
 onies. They should either be destroyed
 at once or several weak ones be united
 to make one which is strong enough to
 build up.

Recently some new "cures" have
 been advocated in the bee journals,
 particularly for European foul brood,
 with a view to saving combs from in-
 fected colonies. The cautious bee-
 keeper will hardly experiment with
 such methods, especially when the dis-
 ease is just starting in his locality or

apilary, but will eradicate the disease at once by means already well tried.

In all cases great care should be exercised that the bee-keeper may not himself spread the infection by handling healthy colonies before thoroughly disinfecting his hands, hive tools, and even smoker. Since it takes but a very small amount of infected material to start disease in a previously healthy colony, it is evident that too much care cannot be taken. In no case should honey from unknown sources be used for feeding bees. Care should also be exercised in buying queens, since disease is often transmitted in the candy used in shipping cages. Combs should not be moved from hive to hive in infected apiaries.

"Pickle Brood."

There is a diseased condition of the brood called by bee-keepers "pickle brood," but practically nothing is known of its cause. It is characterized by a swollen watery appearance of the larva, usually accompanied by black color of the head. The larvae usually lie on their backs in the cell, and the head points upward. The color gradually changes from light yellow to brown after the larva dies. There is no ropiness, and the only odor is that of sour decaying matter, not at all like that of American foul brood. In case the larvae are capped over, the cappings do not become dark, as in the case of the contagious diseases, but they may be punctured. So far no cause can be given for this disease, and whether or not it is contagious is a disputed point. Usually no treatment is necessary beyond feeding during a dearth of honey, but in very rare cases when the majority of larvae in a comb are dead from this cause, the frame should be removed and a clean comb put in its place to make it un-

necessary for the bees to clean much dead brood.

Chilled, Overheated and Starved

Many different external factors cause brood to die. Such death is frequently mistaken, by persons familiar with the brood issue, one or the other of them. Careful examination will soon determine if dead brood is the result of anything merely some outside change. If it dies from chilling or some other cause, it is usually soon discovered by the workers, and the trouble appears. No treatment is needed. Brood which dies from external causes often produces a strong odor in the colony, but wholly unlike the American foul brood, merely a decaying matter. The color of the larvae varies, but the characteristic of the infectious diseases is absent, the ordinary colony brood being more nearly normal.

Washington, D. C., October

COMPENSATION

Our failure may be gained
Some wisdom gathered
Some patience in life's
Drawn from the stress
Our loss may be a while
To urge the spirit's flight
Into the realms of light
Where God's own angels
Our thorns may bloom
Some sorrows we have
Some cross with meekness
Blossom in heavenly
Our tears may jeweled
Set in a crown of love
In that pure realm above
To shine eternally!

—Liza

A. I. Root says: "Many can not eat sugar without pleasant symptoms follow. A careful test that they will accept well-ripened honey without culty at all."

The I
Depa

you ever open a bee
and the frame
whether that was just
be called warm?
Iced everything that
I had have seen the
cool air came in
rather into "bunch
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they were distrib
a comb, or a part o
of the bees, from
as many hundred,
to the ground,
suddenly commence to
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to their hive.

"Clustering," or, as it
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to increase the popu

The Beginner's Page

Department Conducted by E. G. HAND

the hive, or, we will say, the size of the cluster, until there is not room in the hive for it. Then comes swarming—but that's not yet.

Now, the larger the cluster is, the faster it will grow, because in a large cluster the bees can keep much more comb space warm enough for the raising of brood. The more comb space there is inside the cluster, the more eggs the queen can lay, and consequently the more young bees will be hatched in proportion to the number already in the hive. For instance, suppose there are only enough bees to keep warm a space large enough for the queen to lay eggs in fifty cells. It requires three weeks from the time the egg is laid until the bee hatches. Therefore, the queen lays her fifty eggs, and then has to wait three weeks until the young bees hatch before she can lay any more. In the meantime the chances are that half or more of the bees which were present when the queen laid the eggs have died before there are any young ones to take their places, so that there is no gain in population, or very little at best. Even with a much larger cluster than this, it frequently happens in the spring that the old bees die off faster than the young ones hatch, consequently as the cluster must necessarily become smaller and smaller, the fewer bees there are in the hive, it contracts until some of the comb which the queen laid eggs in, and which contains brood in various stages, must be left uncovered, and the brood, of course, dies. It even sometimes happens, when the weather is bad and kills many of the bees that

you ever open a bee-hive, or see the frames taken out, whether that was just a little too warm? If you did, indeed everything that happened, you would have seen the bees as soon as the cool air came in contact with them, whereas when first taken from the comb, or a part of it. If any of the bees, from three or four to many hundred, fell off the ground, they would immediately commence to bunch there in the same way, whereas in warm weather they would soon take wings and return to their hive. What does "bunching," or, as it is properly called, "clustering," mean? It means the bees' method of protecting themselves from the cold. A bee will soon perish in any kind of temperature—there must be something to keep them so that they can form a cluster, for in this way the bees in the middle of the cluster are protected by the outside "layer" of bees, in turn, are kept alive by the heat given off by the inner bees in the hive are always warm, though the cluster is distributed over the combs, and it is the size of the cluster—the number of spaces over the combs that it occupies—that determines the strength of the colony. It is the comb or combs in the centre of the cluster that the queen lays her eggs in, and when the young bees are hatched they take the place of the old ones which are gradually dying off, and when the population of the colony increases the population of

ENSATION

—Liza

go out to the fields, and when the hive is not well made or has too large an entrance, allowing the cold from outside to get in its deadly work, that what were fair-sized colonies early in the spring, will die out so fast that they will be practically all gone before any brood to speak of hatches, and the hive is left with a few dozen bees and a lot of dead brood. This dying out of colonies in the spring is what is known to the bee-keeping fraternity as "spring dwindling," and is about as discouraging as anything in the business—except a stung eye. It is nearly always the small or medium colonies that go this way, however. Big booming colonies, especially if they have plenty of honey in their hive, and have a good hive, and are carefully let alone during April, will generally hold their own pretty well. The large cluster makes it possible for the bees to keep the temperature up to the required point without too much effort, the presence of plenty of honey stimulates them to feed the queen liberally so that she may lay profusely, and the comb space covered is so large that by the time the queen has it laid full the young bees from the first eggs she laid are hatching, thereby making room and heat, so that she can "slam" ahead as hard as she likes, and have the hive overflowing with bees, while the less populous hives are still struggling away with small increase and consequently small headway.

How can we prevent this spring dwindling? It is pretty hard to do when continued bad weather makes the death rate among the field bees unusually high, but a warm, snug, tight hive, with an entrance just large enough to let the bees in and out without crowding, and with plenty of honey inside, so the bees are not forced to go out in bad weather, or starve, will go a good way in the right direction. A single-walled hive should properly

have some protection during April, sometimes part of May. Whether building paper or other heavy material around the hive, cover, bottom board and leaving just a small hole for entrance, is recommended. The author has never tried it, but intends to do so this spring, and will report later. A single board cover for the hive, even when a heavy quilt, or quilt placed between it and the frame, allows too much heat to escape, and will be seen when a heavy frost or a fall of snow comes on the top of a hive. The frost or snow immediately over the cluster will melt when the temperature of the air is quite noticeably below the freezing point, while that on other parts of the cover will remain.

Fenelon Falls, Ont.

TRANSLATIONS FROM GERMAN BEE JOURNALS.

(By Jacob Haberer.)

Do Bees Carry Eggs?

This is still an open question. I have certain bee-keeper in Boehmen who they do, and recommends an experiment which he claims succeeded out of three times. An early swarm is hived on about five frames each frame with a half-sheet of wax, which will be drawn out in a few days. The queen is taken and the combs examined at the end of the period to see whether she has laid eggs. The colony, now in a good condition, is left to itself. Three days later, on examination many queen cells supplied with eggs will be found, but without eggs. I get a frame of brood and eggs in the stages and bring them as near as possible to queen cells as you can. In the more you will find the cells occupied with larvae. Whether the bees carry eggs with their mandibles or with their tongue he does not know, but I try the experiment.—"Luxemburger Bienenzeitung."

HELPING BEGINNERS IN CULTURE

Canadian Bee Journal have often thought of writing for the "Journal" to slip by without pretending to be a professional any new to help beginners. I have been taking much interest in "B. J." lately, which it has been impossible to do at least. I congratulate you on your interest for beginners; that is, if you can describe. I have often thought it would be better if professional beekeepers might speak at the meetings might understand

I remember my own inspiration from Clarke's articles in the "B. J." I had no construction, so I took a book and subscribed. I understood well, but it was before I could read understandingly. The convention was followed. A catalogue of supplies helped me to choose. I was puzzled over names

with regard to subscribers, there is a thought came up in my mind: how to reach a beginner through the columns? I start by subscription? If he is not a beginner, how is the advice? He may not live with any one who will help him. My own success

HELPING BEGINNERS IN BEE CULTURE.

Canadian Bee Journal:

I have often thought of writing an article for the "Journal," but time has slipped by without its being done. I do not pretend to be able to give the professionals any new ideas, but I may be able to help beginners a little.

I have been taking more interest in "The B. J." lately, which means that it has been improving, to my mind at least.

I congratulate you on opening up a column for beginners. They greatly appreciate that; is, if you can get them to subscribe. I have often thought it would be better if professionals would write as if they were novices once, so that they might speak and write in a way that novices might understand them.

FROM THE BEE JOURNALS.

I remember my own experience. I was inspired by reading Mr. Clarke's articles in The Montpelier Bee Journal. I had no one to go to for instruction, so I took his advice, bought a book and subscribed for a copy of the Journal. I understood the book well, but it was nearly three months before I could read the journal understandingly. The discussions at the convention were especially helpful. A catalog of beekeeping supplies helped me greatly. I puzzled over names of parts of the hive.

With regard to subscribing for a journal, there is a thought that has come up in my mind: How are we to reach a beginner by advertisement through the columns of a journal? If he is not already a subscriber, how is the advice to reach him? He may not live within ten miles of any one who will repeat the advice to him. My own solution of

the problem is to get your articles into the columns of some of the newspapers that print such matter. I suppose I would never have been a bee-keeper if I had not been brought into it in that way. If newspapers do not print articles from the bee journals, the alternative would be for bee-keepers to write articles for such newspapers, keeping always in mind the increase of the subscription list of the bee journal.

Another point I have often thought of: Commonly the advice given to beginners is to buy only one colony of bees to start with. I should feel strongly inclined to advise them to buy three, certainly two. One would be necessary to study from, to look at, to open and examine at any time, to use in almost any way, and, perhaps, in the end, to ruin. The second would be necessary to experiment upon occasionally, but the third would be to let alone, that it might make honey. This would be for the encouragement of the beginner. He would be likely to meet with much discouragement, some ridicule—enough to hurt his feelings—and this, perhaps, from his own family or near acquaintances; but if he were able to treat them to a nice dish of choice honey, it would probably stop such things and give him a certain amount of pleasure for one whole year. This might hinder him from throwing up the whole thing at the end of a year, and perhaps save to the world a good bee-keeper.

WILLIAM MOORE.

Little Current, Ont.

Not only is honey the most wholesome of all sweets, but it is the most delicious, and its cost so moderate that it may well find a place on the tables of the common people every day in the week.

Annual Conventian O.B.K.A.

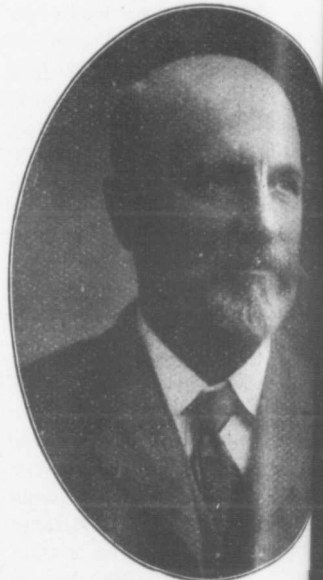
Continued from Page 11

sponsibility on me, and when you put responsibility upon a person, if they have a certain amount of ambition, they will make an attempt. I might say my ambition, has been to serve the association well. I have had a certain amount of labor in the 21 years, I suppose if the total number of hours were taken, it would be found that they were very numerous, but that is all right, that is past now and I have a great asset at the present time for all these hours, the greatest asset a man can have—lifelong friends. I feel that I have not made any enemies, and if a man can keep a position for 21 years and has no enemies he is fortunate, it is a position to be appreciated. The vote of thanks you have passed makes me think you have appreciated what I have done. I have had relations with many presidents in the association, but up to date I have never had any unpleasantness with any of the presidents. They have always aimed to do what they thought best, and I stand here convinced that with almost every president of the association, they have been honest in trying to do something for the department, the association, and the bee-keepers of the province. That is a pleasing thing to state. Men are very contrary sometimes and generally the more contrary the man is the more honest.

I have spoken once or twice this last winter to the Minister of Agriculture that I thought it would be wise if the secretaryship were in the department. Mr. James agreed that business could be despatched much quicker in the department than by employing some party outside. I said even if I wanted the position, I saw clearly that the work for the association could be done in the department much better than

outside. I have worked for the interests of the association and for my personal interests besides, as well as I could. I have spent a month or more past year, not far short of one month out of the 12 on the work of the association, but my other duties are so numerous I cannot continue. I am glad that I have served for some length of time, and can quit with

ties for the sale of bees and Mr. James thought I asked him to make a resolution that before the association was in hand, and he would submit it to the legislature and when he would do it he would do it through the legislature to



MR. WM. COUSE, Streetsville, Ontario,
Late Sec'y O.B.K.A.

feeling that we have now a good society. I am very grateful for the vote of thanks. (Applause.)

Mr. Holtermann—There is an important matter I wish to bring about. During the course of the winter there is to be a revision of the stock companies' act, and this will affect these companies generally. Mr. James, suggesting to him that beekeepers should have the same privileges that dairymen have in connection with the formation of joint stock

Resolved, that the legislature should provide for the need of provision for organizing companies for the sale of products with as little expense as possible, somewhat in the manner of the dairy men and fruit men. It was understood that a new act would be introduced at the next meeting of the legislature to amend the act of 1900 and other companies. The wishes of the beekeepers in this matter were referred in this matter to the Social Secretary, Mr. Chrysler.—I think these are the best things we could do for the association. I know what the fruit growers' association has done several years back. They have now a joint stock company that does not cost one of its members anything. I do not suppose the legislature will go through during the next session, but they have resolved that each member has a certain amount of stock in the company, and they have built a packing stand, and they have hired men, or they have a president who elects a seller and a packer. The seller takes all our fruit in the winter and is bound to sell it in the most satisfactory way, the better the price, the more money he gets. The buyer gets a certain price

ced for the... for the sale of their products, on and for... Mr. James thought it a very good idea, as we... I asked him if he would draft a resolution that could be presented at a month... before the association, and I have this work of the... in hand, and he said if we saw duties are... he would submit it to the Hon. Mr. inue. I am... hamilton, and when he was drafting rved for... act he would draw the attention an quit with... the legislature to this matter:



Streetsville, O. B.K.A.

Resolved, that the bee-keepers feel need of provision whereby they can organize companies for handling their products with as little expense as possible, somewhat in the line of the crymen and fruit men. As it is understood that a new Companies' act will be introduced at the next meeting of the legislature to cover organizations and other companies. And that the wants of the bee-keepers be considered in this matter, and that this resolution be sent to the Hon. Provincial Secretary, Mr. Hamilton.

Mr. Chrysler—*I think this is one of the best things we could give our attention to. I know what the Chatham Fruit Growers' Association has done several years back. It is probably ten years since they began, but they now a joint stock company, and it does not cost one of its members one cent. I do not suppose it is much use telling you all the troubles it has had to go through during the last few years, but they have resulted in this, each member has contributed a certain amount of stock in the way of fruit, and they have built a big warehouse, packing stand, and so on, and they hire men, or they are elected. They have a president and directors to elect a seller and a packer on a percentage. The seller gets so much for all our fruit in the Northwest, and he is bound to sell it in the most satisfactory way, the better he sells it the more money he gets, and the seller gets a certain percentage for*

packing the fruit also, and it is altogether a very satisfactory concern. Two years ago I looked at the books and found them in good condition, the only trouble then was we were not incorporated, and we were getting on dangerous ground, so last year we got incorporated.

The President—*Moved by Mr. Holtermann, seconded by Mr. Chrysler that the department pass an act to enable bee-keepers to form incorporated societies for the sale of their products. Carried unanimously.*

MEASUREMENT OF A COLONY OF BEES.

A correspondent reports having counted 5,000 bees, which weighed exactly 500 gr., or 1 pound. They just filled a cigar box (of 100). Supposing we have four times as many in the hive after the first flight in spring. The queen should lay 1,000 eggs in March, 5,000 in April, 20,000 in May, and in June 50,000. By the end of June all of the 20,000 winter bees are gone, and likely those of March also, so the colony would, by the end of June, consist of bees from April 5,000, May 20,000, young bees of June 16,000—in all 41,000 bees, 20,000 nymphs, 8,000 larvae and 6,000 eggs.

- Now 41,000 bees, each 1.5 cm. long, =61,500 cm.
- 20,000 larvae, each 1 cm. long, average, =20,000 cm.
- 8,000 nymphs, each 1 cm. long, = 8,000 cm.
- 6,000 eggs, each 1 mm. long, = 600 cm.

Total90,100 cm. or nearly two-thirds of an English mile.—*Leipziger Bienenzeitung.*

Canadian Bee Journal, \$1.00; Green's Fruit Grower, 50 cents. Clubbed, one year, for one dollar.

The Ham & Nott Company, Limited

Business Notice

BEE-KEEPERS' SUPPLIES.

We have been "running" day and night on bee-keepers' supplies, and a stock of all lines is about completed. We have commenced shipping.

BEEWAX WANTED.

We still require a large quantity of beeswax for comb foundation bought outright. We are paying 33 cents cash and 35 cents in exchange for goods f.o.b. here, for good clean wax.

ADVANCE IN TINWARE.

Owing to the large advance in the cost of tin plate, we find we must increase the prices on some lines of tinware to at least partially meet this condition, and until further notice 5, 10 and 60-lb cans will be invoiced at 10% above present catalogue rates, wholesale and retail. Honey extractors, storing cans, uncapping cans, etc., will, for the present, remain at old prices.

EARLY ORDERING.

We earnestly solicit early orders for supplies, as this prevents much dissatisfaction and disappointment in the later part of the season.

Brantford, April 1st, 1907.

MIDDLESEX COUNTY ASSOCIATION.

A meeting of the Middlesex County Bee-keepers' Association will be held in the City Hall, London, on May 4th, 1907. Morning and afternoon sessions. A good program is being prepared. Friends Smith, Holtermann, Chrysler and Laing have promised to be present.

E. J. BAINARD,
Secretary.

Lambeth, Ont.

Comb Foundation

BEFORE getting your foundation made up write us for samples and prices. We guarantee satisfaction. Give us a trial. Wax taken in payment for making up. We handle the Ham & Nott Co's bee goods at factory prices.

JOHN NEWTON
Thamesford, Ont.

Italian Bees and Queens

THE BEST IN THE LAND

During the summer of 1906 I requeened over two-thirds of my home apiary (some 200 colonies) with fine young queens raised on "Bow Park" and am offering a limited number of these colonies for sale for May delivery. Orders for Italian queens will be filled in rotation as soon as the season opens.

Write for circular. You will see what other buyers have to say about the stock.

A Price List of Queens

UNTESTED—Each \$ 1.00
Six for 5.00
Twelve for 9.00
TESTED—Each 1.50
Six for 7.50
Twelve for 13.50
Two Frame Nuclei with Queen 15.00
Full Colonies Italian Bees 7.00

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Sample Free

W.J.KEDWELL Manager and Editor

Honey Queens

Laws' Italian and Holy Land Queens. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians, Laws' Holy Lands.

These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, \$8.00; tested, \$1.00; per dozen, \$10. Breeders, the very best of either race, \$3.00 each.

W. H. LAWS, Beeville, Texas

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BEE-KEEPERS Awake Awake

IN fifty days the honey crop of 1907 will be on.

Are you ready for it?

Have you all necessary supplies if not do not delay another day but order now as we guarantee prompt shipment of early orders. We furnish full lines of Bee-keepers supplies strictly first class in every respect. Honey pails new design, lithographed in three colors, blue, white and gold. A handsome package sample by mail for 12 cents.

Special sizes of hives and frames made to order.

Write for catalogue.

Arthur Laing

Successor to R. H. Smith

Box 804, St. Thomas, Ont.

Want and Exchange Column

Advertisements for this column will be received at the rate of 25 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.

WANTED.

FOR SALE—Six in. Foundation machine, nearly new, price \$10. Alpaugh four-piece section foundation fastener, a good machine; price, \$2. Daisy section foundation fasteners, 50c each.

R. H. Smith.

St. Thomas, Ont.,

FOR SALE—Or exchange 25 comb honey supers, 8 ft., with section supports, slat separators and springs, \$6.50, or will exchange for 20 pounds of good bees wax. Apply, Canadian Bee Journal, Brantford, Ont.

FOR SALE—22 colonies Italian bees in Jones hives in good condition. Apply at once. John Hambly, 410 St. Clarens Ave., Toronto.

WANTED—Refuse from the wax extractor or slum-gum. State quantity and price. R. F. Holtermann, Brantford, Ont.

WANTED—Six colonies of bees. Geo. J. Gage, Hamilton, Ont.

READY now to contract for your this season's crop of well-ripened Clover or Basswood Honey. I will supply the containers. State price. G. A. Deadman, Brussels, Ont.

BEESWAX WANTED.

Pure beeswax in any quantities. Best market price. Cash or exchange. Write

THE HAM & NOTT CO., LTD.,
Brantford, Ont.

Queens! Queens!

Place your order now for Italian, Carniolan or Carnio-Italian Queens for spring delivery. State date wanted.

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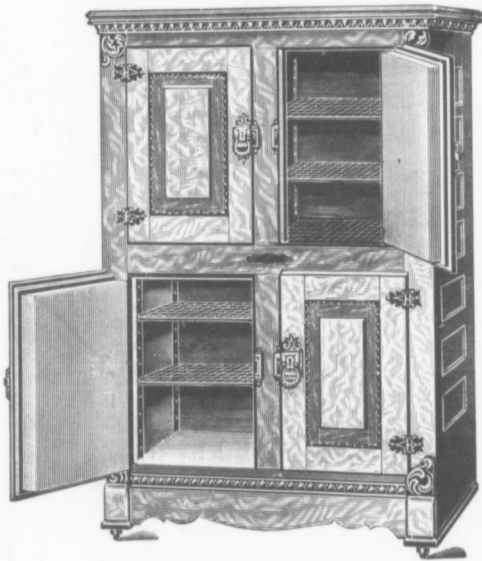
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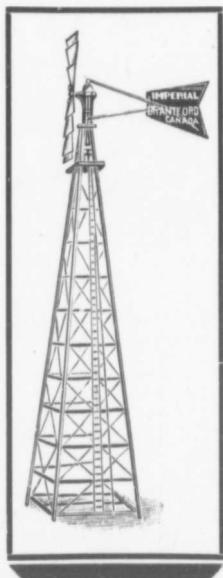


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