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## Notes and Comments

By J. L. BYER

### Foul Brood Legislation in Great Britain.

The "Irish Bee Journal" for May, a copy of which has lately reached me, contains the following marked paragraph: "J. L. Byer, writing in the 'Canadian Bee Journal,' says that it seems strange to think of bee-keepers opposing foul brood legislation, yet that fact is the main reason, as he understands it, that Ireland has no foul brood law. J. L. Byer is a reader of this journal, in which it has been frequently stated that not a single voice has been raised in Ireland in opposition to legislation. What does J. L. B. mean, anyway?"

If Editor Digges will look again at the article in question he will find that I said "Great Britain and Ireland," and, by way of excuse, will say that over here, when speaking of the Old Sod in a general way, the two countries are quite frequently connected together. Again, I am sorry to confess that it is only of late that I have had the pleasure of reading the "Irish Bee Journal." My friend Digges will not deny the fact that numerous "kicks" have appeared from time to time from subscribers of some of the other bee papers published

in the British Isles. Even in the "Irish Bee Journal," in the same issue in which this scribbler is taken to task, a letter appears from the pen of an English "Farmer," in which the writer raises some decided objections to the proposed Act for Ireland. Be it far from our purpose to intentionally misrepresent, or in any way discourage, our Irish friends in their campaign for foul brood legislation, the obtaining of which cannot do otherwise than give a great impetus to apicultural interests.

While I am at it, permit me to congratulate Editor Digges on the splendid appearance of May "Irish Bee Journal," as it appears in its new dress. From an artistic standpoint it is away ahead of anything in the way of bee journals that have come to hand from the other side of the "herring pond."

### How Much Nectar Per Acre From Buckwheat or Clover?

M. V. Facey, an extensive apiarist of Minnesota, who is at present writing a series of articles in the "Review," has the following in the "Farmer," a paper published in Minnesota: "First example is a field of buckwheat of only  $5\frac{1}{4}$  acres, to which a yard of 30 colonies of bees had access. No other buckwheat was near, and the bees most clearly devoted their whole attention to the only available field. It was very much alive each forenoon, and the bees gathered between 750 and 800 pounds per acre therefrom, or an income from honey alone of over \$40.00 per acre. Wild buckwheat will often do as well.

It has been estimated that a large, thrifty, well-flowered basswood will fully supply a colony during its flow, and I do not think the estimate is out of the way. When clover is secreting nectar, a field of 20 or 25 acres of thick white or alsike clover will keep a good-sized apary going." Pretty big claims to be sure, and, while they may be correct for Minnesota, I believe the most of Canadian bee-keepers will agree that these "estimates" are too high for our locality.

As to the clover, as Mr. Facey says, it all depends whether it is "secreting nectar" or not; and this reminds me that up to date (July 1st), although the clover has been in full bloom for a few days, with ideal weather, yet practically no nectar is coming in. The clover is now looking good, and why it is not yielding is a question; anyway, it begins to look as though last year's record may be repeated.

#### Building Up Weak Colonies in the Spring.

Orel L. Hershiser, writing in "Gleanings," outlines a system of building up weak colonies for the honey-flow. Briefly stated, his plan is to equalize, by drawing from the very strong to build up the weaker ones, so that all will be in condition to take advantage of the honey-flow. This has always appeared to me to be too much of the "robbing-Peter-to-pay-Paul" nature, and, except under extraordinary conditions, I doubt very much if the time spent in so much manipulation is paid for in the end. Whether it is because I use a large hive I know not, but for some reason I rarely have many of the very weak colonies that we hear so much about, so perhaps I am not qualified to pass an opinion on this equalization system. But I do have colonies that are not as strong as I would like them to be, sometimes, and to remedy

such conditions it is difficult to know just the best course to take.

A few years ago we had about twenty colonies in one yard that had, at the opening of the clover flow, an average of about five of our large frames well filled with brood. As an experiment the brood was taken from ten and given to the other ten colonies, and as the flow was rapid but very short, I have good reason to think that much more surplus was secured from the ten strong colonies than would have been obtained from the original twenty weaker ones. With a prolonged flow, no doubt the difference would have been in favor of the twenty colonies left without any doubling up. A very serious objection to this indiscriminate mixing of brood combs is the danger of foul brood, i.e., if one's hives are within robbing distance of an infected locality. Perhaps friend Hershiser has not this danger to combat with, so he is free from any apprehension on this score.

#### Queens Slow to Enter Combs Under Brood-nest.

Frequently I have made reference to the fact that, without an excluder, even with my big hives, the queens will every time go into the supers. This spring, during fruit bloom, I put twenty colonies of medium strength each over a set of brood combs, in the hope that the queens would descend and occupy all with brood by the opening of the clover. At any rate, the combs would be well cared for until wanted for nuclei, as increase was what I was after to make up for a heavy winter loss in the yard in question. A number of colonies were given a set of combs over the brood-nest, and while nearly every colony so treated has brood in the upper storey, out of the twenty where the combs were put below the brood-nest, in only two cases have the queens gone below.

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## Introducing Queens.

Discussion at Chicago-North-Western  
Bee-Keepers' Association

"How do you introduce queens?"

Mr. Taylor—I seldom introduce a queen except in the spring. If I want to change a queen, or the colony is queenless, I open the hive and observe the conduct of the bees, and you can tell, if they have a peculiar way of acting, running together, perhaps running towards your hand a little, with their wings lifted and a slight shaking motion, you can turn your queen right in. They are all right. Sometimes, if I am in doubt, I will put a queen-excluder on the top, let a few bees come up, let the queen loose and decide then. I hardly ever cage a queen in the spring because the bees are so anxious to get to work that they will almost invariably accept the queen; in fact, I do not know that I remember when a colony that was queenless refused to take a queen early in the spring.

Mr. Abbott—Suppose you had a black queen and you wanted to give them an Italian.

Mr. Taylor—Take her out and wait a day or two to let them find out they had lost a queen. They are terribly anxious to get a queen in the spring, and that running together a little and a slight shaking of the wings shows that they are looking for one.

Mr. Abbott—I supposed that among all the progressive bee-keepers the one most in advance and at the forefront was R. L. Taylor of Michigna.

Mr. Taylor—No; I am a fogy sir.

Mr. Abbott—But I see he says that the hive should be left for a day or two for the bees to find out that they

are queenless. Now in the name of common-sense, I want to ask why? I asked that question, and I asked it that I might bring out just that one idea. What makes a colony know that it is queenless? There is something to this. You are wasting a great deal of time when you wait two days for the colony to find out they are queenless. Now if Mr. Taylor will tell why, perhaps I will say something more.

Mr. Taylor—Two days early in the spring do not count very much, and you do not have to wait to see whether they are ready to receive her or not. It is the easiest way. Of course, I remember at one time that I was handling some bees, when I used to fool with them, and had a lot of them shaken on the ground, and in stumbling around with my big feet I must have hurt the queen. I noticed before I got through the colony that the bees were in a turmoil. They were running up on the front of the hive, and on the side, and looking around as lively as possible. I concluded something had happened to the queen. I looked on the ground and found that I had stepped on her. I got another queen and they were perfectly satisfied with the other queen.

Mr. Abbott—I have been trying for 20 years to get into current bee literature and bee books this one statement, that it is not necessary for any colony to be made queenless in order to introduce a queen safely a day, or an hour, or a minute, except what time is necessary between pinching the queen's head

off and turning the other queen out, or putting her in a condition to get out. After 20 years' trial I do not think that that statement is in a bee book, or in any bee literature that has not come directly from my mouth in reporting something that I have said in a convention about it.

Dr. Miller—Allow me to speak and say right here that Mr. Abbott perhaps never reads anything I write, or he would not say that sort of thing.

Mr. Abbott—I beg your pardon, then. It is not in any book.

Dr. Miller—It is in the "American Bee Journal."

Mr. Abbott—I have said it in the "American Bee Journal" several times, commenced about 25 years ago, and I have been saying it ever since. I want to say again, for the benefit of those who have not heard me say the same thing, that I never make a colony queenless. I do not rear queens any more, but on every cage I find directions, and those directions I invariably tear off because they say to make the colony queenless 48 hours, and then introduce the queen.

Dr. Bohren—Do you simply remove the queen, destroy her, and turn the other one loose?

Mr. Abbott—No, sir. When I have a queen or half a dozen queens that I want to keep I put them on top of the frames of a colony and leave them there two or three days. If I want to introduce one of those queens I hunt out the old queen, pinch her head off and turn one of the others free. If I wanted the old queen free in the hive day after to-morrow, having introduced one to-day, I would take that old queen out, put her into a cage and turn another one free, and in a very little while the queen in the cage is out on the combs laying, and the bees never know they have been queenless. They have no feeling of resentment towards

those queens in the cage any more than they have to the one free on the combs. They are just as friendly with any one of the five queens on top of the frames as the one in the hive laying eggs, and they take one just as well as another. What is the use of killing the queen and having them start queen-cells, which they will in 48 hours, and take the chances of their killing the queens? When they start cells they are antagonistic to any queen, even their own queen.

Dr. Miller—How long after you put that queen in before the bees liberate her?

Mr. Abbott—I fix it so that she will be out in an hour—not to exceed an hour.

Mr. Whitney—I purchase a considerable number of queens usually, and I have been anxious to find the best way of introducing queens, having tried various methods. I heard Mr. Abbott give his method of introducing queens here, a couple of years ago, I think, and thought I would try it. I sometimes get a half-dozen queens in rainy weather. Perhaps there will be two or three days of bad weather; I can't introduce them. I know what colonies I wish to introduce those queens to, and I distribute them around over the frames and leave them there till the weather clears up so that I can introduce them, and then I remove the old queens and let young queens free immediately. I have never lost a queen, when introducing them in that way. Of course, I would do the same thing if the weather were not bad, but it is a convenience if the weather is bad, to take this plan of doing it, and it never fails under any circumstances with me. Always place the queens over the frames of the colony in which you wish to introduce them, without removing the little pasteboard or cork

and when them, remove her over the entrance of the colony; and, do not touch the bees in the moment of laying; and the next thing I think it is known.

Mr. Wilcox—How long after you put her over the entrance of the colony?

Mr. Whitney—That; but I do not know the entrance of the colony are wide enough.

Dr. Miller—Cool weather.

Mr. Whitney—No. I would not. But I merely put it in warm weather of hives there for it.

Mr. Wheeler—The attendant the queen? I

Mr. Whitney—themselves, or care of them.

to them at all. Mr. Abbott—will do no harm.

Mr. Kimball—queen loose in opening so that

Mr. Whitney—through and put and let the queen remain in the colony and the bees will often run out and let them free again. Ordinarily they several minutes

Mr. Hutchins

and when you get ready to introduce them, remove the old queen from the hive and let the queen free immediately; and, as Mr. Abbott has said, you do not then stop the production of bees in the hive. The old queen goes on laying all the time up to the very moment of her exclusion from the hive, and the new queen takes her place. I think it is the best method I have ever known.

Mr. Wilcox—If you could not place her over the colony, would you place her between the combs?

Mr. Whitney—Yes, you might do that; but I have placed the cage at the entrance of the hive. My hive entrances are wide, but just about high enough.

Dr. Miller—You could not do that in cool weather.

Mr. Whitney—Not very cool weather, no. I would not do it in cool weather. But I merely mention that I have done it in warm weather, but with my kind of hives there is scarcely any necessity for it.

Mr. Wheeler—What do you do with the attendant bees—bees that are with the queen? Do you kill them?

Mr. Whitney—Oh, they take care of themselves, or the other bees will take care of them. I don't pay any attention to them at all.

Mr. Abbott—Let them alone. They will do no harm.

Mr. Kimmey—You say turn the queen loose immediately; make the opening so that she can walk right out?

Mr. Whitney—Yes; run a pencil through and puncture the queen candy and let the queen out. She will usually remain in the cage for several hours, and the bees will go in. They do not often run out immediately, but I will let them free and turn them right out. Ordinarily they remain in the cage for several minutes, or hours, possibly.

Mr. Hutchinson—I think that the

idea of letting the queen free at once without leaving the colony queenless until they find out they are queenless is probably all right. The only reason that I could see in keeping a queen caged two days or more before letting her out is that sometimes it seems as though the mood of bees changes. You will come to a hive sometimes with a queen-cage in it, and you will find bees sticking right over the cage like so many burdocks, and perhaps the next day they have changed their mood and are walking peacefully over the cage.

If you release the queen when they are inclined to bother her they might kill her. I think it is much better never to let a colony know they are queenless. Do not have them queenless long enough so that they find it out. I introduced a queen last fall after the honey-flow had ceased, when it is somewhat different. I went over the hives and found the queen. As soon as I would find the queen I would kill her and open that cage at one end and fill it perhaps an inch or an inch and half with sugar candy, and put it back in. I do not suppose those bees knew they had a new queen, and out of the 40 I lost two queens. Those were strong hybrid colonies.

Mr. Moore—Mr. Hutchinson, what would you do now to save the queens to those two strong hybrid colonies, in addition to what you did before?

Mr. Hutchinson—I don't know that I could do anything.

Mr. Whitney—I have introduced a strange queen to a queenless colony, and she was accepted immediately. There would be a buzz of bees all over the frames and down through the hive the moment she struck the top. An exception, of course; that would seem to be a sort of freak of the bees. I don't know why they accepted her so suddenly or willingly, but they did.

Mr. Taylor—They will almost invariably do that in the spring.

Mr. Abbott—Never turn a queen free if you have one or more cages if the bees are not walking around naturally, no difference whether they have been there one day or three. Never turn a queen free under those circumstances. Simply close up the hive. You have the old queen laying. What is the advantage of having a queen on top? To-morrow, if all is quiet, and they are walking around naturally, hunt out the old queen. If they have had 48 hours and have started queen-cells, then if you can't put her in, it leaves another day to work on the cells.

Dr. Miller—I want to say just a word on introducing as Mr. Abbott advises. I think I objected at one meeting here that there was some delay in doing that way, but a good deal of experience since has made me appreciate very much the advantage of having a queen in the hive some time—that is, the new queen in the hive some time before the old one is removed. As probably all here know, it is not an easy thing to introduce a virgin queen, and since that time I have introduced a good many virgin queens, using simply the method that Mr. Abbott speaks of, of allowing that there is just a little advantage in having the new queen get acquainted while the old queen is in the hive. When you take away the old queen you are throwing them into an abnormal condition and they are likely to show fight. When she is put in the hive beforehand, they are indifferent to the new queen. I don't know if it is because she gets the scent of the hive, or for any other reason, but I do know that a virgin queen, or any other queen that has been imprisoned in the hive for some time while the old queen is present, will be accepted kindly if freed by the bees a short time after the old queen is removed.

#### Requeening or Superseding Queens.

"Shall we requeen colonies having old queens, or let the bees do the work of superseding?"

Dr. Bohrer—It is questionable when a queen may be considered old. I have had queens four years old that were very prolific and laid as many eggs as any queen I have, and I think it would be a good policy for a bee-keeper to watch his queens and see what they are doing. If, for any cause, they do not seem to lay the requisite amount of eggs at any age, I would supersede them; but as long as the queen is fertile and in good condition, keeping the colony up, I would not molest her, even to three or four years old, because from my observation they will lay eggs until they are that old; so that there is no fixed rule about that, perhaps.

Mr. Whitney—I suppose that when one discovers drone-larvae in worker-cells it is a pretty good indication that the queen ought to be superseded, whether she is old or young. Usually you may find those in a colony where there are old queens, but I have a case which I have written up twice, and some people questioned my accuracy. I had a queen that I found in the spring laying drone-eggs in worker-cells. She was only a year old. I thought very much of her. She was the daughter of the old queen that so much has been said about, and she looked very poor. She came out poor in the spring. I commenced feeding her bees with good, rich honey, a little at a time, each night, and within two weeks she was laying worker-eggs in worker-cells, and during that summer I made four colonies of bees from that queen.

Dr. Miller—Does Mr. Whitney think that an exceptional or a usual case?

Mr. Whitney—It was the first I ever knew, or ever heard of.

Dr. Miller—It is the last you will ever know of.

Mr. Whit have been n a young qu one, and yo old queen." clipped soon ing, and I v until she die clipped que land has ta asked me w that queen. usual thing, heard of. Bu friends were frames out the worker-full, of drom that too bad expected to queen, but I summer and of bees from She was a would say th be supersede What is an are old at a r at 2½ years. hard the que good queen ; three years, flow she wou three or four

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Dr. Miller—D work, as a rule ond year? Th in deciding, if mony about th A Member—T

Mr. Whitney—Some say, "You must have been mistaken; it must have been a young queen that superseded the old one, and you thought it was the same old queen." The fact is that queen was clipped soon after she commenced laying, and I watched her from that time until she died, and it was the same old clipped queen. A doctor in Switzerland has taken the question up and asked me whether I was certain it was that queen. He said it was a very unusual thing, and something he never heard of. But two of my old bee-keeper friends were there when I took the frames out of that hive, and showed the worker-comb full, or two-thirds full, of drones, and they said, "Isn't that too bad?" Well, I thought so. I expected to have to supersede the queen, but I did not. I kept her that summer and made four good colonies of bees from that queen by feeding. She was a young queen, though. I would say that an old queen should be superseded, but the question is, What is an old queen? Some queens are old at a month, and others not old at 2½ years. It depends upon how hard the queen has been worked. A good queen you might keep two or three years, and with a poor honey-flow she would not exhaust herself for three or four years.

Mr. Hutchinson—What I want to know is, shall we do this work, or shall we leave it to the bees to do it? Who has been at work superseding the queens themselves? Mr. France, do you supersede the queens or let the bees do it?

Mr. France—As a rule, I supersede them.

Dr. Miller—Does a queen do better work, as a rule, in her first or her second year? That will help us a little in deciding, if we can get some testimony about that.

A Member—The best queen I had last

year was three years old. She made the record of the yard.

Mr. Taylor—My object in keeping bees is to make something out of them. I want to make the largest per cent. on my labor, efforts and expense, that I can, and I think I can make more by letting the bees do the work; and nowadays I do not practice meddling with the queens except in an occasional—very exceptional case. Of course, once in a while, when I see that there is any need of a new queen, and that the bees are not likely to supersede the queen themselves immediately, I may interfere, but I let the bees do that work, and I do not believe that I could improve much on it any way.

Mr. Whitney—If you find you have an old queen, and she is liable to be superseded, perhaps in the fall, it seems to me it would be a good deal better to supersede her in August than to let the bees supersede her in October when there are no drones flying, when you are liable to have a virgin queen there, to be a drone-layer in the spring.

Mr. Taylor—That is not likely to be the case. Bees supersede their queens in the summer-time. Of course, that is the time to do it, and they seem to know that that is the time to do it. Of course, there may be exceptional cases, but I should very much dislike to overhaul 50 colonies of bees to find out, whether there was one queen that needed superseding, because the bees were going to supersede her in the fall. It doesn't pay.

Mr. Whitney—Keep a record of the age of the queens.

Mr. Taylor—That makes lots of work.

Mr. Wilcox—I am astonished, and I want to know if anybody else has ever thought of such a thing as queens being superseded in October, a month or two after the season's harvest was over. I did not know that such a thing ever happened except by accident.

Mr. Abbott—I confess I am astonished. I am like Dr. Miller now. I am more astonished than he was, to think that any one would advocate at this time that we should let nature alone. Let me give you an illustration from the dairy business: The Babcock test has eliminated from the dairies of this country about half the cows that were in the hands of intelligent dairymen, because they were eating more than they produced. It is not necessary to overhaul a colony to see how old the queen is. It is unnecessary to "count the rings on her horns" as you do on a cow to see how old she is. It is only necessary for the intelligent manipulator to know that there is a colony, No. 22, that is not paying its way. If 22 is not, why 9 chances out of 10 the queen is responsible for the non-payment. An intelligent answer, it seems to me, would be to take off the head of No. 22's queen and put one in there that you thought was better. That would be improving on what we call the "natural method," just as the dairy people by selection have improved the Jersey cows until they have nearly doubled the butter-production of the Holstein herds. If they can double butter-production of the Holsteins by careful selection, can not the bee-keepers and queen-breeders eliminate the poor queens and double the production of the colonies of bees in the country in the same way? It seems to me we can. This is an age of progress and scientific investigation, and we ought to take advantage of it, it seems to me. Take the heads off the queens whose colonies are not paying their way.

Mr. Taylor—I do not like to take up the time of this association in talking. I like to say a word once in a while, but I do not like to talk so much. If you are willing to bear with me a few minutes, I will try to explain this thing that Mr. Abbott seems

to be entirely astray on. Now the two cases are not parallel at all.

Dr. Miller—Correct.

Mr. Taylor—I am glad you are with me, Doctor. They are not parallel at all. It will take me two or three minutes to explain why they are not parallel. Take cattle. I suppose originally they were in a wild state, and they had long horns and they were fleet of foot, and they had great courage, and they were rustlers. That is, they were fitted to their environment. They were so constructed and so developed that they were able to survive under the hard circumstances in which they were placed. They were able to fight. They were able to escape their enemies by flight, when it was really necessary. They were able to hunt their food in difficult places. Now, then, suppose Mr. Abbott had some of those cattle and he wanted to develop them in the line of fighting and hustling for their food and fleeing from enemies, and this sort of thing. Would he be so particular about picking out animals that were not fleet and not fighters? Why, no. He would not expect to develop them very much. They have been developing for ages and ages. The weak ones have gone down always. They could not get food. They could not escape their enemies. They could not repel their enemies, and they have developed, I may say, to the highest possible stage of that sort of existence. Now take bees. The bees have not been developed as fighters particularly, except what was necessary to keep out certain enemies, but they have been developed from the very first for the production of honey, because upon that alone has the existence and continuance of the race depended. Now I know it is against the generally received opinion among bee-keepers, but bee-keepers are all astray in this everlasting talk about improving the honey

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gathering qualities of bees. Why, we can do a deal better than that. They are developed. Of course, we may do a little something in the way of increasing that, but we perhaps better do it negatively. We ought to let those that are not doing well perish of themselves, as they will. We make a mistake in nursing up those that are not able to survive of their own efforts, and feeding them and trying to get them through the winter, and all this sort of thing; but if we turn our attention to developing bees in the way of right capping of honey, in the way of making white comb honey, in the way of properly filling their sections, making straight combs—for there is quite a difference in that and in some, could we take the time to do it, I tell you we would make a big improvement in bees, for the reason that the bees have not found it necessary to develop in these lines. It didn't make any difference to them whether the comb was white or dark, or what was the matter with it, only that they had honey where they could get it. Now I say, if I had any influence among bee-keepers I would have them turn their attention to doing something that there was some prospect of their being able to accomplish.

Dr. Miller—I want to apologize to Mr. Taylor for agreeing with him. (Laughter). I am very sorry I said a friendly word toward him. Mr. Abbott, I think, switched off entirely from the question, and when Mr. Taylor followed and drove the wild cattle, he went still farther. The question was raised whether it is better to allow the bees to supersede, or for the bee-keeper to take the matter in his own hands. Then Mr. Abbott raises a very important question and he did not say too much about that, and I am with Mr. Abbott and dead set against Mr. Taylor, that he can not improve the bees.

But they are both away from the question. The question is not whether we are going to improve our bees, but whether, with the bees we have, it is better for us to take the matter of superseding into our hands or leave it in the hands of the bees. I regret to say I am with Mr. Taylor in thinking it is best to leave it to the bees.—(Laughter).

Mr. Wheeler—I stand for Mr. Taylor.

Dr. Miller—Keep to the question now.

Mr. Wheeler—No, I think for the benefit of the convention, if you will allow us a word about this very important question—

Dr. Miller—Yes, but let us finish this other question first, and then go to that.

Mr. Wheeler—Mr. Taylor and Mr. Abbott have been talking on a question that I think is very vital to bee-keepers.

Mr. Whitney—I simply wish to reply to Mr. Wilcox in regard to superseding. Perhaps I made a little strong statement, but when I close up my hives with a clipped queen and in the spring I find a young queen with two good wings, I conclude that the queen has superseded.

Mr. Wilcox—I asked that question for the interest of the published report, not particularly for the bee-keepers present, but it will be read by the people all over the world, and I did not want it to appear, unless it was true, that the queen was superseded in October. I did not know it was.

#### Queen Fertilization Affecting Drone-Progeny.

"Does the fertilization of the queen affect her drone-progeny?"

Dr. Bohrer—I wrote that question, and the reason I did so was not to make an attack upon any queen-breeder at all, nor upon any author, but

to call attention to what I regard as an error. I will name the gentleman, and I regard him as a high-toned gentleman, and a very honorable man—stands so, I think, before the bee-keeping fraternity throughout the United States and everywhere he is known. I have reference to Mr. Doolittle. When I first commenced to read bee-keeping and study it carefully, I was attacked through the press several times. I went all the way through the State of Michigan and discussed it before the Michigan Bee-Keepers' association, at the request of Prof. Cook. Two or three years ago I wrote him asking whether he had experimented any concerning that matter, that is, the effect the fertilization had upon the queen's drone-progeny. He said he had not only experimented, but he had proved my theory to be correct. Mr. Doolittle takes the position that it does affect the progeny of the queen, and I believe he says the fourth generation has produced a queen no one could tell from a hybrid. While I believe he is candid and sincere in his conclusions, the manner in which his experiments were conducted I am satisfied was erroneous. I doubt very much whether Mr. Doolittle is so situated that he can have four generations of bees and the fourth queen successfully fertilized where he is situated, on account of the fact that there are hybrid bees all around him, and on that account I think it is true that the drone-progeny is affected by her fertilization. The spermatozoa are lodged there—never escape at the will of the queen. When depositing a worker-egg she fertilizes that at will as it passes the mouth of the spermatheca. To suppose that affects the drone-progeny is to suppose it becomes a part of her system, that the spermatozoa become food and consequently part of the system of the queen. That is an utter impossibility. The revelations of the

microscope prove the contrary, and I am satisfied that Mr. Doolittle, although honest and sincere in what he teaches, is mistaken, and I would not like at this time to have the idea go out that such a thing is possible, because it is not.

#### Re-Queening or Superseding Queens.

Mr. Wheeler—Before dinner I was going to speak of the value of changing queens. We read a great deal, and it was the talk of some of the gentlemen before dinner about when a colony showed weakness or anything the matter with it, to change queens, and by selecting the right queen you improve your stock of bees. That is right to a certain extent, but I think it is carried too far. In the spring, quite often when the bees come out of the cellar, they will fly together and are quite apt to kill off the queen. There will be a very strong colony of bees, and when I look a little later they will have their queen killed, and there is a great lot of bees, and what am I to do with those bees? They are losing their time. I will look around and find a colony withered away—a few bees with a queen. I put that queen in the colony with the colony or bees and that queen will lay eggs, when she gets started, for all the bees that are there—fill two or three hives. If she had been left with that little colony, her stock was bad and not worth saving. I think that the bees have a great influence over the queen. The care they give a queen determines how many eggs she will lay, and determines her life as long as she has her youth and strength, and I think there is a great deal too much stress laid on the point of the queen being to blame for a colony being weak and dwindling.

#### Age When Queen Does Best Work.

"How many think a queen does her best work in the first year?"

Pres. York—All who think so, raise

your hands. queen does her best work in the first year? 9.

Dr. Bohrer in either case. My observations be positive a

Dr. Miller—the third year

Pres. York—year raise your any one on t

Dr. Miller—may add one I did not vot

Pres. York—way it was go

Introducing a

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"How shall a queen to a ers?"

Mr. Wilcox—

Dr. Miller—a virgin queen Almost invariably she will be ac

Mr. Whitney because last s perience with and I had a g was removing colonies for re-

I would use th worker colony,

in the usual thought she had bees, and then killed her in a tried another

all out and she at a distance,

and introduced kind of queens, and killed her.

of the hive-bo supers. I fille

with frames of the queen in,

your hands. 3. How many think a queen does her best work in her second year? 9.

Dr. Bohrer—I do not raise my hand in either case, because I do not know. My observation has taught me not to be positive about that.

Dr. Miller—Maybe somebody thinks the third year.

Pres. York—All who think the third year raise your hands. I do not see any one on that.

Dr. Miller—With that in view you may add one more to the second year. I did not vote. I know now!

Pres. York—You wanted to see which way it was going?

#### Introducing a Queen to a Laying-Worker Colony.

"How shall we successfully introduce a queen to a colony with lay workers?"

Mr. Wilcox—We don't want to.

Dr. Miller—One way is to introduce a virgin queen just out of the cell. Almost invariably, if not invariably, she will be accepted.

Mr. Whitney—I asked that question, because last season I had a little experience with a laying-worker colony, and I had a great deal of trouble. I was removing some queens from other colonies for re-queening, and I thought I would use those to test that laying-worker colony, and I introduced one in the usual way, kept her until I thought she had been recognized by the bees, and then I let her free. They killed her in a few minutes. Then I tried another plan. I took the bees all out and shook them on the ground at a distance, carried the combs back and introduced another of the same kind of queens, and the bees came back and killed her. I took the frames out of the hive-body and put them into supers. I filled up the lower story with frames of empty comb and put the queen in, put a queen-excluder

over her and set the super of laying workers right on top, and they accepted the queen. But I guess it would have been better if I had broken up the whole business. I think that is the better way.

Mr. Wilcox—I said I did not wish to, and I do not; but I have done it a great many times by introducing a comb of hatching brood and about 48 hours after introduce another comb of hatching brood, and those hatching bees usually destroy the laying workers, and will accept a queen or queen-cell. It will not work every time, but it does in a majority of cases. Sometimes I try the third or fourth time. Meanwhile they are hatching their bees.

Mr. Whitney—I had forgotten that. I tried that very thing. I put in one frame and then another, but they did not produce any queen-cells at all, and I just adopted the other plan.

"What per cent. more honey can be secured with the Danzenbaker than with other hives?"

A Member—Not any more.

"Which is best, to increase by natural swarming or artificial?"

Dr. Miller—It depends altogether upon circumstances, the man and his desires.

Mr. Abbott—Locality?

Dr. Miller—Yes; a great many things come in.

☆ ☆ ☆

Build a little fence of trust  
Around to-day;  
Fill the space with loving work,  
And therein stay  
Look out through the sheltering bars  
Upon to-morrow;  
God will help thee bear what comes  
Of joy or sorrow.

—Mrs. Mary F. Butts.

# Nucleus Method of Increase

By G. M. Doolittle

I first get out boxes of suitable sizes, according to the size of the colonies I wish to make, holding from one pound of bees up to 6 or 8, the latter being a very large swarm. For ordinary nuclei nothing is better than a 20-section shipping case nailed up, and leaving off the side strips that hold the glass. On one side of it, where the glass would go, I permanently nail on a piece of wire cloth, and for the other side nail a piece of wire-cloth the same size as the first, to four strips of suitable length, so these strips surround the wire-cloth as a slate-frame does a slate.

Now, with four small wire nails (one in the middle of each strip) I tack this wire-cloth frame to the opposite side of the box, when I have what I term a "nucleus-box," one side of which can be removed at any time with the blade of my jack-knife. I next had a tinsmith make me a very large funnel, 18 inches across the top, with the usual slope of side, coming down to a 2½-inch upright, or outlet, which was about 2½ inches long. Having the funnel made I pressed the top together from opposite directions till I had it oval at the top, about one foot wide and 22 inches long, in the diameter of the two ways across the top. It was fixed thus so as to collect in the bee better, when they were shaken from the frame, than would be done if left in the ordinary shape.

I then bored a hole in the top of the nucleus box, which would just let the small or upright end of the funnel into it, and over this hole I fixed a slide to cover it when the bees were in and the funnel out. In one end of the box is fastened a section of honey, of those

that were not quite salable, and left over from the year before, the same being held in place by a screw going through the end of the case and screwing into the section. This is for feed for the bees should they be kept in the box longer than the honey they take with them lasts, as is quite often the case. This completes the box and funnel part.

I now boomed ahead as fast as possible the colonies I wished to increase, by using any of the plans given in the books for keeping them warm, stimulating, etc., and as soon as one became strong enough I prepared it for queen-rearing, as I have given in the bee-papers and in "Scientific Queen-Rearing," continuing to rear queens from this colony as was required; for queens can be so reared and not hinder the colony from contributing its share of bees for increase as well as the others, as the queen is laying all the time in it. This gets us along much faster than where a colony is to be made queenless to provide queens, as is advised by most of the other plans of rapid increase. With this plan no colony is made queenless at all, but all queens are kept laying at their best all the time.

As soon as any of the colonies are full of bees so they can spare bees from two frames, or from half a pound to a pound, and there are ripe queen-cells, take the cells out and put them in the queen-nursery to hatch. As soon as the queens are one or two days old, go to the hives which can spare bees, take from each two frames, being sure the queen is not on either of them, and shake the bees from them down through the funnel into the box,

doing this at the bees in the cellar or in s outside bees c which are co about 5 p.m.

Now get a vi putting each ir per in it filled that it will tak day to eat out her. Take the of bees, pickin suddenly settin the bees will fi the funnel-hole caged queen pu the cage secure wire clamped b ing the hole ai Then close the about one inch the top to the cluster all abo hanging in a ch be.

After the quee in this way, th where they ca till near sundov one, or allowing remain a little r the box when t contented with hanging to the swarm.

I now go to th it and take as n small amount of have boxes of l bees off from ea a frame of empt these frames in a your new colony a frame of hone secure the bees another frame of the one having b tre. Having each bees from one of put in each. To c down into the h comb, and with a cloth frame off en run out freely on hives are to be clo adjusted to suit t colonies.

When the full enough to take m

doing this at about 10 a.m. Having the bees in the boxes, set them in the cellar or in some shady place where outside bees can not get at the bees which are confined, leaving them till about 5 p.m.

Now get a virgin queen for each box, putting each in a cage having a stopper in it filled with queen-candy, so that it will take the bees about half a day to eat out the candy and liberate her. Take these queens to the boxes of bees, picking each up in turn and suddenly setting it down, when all of the bees will fall to the bottom, when the funnel-hole is quickly opened, the caged queen put down through it, and the cage secured by means of a bent wire clamped between the slide covering the hole and the top of the box. Then close the hole, the cage hanging about one inch below the under side of the top to the box, so the bees can cluster all about it while they are hanging in a cluster, as they soon will be.

After the queens are all in the boxes in this way, they are to be set away where they can remain undisturbed till near sundown of the next day but one, or allowing the queen and bees to remain a little more than two days in the box when the bees are found all contented with their new queen, and hanging to the top of the box like a swarm.

I now go to the hives that can spare and take as many frames having a small amount of brood in them as I have boxes of bees, shaking all the bees off from each and replacing with a frame of empty comb. Put one of these frames in a hive where you wish your new colony to stand, together with a frame of honey, or enough in it to secure the bees from starvation, and another frame of empty comb, placing the one having brood in it in the centre. Having each hive thus fixed, the bees from one of the boxes are to be put in each. To do this, lower the box down into the hive near the outside comb, and with a knife pry the wire-cloth frame off enough so the bees can run out freely on the combs, when the hives are to be closed and the entrance adjusted to suit the size of the little colonies.

When the full colonies are strong enough to take more bees from them,

get the boxes, now free from bees, fixing them and proceeding as before. As the season advances one little colony can be formed from each decent colony twice a week, the colony furnishing the queen-cells being equal to any of them in this regard. If you do not have the combs, frames filled with comb foundation will have to be used, but in this case your progress must necessarily be considerably slower.

When the honey harvest arrives, keep plenty of combs on the strongest colonies, so that plenty of honey can be stored in these for winter, and as the season advances use more bees each time in making the colonies; and when fall arrives, if you do not have plenty of combs of sealed honey for stores which you can use, take bees from several hives, thus forming a strong colony at once, and give them on these frames of sealed stores. I have so formed colonies in September that turned out to be best of any the next season.

With plenty of combs at one's command, ten colonies in the spring can easily be increased to 100 in the fall by this plan without feeding, or any outlay in cash for queens or feed or anything of the kind, and if the season is really a good one some surplus can be secured besides. But the success of the plan lies very largely in not commencing operations until the colonies are strong, nearly enough so as to swarm, and then not robbing them of bees till they are too weak to work to the best advantage, using few bees for each little colony in June, and more and more as you go along, thus having all come up to full colonies in August and September.

Half a dozen nucleus-boxes and a funnel have become a part of my outfit in bee-keeping, and I use them much more often than any one would think, for with them I can handle bees almost as well as could be done with potatoes; and they will stay where put, when this plan is used, almost as well as would the potatoes. With almost all the other plans of making colonies or nuclei, the great trouble is, that so many bees return to the parent colony that the nuclei or small colonies are so weak as to be of little value, even if the return is not so great that they are absolutely worthless.—American Bee Journal.

## THE CANADIAN BEE JOURNAL

Devoted to the Interests of Bee-keepers

Published Monthly by

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Editor, W. J. Craig.

JULY, 1907.

### THE EDITOR'S CORNER.

The blue pencil mark on the wrapper is just to remind you.

The bee-keeping situation has improved exceedingly since our last issue. Weather is now ideal, and some very good reports of clover flows have come to us from bee-keepers whose bees were in condition to take advantage of it. There is no possibility, however, of anything like a large honey crop this season. Even if the flow were general, there are not the bees in the country to gather it. Unfortunately, many of those that came through alive are not in shape to do much more than build up for winter, or perhaps for a full flow where such is to be had.

\* \* \*

We regret to announce the death of Mr. W. L. Wilson, one of Northern Ontario's leading and successful bee-men, who passed away at his residence, Elmvale, last month. Mr. Wilson commenced bee-keeping some thirty-two years ago, beginning with a couple of swarms which he secured from a hollow tree in the bush. He was a member of the Ontario Bee-keepers' Association.

\* \* \*

Printers made us to say a rather ridiculous thing in one of our notes last month, page 176, that "Mr. F. P. Adams, at the Brant County meeting, told us

of his good success with the Alexander system of building up weak colonies by placing them on the top of SMALL ones." This should read "by placing them on the top of STRONG ones."

Talking with Mr. Adams further on his way of joining the two colonies, he says he was at first disappointed with the plan, and had stated so, as the queen in the weaker colony was almost invariably killed and the two colonies merged into one below. He has since found, however, that the lower colony must be really a strong one; it does not matter much how weak the upper one may be, so long as it has a laying queen. He puts them together in the evening, or toward evening, when they have about ceased to fly, and without using smoke or jarring them at all. To assist in this he makes all possible preparation early in the day, placing the queen-excluder on the top of the strong colony, leaving off the cover, etc. He is also careful that the weaker colony is in proper shape, the hive body made loose on the bottom-board and all ready to be lifted and placed on the top of the other. He says that these points all go toward the success of the plan, and that he is highly pleased with the results.

\* \* \*

Mr. C. W. Post of Trenton has frequently spoken at the O. B. K. A. Conventions of his ventilated hive bottoms, the advantage of them in moving bees to out-apiaries, as well as for retarding swarming. Mr. William Bayless of Grandview exhibited a ventilated board at the Horticultural and Honey Show last fall that seems to embody these advantages, besides the floor board can be easily withdrawn at any time for the purpose of cleaning or removing dead bees without disturbing the colony. The floor board slides into the side rails, as shown in the cut-

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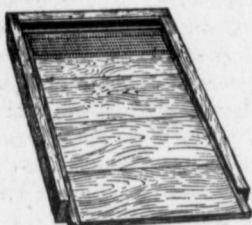
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One end of the board is provided with a width of strong galvanized wire cloth, which, when turned inward, gives the ventilation features described above; turned outward, it forms the alighting board the solid part of the board being inward and underneath the frames.

Mr. Bayless is at present constructing an uncapping machine, which bids fair to be a success. We hope to have more to say about this in the near future.



\* \* \*

The latest scientific investigation and discovery has unsettled very much the

Bacillus alvei theory of foul brood. It goes to show indeed that *Bacillus alvei* plays but a very subordinate part in the disease, if it has anything at all to do with it. According to a report of the Imperial Biological Institute of Dahlem, Germany, of 119 samples of diseased brood received, 112 were found to be foul brood, and in 13 only of these was there found *Bacillus alvei*. Food containing the bacilli was fed to healthy colonies, but foul brood failed to break out, nor was any effect produced when bacilli were brought in direct contact with the larvae and nymphs in the cells.

The investigators are now giving their attention to an altogether different microbe, belonging to an altogether different family of bacteria, which appeared in all the samples of foul brood and in the dried masses and scales, even when these were several years old.

## Reviews of Foreign Bee Journals By "Nemo"

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What Causes Robbing?—We read in "Rucher Belge" that robbing is due generally to the carelessness of the bee-keeper: First, because he has neglected at the proper time to unite queenless colonies; second, he has spilled honey near the hive or apiary; third, he has not closed all the fissures and reduced the size of entrances at the first decline of the flow of nectar; fourth, he has fed the bees during the day-time, or allowed the partially-filled feeders of the previous night to remain on the hives; fifth, in a time of scarcity he has had his hives opened

during the day, and prolonged his examination instead of doing what had to be done in the early morning and late evening; sixth, he has replaced newly-extracted combs during the day, or has allowed honey-comb to lie about.

**Best Race of Bees.**—M. E. Ruffy has published in the "Bulletin de la Societe Romande d'Apiculture" an interesting article on the different races of bees cultivated in Switzerland. He asked the question, "Which race do you prefer?" and has had replies from 204 bee-keepers: 95 preferred the crosses or different races; 90 preferred the

common black bee of the country; 12 preferred Italians; 7 preferred Carniolans; and he concludes by advising bee-keepers to raise their own queens and keep their money in their pockets.

**Imports of Honey Into Egypt.**—According to the "Bienen-Vater," the imports in 1905 amounted to 82,290 kilogrammes, valued at £2,045, against 75,745 kilogrammes the previous year. As is usual in the Orient, the consumption of honey in Egypt is considerable, as it is freely used in the various sweet dishes and refreshing drinks, such as sherbets, etc. The bulk of the imported honey is extracted, and comes from Syria, Greece and Cyprus in barrels, and costs 1.40 fr. per kilogramme f.o.b. in Alexandria or Port Said. The trade in superior honey in glass jars is small.

**New Bee Disease.**—In the "Schweizerische Bienenzeitung" M. G. Rippstein describes a disease that has appeared in the Canton Soleure and has spread to several apiaries. It was first observed in the summer of 1905 during the second harvest. Reports of the outbreak were received from twenty apiaries between Lauterbach and Bienne, and also in Soleure and Bucheggberg. The first outbreak was noticed in 1902, and the disease has appeared here and there in a mild form every year since that time. This new bee trouble generally makes its appearance from the end of May to beginning of July, usually with the second harvest, and disappears when this is ended. It is most severe during an abundant yield of nectar, and colonies having their entrances facing south are the worst affected. It appears to be produced by a plentiful harvest, and weak colonies either escape altogether or are affected very slightly. The affected colonies lose from one-fifth to one-half of their populations. From outward

appearances the dead can be placed in two groups. The smaller number have a normal aspect, but the largest are quite different. The abdomen is black and shiny, destitute of hair, small, lean and pointed. Probably these shiny bees are the foragers, and the others young nurse bees. The dying shiny bees tremble, extend their wings upwards, move convulsively as if they were suffering pain, fly around with evident fear, and are no longer admitted into their hives. The other affected bees run about in front of entrance or round the hive until they drop to the ground. Most of the dead are found in the morning; so it is evident that many must die on their foraging trips. No remedy is suggested, and bee-keepers are asked to make careful observations and to report.

**Strong Colonies.**—M. L. Arnold says in "Rucher Belge," besides the fertilization of plants by bees, and the interest these industrious insects inspire, the object of apiculture is to produce honey. For this purpose he urges the advantage of having all colonies strong, and sums up the requirements for a good harvest with the following, which he calls the golden rule of apiculture: Large population in the hive + abundance of melliferous flowers + fine days and hot nights (thunder weather inducing a copious secretion of nectar) = abundant harvest.—"Bee-keepers' Review" (British).

\* \* \*

Build a little fence of trust  
 Around to-day;  
 Fill the space with loving work,  
 And therein stay;  
 Look out through the sheltering bars  
 Upon to-morrow;  
 God will help thee bear what comes  
 Of joy or sorrow.

—Mrs. Mary F. Butts.

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## The Beginner's Page

Department Conducted by E. G. HAND

Don't extract your honey until it is ripe. Ripe honey is honey that has been in the hive until the bees and the temperature and general conditions of the interior of the hive have brought it to perfection, when it is sealed over with an airtight covering of wax. The nearer the comb of honey is to having every cell sealed, the better—the more nearly perfect the honey is. As it is impossible for man to bring about by artificial means, conditions exactly as they are in a bee-hive, so it is impossible to obtain perfect honey in any way, except by letting the bees themselves do the perfecting. While it is not practicable to have every cell in all the extracting combs sealed before extracting the nearer to this condition we can get the better our honey will be. The beginner may have only one super of extracting combs for each of his hives, perhaps less, and be tempted to extract too soon. It will pay him better to have his bees draw out enough foundation so he will have two supers or more for each hive. Then he need do no extracting until the season is over, and can get the whole of the work finished up at once.

In the actual work of extracting, more time is lost through trying to work with a dull uncapping knife, and leaving the honey too cold, than in any other way. Have the knife just as sharp as you can make it, do your extracting on a warm day, taking the combs from the bees only so fast as they can be extracted, that is, don't take off the hives more than you can extract before it has time to cool off, and you will find the uncapping and

extracting can be done in half the time that will be necessary if the honey is taken off the hives and allowed to stand over night before commencing to extract. The question whether it is necessary to have a pan of hot water beside you to dip your uncapping knife, in to keep it from sticking to the combs, will settle itself when you get your combs and knife as they should be. With a dull knife and cold combs, the knife will pull the combs to pieces unless kept wet, but with a keen knife and warm combs, you will soon forget to wet the knife, for it won't be necessary. Have a good big cheesecloth strainer—big as the whole top of your store can, and fasten it on with a good stout strap and buckle. You can pull this so tight the strainer won't slip from under it, which is more than you can do with a piece of rope tied with a knot.

And get your honey into the cans it is to be sold in just as quickly as possible, and seal them up tight. The less the honey is exposed to the air the less flavor and aroma it will lose.

Honey continues to improve if left on the hive after sealing up, but the appearance of the comb is marred by the "travel stain" or traffic of the bees over it. It is therefore important to remove section honey, or comb honey, as it is properly called, from the hives as soon as possible after it is all sealed up, to preserve the snowy whiteness of the comb.

Save out a few full combs at extracting time, as you may need them in September or October to put in hives that are not up to winter weight,

If you have any combs, especially dark brood combs, which the bees are not using, **watch them**, for the festive bee moth is abroad and some fine day you may find, instead of a hive full of combs a hive full of moth webs and cocoons. The moth itself is from half an inch to a little more in length, gray in color, with closely-folded wings that stick up in a peculiar way near the tail. The first appearance of the larvae in a comb is indicated by webs, like a

spider's web, covering the mouth of the cells in "streaks" here and there. If killed at this stage little harm is done. Place combs in a tight box, set a shallow dish on top of them, pour some bi-sulphide of carbon close to cover up tight, and it will fix them. Repeat the dose when necessary. The moths are wonderfully fast runners, so if you see one, you must catch him first time, or he will get away.

Fenelon Falls, Ont.

## Honey Crop News

Re honey crop, bees are on clover and are gathering fairly well now, that is, those that are strong. Some weak ones will give little or no surplus. We look for half a crop or better.

W. COUSE.

Peel Co. July 8.

The yield from clover is fairly good so far, and will last for some time yet. Basswood will have the largest boom it has had for years, but the loss of bees has been so heavy that at best the crop will not be more than 50 per cent. of an average crop.

DENIS NOLAN.

Simcoe Co., July 10, 1907.

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The outlook for honey crop in this county is not very good. Clover bloom is as near a complete and total failure as we have ever seen it, and if colonies gather sufficient to carry on operations till fall it will certainly be because they are very strong and very industrious. Shall hope that others will have a more cheerful report for first week of July, 1907.

M. B. HOLMES.

Leeds Co.

Prospects are nothing in this locality. Terrible loss of bees. Some did lose more than 20 to 40 per cent. No honey so far, anyway. Basswood promises well, but, you know! Very cold, backward spring. Freezes, frost, cold winds and drouth. Some good showers lately. Everything is late and clover may bloom some yet, but it is very scarce, anyway.

J. K. DARLING.

Lanark Co., Ont.

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Flow from clover started here about 21st, and has been splendid since. Most of my comb honey colonies are on the third super. Clover should last another week at least. Basswood promises fairly well for bloom and should be open in about eight or ten days. Whether it will yield or not is another story. Considerable swarming from fruit bloom, but very little yet from clover, except comb honey colonies.

A. A. FERRIER.

Renfrew Co., July 8th.

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Norfolk Co.

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Bees are working fine on clover, which has been greatly benefited by an all-day rain on the tenth. Clover and nectar being secreted indicates an old-time harvest, but the bees are not here to gather it. Hence the total amount of honey for market will be small in comparison with other years.

F. J. Miller.

London, Ont., July 12.

Honey flow from clover opened about 8th or 20th June, and has been fair to good since. Very little bad weather. A good half-crop has been gathered to date. Basswood is late and will be out about the 15th. Prospects are fair to good for a full crop to those who have bees in good shape to gather it.

W. A. Chrysler.

Chatham, Ont., July 12.

Bees in scarcely as good shape as last year. Last year, however, we had little or no white clover. This year clover is still yielding. Basswood promises well, and many colonies have two twelve-frame extracting supers. Some of our bees have required a third.

R. F. Holtermann.

Norfolk Co.

My apiary is cared for by my son at the old farm home in Chard, some 26 miles from here. A letter just received from him says he is getting two or three swarms dally. Honey is coming in fast, and he intends extracting this week.

Lots of clover, and the prospects in this part of Prescott count, are excellent, wherer the bees are strong enough to take advantage of it.

W. J. BROWN.

Prescott Co., July 9.

I know of no honey gathered to amount to anything as yet, but clover is very plentiful, and there should be a fair amount secured from this source during the next two weeks. The season is nearly three weeks later than usual. I never saw clover more plentiful than it is in places this season. Basswood promises well, but this, too, will be very much later than usual. So many bees have been lost that the crop of honey cannot under the most favorable circumstances be large. It will take the season in many cases to get back to the number of bees put in the cellar last autumn.

F. W. JONES.

Quebec.

## Stimulative Feeding

Translations From German Journals by Jacob Haberer.

Sugar is not a proper stimulating food, as it does not contain sufficient protein and will cause the bees to go in search of pollen. The best stimulating food is the so-called "stampf honig" (mashed comb honey) especially buckwheat or heather honey. We take filled combs with quite an amount of pollen, shave them down to the foundation, this rough but strong pro-

tein containing honey we mix with equal parts of previously boiled water, and give them in the beginning one-eighth of a pound increasing to three-quarters of a pound. Feeding in all about seven or eight pounds per colony. Under favorable conditions this will give us from 30 to 40 thousand bees. Stop feeding, of course, as soon as nectar gives a sufficient flow and should be commenced again only if the flow stops or if too light.

In Suneburg, bee-keepers practice stimulating generally. Many others are against it, but in our experiments we have to recommend it whenever the climatic conditions are favorable and the work is done with proper caution. —De Deutsche Bienenzeitung

**Relation of Honey to Beeswax**

A Switzer bee-keeper got his dark, unsaleable honey worked up into beeswax by his bees. It took seven pounds of honey to produce one pound of wax.—"Rheinische Bienenzeitung."

**Building Up Nuclei.**

To save and build up nuclei quickly take, on a fine day when the bees are mostly in the fields, combs with sealed brood and all adhering bees, wherever they can be spared, put them together in an empty hive, brush some bees from other into it, put them, well fed, watered and ventilated, in the cellar until next day, then build up nuclei with them. There will be no fighting, as these queenless bees will be readily accepted.

**Introducing Queens.**

When giving a new queen to a colony the cage should always be smeared with honey from the hive so the bees will clean it and give the cage the scent of the hive. Very often the cage more than the queen is the reason they do not accept her.—"Muncher Bienenzeitung."

**Speculative Feeding in Spring.**

A long practice has shown us that stimulation by feeding is not always free from failure and should only be recommended where there is a good early honey flow or where such failed, and if we want to be successful the following conditions are necessary:

1. A good supply of honey and pollen in the hive, water and moist heat.
2. Only strong colonies with a perfect brood nest, a good fertile queen and a sufficient number of nurse bees should be stimulated.
3. Feeding should not be started too early or in poor weather.

4. The food should consist of honey and pollen wherever such feeding is intended a good supply of honey should be in the hive as April takes more food than all the winter months put together, and so the amount consumed

by the enormously increased breeding in May. But with speculative feeding no over feeding should take place, as thereby likely the growing brood nest might be blocked and so our object to increase the bees would not be accomplished. The worst obstacle to good progress in brood-rearing in spring is sometimes, a scarcity of pollen, and such is the case feeding is useless, unless it be mashed honey containing pollen. To prepare the food for larvae the bees need much water, therefore, speculative feeding plenty of water should be supplied, boiled luke-warm water with the addition of a little salt. To the food also 50 per cent. of water should be used to cause a humid and damp atmosphere in the hive the same as the natural element for bees in the spring.

Never feed weak colonies or such with old or poor queens or such as have only a small lot of young bees from fall or where there is a young queen and not the number of nurse bees, or where there is just the opposite condition. A long practice has shown us that feeding during rough April weather has not given us many good results. Wait until pollen comes in fairly well. Strong feeding in rough weather will also cause the bees to fly out, and they will be unable to return again and so reduces rather than increases the strength of the colony.—"Luxemburg Bienenzeitung."



'Tis the brook's motion.

Clear, without strife,

Fleeing to ocean,

After this life.

'Tis loving and serving

The highest and best;

'Tis onward, unswerving,

And this is true rest.

—GOD.

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## Making Increase versus Buying Colonies

(By E. W. Alexander.)

This question is of considerable importance to those who have but few colonies and are anxious to secure a larger number as soon as possible. If you could buy good Italian bees at a price in the same kind of a hive case, filled with good worker combs, it might be as well to buy part of your increase as to make them from colonies we already have; but this can seldom do unless we buy of a reliable dealer. Then we can get a standard hive with good combs as choice a queen as we care to for.

If you want to buy bees I think, when things are considered, this is the better party to buy from.

If we get our bees of some one who never kept more than a few colonies and is anxious to go out of the business, then we usually get hives of little value except for kindling-wood, and combs fit only for wax, with bees from one to five years old, of all ages, from fairly well-mated Italians on the line to the blacks.

Sometimes it is best to buy these worthless colonies in order to place them where their drones can be destroyed. In this case you had better purchase them as soon as possible, and set on top one of your standard hives filled with combs, one of which contains brood; then put their queen in this frame of brood and put a screen-excluder between the hives so as to keep the queen in the upper hive. In 21 days take out the under hive and use it as you see fit. Your

almost worthless colony will now be Italianized and nicely transferred to your standard hive. This we find is the most practical method of disposing of those undesirable colonies which were in hives of all forms and sizes.

If your circumstances are such that you can hardly afford to sacrifice a part of your surplus in making increase, then you must be careful and make only such increase as will add to your surplus. This is an easy thing to do where the principal harvest comes in August; but if it is in June, then it requires the most thorough knowledge of the best methods of rearing queens and dividing colonies that have ever been practiced, in order to make it a success.

Those of us who produce extracted honey can make our increase much cheaper and easier than those who produce comb honey. With us we can divide our colonies in almost any way without seriously affecting our surplus. We always make rather more increase in June than we expect to put into winter quarters in the fall, then when a colony loses its queen, or is not what it should be, on the eve of our harvest we unite it with another. At this time we like to have every colony as strong as possible, and we care but little for weak colonies.

### Danger of Disease.

One of the most serious objections to buying bees here and there around the country is the liability of bringing dis-

eased colonies into your apiary. This we should ever bear in mind, and never take any chances that we can prevent. Then the trouble of finding bees for sale, and the expense of bringing them home, many times is no small matter. I have been all over this part of the business, and I don't care to try it again.

In regard to making our increase, it can now be done very easily since we can rear queens with so little trouble that it is easy to have all we care to use ever ready at almost any time. Then by stimulating breeding by feeding so as to have strong colonies ready to divide as early as our young queens commence to lay, we can certainly make our increase much cheaper than to buy undesirable bees; therefore I can not advise you to buy bees only in exceptional cases, but I do advise you to study well all the latest improved methods of rearing queens and making increase.

#### Importance of Starting Right.

You are the architect of your business—yes, of your whole life, so let no opportunity for improvement pass unimproved. Before entering upon bee-keeping or any other line of business be sure you start right. My friend, did you ever realize the importance of those two words, "start right"? Teach your little children to study them, and when you see those poor drifting wrecks of humanity wandering up and down your highways in their abject poverty, tell your children that those poor souls which are now fairly steeped in vice and crime are result of starting wrong in this life, and that only God knows what the result will be in the life to come. Please pardon me in so drifting from my subject; but when I think of that short sentence, it seems as if I could write a whole volume on its importance.

#### The Right Way to Make Increase.

There are various ways of making

increase. We prefer to build up the colonies to be divided until they are very strong in bees and brood; then when the division is made and the queenless part is given a laying queen we soon have two good colonies ready for the harvest. We think this is much better way than to build up nuclei. Let the same rule apply to making increase, as all other work in the apiary, which should be a harmonizing with your knowledge and the natural instincts of your bees. This is quite important in order to secure the best results. If we adopt methods according to their natural instincts then surely we shall secure better results than if we try to force them into unnatural conditions, which to quite an extent soon causes them to become discouraged.

#### Improving the Appearance of the Apiary.

We are now on the eve of another busy season; and while we are intent on securing all the surplus we can, let us not overlook the importance of improving the apiary, both in appearance and real value. A coat of new paint on many hives will add much to their general appearance, and a few choice queens of some valuable strain of bees not related to those we have will add many dollars to its real value. In this way, at a small expense we can make our business more attractive and profitable, each of which has much to do with our success; and when we catch the fleeting thoughts of to-morrow and weave them into practical methods for to-morrow, then let us stop but continue our work through the medium of our journals; they are given to the world for the help of many.—"Gleanings in Europe." Culture."

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Three things to hate: Cruelty, extravagance and ingratitude.

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## Top Entrances

During the last two seasons, Mr. Evguchelle has tried putting the entrance above the brood-nest. There was no increase in surplus for the reason that in both years there was no surplus to be had. These two years were the worst he ever had during his bee-keeping life. When a child, he assisted once in the taking up of a tree. The hole in the tree was quite large and an enormous quantity of honey was secured. The opening or entrance was at the top and to slodge the bees a hole was made at the bottom and enough smoking through it, drove the bees out at the top. The remembrance of that tree with the flight hole above the honey largely contributed to induce him to putting the entrance above the brood nest. He tried it on twenty colonies, the entrance was placed immediately below the top bars of the frames, so as not to interfere with the rickets supporting them. The bees began the brood near and immediately below the entrance. The colonies with the entrance above seemed to have raised a little more brood than the others. The bottom of the hives were perfectly clean. In the fall the colonies with the entrance above put their provisions on the back of the combs, preferably on the upper part, the clusters remaining near the entrance. A very unexpected thing appeared. There was considerably less mortality during the winter in the hives with the entrance above, or at least a much less number of dead bees found on theighting board. An examination of a few showed that the bottoms were clean and that the dead had not been inside as might be suspected.—Apiculteur. (American Bee-Keeper's Magazine.)

## A BOOM FOR HONEY.

A more than ordinarily extensive display of honey is expected this year at the Canadian National Exhibition. Increased accommodation will be afforded the bee industry in the new agricultural hall.

+

## AMONG THE BEES.

When June is rich with odors rare,  
And birds their loves declare  
From copse and wood and orchard-top  
As if they'd never stop.  
I love to sit as day declines  
And longer grow the lines,  
And hear the winging home of bees  
Circling above the trees.

The nectar-laden bees  
Home-coming through the trees  
Wing this refrain: Toil is not in vain.  
For work is king of ease.

They bring the scent of clover-blooms  
And other choice perfumes;  
They hide them in the waxen bells  
Where royal favor dwells,  
And labor sweetens all the day  
With peace for such as they  
Who are content to push the load  
Along life's hilly road.

The happy toiling bees,  
Home-coming through the trees.  
Bring back this truth: Forget, forsooth,  
That work is better than ease.  
Forest City, Ia.

+

**Honey Popcorn Balls**—Take one pint extracted honey; put into an iron frying-pan, and boil until very thick; then stir in freshly popped corn, and when cool mold in balls. These will especially delight the children.

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**Oberlin Honey Cookies**—Three teaspoonfuls soda dissolved in two cups warm honey, one cup shortening containing salt, two teaspoonfuls ginger, one cup hot water, flour sufficient to roll.

## Over Ventilation

The vitality at times shown by bees under trying circumstances would lead us to infer that they would stand almost any amount of pure air, but I would accept this doctrine with very serious reservations. A runaway swarm last year was found in late November breeding, with a large stretch of comb and a fair quantity of honey. A bee-keeper experimenting on confining his bees in winter smothered nine-tenths of them. A handful survived, but among them was the queen. During a gale the skep was overturned, and the bees drenched during a whole night. But they survived, threw a swarm, and gave forty sections surplus. These are two extreme cases on one side. Per contra, take another two. A swarm reached me on the last day of May in a liberally-ventilated box. The bees, owing to the intense cold, were chilled and all but dead, showing scarcely any signs of vitality. Fortunately, I revived them, but I fear a novice would have lost the whole swarm. A bee-keeper by accident left his roof off, and in the morning his bees were dead. I record these two instances again as extreme cases. Not one of the four is directly a case of over-ventilation, yet they teach us that bees suffer from extremes, because we find that in the first case bees had dwindled from exposure, in the second they survived only through their owner's coddling care. Left to themselves, my swarm would have died undoubtedly, in a short time, as did the bees exposed in the hive. Later I may apply this to hive-ventilation proper.—D. M. M., Banff, in "British Bee Journal."

## Among the Bees

May has come and gone, but the weather has been conspicuous by its absence. Just two days of bright sunshine and genial warmth came to us what bees could do if they got a chance. All the other twenty-nine days were what we generally expect to find during a bleak March. Fruit-blossoms appeared and disappeared unvisited by bees. Arabis, wallflower, willow, plum, hawthorn, and a number of other flowers wasted their sweetness on bleak air, because the rain rained every day, while the wind held a persistent grip of the cold north or as cold as that. What progress could bees make under such trying circumstances? Verily no advance is rather discouraging. There has been progress. And a few days of genial summer warmth make us soon forget the ungenial weather. To show the unseasonableness of the season, I made my "spring" overture on as late a date as June 7—thereby making a record for lateness. For many years I was eager to select the first fine day from mid-April to the end of that month, but experience taught me, sometimes by a rough lesson, that a too early pulling about the brood-nest was highly injurious and, consequently, for some years has been postponed till May—I consider with more favorable results. Queen-balling at the earlier period is a more frequent result of unskillful manipulation than many are aware of. Later.—Summer weather has come last. Hurrah!—D. M. M., in "British Bee Journal."

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## Ant Life

A most interesting article on ant life appeared in "Harper's Magazine," describing principally the life of the green ant. There is need for an immense number of ant eggs, for there is great loss of life in an ordinary ant-hill. All sorts of enemies lurk in the way to devour them. The feet of passing beasts and human beings crush multitudes. These frequent losses have to be made up by the fertility of the green ant, and it becomes necessary for her to devote herself wholly to increasing the colony. Foraging for sweetmeats is abandoned. Household work, domestic service, nursery duty, are gradually given up, and the workers of the growing community take those tasks upon themselves. The queen is restricted to the function of mother-ces? Verily so.

The ant queen's subjection to her subjects is not reached without resistance on the part of her emmet majesty. Resistance is useless, and she behaves, in the end, subject to the power of the house which she has reared and her. She is confined closely to the interior of the formicary, and whenever she goes, through chambers and passages, is attended by a circle of workers known as "courtiers"—a name that has a large and dignified sound. But courtiers are simply a bodyguard, their chief office is to restrain the liberty of their sovereign within the bounds prescribed by the communal laws, and to look after the eggs when they are dropped. The circle of "courtiers" never ceases to close around her when the queen ant passes from place to place. Sometimes the queen, falling a fit of stubbornness, will attempt

a course different from that which her court prescribes. Then one attendant gently nips a leg, and gives it a little push; another closes the mandibles upon the body and gives it a slight pinch; a third tenderly seizes quivering antennae, and draws it to this side or that. The whole bodyguard meanwhile closes around the queen, and by pushing her and obstructing her path diverts her course, or quite turns her around, her huge body, several times as large as a worker's, moving sometimes readily, sometimes with sullen resistance. Thus at last the courtiers carry their point.

Once a queen escaped from the surface gate of one of the formicaries. Not a courtier was in sight. She was free! Off she ran, as though intending to have a good romp and enjoy her freedom. But she had reckoned without her host, for she had gone but a little way when her bodyguard pursued and seized her somewhat roughly, and immediately began to pull her backwards towards the gate. She resisted sturdily, but at last gave way, and was drawn down the opening into the royal domicile. Poor queen!

How long may an ant queen live? The oldest emmet queen known to science was one preserved under the care of Lord Avebury. When this ant died her body was surrounded by a crowd of workers, who were tenderly licking her, touching her with their antennae, and making other demonstrations, as if soliciting her attention, or desiring to wake her out of sleep. Poor, dumb, loving, faithful creatures! There was no response. Their queen mother lay motionless beneath their demonstrations. Another queen died at fourteen. The ants dragged her body about with them when they moved until it fell to pieces.—"Review of Reviews."

**STOCK COMPANY ORGANIZED.**

The Foster & Holtermann Co., Limited, Brantford, Ont., has been incorporated capitalized at \$10,000. The object is to carry on the business of bee-keeping in its various branches and to sell honey in home and foreign markets. The provisional directors are: R. F. Holtermann, already well-known to bee-keeping circles; Frank M. Foster and A. G. Olive, connected with and largely interested in a large wholesale grocers' firm, now building a \$30,000 warehouse in the city, being George Foster & Sons, Limited. Mr. Joseph Ruddy, largely interested in and manager of the Brantford Starch Company, Limited, is also interested. Mr. Holtermann has for years felt that bee-keepers needed a strong and energetic concern to handle honey for home and

foreign markets and the new company will be pleased to hear from any like to have comb or extracted honey and they are prepared to supply packages needed for the marketing of either honey or to contract for the home with packages.

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Rest is not quitting  
The busy career;  
Rest is the fitting  
Of self to one's sphere.

'Tis the brook's motion  
Clear, without strife,  
Fleeing to ocean,  
After this life.

'Tis loving and serving  
The highest and best;  
'Tis onward, unswerving,  
And this is true rest.

—Goethe

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**SPECIAL OFFER.**

The Weekly Mail and Empire and The Canadian Bee Journal mailed to any address, postage paid, in Canada, or Great Britain, until January 1st, 1908, for 60 cents.

Both publications for seven months, the period mentioned, at regular rates, would cost \$1.15. By accepting this offer new subscribers save 55 cents.

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