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## ANNUAL MEETING ONTARIO BEE-KEEPERS' ASSOCIATION

### The Prevention and Controlling of Swarming With the Heddon Hive in the Production of Extracted Honey.

(Paper by F. J. Miller, London, Ont.)

The subject assigned me is one leading up from early spring management, hence my article begins with the work as the hives leave the winter-cases. At this time supers are put on all colonies showing sufficient strength. Queen-clipping follows as rapidly as possible, great care being taken that no queen is allowed to pass unseen, although last year's record may show her to have been clipped. Apple-bloom is now closing, and some queens may yet remain unclipped; this makes but little difference with the short-cut methods of handling the divisible brood-chamber hive, and the work is completed, as I must know that every queen is clipped in order to carry out our future plans.

During this early management a watchful eye is kept that no colony becomes congested with honey in the brood-nest. If the queen is being crowded and not allowed all the room she can occupy, the divisible brood-chamber hive affords the quickest results possible with the least amount of

labor. We simply divide the centre of the brood-nest horizontally by exchanging the two sectional parts of the brood-chamber, i.e., by replacing the bottom chamber with the top one, thus placing honey in the centre of the brood-nest. This being averse to the instinct of the bees, the honey is quickly removed. The brood now extending to the top bars under the queen-excluder, the honey is carried above this line into the supers, leaving empty cells for the use of the queen in the centre of the brood-nest as it now exists.

During the week of honey dearth between fruit bloom and white clover, this interchanging of the brood-nest has the same stimulating effect as feeding, or the uncapping of honey. With the opening of white clover supers are again added underneath on the tiering-up plan, as soon as the last one contains from five to seven pounds of nectar.

About this time, or as soon as the indications of swarming are apparent, each yard is visited as nearly every four days as the weather will permit. During these visits each hive is examined for queen cells by simply raising one end of the top section of the brood-chamber, and drawing slightly forward and raising it up about six inches, thus giving a view of the bottom bars, which will expose a part of any queen cells that may be present. If there are no cells in view the hive is closed, the

work being completed; but if, on the contrary, queen cells are started, or in any stage of completion, then a division is made as follows:

The top section of the brood-chamber, with queen-excluder, and, in most cases, with the queen, is removed and placed on top of a chamber of foundation or empty combs at the side of the colony; also placing a chamber of foundation or empty combs on the colony. Add a queen-excluder and return all supers to the colony. All danger of swarming is now over for the present. An abbreviated entry is now made, showing at a glance the date of this division.

On returning to the yard in four days the usual examination takes place; in five cases out of six the entrance of the division made four days ago will show dead drones, indicating the presence of the queen. A record now being made to this effect, no further work is required on this division or parent colony during this visit.

Four days later, or on the second visit after the division is made, the colony must have the queen cells removed from the combs in the bottom section of the brood chamber, and as they are likely to have larvae yet held back, of which they will again start queen cells, they require cutting again any time within the next two visits, and either give a virgin or laying queen, or return the division to the colony. Or the division may be left in the present condition beside the colony until the busy season is over, when, according to the strength and amount of honey it contains, it is made use of either to be placed on a separate stand or to be united with another division.

The system I have here outlined is one I have used for several years, and have found it to work admirably. The loss from absconding swarms does not exceed an average of two, or possibly three, for each yard during the season.

Being a system of short cuts, it is capable of much improvement, according to the skill of the apiarist; and reduces the amount of skilled labor to a minimum, one man being able properly to attend to three or four yards of 90 or 100 colonies each, doing all of the yard work himself, only requiring the aid of one unskilled helper in the honey house during extracting.

Having endeavored to give as concise an account of my work as possible, I may have left out details, but I trust it may bring out either discussion or thought that may be profitable to the members present.

—F. J. Miller.

The President called on Mr. Hoshal, who used the Heddon hive, to open the discussion.

Mr. Hoshal—Mr. President, if I understand Mr. Miller aright in his description of what he has been doing to prevent his bees from swarming by simply giving them room beneath the brood chamber, I think it is right. All of you know as well as I know, that bees worked for comb honey are much more likely to swarm than those worked for extracted honey. There is a way of getting comb honey by which the bees are no more liable to swarm than for extracted. It is the way they did it on the old box hive system. You put a swarm into an old box hive and the bees begin to work at the bottom, and as long as there is room at the bottom to extend the brood nest down they will continue to work there, and they will fill that before they swarm again. For comb honey we can't do that. That is exactly what Mr. Miller is doing in the production of extracted honey. Those charts which I showed you illustrate how the bees store their honey above their brood, immediately next to it and below. As they crowd the brood nest below and these cells it lessens the brood chamber and they are going to move that up. They have

got to put it somewhere else and they put it at the bottom, running it down. As soon as they get to the bottom and can't go any farther, they swarm. If you keep supplying them at the bottom with comb, they don't swarm as long as it is there.

I might say that I have not been practicing the method of preventing swarming in these artificial ways or what they call "shook swarms," or by division. Not that I condemn it or find fault with it, but I have never been in a position where I have been forced to do it, or thought it advisable to do it. I am glad Mr. Miller has presented it to us to-day in the way in which he has. It is easily managed with the sectional hive in the way he describes. I was interested in what he had to say. One object I had here to-day was to learn something about these "shook swarms" and dividing colonies, so that one can go and leave an out-yard and have nobody there and be assured they will be all right. I have always advocated that one can produce brood at a time so as to put it into the field in time to catch the honey flow, and that very thing will do it. But unless you can do it in time to do that I would rather not do it, because you are producing a lot of bees to be consumers rather than producers.

Mr. Miller—My paper as given, made that clear I think. It is done in the spring as soon as the queen is being crowded. That never occurs until after bloom and a week following apple bloom. There is always a period between apple bloom and white clover which if not, in many cases, supplied the bees will stop brood rearing to a large extent. This interchange being made, the honey is forced into the centre of the brood nest which acts as a stimulant and by that means when the white clover opens my brood chamber is a solid mass of brood without any labor.

Mr. Hoshal—I agree with Mr. Miller

in that. I only gave the illustration of crowding the brood chamber; that only takes place just before the honey flow. I don't put on the surplus case until the honey flow comes. From the beginning of spring up until honey flow begins I do everything I can to force the brood, but once the honey flow comes then I cut it off.

Mr. Pettit—Mr. Chairman, I did not fully catch Mr. Miller's method of preventing swarming, and I would like if Mr. Miller in a few words would state again what he does when he finds queen cells in the brood chamber going through the yard. I understand he has those two cases in the brood chamber; he raises the upper ones and looks on the bottom bars of the combs in the upper ones and finds the queen cells. What does he do next?

Mr. Miller—I simply make a division by setting that top chamber to one side on a bottom board and placing on the top of it a chamber of the same description either of empty comb or foundation. I then put on a queen excluder on the other one, the parent colony, with another chamber but with empty comb, returning the supers to the colony on the old stand. The queen is then in the division and she will never swarm. You can leave your cells there in perfect safety. She will not swarm. I have tried this for the last five years purposely in my three yards. At the next visit we prove she is there by the drones at the entrance. You do not need to open either the division or the colony on the next visit in five cases out of six, because the entrance diagnosis gives you the conclusion. But on the return trip in eight days, the cells in the bottom chamber must be removed only on the eight combs. You will notice up until the time when swarming generally takes place we guard against it by adding supers. I never allow supers to contain more than from five to

seven pounds of nectar before there is one inserted underneath.

Mr. Pettit—Of course I don't doubt Mr. Miller's word, but in my experience—although I have not tried the Hedden hive—to make a division in that way it does not seem to me secure from swarming. Another point in connection with the Hedden hive from Mr. Mr. Hoshal's address yesterday, we find that Mr. Hoshal does not take off the outside wintering cases until about the first of June.

Mr. Hoshal—You must remember that there are a lot of things I left out. A great many of the wintering cases I leave on that long if I can; if I can't I take them off before.

Mr. Pettit—A colony wintered in one of those small cases, which would be about half of an eight frame Langstroth brood chamber and not requiring any room until the first of June, the swarming problem would not be a very serious one. Of course, as you all know, I am an advocate of larger hives and the Langstroth combs, and I find that my colonies, the majority of them, in an average year, require supers at the beginning of the fruit bloom or about that time and I give them plenty of room at that time and at the beginning of white clover I give as much room as I think they will need for the whole white clover flow and by this means swarming is kept down to a large extent.

Mr. Miller—May I ask if you are able to control swarming to the extent you can leave your yards without any assistant. This is a large factor in the use of the Hedden hive. We run the out yards simply by periodical visits.

Mr. Pettit—Yes, my yards are all left with no one in attendance except to visit once a week and we have enough bees to keep two men busy these visits.

Mr. Miller—I run three hundred

colonies and do the work alone with the exception of an unskilled helper in the extracting house. No yard help.

Mr. Holterman—The way I run the bees, using a twelve frame Langstroth hive, is to go to the yard once a week unless there is something special. We don't prevent swarming entirely. Probably Mr. Miller doesn't either.

Mr. Miller—I said in my paper from two to three in the yard.

Mr. Holterman—Unless there is something very much to be gained in using the Hedden hive I would not like the impression to go out generally that it is desirable to use another frame which is not in general use. Another objection to the Hedden hive is that an unskilled man may make serious blunders which he would not make with another.

Mr. Hoshal—My idea in presenting the subject to you yesterday was not to present a hive at all. I would like to eliminate the hive question from it entirely. Bees work along certain definite lines. They have a certain instinct and a certain way to work, and the way to accomplish the most with them is to keep along those lines. I don't care whether you do it with a frame hive, a box hive, or a Hedden hive.

Mr. Holterman—In looking for queen cells you find that farther in on the comb there are occasionally queen cells which even when you have the entire side of the comb exposed, are a little difficult to see.

Mr. Miller—It matters not how many cells are built on the side of a comb there is almost invariably a sufficient showing from underneath. I have nothing to do with the cells but to know they are present, then I follow out my work. I am not here to fight for the Hedden hive. I don't wish to convert any man to the use of the Hedden hive, but, as I understand you

I have short cuts now that you don't see and cannot convince you of here. I am not here to convince you of it. I simply read my paper. The help employed would be three in Mr. Holterman's case, and one in mine.

Mr. Pettit—I have found in going over the brood chamber, looking for cells, that we think we have all the cells or perhaps we would not find any cells at all until we got two-thirds of the way through and took out the next comb, and there in some out of the way corner would be a cell, and that left would mean a swarm.

Mr. Miller—If I could make it clear in the Hedden system we don't lift the comb; we are not looking for cells on the comb; it makes no difference whether there are five hundred cells in the colony, I simply know that there are cells present and my next move destroys those cells whether there be one or many.

Mr. Pettit—There might be only one cell left.

Mr. Miller—But that cell would show from the bottom. I never knew it to fail. We divide our brood chamber there. We handle the colony to prevent swarming.

Mr. Chadwick—Take this chart, my hives are Langstroth. Would it be advisable when this gets quite full of brood to put a super below or another body below or another body filled up with comb or foundation and let the bees work away?

Mr. Miller—You are now giving me a problem which I couldn't work out satisfactorily at the moment. If I were adding a super there I would put it on top if the weather is sufficiently warm. You have a system now of management by frames which would not work the same as mine.

The President—Would the addition of another case control the swarming?

Mr. Pettit—No. After it is started you can't do anything. In connection

with this swarming business there is one thing we ought to keep always before us and that is locality. Where we have one continuous flow from spring until fall the swarming problem is very serious. Where we have that break between fruit bloom and clover, possibly between clover and basswood, and then between basswood and the fall flow, it so effectually checks swarming that there is not nearly the trouble with some of us as with others.

Mr. Darling—I use a deep frame and there has been many times in my experience when the bees have swarmed with me without either honey or brood going to the bottom of any frame in the hive. I don't think it would be any advantage to place a second division of the Langstroth hive underneath.

At the request of the President Mr. Pettit read a paper which had been prepared by Mr. W. Z. Hutchinson of Flint, Mich., on "Importance of Queen Bees," as follows:

#### Queens and Their Influence Upon Success in Bee Culture.

I expect it will be called heresy, but many times when reading extravagant expressions about "the whole of bee-keeping centering upon the queen" I have felt like exclaiming, "Other things being equal, one queen is as good as another!" This may be putting it stronger than it will bear, besides it does not exactly express my meaning. Perhaps I cannot make myself exactly understood, but I will try. It is not so much what a queen is herself as what her ancestors were, or rather what her bees are; that is, she may be an insignificant-looking specimen, may have been reared in a manner wholly at variance with the established principles of queen-rearing, may be one of those short-lived affairs whose days are soon numbered, yet if she comes from the right stock her bees, whatever may be the number of which she becomes the



mother, are just as good bees as can be produced. In other words, there is no system of queen-rearing that will improve a strain of bees; try and not misunderstand me. To be sure, we must have queens that are sufficiently prolific to keep the brood-nests full of brood at a time of the year when this is desirable, and possessed of a longevity that will enable to perform this feat two or more seasons; having this, what more is needed. As a rule, the honey-producer need trouble his head very little about the rearing of queens; the bees will attend to that and rear just as good queens as are needed. If his queen don't fill the brood-nests in the required season, how much more practical to simply reduce the size of his brood-nests until the queens do fill them, instead of ransacking the earth for more prolific queens, or else by twisting, turning and shifting about of combs, endeavor to make one queen lay an increased number of eggs.

As I look at the matter in the light in which I am discussing it, the queen is simply the vehicle of transmission from one generation to another; it is the qualities to be transmitted rather than the vehicle of transmission that should receive our attention. To illustrate: A man has a strain of bees that are of little value as honey-gatherers; can he, by any sort of "jugglery" at queen-rearing transform them into energetic workers? Something might be done in the way of selection, but not by methods of queen-rearing.

Bee-keepers often tell how much better are the bees from the queen secured from this breeder than from the queen bought of some other breeder, or that the bees from the daughter of a queen from a certain breeder are superior to bees from the daughters of some other queen, and have argued from this that the queens and the manner in which they were reared caused the difference in results. I say no. The difference is

in the strain of bees, and not in the manner in which the queens are reared.

That there are circumstances in which much depends upon the queen it is idle to dispute. Some of our best bee-keepers have argued against extra prolificness in the queen, some of them even going so far as to assert that prolificness in the queen is at the expense of quality in the bees; but that prolificness is all-important to the user of large brood-nests cannot be dodged. He must have prolific queens, else one-half of his brood chamber is transformed into a store-room. But this extra prolificness is not secured by some peculiar method of queen-rearing, but by selection—by rearing queens from the colonies having the most prolific queens. Here again the queen is simply the vehicle for transmitting the quality of prolificness from one generation to the other.

The age of queens may also have some bearing upon success. Where the harvest ends with white clover more surplus will be secured if the bees do not swarm; and colonies with young queens are far less likely to swarm. Then, again, young queens lay much later in the fall, and this has a bearing upon the subject of wintering, as also does the time when they begin laying in the spring.

As I have already said, we need queens sufficiently prolific to fill the brood-nests with eggs at the season of the year when this is desirable and possessed of a reasonable amount of longevity. This secured, nothing more needs consideration except the stock from which they come. Naturally, when a man buys a queen he expects to get the worth of his money. If he buys her to rear queens from he expects her to be able to endow her royal offspring with the qualities and characteristics of her ancestors, and if she does this he need not mourn if she lives on long enough to allow him to secure

goodly number of her daughters. If he buys queens in large quantities to re-queen an apiary he has a right to feel that he has been cheated if the queens live only a few short months. The practical honey-producer has not this problem to solve. Simply let the bees rear their own queens and they will be as good as any. The queens can be reared artificially, the equal of any, there is no doubt. Most certainly they can. How it can be done has been repeatedly published.

As I said at the beginning, we have a lot of sayings something like the following: "Good queens are the foundation of bee-keeping"; "Bee-keeping all centres upon the queen"; "As the queen lays all of the eggs, of course success depends upon her." It is to combat such ideas as these that I have written. The queen is of no more importance than the hive, the combs or the location. By importance, I mean in this case that which can by some decision or management of the bee-keeper be made to contribute to his success.

W. Z. HUTCHINSON,

Flint, Mich.

Mr. Dickenson—I have pleasure in moving a vote of thanks be tendered by this Association to Mr. Hutchinson for the paper which we have just heard read by Mr. Pettit, and that the Secretary be instructed to forward the same and also our regrets at his inability to attend.

Mr. Holtermann—I second the motion.

The President put the motion, which, on a vote having been taken, was declared carried.

Mr. Pettit—Mr. Chairman and gentleman, although I read this paper before you, I hope you won't think that I endorse all the points that are to be found in it. The paper was just given to me, and I hadn't time to look over very carefully, but there is one point particular that I would like to emphasize. One point Mr. Hutchinson

wishes to make is that we must not attach too much importance to the queen. He seems to think we are laying too much stress on the value of good queens, and yet at the same time he says to be sure we must have queens that are sufficiently prolific to keep the brood-nests full of brood at the time of the year when this is desirable. That is just exactly the kind of queens we want. Then a little further on he says, if the queen cannot fill the brood chamber, make the brood chamber fit the queen. It seems to me that is very poor reasoning. He says it is more practical to reduce the size of the brood nest than to ransack the earth for more prolific queens. It seems a very strange argument to lay before breeders of stock of any kind to say, if I might make the comparison that has been made, that there is no use taking a 12-quart pail to milk an 8-quart cow, and Mr. Hutchinson seems to say that if you have an 8-quart cow, simply get an 8-quart pail and you will be satisfied.

Mr. Hall—It is much easier to reduce the size of the hive than improve the queen, but it is a short-sighted policy. The queen certainly is the mother of the colony, and they take after her, and if the queen is not good it is better to get rid of that queen and breed from your better stocks of queens. I think I have bought three queens in ten years, and I don't want any more. I simply want a little fresh blood, but I think we can raise queens here perhaps better than they can south, but perhaps we cannot raise them as early. Our honey beats them, and most likely our queens do. If you have a poor, miserable queen, pinch her head off and run the risk of getting a better one.

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Denmark exports 2,500,000 pounds of honey a year.

There are 25,000 pores in the hands of a man.

## NOTES AND COMMENTS

By a York County Bee-Keeper

### Does Clipping Cause Supersedure?

Surprising that, after all that has been said and practised, some bee-keepers still think that when queens have their wings clipped they are apt to be superseded sooner than those not clipped. Quite recently a correspondent in "Gleanings" asked the Editor for an opinion on the subject, and he was assured by Mr. Root that there was no danger of causing injury to the queens by clipping them. This reminds me how careful a number of apiarists are to just clip one wing. The queen mentioned in June "Notes" that is six years old, has all of her wings clipped close to her back, and this "disfigurement" has not caused her to be superseded, nor has it otherwise impaired her usefulness. In fact, aside from a question of sentiment as to looks of a queen, I rather prefer to have all queens thus clipped, as they are more easily seen; especially is this the case with the dark Carniolans, of which I have a number.

Apropos with question of supersedure, possibly a number of C. B. J. readers will have seen a recent article in American Bee Journal, by a prominent bee-keeper, which stated that a colony would at once start queen cells if the queen had one leg cut off. He recommended the plan as excellent for securing cells from good stock for queen-rearing. Certainly "locality" or something else must cause exceptions to this "rule." Early in May we found a queen that had been injured by being crushed between combs, probably, as hive she was in was moved in January. Her front legs were mere stubs

and entirely useless. She could hardly cling to the combs, and when she traveled it was in kangaroo fashion. Up to date she has not been superseded; possibly if only "one leg" was off the job would have been done long ago. Have left her there as an experiment, and will carefully watch and see how long the bees will tolerate such a crippled mother.

### Sanfoin as a Honey Plant.

The small plot we sowed last year showed first blossoms about May 24, just about ten days before first alsike bloom. We cut it on June 24, in order to give chance for second blooming. It is a grand honey plant, no mistake about that. Here it differs from other clovers, in that it appears to yield nectar quite early in the morning; bees would be working on the sanfoin fully an hour before they were on alsike and white clover. The main difficulty I see in the way of getting the farmers to sow sanfoin is that it appears to be an uncertain "catch" when sowed among grain in the spring, as is done with the other clovers. We certainly think that it will pay bee-keepers to make an effort to have it introduced, as the first bloom comes between fruit blossom and white clover, and the second crop when there is a dearth of nectar from other sources.

### Wild Mustard or Charlock Not an Unmixed Evil.

While we do not recommend any one to sow this plant for its honey resources, there is no harm in allowing our bees to gather the nectar it secretes when it is growing voluntarily around us. Two of my apiaries have about 300 acres badly dosed with mustard within their reach. This year it came in about ten days before clover, and it was a great boon for the bees, as there was practically nothing else in the way of forage at that time.

### Avoiding After-swarms.

That after-swarms are a nuisance nearly all agree, and yet many bee-



keepers put up with considerable of this "nuisance" every year. In June "Review" Editor Hutchinson outlines a plan as practised by a Michigan beekeeper that will certainly stop all after-swarms. Can vouch for the truth of this, as the plan is the one I have followed for three years in running three yards, and during that time can only recollect having two second swarm, both of which issued under abnormal conditions.) Early in the season start as many nuclei as you desire increase. When a colony swarms hive on the old stand and carry all the brood (shake bees off clean) away and give to these nuclei. All cells will be cut down at once, and if the season is not too far advanced they will soon be rousing colonies able to store considerable surplus. The plan has another advantage, in that it allows the beekeeper to have selected queens at head of all his colonies, and, again, the eggs and unsealed larvae are not allowed to perish, as is the case when brood, combs are carried to a new stand and not sufficient bees left with them to care for the brood.

#### A Late Season.

Readers of June C. B. J. will think by reading that item referring to fact of apples, cherries, etc., all being in bloom at the same time, that this scribbler must live a couple of hundred miles further south than is the case. Instead of date being May 1, it should be June 1, and we would further add that clover is just about in full bloom on June 28, as we write these notes. Strange how seasons vary. Four years ago all our honey (a fair crop) was gathered previous to July 1. This year, if we are to get any, it has to be gathered after that date. Although late, clover is of a luxuriant growth and yields well whenever the weather is good. Basswood (sorry to say we have very few trees left) is looking the most promis-

ing for many years. Just five years ago since we secured our last crop of basswood in this locality, and it certainly will be appreciated if we happened to be favored with some of this aromatic, spicy honey this year again. York County, Ont.

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#### LONDON'S POPULAR FAIR.

**The Honey Department at the Western Exhibition Always an Interesting One.**

The Honey Exhibit at the Western Fair has for years been one of the leading departments of this old-time and popular exhibition.

In Western Ontario there are a large number of bee experts, who devote a great deal of time in producing honey of the finest quality, and at the same time marketing it in the most acceptable and profitable manner. Manufacturers of apiarian supplies are well aware of the importance of this exhibition and everywhere the leading dealers are well represented on the exhibit list.

The Fair this year will be held from September 8th to 16th. Prize lists and other information can be had on application to J. A. Nelles, Secretary.

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Do not get the notion that beekeeping is a good thing for the lazy man or woman, or for one who has made a failure of everything else. You cannot sit at your desk with a telephone near at hand and keep bees like some men run their business, by proxy. The successful beekeeper must be on the ground in person, and look after every detail himself. Beekeeping is not like the real estate business fitted to those who have developed a great sitting capacity. To succeed you must be up and doing.

# THE CANADIAN BEE JOURNAL

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## EDITORIAL NOTES.

We have just received a number of Italian queens direct from 'Sunny Italy.' They came through their long journey all alive and in excellent condition.

From general reports would conclude that a fair honey flow has been obtained from clover bloom; the weather will determine the basswood. Secretary Couse suggests a meeting of the O.B.K.A. honey committee at an early date to consider the crop and advise prices.

Commenting on the Sjbbald system of swarming a few days ago, Mr. James Armstrong, of Haldimand, made the remark that, in his opinion, and from his experience, it is better to give the new swarm three combs of hatching brood. They are not any more ready to swarm with three than with one, and are examined in ten or eleven days at any rate. This gives a better division of the brood and young bees, preventing the new colony from dwindling.

In our experience the Alexander system is not without its divergencies, and goes to prove the remark by some one that "bees don't do anything invariably." Some colonies we handled in the way described by Mr. Alexander conducted themselves admirably and settled down to business, others swarmed before the ten or eleven days had expired, possibly the plan would have worked better had the brood been

raised above the queen excluder earlier, and before they had made up their mind to swarm.

No up-to-date bee-keepers should think of taking extracted honey without queen excluders. Some of our best comb honey men use them to prevent drones congregating in the comb honey supers and soiling the cappings. Occasionally one may come across a queen accidentally shut in above the excluder, or one may run short of a few excluders in an out apiary, and a queen may be found operating above. If the circumstance is discovered before the larvae is capped, by simply dipping the part of the comb in cold water, or pouring cold water into the cells, the larger larvae may be shaken out. By leaving the cells filled with water the eggs and smaller larvae will be removed by the bees, it is well to keep such combs toward the outside when returning them to the super, else the queen may repeat the operation, the combs filled or partly filled with honey being drawn towards the centre.

We have received the following from Mr. Wm. Couse, secretary of the O. B. K. A. :

"The Transportation Committee met some time ago, and decided to ask the Railway Classification Committee to make the following changes in freight tariff :

	L.C.L.	C. L.
Bees in hives .....	1	9
Honey in cans (not cased)	2	4
Honey in cans, (cased) ..	3	5
Honey in kegs or barrels ..	3	5
Bees wax .....	3	5

The committee feel that there ought to be some consideration given to their request, seeing that syrup, lard, tallow, paraffine, etc., are classified about these rates. The Classification committee will meet in Montreal at an early date, when we hope to have the matter brought before them.

WM. COUSE, Secretary.

Sainfoin, as a honey plant, was one of the subjects in the evidence of Mr. John Fixter (Apiarist Central Experimental Farm) before the select committee of the Department of Agriculture at Ottawa. Much credit is due Mr. Fixter for his experiments, and especially for bringing this evidently valuable clover before the notice of bee-keepers and farmers. We are favored with the following communication from him on the same subject:

Editor Canadian Bee Journal:

Dear Sir,—I am so pleased with the results of our Sainfoin test that I feel it a duty to bring it again to the notice of our friends. The small field sown in the spring of 1904 was sown on poor, sandy soil, and therefore did not do very well the first season, it did not even bloom. Not being discouraged, we allowed it to stand over. Since spring it has made fairly good growth, coming into bloom June 9th—white clover bloomed June 14th, and very little out at that date. Bees are working so well on the Sainfoin that a beekeeper standing in the centre of the field would be looking where the swarm was, every plant has a bee on it. We cannot do too much by way of bringing this wonderful plant before the notice of our friends, it is not only a honey-producer, but makes such excellent fodder, and will produce honey each time it blooms.

Yours truly,

JOHN FIXTER.



Flow from clover did not commence here until about June 17th; nights were cool and the bees gathered only in the afternoons. Since then they have done fairly well, and we are looking for an average crop; we may get some basswood.

Cheapside, July 8.

The "Bee-Keepers' Review" tells how Mr. Walker Harmer of Michigan prevents after swarming, which is well worth taking a note of:

"Early in the season he rears queens from choice stock, and starts nuclei, then, when a colony swarms, he hives it, in the hive from which it issued, simply removing the brood, brushing off the bees, and giving the combs of brood to the nuclei that he has started, thus gradually building them up into full colonies. In this way all queens are reared from selected stock, the swarm on the old stand is reinforced by the young bees brushed from the combs of brood, and all after swarming is certainly avoided."



The Fruit, Flower and Honey Show will be held in the Massey Hall, Toronto, in November. Competition will be confined to the members of the Ontario Bee-Keepers' Association, as before. Now is the time for intending exhibitors to make preparation and provision, such is often left till the last week or so, and is then generally unsatisfactory. It is hoped that the members, and intending members of the Association, will take hold of this matter with enthusiasm, and that we will have even a larger display than was last year. The season is certainly favorable for it, and bee-keepers should never lose an opportunity of bringing their product before the public. The Association will hold its annual meeting at the same time.

# National Exhibition, Toronto

## August 26th to September 11th, 1905

### HONEY AND APIARY SUPPLIES. Class 241

Sec.	1st.	2nd.	3rd.	4th
1. Best and most attractive display of 50 lbs of extracted granulated Clover Honey, in glass, 25 points for quality, 75 points for display .....	\$5	\$4	2	\$1
2. Best and most attractive display of 50 lbs of extracted granulated Linden Honey, in glass, 25 points for quality, 75 points for display .....	5	4	2	1
3. Best display (Clover, Linden, Buckwheat or Thistle) of 300 lbs of liquid extracted Honey, of which not less than 150 lbs must be in glass, quality to count 80 points, display 20 points .....	18	12	8	5
4. Best 300 lbs (Clover, Linden, Buckwheat or Thistle) of Comb Honey, in sections, quality to count 100 points, display 20; total, 120 points .....	16	15	10	6
5. Best 24 sections of Comb Honey (any variety), quality to be considered; that is to say, clean sections and best filled .....	6	4	3	2
6. Best 100 lbs of extracted liquid Linden Honey, in glass .....	7	5	3	2
7. Best 100 lbs of extracted liquid Clover Honey, in glass .....	7	5	3	2
8. Best 100 lbs of extracted liquid, any other variety .....	7	5	3	2
9. Best 20 lbs of extracted liquid Clover Honey, in glass ..	4	3	2	1
10. Best 20 lbs of extracted liquid Linden Honey, in glass ..	4	3	2	1
11. Best 20 lbs of extracted liquid Buckwheat Honey, in glass ..	4	3	2	1
12. Best Beeswax, not less than 12 lbs. ....	4	3	2	1
13. Best foundation for brood chamber, not less than 10 lbs .....	3	2	1	—
14. Best foundation for sections, not less than 10 lbs .....	3	2	1	—
15. Best exhibit of Apiarian Supplies .....	8	5	2	—
16. Best and most practical new invention for the Apiarist, never shown before at an Exhibition of this Association .....	6	4	3	2
17. For the most tastefully and neatly arranged exhibit of Honey in the Apiarian Department, to be limited to the quantities called for in the preceding sections, all the Honey to be the product of the exhibitor. The first prize in this section is given by the Ontario Beekeepers' Association .....	25	18	10	5
18. Best display of 200 lbs Comb and extract honey suitable for a grocer's window or counter, space to be occupied 6 feet square by 4 feet high .....	10	7	4	2
19. Best exhibit of Bees with Queen in such a way that they may be seen working by visitors. Shown in observatory hive .....	7	5	3	—

Entrance fee, 25 cents each entry. Entries close August 14th.

# Western Fair, London

September 8th to 16th, 1905

## Prize List, Honey Department, Class 59

Sec.

- |   |  |      |      |     |
|---|--|------|------|-----|
| 1 | The finest and most tastefully arranged exhibit of comb and extracted honey, bees wax, the product of one exhibitor; put up in most marketable shape; not less than 400 pounds ..... | \$16 | \$12 | \$6 |
| 2 | Comb honey, 200 pounds, in sections, put up in most marketable shape, and so that sections may be handled for examination in judging.....  | 10   | 7    | 5   |
| 3 | Liquid extracted honey, 200 pounds, put up in most marketable shape .....  | 7    | 5    | 3   |

Prizes in Each Section 4 to 14—\$3, \$2, 50 cents.

- |    |   |  |  |              |
|----|---|--|--|--------------|
| 4  | Comb honey, 20 pounds in sections, in best marketable shape.  |  |  |              |
| 5  | Liquid extracted clover honey, 40 pounds in glass packages.   |  |  |              |
| 6  | Liquid extracted honey, not clover, 40 pounds in glass packages   |  |  |              |
| 7  | Extracted granulated honey, 20 pounds, in glass packages.   |  |  |              |
| 8  | Bees wax, 10 pounds.  |  |  |              |
| 9  | Honey vinegar, half gallon, in quart glass packages   |  |  |              |
| 10 | Maple syrup, half-gallon, in quart glass packages.  |  |  |              |
| 11 | Largest and best variety of domestic uses to which honey may be put, prepared by the exhibitor or his household, two samples of each—canned fruits, cakes, pastry, meats, vinegar, etc. |  |  |              |
| 12 | Comb foundation for surplus honey, by manufacturer.   |  |  |              |
| 13 | Comb foundation for brood chamber, by manufacturer.   |  |  |              |
| 14 | Display of queens, put up in shape to be readily seen by visitors.  |  |  |              |
| 15 | Queen cage, admitted to mails by postal law. ....   |  |  | Diploma      |
| 16 | Assortment of glass packages for retailing extracted honey.....   |  |  | Diploma      |
| 17 | New and most practical invention for use of apiarists.....  |  |  | Diploma      |
| 18 | Display of honey-bearing plants, named and labelled .....   |  |  | Diploma      |
| 19 | Display of apiarian supplies .....  |  |  | Silver Medal |

The arrangement of exhibits will count 5 per cent.

Exhibitors making entries amounting to \$1 or over shall receive one pass.

Committee—Mr. Wm. Moore, chairman; J. R. Isaac, Thomas Ballantyne, Jr., Stratford; I. W. Steinhoff, Stratford; F. J. Miller, Wm. McNeil.

### THE TORONTO PRIZE LIST.

Editor C. B. J.:

Sir,—The prize list of the Canadian National Exhibition, Toronto, is to hand, and in looking over the Apiary and Honey Department find there are some things considerably out of balance, for instance:

Section 1—Best and most attractive display of 50 lbs granulated clover honey, in glass; 25 points for quality. 75 for display. Also Section 2, Linden honey.

This seems to me rather a poor ar-

range to give 75 points for fancy tumblers and glasses, and only 25 points for the contest, and give the man with the big pocket book a good chance to beat the man who probably has the best honey. Revisers of the prize list, why not reverse the thing and let the honey stand on its own merits in those two sections as well as in sections 6 and 7.

Section 17 says the O. B. K. A. has given \$25.00. Bosh! They did not do any such thing.

W. J. BROWN,  
Chard, Ont., July 3rd.



# Central Canada Exhibition

## September 8th to 16th, 1905

### HONEY AND APIARY SUPPLIES. Class 65.

Sec.		1st.	2nd.	3rd.	4th
1	Best 20 lbs. of Extracted Granulated Honey, in glass .....	\$ 6	\$ 4	\$ 2	\$ 1
2	Best 100 lbs. of Liquid Extracted Honey, in glass, quality to be considered .....	10	6	4	2
3	Best 100 lbs. Comb Honey in section, fresh appearance and finish to be considered .....	10	6	4	2
4	Best 10 lbs. of Comb Honey, quality and finish to be considered, that is to say, body and flavor of honey, and clean and best filled sections to be considered. ....	5	3	2	1
5	Best 10 lbs of extracted clover honey in glass. ....	5	3	2	1
6	do do Linden Honey in glass .....	5	3	2	1
7	do do Buckwheat Honey in glass .....	5	3	2	1
8	Best Beeswax, not less than 10 lbs. ....	2	1		
9	Best exhibit, the object being to educate the public as to Bees—their natural history, the bee-keeping industry and its relation to horticulture .....	5	3	2	1
10	Best foundation for Brood Chamber .....	1	.50		
11	do do Extracted Honey. ....	1	.50		
12	Best Hive for Comb Honey .....	1	.50		
13	Best hive for Extracted Honey .....	1	.50		
14	For the most tasty and neatly arranged exhibit of honey in the Apiarian Department, all the honey to be the product of the exhibitor .....	Diploma			

Entries close Wednesday, Sept. 6.

#### THE SIBBALD AND SHAKE PLAN OF SWARMING.

Mr. Ernest Root gives his experience of the Sibbald and Shake plan of swarming in a recent editorial in "Gleanings." He says:

"I have been testing both the brush and shake-swarm methods, as well as the Sibbald plan of keeping down swarming. I find this to be true: That the returning-bee scheme is a little slow, while the shake plan gets immediate results. Still I can see conditions under which the Sibbald would be perfectly satisfactory, and save the bother and nuisance of stirring up a whole colony of bees, and getting them in the grass and up one's trouser legs, resulting in more or less stings and inconvenience. In the generality of cases I have found it more convenient to use a combination of both methods.

"I tried the Sibbald plan without a frame of brood, in some cases using only foundation, but in most cases the bees would find the old entrance, even when I carried it away several feet. Mr Sibbald makes it emphatic that the new hive on the old stand must have one frame of brood and the queen, and

I believe he is right. But even then I noticed the bees were loath to go into the new hive, though it was exactly in the old location. The changed condition of the brood-nest seemed to indicate to the incoming bees that they had made a mistake and they would hang around on the outside until they found the old entrance, two or three feet to one side.

"In the case of dark hybrids I had no end of trouble, for, be it understood, we had one yard made up of bees which we had bought from several different farmers. The black strains would find their entrance, in spite of me. Indeed, it is a well-known fact that black bees will find their hive much more readily than the Italians, and this one fact will make this race and their crosses difficult to handle on the Sibbald plan. My present impression is that the average bee-keeper will succeed better on the brush-swarming plan pure and simple, then carry the old hive to an entirely different portion of the apiary; but even then it is essential to put the queen with the shaken or brushed bees; for in some cases I found that, without the queen, especially if no brood were given the bees would desert, going into the other hives here and there."

## Reports From the Districts

Prospects fair to good. There is an abundance of clover, but it has only just commenced to yield. Bees are now in fine shape to work if weather remains favorable. This week practically closes the honey flow from clover as farmers will be in the fields with the mowing machines directly. Not much basswood in this section. Considerable buckwheat has been sown, and, taking it all through, there will be an average crop.

W. J. BROWN,  
Chard, Ont., July 3rd.

We have found work among the bees very interesting for a few days past; the colonies are in fine condition, and clover is in good shape, but the weather is not favorable for the secretion of honey; expect settled weather immediately, and a few days of the right sort would tell a great story in honey-storing. Basswood looks very promising and will greatly help the season's report if the weather conditions are favorable during time of bloom.

M. B. HOLMES,  
Athens, Ont., June 27.

Weather has been wet and cool here until the last few days. Bees are booming on clover now, and swarming 8 to 13 a day. Prospects good at present for a pretty good crop. If weather continues warm and fine clover then continue warm and fine clover for a month yet.

R. LOWEY,  
Cherry Valley, July 4th.

Bees built up well; are swarming freely; now gathering moderately.

J. W. SPARLING,  
Bowmanville, Ont., June 30.

Bees are in fine condition; clover abundant; commenced to yield about

the 20th, but the weather has not been the most favorable.

H. G. SIBBALD,  
Claude, Ont., June 29.

Bees have done well for the few days that were favorable for nectar secretion. If it turns warm soon we may yet secure a fair crop. The farmers have commenced to cut the clover.

R. H. SMITH,  
St. Thomas, Ont., June 29.

Honey scarce as yet. Plenty of clover bloom, but weather conditions unfavorable; it has been too cold for honey secretion. There is time yet, however, for a good yield of clover, and basswood promises well. Warm weather would be a great blessing to apiarists just now.

GEORGE A. DEADMAN,  
Brussels, Ont., June 28.

Bees have been carrying well until checked by the cool weather of the past few days. Clover is fine, and with seasonable weather will, no doubt, give a good crop. Basswood quite promising, but so uncertain as to results.

F. J. MILLER,  
London, Ont.

Prospects for a honey flow here are good. Stocks are in good condition, and clover has a fine bloom, but, owing to unfavorable weather, very little honey has yet reached the supers. The season is rather later than usual. Basswood has the best show for bloom in years.

DENIS NOLAN,  
Newton Robinson, June 29.

There is a prospect for a fair crop here as clover is plentiful and rains is keeping it coming in bloom.

Wm. Couse,  
Streetsville, Ont., July 6th.

The flow here has been fairly good, so far. Nevertheless, London does not touch Stratford at any time. However, I think the crop generally will be good. The clover never was better, and the basswood looks promising.

F. A. GEMMELL,  
London, Ont.

# Hints for Beginners

R. F. HOLTERMANN

This is the season of the year when the bee-keeper (and the more so if he is a specialist) has but little spare time. So far with us strong colonies have gathered a fair amount of honey, about one 12-frame Langstroth extracting super and a second super has been put on to give ample room for the present, and keep the bees from being crowded. All hives are upon loose bottom boards and wedges 7-8 in. at the front running to a taper at the back have been placed between the bottom board and the brood chamber, thus enlarging the entrance to the hive 7-8 of an inch the entire width of the entrance. This adds greatly to the comfort and contentment of the bees at this season. By accident I have stumbled into something pretty good. Moving about much, we find it inconvenient to take with us regular hive stands, and I had blocks made out of 4x6-inch scantling, each block tapering 2 inches making them at one end 4x4 in. and at the other end 4x2 in. Three of these are used to each hive, one at each side to the front, and one at the back. The reason for this is that it would not do to put one at the front centre of the bottom board on account of the entrance having no support like the rear has through the back of the hive body. The wedge-shaped pieces allow adjustment on uneven ground, and three wedges will do their work better than four. By this means the hives are up from the ground and yet not much, just enough to keep them dry. We clip both wings on every queen pretty short so she cannot fly. Now, if a

swarm issues, the queen attempts to follow but cannot fly, it means to walk and that on ground more or less uneven with grass, so she does not make much headway. The swarm finding the queen absent returns and the queen hears them. She turns towards the hive, and re-enters with the swarm, or, at least, we find she has done so in a large proportion of cases. There was a strong tendency to swarm about June 8th or 10th, but queen cells were broken down, and with more work, the majority of those previously inclined to swarm have given up the idea for the present, and we are in hopes they may be kept together. Up to date, June 24th, there have been no "shook" swarms in our apiaries. Beginners often think bee-keeping works by rule of thumb, but their are many remarkable and confusing exceptions. I went to an outyard and was told that a certain hive had swarmed and returned two days ago. As a rule the queen cells do not hatch until the eighth day, the day we usually expect second swarms, if any. However, we found a cell just hatching and the virgin queen piping, as we took out the comb. We also had an instance this week where in a strong stock the old queen was upon the comb laying and a queen cell had recently hatched in the same hive. Again I am quite sure bees sometimes move eggs, for in three instances we have found a queen cell on the bottom edge of a honey comb or comb honey in the super. If the queen had deposited the egg, she must have passed through the queen excluder and if she had she would not have stopped with the one cell (there was no other brood in the super). This condition is one very dangerous for the bee-keeper who goes through the brood chamber at regular intervals and breaks down queen cells.

No doubt the majority of bee-keepers know that when a brood, during the swarming season is put in the super the bees are very liable to start queen cells upon this brood; this may also interfere with the calculation of those breaking down queen cells for the prevention of swarming.

Brantford, Ont.

### The National Convention U. S. to Meet in San Antonio, Oct. 28—Nov. 1.

The Inter-National Fair holds its annual exhibition in San Antonio, Texas, Oct. 21st to Nov. 1st. When this fair is in progress, there are very low rates in force on the railroads out for 600 or 700 miles. Then there are Harvest excursions from the North on the 2nd and 4th Tuesdays of the month. The 4th Tuesday in October comes on the 24th. Considering these facts it has been decided to select Saturday, October 28th, as bee-keeper's day at the fair. This will give ample time for members from the north to reach the city by starting the 24th. The regular sessions of the convention will begin Monday, October 30th, and continue three days.

The Fair Association has designated Saturday, Oct. 28th, a bee-keepers' day, and will so advertise it, and especial pains will be taken to have on exhibition, hives, honey, wax, bees, and other apiarian products. At this fair will be on exhibition all the agricultural and other products of the South and Mexico, and a visit to it, will really be worth all the trip will cost, to give one an idea of the south and her products.

Then the Texas members propose to give a genuine Mexican supper which will be free to all outside members. There will be a Mexican band and toast making—in short it might be called a banquet. On Sunday the members can attend church, or go on a trolley ride around the city. Side-trips to Uvalde and other places are planned for all wish to see the country after the convention is over, bee-keepers at the various honey centers having promised to take the bee-keepers around free of charge. Texas is one of the greatest if not the greatest of honey-producing States in the Union, and bee-keepers will now have an opportunity to see her wonderful resources, enjoy the hospitalities of her people, and profit by

meeting in convention, all at a very small cost.

The headquarters of the National Association will be at Bexar Hotel, (pronounced Baer, long sound of a), corner of Houston and Jefferson Sts., and rates are only \$1.00 a day and up. The convention will be held at Elks' Hall, 125 W. Commerce St., only two blocks from the Bexar hotel.

Everything is now all arranged except the program, and I wish that every one would write and make suggestions in regard to topics and men to discuss them. If you have no special topic that you wish put into the program, you must surely have some question that you would like brought before the convention. Pour in the suggestions and queries, and let me get up one of the best programs that we have ever had.

W. Z. Hutchinson, Secretary.  
Flint, Mich.

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### SAINFOIN FOR BEE PASTURE.

Mr. John Fixter Apiarist, C.E.F., Ottawa, Before the Select Standing Committee on Agriculture and Colonization.

To encourage the farmer and fruit grower to go into the bee industry, we must first show them there is money to be made in it, and in more ways than producing honey. We must encourage them to grow clovers and flowering plants that will produce large crops of honey and be useful for fodder and a soil restorer. Among the various fodder plants which have been grown at the experimental plots at the central experimental farm, one which has lately received much attention is Sainfoin (*Onobrychis sativa*). This beautiful plant, which may be known at once by its pinnate leaves and large cones of rose pink flowers on slender stems, is allied to the clovers, and as

a rule, is spoken of as a clover in the same way as Alfalfa or Lucern is. It was noticed on the experimental farm plots that the flowers of this plant were extremely attractive to bees, and it is also a producer of good fodder, for all stock. It is not as heavy a cropper as alfalfa, but like that plant is a persistent perennial, which roots deeply, and in localities which suit it, produces heavy crops of hay. In its cultivation and manner of growth it resembles alfalfa, but it is slightly finer, and grows thicker in the bottom, having a most decided stooling habit which makes it better for pasture. It is especially liked by sheep and cattle. The soil best suited to the growth of this plant, seems to be a deep rather dry loam, containing a fair portion of lime with good natural drainage. It will do well upon almost any soil that is well drained, provided it gets a good start. Heavy clay, and light sandy soil produce excellent crops of sainfoin, but on the latter it naturally requires generous manuring. It should never be sown on land likely to be covered with water at any season of the year. The amount of seed sown under the best conditions is 20 to 30 pounds to the acre. Great care should be taken to secure new and plump seed, and see that the germinating power is all right. So far we have not got a sample of sainfoin that will germinate sufficient to only sow 20 pounds to the acre. Last year we had great difficulty in getting sainfoin seed to germinate over ten per cent. It was the same with alfalfa or Lucern when first introduced—a great deal of trouble was experienced in getting that plant to grow. Any person who decides to grow sainfoin should send for a sample and test its germinating power, also test the bulk when it arrives.

The next important point, gentlemen, is that a good seed bed is necessary not only for the sainfoin but for all

kinds of clover. One method that we have at the farm for cultivating our land is going to be of benefit to every farmer. It has only been tried at the experimental farm a few years and we find it a great success. The best method for preparing the seed bed and also at the same time clearing the land of weeds, such as quack grass and thistles is to cultivate with a lock spring cultivator. If the field has been in meadow or grain, do not plow at first, but simply cultivate and harrow. First cultivate, and as shallow as possible, and then pass the heavy iron harrow at a good sharp walk across the first cultivating. This operation will break up the sod or stubble very fine and leave it on the surface to dry out. The second cultivating should be in the opposite direction to the first and likewise the harrowing.

By this operation two-thirds of the sod will be loosened from its roots. It usually requires about four cultivatings and four harrowings to make a perfect job. All this work must be done on fine sunny days, and the sooner after the harvest the better. The cultivating and harrowing must be gauged by the growth. If possible every green leaf must be cut off and kept out of sight and all vegetation brought to the surface to be dried by the sun. This dead but valuable material may during the autumn, be plowed under to decay and add to the fertility of the soil. By the next spring this land should be in perfect condition for sowing. The best time to sow is as soon in the spring as the ground can be got ready without being wet and sticky. The seed will then germinate quickly. As sainfoin is a quick grower and deep-rooting plant, the roots keep going down into the moist earth, so that dry weather will not have much effect upon it. If sown with a nurse crop, oats, wheat or barley may be used, but the latter is preferable, as it can be har-



vested earlier, thus giving the clover a better chance to stool and form a stronger root growth. No more than half the ordinary amount of grain should be sown per acre with this clover and better results are usually obtained by sowing it alone. It may be sown broadcast, then harrowed and rolled so as to render the surface smooth, or it may be sown with the ordinary grain drill, and the land should be afterwards rolled. The small seeds will thus be covered, and, the surface being smooth, the young plants will come up quickly and regularly. For this crop prepare your land well by the plan above mentioned, or the seeding may follow a hoed crop. But whatever the preparation of the land, it must be clean, and as seeds are small, it is essential to have it in good tilth.

This plant has been grown on the experimental plots at the Central Experimental Farm for several years. The oldest plot now living has been standing for seven years, a second plot two years and a third plot was sown in the spring of 1903. The plot which has been growing for seven years is now thin and will soon be ploughed down. It would probably be the most economical plan to plough down this cover after three years and resow. As is well known, clovers of all kinds are the most valuable plants which can be grown and ploughed down as fertilizers and the benefit of ploughing under this clover would more than pay for resowing. The botanist's records of the experimental plot show that sainfoin sown May 24 came in bloom on August of the same year, cut for hay on August 25th and gave a yield per acre of one ton 1,700 pounds of cured hay. The second growth of the first year should be allowed to stand over for the winter as a protection to the roots. In the second year the plants came in bloom June 1st and lasted up to the 24th of that month, when the plot

was cut for hay. These dates might have been extended had the plants been grown merely for the honey, but as they were at that time in the best possible condition for hay they were cut for that purpose. If the crop had been left to stand longer the hay would have become too woody. The yield of the first cutting was two tons 200 lbs of cured hay per acre, a rather small crop, due to the excessive drought which lasted until June 12. The second bloom was on July 27, and lasted until August 17, when it was again cut for hay, giving two tons 1,400 lbs per acre of cured hay, or a total yield for the year of four tons 1,600 lbs. A third crop, which will provide some pasture, is allowed to remain on the ground for the winter, or in very favorable seasons might be cut before winter, although this is not advisable. Many farmers have made enquiry about getting this clover out of the soil when once sown. It is as easily killed as common red clover. The land will be found a little harder to plough on account of the sainfoin roots being larger, but it is in no way troublesome to get rid of. The greatest difficulty is to get the plants to grow. It does not resemble the bokhara or sweet clover.

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The Nahhla gives some interesting particulars as to the honey bee in Guadeloupe (Great Antilles). Bees have been imported into the island more for their influence on the fertilization of the cacao and coffee plantations than for their honey, although they gather honey in abundance. Great numbers of blossoms are fertilized by them, which would otherwise be lost. The coffee plantations, where bees are active, often bear double the quantity of berries and yield regular harvests. Before the introduction of bees flowers were produced abundantly, but little fruit.—Eisass-Lothringischer Bienen Zeitung.

### How to Treat Foul Brood by the Baldrige Plan

The Baldrige plan of treating a foul-broody colony successfully is as follows:

1st. Open the hive of the diseased colony and cage the queen. The best time to do this is late in the afternoon or near sunset. Place the caged queen in the top of the foul-broody hive, and where the cage can be got at with as little trouble as possible.

2d. Bore a small hole, about one inch in diameter, in the front end of the foul broody hive a few inches above the regular entrance, and fasten over of it on the outside of the hive, a Porter bee-escape. After the bees are through flying for the day turn the foul-broody hive half-way round so the bee-entrance will face the opposite direction.

3d. Now go to some healthy colony and select one or two combs of brood well covered with bees and place them in an empty hive, and fill this hive with empty combs, frames of comb foundation, or empty frames, and set this hive on the stand of the diseased colony. The rear ends of both hives will now touch each other, or they may be a few inches apart. Now leave the hive thus, say two, three, or four days or long enough for the outdoor workers in the foul-broody colony to return to their old location. This they will do, of course, and they will then remain in the new hive having one or two combs of healthy brood.

4th. Near sunset on the second or third day take the caged queen away from the diseased colony and simply let her run into the entrance of the new hive.

5th. Now close the regular entrance of the foul-broody hive and all other exits except the one through the bee-escape. Then gently place this hive by the side of the new hive and close

to each other, the closer the better, with both fronts facing the same way. Thereafter the bees that hatch or fly out of the diseased colony must pass through or out of the bee-escape, and as they cannot return, they must and will go into the new hive. By this means the new hive, in the course of three or four weeks, will secure all or nearly all the bees and brood that were in the diseased colony, and during this time, or for any length of time thereafter, no robber bees can gain entrance thereto, and carry away any diseased honey.

This plan of treating foul-broody colonies prevents all loss in bees, brood, honey, or the building of new combs, and is a simple and practical way of treating the disease. In some respects the plan is a far better one than any other one I have seen described.

My plan may be carried out in diverse ways, but it is not always best to describe such and thereby confuse the reader. The entire plan is based upon the well-known fact that foul brood is a germ disease, and that the germs may be taken into a new hive by the bees filling their bodies with the diseased honey, deposited in the foul broody hive. The disease may likewise be taken into the new hive by the nurse-bees. My plan does away with all such danger, for when the diseased colony is left undisturbed over night the bees re-deposit all their honey, and on going out to work the following day they go out with empty bodies and return with healthy honey. All the nurse-bees will remain in the diseased colony, and before they pass out of their hive though the bee-escape all germs in their bodies will have been disposed of in nursing the uncapped brood in the foul-broody colony.

My plan of treating foul brood is not exactly a new plan, as it was outlined by me in 1897, in the *Bee-Keepers' Review*. Since that date I have treated a number of foul-broody colonies by my plan, and always with good success. I am advised that others have done likewise.—M. M. Baldrige, *American Bee Journal*.