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## Ontario Bee-keepers' Association

ANNUAL MEETING

### Experiments to Test Whether Bees Injured Sound Fruit

By J. Fixter, Experimental Farm, Ottawa

During the summer of 1901 an experiment was started, when there was no surplus honey to be gathered from plants outside, with ripe fruit of our different kinds. Peaches, plums, pears, and grapes were exposed in different places near the experimental apiary where it was easily accessible to the bees. This experiment has been continued during the season of 1902, with the addition of strawberries and raspberries. All the fruit was placed in the same position in the experiment in 1901.

On July 2nd, 1902, ripe fruit of four sorts of strawberries was tried in each place, the Williams, Clyde, Buback, and Warfield were exposed in different places where it was easily accessible to the bees (a) Inside the bee hive; (b) branches of trees in the apiary enclosure; (c) On shelves in a workshop to which bees had access through an open window. Every care was taken that all the fruit used in this experiment should be perfectly sound.

(a) Fruit exposed inside bee hives  
The fruit was exposed in three different conditions; (1) Whole fruit with out any treatment in the brood chamber. (2) Whole fruit that had been dipped in honey in one-half of the super. (3) Whole sound specimens in the other half of the super. Four colonies were selected for this experiment, all of about equal strength. Each of these colonies was in a hive upon which was placed a super divided in the middle by a partition. In each one of the four hives, the whole specimens of fruit not dipped in honey were placed within three empty frames, tied together as a rack, in the brood chamber; the whole specimens of fruit dipped in honey were placed in one compartment of the super, and the whole sound specimens were placed in the other. The bees began to work once upon the dipped fruit, and kept continually on it as long as any honey could be obtained. They also clustered thickly on the whole sound fruit, but did not appear to be getting or even trying to secure any substance from the berries.

The fruit exposed on the shelves in a work shop, the bees did not visit at all, nor that on branches of the trees in the apiary. In the two latter places the fruit dried up and moulded. In the hives all fruit decayed more quickly from the extra heat from the bees. This experiment was tried but one week,

July 29—Experiment with four varieties of raspberries: The red, purple, very light colored, and the black cap. Each box contained some of each sort. They were placed in the hives in exactly the same position as the strawberries.

At this date there was considerable honey coming in. The bees did not touch any of the fruit in the hive, super, on the trees, nor in the house apiary. On July 31st half of each sort of berries that were sound were cut in halves, to see if the bees would attack the fruit, but they did not touch any of them. All the sorts in the hives decayed much sooner than the fruit exposed. The fruit exposed to the air dried up considerably and moulded.

A second test has been made with peaches, pears, plums, and grapes. They were arranged the same as in 1901. The bees began to work at once, both upon the dipped and punctured fruit. The former was cleaned thoroughly of honey during the first night; upon the punctured fruit the bees clustered thickly, sucking the juice through the punctures as long as they could obtain any liquid. At the end six days all the fruit was carefully examined. The sound fruit was still uninjured in any way. The dipped fruit was in a like condition, quite sound, but every vestige of honey had disappeared. The punctured fruit was badly mutilated and worthless; beneath each puncture was a cavity, and in many instances decay had set in. The experiment was continued during the following week, the undipped sound fruit being left in the brood chamber; the dipped fruit was given a new coating of honey and replaced in the super, and a fresh supply of punctured fruit was substituted for that which had been destroyed. At the end of the second week the fruit that was

sound at the end of the first week that had been dipped in honey and also in the brood chamber as well as the punctured fruit, was considerably decayed, and where any openings appeared showed signs of being worked on, but to no very great extent. For the third week, fresh samples of fruit of all the above kinds were used. The results of this test was very similar to that of the first week, and being later in the season the fruit that had been put in sound some of it had begun to decay. After the third week the bees belonging to the two hives which had been deprived of all their honey appeared to be very sluggish, and there was many dead bees about the hives; the weather being cool and damp was very much against those colonies. These colonies had lived for the first three weeks on the punctured fruit, and on the honey off the fruit which had been dipped, as there were at that season few plants in flower from which they could gather nectar, these bees had died of starvation notwithstanding the proximity of the ripe, juicy fruit. This supply of food which they were urgently in need of was only separated from them by the thin skin of the fruit, which, however, this evidence seems to prove they could not puncture as they did not do so.

The mean weight of each of those two hives on September 5, when the experiment was begun, was 24½ pounds. At the end of the experiment four weeks later, each had lost 3½ pounds. The mean weight of the two hives, in each of which were left five frames with brood and honey was at the beginning of the experiment 36½ pounds. The mean loss for each of these hives was 1½ pounds.

(b) Fruit exposed in the open air hung from the branches of a tree in the apiary enclosure. In this experiment three sets of whole fruit were

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used, one being dipped in honey, one being left sound and whole, and the other punctured as before. The bees worked on the dipped and punctured fruit, but was not seen working on the whole sound fruit.

(c) Fruit exposed on shelves in a workshop adjoining the honey-house. This, like the preceding experiment consisted of dipped fruit, punctured fruit, and whole sound fruit. In this test the bees appeared to work as freely as in the super on the dipped and punctured fruit, and an occasional bee was noticed looking for an opening on the whole sound fruit but did not succeed in finding one.

Experiments with brood foundation of different sizes has also been continued, and one with full drawn combs.

(1) Full-drawn combs. (2) Full-sheets foundation. (3) Half-sheets. (4) Starters or about 1-inch strips. For this experiment four swarms were caught July 2, weighing  $5\frac{3}{4}$  pounds each. Each hive was weighed daily to ascertain the gain or loss, also notes were taken on how the bees built up the brood chamber. Results are very similar to 1901. Strips of foundation gave the largest return. In this instance the bees started to work, not in the frames, but in the sections in the super, which had full sheets of foundation, sooner than 1, 2, and 3. Queen-excluders were put on to prevent the queen going up into the supers. In the hives that had half-sheets, also full-sheets, the bees appeared to work about equal in the brood chamber and in the super. In the hive that had full drawn combs the queen began to lay at once, and build up the brood chamber first. The hives that had half-sheets, and also the hives that had starters in the brood chamber, were very unevenly built. The bees built worker combs

as far as the foundation, and below that they were built very unevenly, and in many instances they could not be lifted out without being broken, and some of these combs were more than half drone cells. They could not be used for extracting frames, as, not being wired, they were too weak to stand heavy swarms or shifting without breaking down.

From the results of these experiments, it is better in all cases to use full sheets of foundation, both in sections in the supers and in the frames of the brood chamber. I would advise when hiving a swarm as far as possible to use full-drawn comb and if only a limited supply of combs are on hand, use them with alternate sheets of foundation.

Mr. McEvoy: I think we have a gentleman here, Mr. Smart, who might endorse that; I think he is one of the most extensive strawberry growers in the Province; I think he has eleven acres. He is also a bee-keeper.

Mr. Smart: I might say we never had any trouble with the bees injuring our fruit only in the way that the gentleman speaks of—over-ripe fruit. I have noticed the bees on raspberries that have got over-ripe and fallen on the ground.

Mr. Fixter: There was a point I did not mention. They were noticed on the berries after the pickers had picked them, but they did not go near them on the bushes.

Mr. McEvoy: I can endorse every word. I have four acres of strawberries, and it is the juicy, over-ripe, skin broken-berries that they touch, and they are not fit and should never be put in the baskets.

Mr. Smart: I might say that two years ago this summer one of our neighbors who lives a short distance from us complained very much about our bees during the raspberry season,

that he could not work amongst his raspberries, but we were picking raspberries at the same time—we had six acres of them—and while he complained about the bees on his raspberries they never bothered our pickers at all.

Mr. Byer: Were they different varieties?

Mr. Smart: I think not; they were the Cuthberts.

Mr. Holtermann: I would like to ask Mr. Fixter whether there was any record kept or taken of what variety of bee it was, or the age of the queens, or anything of that kind?

Mr. Fixter: There was no record kept of the queen; there was a daily record kept of the weight of the hive.

Mr. Holtermann: Because hiving on starters or full sheets and so on would certainly, I think, be of a good deal of importance.

Mr. Fixter: There was no record kept of the queen.

The President: By using alternate sheets of foundation and full drawn comb, I find the effect has been that the full drawn combs are widened and the sheets of foundation are not drawn out to the full extent; if left to be capped over they are not deep enough.

Mr. Holtermann: As far as using the sheet foundation between drawn comb is concerned, I think the majority of us find that our experience exactly agrees with that of the President, that is a thing that is not at all desirable. If you put a sheet of foundation between drawn comb the result will be, as the President says, the drawing out of the comb and not very much done to the sheet foundation.

Mr. Sibbald: How would you put it in?

Mr. Holtermann: The right way to do it is to put a thin separator between

the drawn comb and your foundation until the foundation is drawn out.

Mr. Heise: Would that be necessary in the brood chamber if the proper spacing were maintained?

Mr. Holtermann: I do not know that you can draw out foundation between drawn comb properly; I would sooner put the foundation together and the drawn comb together than to do that.

Mr. Dickenson: I would not recommend using a separator.

Mr. Holtermann: I know an exceedingly good bee keeper who does do that, Mr. S. T. Pettit; that is what he practiced.

Mr. Dickenson: There is no short cut about that.

Mr. M. Pettit: As the son of Mr. S. T. Pettit, I would like to defend that method a little bit. I have practiced that, and I purpose practicing it a great deal more than I have, not in the brood chamber, but in the super for getting foundation drawn, and I find that one of the best ways of getting foundation drawn. For one thing you have it built down to the bottom bar as you are not apt to get in the brood chamber.

Mr. Lott: I found it worked very nicely to start bees upon foundation between full drawn combs; just as soon as they start to draw it out then shift your combs to the outside and put your foundation in the centre, and you have evenly filled up combs. I know the difficulty there is with uncapped combs drawn out or filled with honey between full drawn combs.

The President: That difficulty would not occur where they are in the brood chamber and other combs were filled with brood.

Mr. McEvoy: The question was about what difference there would be in the quantities of honey from tests made, and by that means you would find out whether the foundation was

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worth more than the combs or the combs more than the foundation. I suppose Mr. Fixter is not through with the experiments yet.

Mr. Fixter: That is the reason I did not give the figures. We are very glad to have any member of the Association propose any experiments, and we will try and carry them out as far as we are able. We had started the experiment before Mr. McEvoy mentioned it to me, but he brought it to us on different lines. One of the best points that can be brought out is to find out how much more honey can be got from full-drawn comb or full sheets or half sheets or starters—which is the most profitable. I think that was the object.

Mr. Heise: I think Mr. Fixter rather advised hiving swarms on full drawn combs. Do you not find that very often the queen will deposit eggs perhaps in three or four combs, and in the course of a week or ten days will swarm again.

Mr. Fixter: When I hive a swarm on full-drawn combs I always put the paper on at once. My object in hiving on full-drawn combs is to get them so that they do not break the combs down. If you wire and wire well, they cannot break the foundation down. Our advise is more to the ignorant than experienced men, when we advise full-drawn combs if you have them, and if you have not then sheet foundation well wired.

The President: I hived about thirty hives on full drawn combs well filled and I never had a case were they swarmed out.

Mr. Holtermann: I certainly think there is a good deal of danger of the swarmer casting of the swarm if you hive on full sheets.

The President: I do not know what the danger is, but I know as a matter of fact my bees do not do it.

Mr. Holtermann: Do you get a basswood flow?

The President: We do not get much of that.

Mr. Sibbald: I think it is wasting comb to hive swarms on them, I would rather have them for top stories. Hiving on full sheets I consider about half as bad, and I think to hive on starters is just right. Mr. Fixter says he wants to put the top story on right away, so that the queen would not lay in too many combs below. Is that the idea?

Mr. Fixter: So that the bees will go to work in the upper story.

Mr. Sibbald: He does not want them to use the comb he has given them. What is the use of wasting a set of combs down there? You might just as well have a few starters or foundation, and have those combs for the top story. It is for extracted honey I am speaking of. Combs are very valuable, and I want all I can get for top stories. One reason for that is that if the queen lays in those combs that are already for her they have a great big family to take care of, and when they raise them they are no use. There is a lack of economy there. In the starters they have not got the brood nest, and the queen cannot lay. She is put on a very small set of combs, as it were, and the bees go up into the supers and store the honey and the work goes along nicely, and we get a good honey crop and we do not have a lot of bees to hatch out the last week of the honey flow; where a person had a buckwheat flow it might be different.

Mr. McEvoy: If you are living in a locality where there is no buckwheat yours would be in pretty poor shape for winter in comparison with the swarm that has a good full comb.

Mr. Chrysler: You hive a colony on full comb and you have a few days of wet weather following, the bees

cannot work, and at the end of that time they get out and gather honey, and if it is for comb honey you are running they will store the honey at first down below and probably you will find them swarming instead of going up above.

The President; The trouble I find if I put starter in and put on supers for extracted honey is that the bees will put all the honey up stairs and the hives are in no shape for winter.

Mr. Newton: If we have it up on top we will willingly give them some back; it is in the top we want it.

Mr. Sibbald: In answer to that question, the great thing now is to keep down increase, and I would ask you where you put your old brood nest?

The President: That is left in the other hive.

Mr. Sibbald: It is left beside that hive, and as soon as the season is over it is put back on; you take those little starters and you can melt them into wax, and then you have only got one colony and it is in splendid condition.

Mr. Fixter: I think that is wrong. One of the greatest curses we have got to contend with is people selling honey taken out of combs where brood has been reared. It is the greatest detriment to our honey market today, and you do not have to go near the wagon on the markets to see weather it is honey. You can smell any comb where there has been a brood raised in it for two or five years. It is taken out and given to people, and they are sickened, they want no more honey evermore afterwards. Just as sure as you use that plan it is liable to create a bad taste.

Mr. Sibbald: I do not understand Mr. Fixter when he says that that is for extracted honey. It has not been bred in five years, it has only been

hived on and perhaps bred in one year.

Mr. Fixter: A man who has half a dozen hives takes a knife and runs around it and puts it into a tin dish and sells it.

Mr. Holtermann: That is in Ottawa.  
Mr. Fixter: It is not only in Ottawa, for only last week I saw it was done in Brantford.

Mr. Dickenson: I do not think every man in this room is working to keep down increase. I should think Mr. Sibbald would advocate a method that would be suitable for all parties.

Mr. Byer: I might say I was out to Mr. Sibbald's this fall, and he explained his system pretty thoroughly to me; in my opinion it is all right. His system necessitates an awful lot of work; it means practically going through every brood chamber in the fall without exception. He contracts largely for wintering. I suppose it is not really a trouble. I do not think he contends he does not get a great deal of drone comb, for if I remember rightly he admitted he got considerable. As far as I am concerned I would not think of going through every brood chamber in the fall; it is too much work. There is a great deal in the size of the frame; and to talk of using starters and all that it is out of the question.

Mr. Pettit: I would agree with what Mr. Sibbald has said in every respect, and I would explain a point that I think he did not fully explain—that is about contracting the brood chamber. How many of those starters do you give?

Mr. Sibbald: I give the full hive.  
Mr. Pettit: That is were we differ then. I would not give more than six Langstroth frames. If you give just about that number you get quite a large percentage of worker combs—very fair ones.

Mr. Heise: Running for extracted or comb honey?

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Mr. Pettit: Either.

Mr. Newton: I agree with Mr. Pettit.

Mr. McVoy: The objection to this starter business is drone combs. I do not think I own four inches of drone comb in all my apiary, and I have practically shut them out; but they will work them in on the edge somewhere. I have had them convert a little irregular sized worker comb to drone. I have shut them out wherever I could.

Mr. Morrison: If Mr. Sibbald is telling us what he does now, since he has got all the bees he can handle, but it is certain enough that is not the system he tried until he got that quantity of bees. When he had only ten or twelve or twenty colonies he did not practice trying to keep down increase.

Mr. Pettit: I am working for increase to a certain extent now, and I practice hiving on starters just the same. All the extra worker combs I want to get built in the super: I think I can get that done better in the super than in the brood chamber. The peculiar point in getting it down there is that you get it built down to the bottom bar; you do not have that space.

Mr. McEvoy: Do you put on all foundation or part comb.

Mr. Pettit: About half comb and half foundation. I put the comb in the middle and the foundation at the outside and two separators in each super.

Mr. Sparling: Perhaps I might suggest a compromise between your combs and Mr. Pettit's system of starters. I would not use eight frames if I were hiving on starters; I would only use five or six at the outside, more often five, if I wanted to practice economy. About three weeks after I had hived them I would fill it out with some of those old combs of yours

and then there would be a chance of it being a fair colony for the fall.

Mr. Sibbald: I do not have any more swarming than I can help, and I do not calculate to have more than thirty per cent., anyway. I increase by nuclei, and in the case of an old colony set off there it is a very easy matter to divide that old brood nest and put only half of it back. The other half is left with the young queen if you want to increase; if you do not want to, you can put it all back, Colonies that do not swarm are left untouched, or you can form a nucleus of one or two combs out of them if you want to. I think that is Mr. Post's system of increasing. When you hive on starters, say ten, and the bees cluster right along on them that is contraction, but they have got any amount of room, they are not apt to abscond or swarm out of it. I often take an empty super and put under one with the starters on.

Mr. Pettit: In one or two days take an empty hive, and take out the starters at the outside that they have not started to work on, and put in dummies; then the ones they have started to work on they build with worker comb down to the bottom very well.

Mr. Sibbald: It is very seldom they ever work down any more than four or five of the empty ones which are better than a dummy, because you do not want them too close.

Mr. Pettit: How about worker comb?

Mr. Sibbald: I am not particular about that, to tell you the truth, because I do not use them to winter on at all.

Mr. Pettit: If you do not care about worker combs I would leave the dummies out.

Mr. Sibbald: I take those combs out in every case, and if they are nicely built and started well I use

them in the top stories. They have only had one set of brood in, and they are good and tough for extracting combs.

The President: I do not think using old comb for extracting is so bad as Mr. Fixter says.

Mr. Fixter: As long as there is no brood raised in the combs I would have no objection, but I compare a comb where brood has been raised to an egg out of which a chicken has been hatched.

Mr. Miller: If Mr. Fixter will take his old comb, and with a watering pot will fill the cells with water and let them stand for a time, and then reverse them and throw the water out he will be surprised at the color that will come out of them; then after that his honey is clean. There is no necessity for destroying the old combs.

Mr. Dickenson: I tested that. I was prejudiced against those old combs, I had an idea they affected the color of the honey, but I was really surprised in testing the honey that came out of the dark comb and the honey that came out of the drawn foundation. Really it was just as light as the light combs; that is after it has been cleaned up.

TEMPERATURE OF THE HIVE.—IV.

Continued from Page 23

If a large stock of honey, kept in the hive for future use, is the normal condition of a colony of bees, it necessarily follows that the hive that will allow the beekeeper a reasonable share of the surplus will be the safest and best hive to use in localities in which foul brood is likely to prevail.

Driven bees frequently winter safely on syrup, and sometimes they do better the first year than they do afterwards—they are not troubled to any extent during the first year by the microbes. All attempts, however, to winter bees satisfactorily on syrup after robbing them of nearly all their honey have failed. It seems that a little honey is dangerous to the bees, as a little learning is dangerous to the bee-keeper, and that bees do best when their stock of honey is large. The risk of bees contracting disease from robbing infected colonies diminishes as their stock of honey increases, and their resistance to infection increases.

When the bees in a colony afflicted with foul brood are shaken or brushed off their combs and forced to build new combs the disease often disappears, and yet we know that the bees must carry numbers of pathogenic microbes with them. But, as Woodhead states in his work on the Bacteria, "The elements of quantity can never be ignored in dealing with bacteria of any kind."

Cold is the greatest evil that bees have to contend with. An abundance of honey will save them from famine, but numbers alone can save them from cold. As their numbers are cubed the quantity of honey consumed to keep up the temperature of the hive is only squared, and numbers therefore have the advantage. Strong colonies only can resist cold and trying to maintain strong colonies in small hives is merely a waste of labor and a loss of time—the normal proportion of bees and honey cannot be maintained, and disease is the inevitable result.

Most assuredly "Nature does no work for an object and against it at the same time," but some beekeepers, who imagine they can teach nature, do it every day—In that

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God directs, in this 'tis man. If the microbes causing foul brood could be exterminated there would be no bee-keeping — the bees would not store honey enough to make it an object.—Dr. A. W. Smith in The British Bee Journal.

### Awards at the Dominion Exhibition, Toronto.

Best 50 lbs. granulated clover honey in glass—1st, George Laing, Milton; 2nd, R. H. Smith, St. Thomas; 3rd, Jas. H. Shaver, Cainsville; 4th, Arthur Laing, Hamilton,

Best 50 lbs. granulated Linden honey in glass—1st, Jas. H. Shaver; 2nd, George Laing; 3rd, R. H. Smith.

Best 500 lbs. liquid Extracted honey—1st, R. H. Smith; 2nd, Geo. Laing; 3rd, Jas. H. Shaver; 4th, E. Grainger & Co., Toronto.

Best 500 lbs. Comb Honey in sections—1st, Jas. H. Shaver; 2nd, R. H. Smith; 3rd, George Laing.

Best 12 sections Comb Honey—1st, Jas. H. Shaver; 2nd, R. H. Smith; 3rd, Geo. Laing; 4th, E. Grainger & Co.

Best 100 lbs. extracted liquid Linden Honey in glass—1st, R. H. Smith; 2nd, George Laing; 3rd, Jas. H. Shaver; 4th, Arthur Laing.

Best 100 lbs. extracted liquid Clover Honey in glass—1st, E. Grainger & Co.; 2nd, A. Laing; 3rd, G. Laing; 4th, Jas. H. Shaver.

Best 10 lbs. extracted liquid Clover honey—1st, E. Grainger & Co.; 2nd, A. Laing; 3rd, George Laing; 4th, A. Ferrier, Osceola.

Best 10 lbs. extracted liquid Linden honey in glass—1st, Geo. W. Strang, Elora; 2nd, F. W. Krouse, Guelph; 3rd, R. H. Smith; 4th, George Laing.

Best 10 lbs. extracted liquid Buckwheat Honey in glass—1st, Jas. H. Shaver; 2nd, F. W. Krouse.

Best Beeswax—1st, Jas. H. Shaver; 2nd, A. Laing; 3rd, R. H. Smith; 4th, Geo. Laing.

Best Foundation for Brood Chambers—1st, Jas. A. Simmers, Toronto; 2nd, E. Grainger & Co.; 3rd, A. Laing.

Best Foundation for Sections—1st, Jas. A. Simmers; 2nd, E. Grainger & Co.; 3rd, R. H. Smith.

Best exhibit of Apiarian Supplies—1st, Jas. A. Simmers; 2nd, E. Grainger & Co.; 3rd, A. Laing.

Best and most practical new invention—1st, R. F. Holtermann, Brantford; 2nd, A. Laing; 3rd, E. Grainger & Co.; 4th, H. R. Smith, St. Thomas.

Best variety of uses for honey—1st, George Laing; 2nd, R. H. Smith; 3rd, A. Laing.

For the most tasty and neatly arranged exhibit—1st, R. H. Smith; 2nd, J. H. Shaver; 3rd, Geo. Laing; 4th, A. Laing.

To exhibitor taking the largest number of prizes for honey—Silver Medal, R. H. Smith; Bronze Medal, Geo. Laing.

To exhibitor showing best and most originality of design in setting up display—Diploma, R. H. Smith.

B. O. Lott, Ansor, Ont.,  
Warrington Scott, Wooler, Ont.,  
Judges.

Talent is an aptitude for a given line. In the old Bible significance it is power intrusted to one for a specific use. Everybody has some talent worth cultivating. The more we use what we originally have, the greater becomes its value.—Ladies' Home Journal.

THE  
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**BRANTFORD - CANADA.**

Editor, W. J. Craig.

SEPTEMBER, 1903.

**EDITORIAL NOTES.**

We saw some "chunk honey" in glass at the Toronto Exhibition but it did not seem to detract from the beautiful piles of white comb and pyramids of extracted that were there.

If "York County Bee Keeper" would send Prof. Shutt of Ottawa a sample of the Honey Dew of which he speaks in this issue we are sure the Prof. would be pleased to give it his attention in connection with the work he has on hand for the Ontario Bee Keepers Association.

Friend A. Boomer, of Linwood, whose loss by fire we referred to in our last issue, writes us as follows:—

Editor C. B. J.—Yes, I was unfortunate enough to get my dwelling and part of the contents destroyed by fire on the morning of July 27th, one end of my extracting room was burnt out but we saved most of the honey and combs. I was modestly well insured so that my loss is not likely to cripple or discourage me. I am in my 73 year but have been able to manage

my apiary of some 85 colonies spring count, with little or no hired help. The honey crop was very good considering the remarkably cool season, so cool and cloudy that I have had difficulty in getting my cappings through the Solar Extractor, and in fact have had to hold them over and have still a quantity on hand. My returns will be about 10,000 lbs.

Yours,

A. Boomer.

**Market Prices of Honey.**

It is a very difficult matter to give definite information to enquiries about the "market price" of honey. When at Toronto last week we heard of deliveries having been made in that city as low as six cents a pound for first-class extracted. Glad to say that this was not a common occurrence but a sufficient hint that Toronto is not needing extracted honey very badly at present. We were informed of shipments to other centres where prices ranged as high as 8 cents, but figures between these two were more common. First-class comb, \$1.35 to \$1.50; fancy, \$1.75.

But why all this rush? Would it not be much better for those having honey to dispose of to quietly take in the situation and wait until stocks begin to move. Eastern Ontario is not overloaded if the following is taken as a fair specimen:

"Please advise me what to do with my bees, which have but little or no honey. I have 107 colonies and 50 of them are young swarms, the best of which are not heavy enough for winter. I took off about 400 lbs. of clover honey and those hives have

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very little left. About 35 have none. I was thinking of feeding the best of them and letting the rest die. Last year was a failure and this is worse still."

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### New Inventions at the Dominion Exhibition.

The award of first merit was conferred upon a twelve frame Porticoed Langstroth Hive. The porticoe, which was the feature emphasized is fitted with a sliding screen in front to be used to close up the hive when moving the bees to a new location, or in case of robbing when extracting, or at other times: queen excluding metal may also be used in the porticoe making it serve all the purposes of a queen and drone trap.

Second award was given on an electric alarm bell with attachments which may be connected to any ordinary beam scale, the faintest turning of the beam instantly sets off the alarm thus drawing attention to the operation and in the case of weighing honey often preventing overflowing.

An electric wire imbedding outfit came next in order of merit, it included a battery and all the necessary tools. The current generated is sufficiently strong to heat one strand of wire at a time so it can by a little pressure be imbedded in the sheet of foundation.

The fourth award was given on an extracting super with notched frame rests which regulate the spacing of the frame.

### Formalin not Explosive.

We have the following from Prof. Harrison in regard to a little mishap which we reported to him as having occurred to one of our readers when generating formalin gas over a spirit lamp;

"Editor C. B. J.,—I regret the delay in answering your letter but was absent when it arrived. I do not understand the cause of the explosion that you mention unless something went wrong with the spirit lamp. Formalin is not explosive but I would caution you to be extremely careful to find out whether the formalin you supplied is of the correct strength as it is a very adulterated article. For disinfecting bee combs I advise the use of one-half more than is necessary in order to safeguard any weakness of the drug.

Yours very truly,  
F. C. Harrison.

We are grateful to Prof. Harrison for his information regarding the variable strength of the drug and of its being subject to adulteration. These are points which, no doubt, have a great deal to do with the success or failure of a treatment.

As to the mode of generating the gas might say that an ordinary coal oil lamp with a heater on the top of the chimney upon which to set the formalin reservoir may be used with perfect safety. The flame can be regulated much easier and better than that of a spirit lamp.

## Thoughts and ....Comments ON CURRENT TOPICS

By a York County Bee Keeper.

### HONEY DEW—ITS ORIGIN ETC.

It seems to me that this phenomenon offers room for research for our men of science. What is honey dew? Whence its origin? Is it wholesome or unfit for human consumption? These and other kindred questions, up to the present have been answered very unsatisfactory to say the least. During basswood bloom (which by the way yielded practically no honey, with us this year) the bees were for a few hours every morning working busily on the elm leaves, later on, about Aug. 10th they were on the basswood leaves; in both instances although the sticky shiny substance was plainly visible on the leaves, there was as far as I could see, an absence of the little parasites or aphides which are usually present in such cases, another peculiarity was, that while three or four trees in a group would be swarming with bees, a tree only a few feet away, to all appearances exactly in the same condition as the others, would have no bees on it at all. Now it seems strange to me, that if honey dew is a saccharine matter secreted on various plants through the agency of certain atmospheric conditions, as Mr. McKnight and others maintain; that all the trees in case mentioned were not covered with the deposit, whatever it is. If on the other hand, "honey dew" is as claimed by Prof. Cook nothing more or less than the exudations of certain aphides, why are not the said aphides present in all cases. This season, as before intimat-

ed, as far as can be judged by the naked eye, they are entirely absent. On these two theories is hinged quite an important decision. If honey dew is of atmospheric origin, well and good, no one would object to it as an article of food. If however, it is "bug juice" pure and simple, it seems to me that it is hardly fit for manufacturing purposes, let alone for table use. Altogether the subject is one of interest and importance and it is to be sincerely hoped that the matter will be thoroughly investigated in the near future.

### SHOOK SWARMS IN ILL. 1903.

Dr. Miller in a recent issue of "Gleanings" gives his experience with "shook swarms" this past season, in the following words: "Of 18 colonies shaken in the Wilson apiary, just half made no effort to swarm afterward; 3 started queen cells within 10 days and upon these being destroyed they started none afterwards; 4 have been found with queen cells about every ten days; 2 were found queenless 10 days after being shaken—either they swarmed and lost their queens or else the queens were accidentally killed. Five were shaken in the Hastings apiary, and every one of them swarmed or tried to afterward."

It must surely have been a great year for swarming in Ill. or else the Dr. is yet a long way from having those bees that "will not even think of swarming," that he has been hankering after so long.

### SELF SPACING HOFFMAN FRAMES— THEIR DISADVANTAGES.

Editor Huthchinson, who is now Inspector of apiaries for Mich. in Aug. "Review" has a couple of editorials in which he vigorously protests against the so called advantages of the Hoffman self spacing frame. Among other things he says: "Of

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all the frames there are none I dread encountering as I do the Hoffman, especially after they are thoroughly glued in. I know there is a dummy at one side that is supposed to come out first, but that becomes glued in so firmly that there is honestly only one way to remove it, and that is to invert the hive and pound it loose. (I have had to do this more than once). Then it requires a strong screw driver or chisel to pry the frames loose—no ordinary jack knife will answer. And it wont answer to pry against the ends of the top bars either, they will break off before the frames will come loose. I have sometimes been tempted to buy a colony with the frames in this condition and express it down to my good brother Root and let him see what Mich. bees can do in the glue line. Of all the frames, the one that makes my heart glad when I am opening hives over the country, is the plain all wood frames. I can pry this one over a little, and that one over a little the other way, loosen up the one between and have it out before the man with the Hoffman frames has got through saying, Well! Well!" No I have not just finished one unusually trying job. The worst one I had was three weeks ago and I have purposely waited this long that I might be sure I had "cooled off" From my very limited experience with Hoffman frames, would endorse all Mr. Hutchinson says, notwithstanding anything supply men and big guns may say to the contrary. For the life of me we can not see how bee keepers in a "gluey" locality can be bothered with the pesky things.

#### BEES AND HORSES—A BAD COMBINATION AT TOO CLOSE QUARTERS.

A few days ago it became necessary to draw in some grain from alongside of the home apiary of some 160

colonies. The bees were working hard at the time on buckwheat just west of the yard. Through over confidence, the men in charge of the horses (a spirited team) were told to drive right up against the apiary where the bees were flying by the thousands against a strong wind. A few bees at once attacked the horses who could not be induced to move, one throwing itself in the harness. The bees then literally poured out on the horses by the thousands, and the men after vainly trying to get the horses to go, and after receiving a lot of stings, concluded that "twas better to fight and run away, and live to fight another day," so accordingly took "leg bail" on double quick time.

Being only a short distance away at the time and hearing the noise the writer arrived on the scene of action bare headed and in his shirt sleeves. Needless to say he met with a very warm reception. After with great difficulty unhitching the horses by the assistance of a brother who had now arrived, and by the free use of the whip induced them to slowly leave the place, covered with swarms of angry bees.

The poor brutes were literally stung over every inch of their bodies, and it was thought that they would certainly die. Salt was given to them as soon as possible, but owing to the way they kicked and plunged after being put in the stable hardly anything could be done by way of removing the stings. However they have pulled through and to day (a week after the stinging) they appear to be improving nicely although there bodies are covered with lumps full of pus which are now discharging. While the writer received hundreds of stings on the head face and neck, aside from a severe pain in the head for about an hour, no serious effects were felt. To be sure there was a little puffer-

ing about the face, but not nearly as much as I have often seen from the effects of a single sting I merely relate this as a warning to others to use judgement when it is necessary to bring horses near a large apiary, as one who has never witnessed the blind impotent fury of bees when angered in this way, can form any idea of their vindictiveness in such cases.

### Bee-Paralysis—Sulphur Cure a Success.

BY O. O. POPPLETON.

I promised some time ago that as soon as I knew the results of certain experiments not then finished, I would write out some of my experiences with bee-paralysis in my apiary.

The disease is more widespread and serious than most bee-keepers realize. Twice within the last 20 years it has lessened the season's receipts from my apiary over 25 per cent, entailing a loss of about 15,000 pounds of honey and quite a number of colonies of bees. There is more or less of it every year.

The disease itself is exceedingly erratic—comes and goes without any apparent cause, and without strictly following any rules. Colonies in perfect health will sometimes be attacked suddenly, and in a very short time be reduced to a nucleus. At other times a diseased colony will suddenly recover without any known cause. For this reason no rule can be made by experiments with any one or even a few colonies. And now, after a personal experience with over 200 diseased colonies, I more than ever realize how little we really know of the nature, causes, prevention, or of the disease. While I am satisfied that it is to a limited extent contagious I do not know exactly how the contagion is communicated.

While in Washington, just after the Philadelphia convention, Mr. Benton introduced me to Dr. Howard, United States Entomologist, and I had a short talk with him about his Division making a scientific investigation of the disease. He asked me to call on him in his office and talk the matter over; but when I did so he was out. I was disappointed, as I hoped, through him, to get some real, definite knowledge of the disease and how to fight it. I still hope that some practical scientist will do this work for us.

I have not yet learned how the contagion, if any, is communicated, but I think through dead or diseased bees only. Last season I made some experiments to learn whether combs, honey or brood carried it, by taking away all the brood from what diseased colonies I had and giving them to certain nuclei. I built up six nuclei by giving them brood from diseased colonies, and so far (nearly a year afterwards) only one of these six colonies has shown any signs of the disease.

As several other colonies have taken the disease this spring, it is not very likely that this one took it because of these combs of brood and honey. That five out of six failed to take the disease after nearly a year has passed looks as if it will be safe to use all combs of either honey or brood. This simplifies the problem of what to do with diseased colonies, and save the loss of combs and brood as in the cases of foul brood.

Several years ago nearly or quite one-third of my apiary was diseased and the prospect was that I might have to abandon bee-keeping because of it, after nearly half of the diseased colonies had died. Experimenting with all the methods of cure I could hear of, the use of sulphur proved the only method of any value. This I applied to three or four colonies at

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a time, then in a few days to a few more. Then, after a interval to more, and so on, until all had been treated. The result was the entire cure of each colony treated in the order of their treatment, while not a colony in the yard recovered until a certain time after treatment, showing conclusively that it was the treatment which affected the cure. I have used the same method more or less since then, but not to so great an extent. Out of some 40 or 50 altogether which I have treated, all were cured by one treatment except three, which required a second one each. As many have reported failures in treating diseased colonies with sulphur, it looks as if they must have misapplied the sulphur some way, and I think it will be best to give in detail the way I have used it.

For reasons I will give later on in this, I always go to the colony I am to treat during the day, and take away all the combs that contain brood; or, at least, unsealed brood or eggs, and give to some other colony; then in the evening, as soon as the bees have quit work and are all home, I proceed to dust sulphur over every comb in the hive and, if possible, on every bee in the hive. I never measure the exact amount of sulphur used, but suppose about a teaspoonful to every three or four combs in the hive.

I do the work by taking what sulphur I can hold between my thumb and first two fingers and dusting same over first one side then the other of each comb, bees and all; also over any collection of bees there may be on the combs in any part of the hive. The thinner the dusting the better, so it reaches everything in the hive. I tried using an insect powder gun, but couldn't do as good work as I could with my fingers. The next day, after doing this dusting, I carry back

to the hives the same number of combs and brood as I had taken away.

The reason for taking away the brood before dusting the combs, and returning it again afterwards, is because the dusting of the combs not only kills all the unsealed brood in the combs, but ruins these same combs for brood-rearing. If such combs are left in the hive, all eggs deposited in them will hatch out all right, but the larvæ will die as soon as hatched. By giving these same combs to strong colonies, they will clean them out and use them all right, and no loss of combs or brood will result.

For a week after dusting a diseased colony with sulphur, fully as many or more bees will be dying as before the dusting; and this fact may lead some to think the "cure" is not a cure. It will take a couple of weeks before one can tell whether the treated colony is cured or not.

Diseased colonies are usually very weak in numbers after being cured, and are of very little, if any more, value than a good nucleus. I have doubts whether it really pays to cure them except such as can be treated very early in the season, before nuclei can be profitably made. For the last year I have adopted the plan of curing such colonies as needed it as early as the middle of February, or even earlier; after that I make as many nuclei as is needed for the purpose, and as soon as they have a young laying queen I take away the combs from the diseased colonies, giving the brood to these nuclei, thus building them up into good colonies and destroy all the diseased bees with sulphur fumes.

In changing combs from diseased to other colonies I am very particular to know that each comb is absolutely free from bees, especially of dead ones that may be in some empty cells.

American Bee-Keeper.

## Notes by the Way

By G. A. DEADMAN.

### MARKETING HONEY.

It is one thing to produce a crop of honey and another to dispose of it to advantage. This year, unless some people are induced to use honey who have not used it in the past, or others persuaded to use more than they have hitherto, there will be a considerable quantity unsold. I presume, as a matter of fact, that honey is becoming more and more an article of diet as the years go by, many using it now in preference to preserved fruit. There are yet many who would become large consumers if educated to it. The question is, how can we reach these and make them regular customers for our product? No doubt, much can be done by having it always on sale in the grocery stores, and, I would add, do not discourage your merchants from handling it by charging them the same as you would a consumer. It surprises me sometimes to see what little value some people place upon their own time and that of the store-keeper. It is not fair to the merchant for you to sell retail the same as you charge him wholesale, even if you do take it out in trade. Allow him a commission apart from the profit on goods sold you, otherwise he has to make two sales for one profit and which is none too much these days in most places. Many prefer selling it in a lump and have no more bother, and personally I am in sympathy with this class.

It is no small matter to dispose of a few thousand pounds of honey in one's own neighborhood, and when once it has become granulated the

labor, as most of us know, is increased ten fold. May be I am becoming lazier as I grow older, but as the years go by I want less and less to do with honey after it is granulated, unless it is in packages that do not require to be emptied.

Before describing a plan which I have tried with success, I wish to notice two ways that have merit that have been mentioned either in print or in convention. One was to drive with a load and call at each house, sell what you can, and leave a post card with your address so customer can write and say how much he wished brought next trip. The other way is that by which D.R. Niver has not only sold his own crop but that of others, is to take a sample along and a spoon, go from house to house, let all have a taste, talk it up and take orders. Mr. Niver advocated this plan at the bee-keepers' convention in Buffalo. Not every one I suspect would succeed as does Mr. Niver and not all of us would care to follow it. I am averse to peddling anything, and I expect, have many others for company. The plan I have tried with success, while it is closely akin to peddling, is so different that anyone can do it, and need not lose his self respect; besides, it is so quickly done. We cannot tolerate anything slow. Only recently a party was describing how he sold a half bottle of honey, and judging from the time it took to describe the transaction, I should say that from 1 to 20 lbs. would be a day's work. His patience was commendable but that was all.

My plan is to call at each house in the village, town, or city, as the case may be, leave a sample with a printed card to fill out, at the same time leaving a printed circular giving full particulars. The sample is in a little china dish. All one has to do is

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hand in the sample and say: "This is a sample of the honey we are selling. If you would like some please fill out the blank card. The circular will tell all about it. I will call to-morrow and see you and get the little dish. Not only can almost any one hand in a sample of honey in this way but it can be done very quickly and it is received graciously. It is policy to sample one day just as many as you can call on again the next. There are many advantages about this sample and circular plan over the "Niver" way, no matter how busy a person may be they wont refuse a sample and circular. If only the servant is at home it makes no difference. If the wife is at home but would like to consult her husband first, who is away, then this can be done on his return. They have 24 hours to think about it and read what you have said in the circular. You have told them you will call for the dish so they expect you, and even though you may not receive an order at once you have done some good advertising which will no doubt bear fruit sometime. It is an advantage also in the saving of time. In a city where the houses are close together one can distribute a great many samples and if you receive an order at every 3rd place you can not only dispose of a quantity of honey but will make good wages also, but let it be understood that you are not to sell at retail at wholesale prices, but rather at an advance such as a merchant would expect. You will find that it will not be necessary to cut prices in order to sell, but that you can get as much, or more than would have to be paid at the stores. I would not of course ask more but rather the same as if bought from their grocer. Some may ask why not fill a little bottle and give it as a sample instead of a card. It is more expensive and be-

sides an ounce of honey in the dish looks more than the same quantity in a bottle, although the bottle may have other advantages.

I hope in another issue of this journal to give a photo of a sample case of dishes with fuller particulars regarding them, and this way of selling our honey.

### Uniting and Feeding for Winter

"Where is our buckwheat honey now, Doolittle?"

"Evidently all gone. Passed away in about ten minutes yesterday, and the hundreds of acres on which it was in such a flourishing condition yesterday morning might better have been left unplowed and unsown. But I pity the farmers more than I do us bee-keepers. We lose only a prospective honey harvest, while the farmer has not only lost his prospective crop of buckwheat, but all of his labor, seed, grain, and the use of his land. Such a hail storm was never known before in this locality at this time of the year, and I hope such a one may never come again."

"And the loss of buckwheat only commences the loss. Oats and barley are so thrashed out that the fields will hardly pay for harvesting; corn is in shreds, beans are all broken to pieces, the pods as well as the vines; more than half the apples and pears are on the ground, and what remains on the trees have from three to twenty hailstone dents in each fruit, many of these dents breaking the skin."

"Yes I have seen all of these things, and I can not help mourning. But mourning will do no good. Let us talk about something brighter. What brought you over here to-day?"

"Well, I had several colonies of

bees that I had calculated would build up for winter on buckwheat; but now there is no show along that line, so I came over to ask you what I had better do with these light colonies."

"Have they their hives full of comb?"

"No, not many of them. And that is one of the things which bother me. If they were strong in bees, and the frames all full of comb, I would try to feed them, although I could hardly afford to buy sugar for so many."

"Well I would wait till the first of September, as we may yet have some honey from an unexpected source. If we do not, then I would unite these weaker colonies, doing it as early as the 10th to 15th of said month, as we never have any yield of honey worth speaking of later in the year than the middle of September."

"How would you unite?"

"On some cool cloudy day, when the bees fly but little, or, better still, some day near night, after we have had cool cloudy weather for a day or two, so as to keep the bees at home, I would take the weaker of two colonies and carry it and set it right on top of the colony I wished to unite it with, stopping all cracks, if there should be any large enough to allow bees to pass between the two hives. As soon as the cracks are stopped, blow smoke in at the entrance and pound on the hives with the fist till the bees begin to make quite a roaring, this showing that they were filling themselves with honey."

"What do you want them to fill with honey for?"

"Two reasons—the first of which is, that they do not fight or quarrel; and, second, that the colony brought to a new location may mark their new home instead of going back to their old place of abode."

"Will this cause them to do that?"

"Yes. A few bees may return and hover about the place where they formerly stopped, but soon all will return, so no bees are lost."

"That is very simple. How long have you united in that way?"

"Every fall I have a lot of nuclei to unite, left after the season for queen-rearing is over; and last year I found that I could unite bees in this way without loss."

"But what about the combs?"

"After placing the hives having the colonies in together, as I have told you, wait a few days till the bees have had two or three flights, and have become accustomed to the new situation, when you will go and select out all of the best combs, and those containing the most honey, putting these into the lower hive. In this way you will be liable to secure fairly comfortable combs for the one hive."

"Yes, I see. But how about those which remain?"

"Shake the bees off from these down at the entrance so they will run into the hive with the others, and then you can store these frames partly filled with comb for use another year. If much honey remains you can put an enameled cloth over the hive having the the bees in, and turn up one corner of it a little so that but few bees can come out of the lower hive at a time, and then set the hive having the combs left after uniting on top of this; and by uncapping what honey there is that is sealed, the bees will soon carry it below."

"How about the queens?"

"If you have any choice, you will want to kill the poorer of the two day or two before uniting. If you do not have any choice, then pay attention to this matter, and the bees will destroy one of them, as only one

ood queen is allowed to dwell in a hive at a time."

"That will be easy, as I do not know that one is better than another, but suppose that, when I have the colonies all united, and the honey all fed up, they do not have enough stores for winter. What then?"

"Then you will want to feed them all they do have enough."

"What shall I feed for this?"

"I would use a syrup made of granulated sugar, as I consider such ally as good as honey, and, as a rule, is cheaper."

"How do you make this syrup?"

"Some simply pour boiling water over the sugar, and stir it till the sugar is dissolved; but for fall feeding, or feeding for winter stores, after the honey harvest is past, I prefer the following to any other mode of making syrup: Fifteen pounds of water is weighed out and put into a tin vessel of suitable size. This vessel is then set over the fire till the water in it boils, when 30 pounds of granulated sugar is poured in, the water being stirred briskly while pouring or sifting so that the sugar will not settle to the bottom, and burn, as such sugar is sometimes liable to do if not stirred. The stirring is kept up till the sugar is mostly dissolved, when the whole is left over the fire until it commences to boil again, when it is skimmed, if any impurities arise. After boiling and skimming, the vessel is set from the fire, when 5 pounds of extracted honey is stirred stirring for a moment or two till the whole is thoroughly mixed."

"What do you put in the honey for?"

"Before I used this extracted honey I found occasionally a batch of syrup would harden in the feeders and combs. This honey proved to be just what was needed, for syrup thus made remained liquid day after day, when not fed to the bees, and

never hardened in the combs, although with this formula the syrup is nearly as thick as the best honey when fed."

"What kind of honey do you use?"

"I first used basswood honey as I had the most of that; but of late years I have used that which has accumulated from the sun wax-extractor by way of a little honey being in the bits of comb and wax placed there for melting. This is the nicest kind for any feeding, no matter what the color may be, for the heat of the sun so ripens and thickens it that it is always prime for winter stores. But you will please excuse me now, as I have an engagement to meet at this time."—Conversations with Doolittle, in *Bee Culture*.

### Awards at Western Fair, London

Finest and most tastefully arranged exhibit—1st, Wm. Coleman, Blair Ont; 2nd, George Kemble, Bryanston Ont; 3rd, D. Anguish, Scottsville, Ont.

Best 200 lbs, Comb Honey - 1st, Wm. Coleman; 2nd, Geo. Kemble; 3rd, D. Anguish.

Best 200 lbs. Extracted Honey—1st Mrs Rudd, London; 2nd, Geo. Kemble; 3rd, D. Anguish.

Best 20 lbs, Comb Honey—1st, W. Coleman; 2nd, D. Anguish; 3rd, Geo. Kemble.

Best 40 lbs. liquid extracted Clover Honey—1st, Geo Kemble; 2nd, Wm. Coleman; 3rd, D. Anguish.

Best 40 lbs. Liquid Honey (not Clover)—1st, D. Anguish; 2nd, Geo. Kemble; 3rd, Mrs. Rudd.

Best 20 lbs. Extracted Granulated Honey—1st, Geo Kemble; 2nd, Mrs. Rudd.

Best 10 lbs, Beeswax—1st, Wm. Coleman; 2nd, Geo. Kemble; 3rd, D. Anguish.

Best Honey Vinegar—1st, Mrs. Rudd; 2nd, D. Anguish; 3rd, Geo. Kemble.

### Work for September

First, eliminate all small colonies by combining them into a few good ones, or by using them to reinforce those already in fair population.

Second, supply every colony with a young queen of the best stock in your yard. This matter would better have been attended to early in August, though mid September is not too late.

Third, supply every colony with enough combs to contain all the stores the bees can possibly need before next season's "surplus flow" by which I mean to emphasize giving much more than enough to carry them merely to the time when they can get a bare living if the weather is favorable—which it often is not.

Fourth, giving sufficient stores to fill those combs and doing it at such a time as will enable the bees to properly prepare and place it, matters which the bees can accomplish far better than we.

Some localities enable the bees to supply their larder from natural sources early in August; others get their supply in September, and in other places the apiarist must either give combs that were filled early in the season or feed sugar syrup.

It has frequently been advised to delay feeding the bees as long as possible in the hope that they may secure more or less from fall flowers and so need less food. Simultaneously advice is given to add honey or acid to the syrup to prevent granulation, to feed the syrup as thick as possible and to feed quickly.

It will be found much better to, early in September, feed each colony all the food you think they will need

and to give the food thin and in several days about it. But here is an important feature: feed each colony all it can possibly take from the feeder in twenty-four hours, and by the doing you will so supply every empty cell with thin syrup that there will be little chance for the queen to enter the brood nest even should she be so inclined. If the weather is warm the bees will have, in another day, converted this syrup into thick and good food, i. e.; will have "inverted" it. Such stores are virtually proof against granulation, and are ready for use at any time without the labor of digestion, a matter of much consequence in the early spring when the old bees' race is most run and young bees are still scarce.

As soon as the bees have got their first lot well disposed of, give them another dose. If the colonies are properly strong, three doses will be sufficient and may be given at intervals of twenty-four hours. If a heavy flow of nectar is now yielded by the flowers let the bees pack every corner and then let them put their surplus in extracting supers.

This sounds like doing things backward first, I know, but I have proved it to be the safest and most profitable way, for the fall crop is so often a failure.

The fifth item, and an important one, is to make your final inspection of the bees as early as you can, and seldom later than September 30, and let the bees seal all tight places remain undisturbed and unopened until next spring.—Arthur C. Mason in American Bee-Keeper.

Keep up hope in bad times,  
have the same sun and sky and  
the same God and heaven and  
the same duties and the same hope.  
Hope thou in God—Goodell.



### Feeding Back Extracted Honey.

Having never been situated to test this matter fully, I will not attempt to show that any plan can be invariably followed that will give satisfactory results; but in my feeding experiments under various conditions I have observed that bees will build comb more readily, and nearer the hive, when the comb is built when nectar is being gathered in is not fed too rapidly, and the resources that are nearest approach their gathering it from the flowers. When the bees are attracted to the feeding box 100 yards or more from their hive, and the entrance to this feeding-box is contracted so that only so many bees can pass in and out as will convey the usual amount of honey gathered in a day to their hive, they probably store this honey in the cells to the same advantage as when they are gathered from the fields.

Again, the honey must be thinned to the consistency of nectar to have each the hive in condition normal to the industrial workings carried on in the hive. A weight of about 9 lbs. per gallon would come near the consistency of nectar from the flowers. The mixture of honey and water should be of equal temperature when united, and granulation will take place after it is stored in the combs and seriously injures the bees. If mixed at a higher temperature than honey gathered from the fields, there is no

more liability to granulation than is experienced in the various qualities of honey as naturally brought in, provided the temperatures are equal when mixture is made.—B. F. AVERILL, in Gleanings.

### WANTED

First-class well ripened light and buckwheat honey. State quantity, price wanted per lb., how put up (barrels or 60-lb. tins). Also Comb Honey and Beeswax wanted.

—Address—

**R. F. HOLTERRMANN**

Brantford, Ont.

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—Address—

**A. L. A I N G, Hamilton**

98 Birch Avenue.

### Simcoe County Association

The Annual Meeting of The Simcoe County Bee-Keepers' Association will be held in the Council Chamber,

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A good program is being arranged and all members and others interested are invited to attend.

**DENIS NOLAN, Secretary.**

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