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Annual Meeting
BEE-KEEPERS' ASSOCIATION OF ONTARIO

UESTION BOX CONDUCTED BY MR. MILLER, LONDON.

Question 1: Which is the best ason of the year to introduce eens.

Mr. Miller: I prefer during har- st or directly after. If the queens e clipped we may exchange at that ne, and even just after the honey w I have found a very good time introduce.

Mr. Chrysler: If the queen were oduced after the honey flow, you better provide an extra amount stores because the young queen lay very late in the fall and con- uently will consume more stores ing the winter.

Mr. Evans: Would it be any ad- tage to introduce them in the y spring, in the latter part of il or May?

Mr. Miller: It would with me, I y, be a disadvantage to introduce . If there is a loss it means a y drain on the honey flow.

uestion 2. Which is the better, piece or four piece sections.

r. Miller: The four piece section ns its shape better and makes a nicer package for the market and a stronger package.

Mr. Smith: Which is most generally used in Canada, one piece or four piece? I notice that upon the American side they use nearly all one piece, while on this side I fancy the four piece is more generally used. Which has the greater advantages.

Mr. Hall: Mr. Craig and Mr. Chrysler would be the gentlemen to answer that question.

Mr. Craig: I would say 50,000 one piece to 1,000 four piece.

Mr. Chrysler: I was going to say five to one of the one piece. But I find those who are considered the best bee-keepers in this country are as a rule using the four piece section.

Mr. Fixter: Have those who use the four piece ever used the split top one piece, and if they have don't they find that very much better than the ordinary one piece?

Mr. Hall: You have not taken very many thousand pounds of honey in the comb for market, otherwise you would not ask that question, because you have got a great deal of scraping to do which, if you hadn't that slot in the top, you would avoid.

Mr. Smith: I used the split top bar sections which I bought from Mr. D. A. Jones first, and while they may be all right for those who use starters, if you wanted to use full sheets of foundation I don't think they are as good as the top bar not split.

Mr. Holtermann: Before Mr. Chrysler spoke I thought there was a point as to whether there are more four piece or more one piece sections used by the best comb honey producers. They certainly use the four piece section. I believe Mr. Hall and two or three others used them for a great many years before others did, certainly before I did, but I am satisfied that the four piece section is the best. You can have it keep its shape better, you can get your foundation in better and because of that you get a better filled section. I know of no method by means of which you can get a one piece section filled, but with the four piece section and the hot plate process you can put your foundation on the top bar before it is put together, and then have it of such a length that after the plate is taken away and after the sheet is melted down it is yet large enough to fill the section ; and as far as I know it is impossible to do that with a one piece section.

Now as to the split top, I don't just agree with the view that is taken by one or two here. Mind you I give it second place, but with a split top you can put in a full sheet foundation, which as far as I know you cannot do in any other way. Then there is another question to consider in this matter with a split top ; those who are keeping a few bees cannot go to the expense or, perhaps better, will not go the expense of getting appliances which are needed, and they can put in a foundation cleaner with the split top ; so that although I fully endorse the attitude in connection with the one and four piece section, I do not just agree with the attitude towards the split top. I would prefer for the amateur the split top and for the practical man not split.

Mr. Fixter : Have you ever used the one piece split top ?

Mr. Hall : I am very happy to say I never did. As Mr. Holtermann has said I used the four piece section six years before I heard of a one piece. With the split bar you have to put your foundation through and wherever there is beeswax the bees add more to it, and you have to scrape it off. It does very well for the amateur who raises a few pounds for himself and his friends that does not need any scraping of the sections, but not for the professional ; his time is valuable.

Mr. Fixter : I hope you will not think I prefer the split top ; we agree with what Mr. Hall says entirely. We find that the amateur will handle the split tops better than the others. I use the others myself.

Mr. Chrysler : It is more economic for even an amateur to buy a machine than to pay the extra price of split sections, even if it is only a thousand sections.

Mr. Holtermann : What price have you to pay for a proper machine to do that ?

Mr. Shaver : Make it yourself.

Mr. Chrysler : You might make a machine to do it pretty cheap but I would invest in one.

Mr. Holtermann : I don't know of any machine that I would use that cost less than $2.

Mr. Pirie : I use a machine that costs less than 10 cents. I have a block the size of the section ; have it come to the centre where you want the foundation and then use a small brush to apply some melted wax, just lay your foundation in and draw the brush along and as you draw the brush along you can put in the foundation if you have the wax at the proper heat. I put the sections together before I put the wax in either the one or four piece section.

Mr. Holtermann : How can you get your foundation to fill the section ?

Mr. Pirie : I fill it all around as far as that is concerned, or I can just fasten it at one end. I sometimes fill the section right full. I think Mr. Sibbald uses the same principle.

Mr. Holtermann : Do you put in your sheet of foundation and then after it lies against the top apply the wax ?

Mr. Pirie : Yes.

Mr. Sibbald : There is another point in favor of that plan, any little youngster can put them in, it is so simple.

Mr. Pirie : Of course you have to have the wax at the proper temperature.

Mr. Miller : What sized brush do you use ?

Mr. Pirie : Just a small camel's hair brush.

Question 3. Which is the best smoker fuel and what is the best and quickest way to light it ?

Mr. Miller : There are so many different opinions. Cedar bark is very good ; it burns wet. If during the clipping or a time when I set the smoker down occasionally I like cedar bark. If I am using it when the bees are cross and using it continually it burns out too rapidly. For lighting I use cotton saturated with saltpetre and crowd in a few shavings ; I take off a small piece of saltpetre and touch a match to the cotton and it is already lighted.

Mr. Hall : Have you tried rotten elm ?

Mr. Miller : No.

Mr. Hall : Once you light it it will never go out.

Mr. Miller : Cotton won't go out if you use it properly.

The President : I use the planer shavings altogether. I find they are very convenient. They make a good smudge and if you crowd them in pretty tightly they will last a good long while.

Mr. Shaver : Don't they get pretty hot ?

The President . No, not by throwing a handful of grass on top of it.

Mr. Brown : I generally use dry rotten wood, ash, elm or whatever can be got, but I prefer ash.

Mr. Armstrong : I have used rotten elm for about ten years and I have used planer shavings and I have used cedar bark and I have stopped with cedar bark and am going to stay there.

Mr. Holmes : Among the different materials that I have tried to use in the smoker I find that cedar bark is far and away the most satisfactory to me at least.

Mr. Dickenson : I like cedar bark a little damp, and something on top to keep it from getting too hot.

Mr. Hall : We use cedar bark and we use it simply because it is easy for us to get, and we cut it off the lengths we want it on a block, and we put in enough to fill the smoker hard and tight ; they are straight pieces of cedar bark and not too fine, of good heavy stuff. It will last you five hours. That is a consideration. I don't like filling a smoker ; it is a nasty dirty job and sometimes it is pretty difficult work. The other things are good but the next best thing I use is rotten apple wood.

Mr. McEvoy : Mr. Hall's plan of cutting of the cedar bark in straight pieces and putting it in that way is very good, but if you get a cross and downright spunky colony take some June grass that is dry and twist up a good wad of that and you can hide a hive with it. I apply the smoke at the bottom and top and then the next thing I follow with my boots and I wake them up in dead earnest.

Mr. Holtermann : Try when you get a chance this new peat fuel that is

pressed into these round bricks.

Mr. Darling: Take wormwood that has been dried and see what that will do? They are conquered right off.

Mr. Fixter: I have tried all that has been spoken of here to-day and one more; it is the last one but I think the best, it is to get an old sack that has been thrown away and roll it up the length of your smoker and the size just to fit and put a little oil or anything on the end of it, or put a few shavings in, and I find it lasts longer and there is no smell to it, and there is no oil about the end of the smoker, and it will give sufficient smoke to hide the colony as Mr. McEvoy says. I think this is adopted by Mr. Cogshall and very many of the largest bee-keepers in the world.

Mr. McEvoy: I have tried it and I agree that it is first rate.

Questiox 4. Can we maintain the present better prices for honey and how?

Mr. Miller: It is too heavy a question for me. The only way I see is what was spoken of yesterday. I think the exchange would largely help us. It would help the small producer and the man who has an outlet; I think it would help all.

Question 5. Which is the most advisable, to have hives of bees placed under natural shade or in the open and shade artificially when necessary?

Mr. Miller: I would say in the open in the spring, if I can have the shade of a tree during the busy season; at that time I like the bees under shade for other reasons, but early in the spring when the trees first leaf out I prefer to have them in the open; not being able to have them both I place them always under a tree when possible.

The President: I think when we have natural shade, unless it is too dense it is better than using a shade board.

Mr. Fixter: I think myself that an apiary is better in the open and provide additional shade. Supposing your trees are high, look at the great disadvantage you have in taking down your swarms; besides in the season of the year that you want to work in the mornings it is always cooler under the trees; where you have it out in the open and just have trees enough, small ones, for the swarms to light on I think it would be better than to have them under high trees.

Mr. Dickenson: I don't see any difficulty in bees going into trees. If your queen is clipped it is no detriment, I don't care how high they are.

Mr. McEvoy: I endorse Mr. Miller's plan. In hot days in the summer, speaking of the bees, it is not the bees always; we have got to look out for ourselves, and it is more comfortable under the shade, and at that time the bees do just as well as they do out in the open, but in the spring the advantage is in favor of the heat the more warmth the bees then get the better, so go back to the old first lesson, all day in the spring, morning and evening and summer as far as heat is concerned. As far as swarming are concerned, we don't care anything about that, we clip. Is that the way with you Mr. Miller?

Mr. Miller: Yes.

Mr. Pirie: Do you get as much honey under the shade?

Mr. McEvoy: I have part in an part out and I wish I had shade for them all.

Mr. Patterson: They will work longer in the sun in the evening but I like them under the shade in the day.

Mr. Hall: I don't see how you can have them work longer than from

daylight till dark.

Mr. Smith: I have bees both under trees and in the open and some are in the shade all day long and I have never seen any material difference in the amount of surplus honey.

Mr. McEvoy: No, that is so, none whatever.

Mr. Brown: That has been about my experience. I find a man is a great deal better off when he is under the shade than in the open.

Mr. Dickenson: I think shelter is an important thing in connection with bees that are out—shelter on the west or north side. There are rows of hives in my apiary under the shade of apple trees and also rows in the open which I try to shade as much as possible. I don't see there is any material difference; if any at all, I think it is in favor of those that are shaded, that are under the trees; that is, in the quantity of honey.

Mr. Darling: I have not been trying any experiments, but there are somewhere about a dozen swarms this year left under apple trees and I found that the heaviest colony I had in the yard was one of the hives sitting under an apple tree. I think, take them right through, that those under the shade would hold their own with the others.

Mr. McEvoy: Mr. Dickenson has good chance to know. He has about 50 colonies in an apple orchard; part are under trees in rows and part are outside.

Mr. Fixter: An apple orchard is quite different from large elms and maples.

Mr. Miller: It was only an orchard had reference to.

Mr. Dickenson: In the discussion, had principally in my mind orchards.

Question 6: **In wintering outdoors is it advisable to pack the bees for wintering prior to November 1st?**

Mr. Miller: That would depend on the weather. I like my bees packed by about the 20th October in case of damp chilly weather. If it remained bright and reasonably warm I see no reason why it would be any harm to leave them; they could be packed dry the 1st November.

Mr. Shaver: You wouldn't want them disturbed much in packing after that time.

Mr. Miller: Not later than that. Of course, you couldn't pack them without disturbing them more or less.

Mr. McEvoy: I think Mr. Shaver had reference to late packing, disturbing them in cold weather.

Mr. Holtermann: There is an important point there that has not been touched upon I think and that is in keeping the stores in proper condition. When you pack early—and I can see no objection to even October 1st—then the bees being warm will spread more over the combs and they will keep the stores in a better condition for winter, whilst if you let them stand outside and they are exposed to the dampness and cold in the fall of the year the bees contract and the honey takes up a certain amount of moisture and becomes thinner and is less fit for stores for the winter. So I believe the right thing to do is about as early as you can, get them in condition for wintering and then pack them. I don't know whether there is any reason for it or not, but the policy I have pursued is to keep off a portion of the top packing until later; there may be nothing in that, but that is what I have done, and then when the cold weather came I added to the top packing.

Mr. Chrysler: I like to see chilly weather, quite a little freeze, so that they will cluster up in the smallest space possible. I find a great many times that they will spread over—there are some bees that do not clust-

er, and a great many will get into the cellar and a great many still remain outside and are chilled and never come to life again. I believe in packing about the 1st November, not later. I find the chilly weather seems to help them a little.

Mr. Hall: Our packing was put on the 16th of October, and we would have done it two weeks before if we had had the time to do it. We didn't reckon it too soon.

Mr. Armstrong: I would like to ask Mr. Chrysler if he leaves them to the 1st or 10th November and if he takes the cover or quilt off if there is not a certain amount of moisture all round, and sometimes down the side of the comb?

Mr. Chrysler: I have not found the least moisture this year.

Mr. Pirie: I think the earlier they are packed the better.

Question 7: Which will pay the best, extracting honey at 9 cents or comb honey at $1.80 per dozen?

Mr. Miller: Comb, if there is a ready market at that price.

Mr. McEvoy: That will depend somewhat on the hiving.

Mr. Miller: I certainly expect a man undertaking comb honey at $1.80 a case will understand how to produce it.

Mr. Shaver: That is all right, but I think the majority of us will take the 9 cents.

Mr. Hall: You have not been used to taking comb honey; if you had you would be able to take comb honey for less money than you are talking about. Extracted honey must be attended to in the hot season. You can make the preparation for comb honey previously and you can take it off later and you can get about 80 per cent of comb honey to 100 per cent of extracted honey. That is my conviction from experience. We have taken as high as 228 pounds of comb honey from a colony of bees, but never of extracting honey. The last comb honey I took I had to sell for $1.10 and $1.50 a dozen, but if I can get $1.80 a dozen I will produce no extracted honey whatever.

Mr. Dickenson: Don't you think the seasons are getting shorter and owing to that and other conditions that extracted honey at 9 cents is more profitable than comb honey at 20 cents?

Mr. Hall: Possibly. It is true in favor of your extracted honey that you can extract every ounce, and in the other if you do not watch and look out for your season you will have a lot of culls. We used to take our culls away and sell them for a better price than No. 1 honey.

Mr. Dickenson: It strikes me the wax should be taken into consideration. I have got 200 pounds of wax from only this year's product, and I have got an accumulation of that. I don't think I would have had that if I had been selling comb honey.

Mr. Miller: That is very true, but the difference during the season when you can take 60 to 70 pounds of honey, do you calculate an average through your yard of that that season? I contend the margin between 9 and 15 cents will more than counterbalance that with the specialist who can produce a nice article in comb honey.

Mr. Smith: At the prices given I should certainly raise the section honey and I find it is the nicest thing you can produce.

Mr. McEvoy: After all, this will depend a good deal on the readiness to market. The extracted is ready keep it where you will, but it is not so with comb.

Mr. Smith: It depends a great deal upon the locality. In the southern part of the province you can raise comb honey much more readily than

on the middle or northern parts. I have tried to raise it in the northern districts and gave it up and found extracted honey much more profitable.

Mr. Holtermann : Don't you think you can account for that in part by the fact that you know a great deal more about it now than you did?

Mr. Smith : Yes, but in the northern districts we are apt to have cold waves and cold nights especially and unless you gave it special protection very often when the bees were working well in the sections and would probably get them almost ready to cap a cold wave would come and drive them out of the sections and you will find you have a large percentage of culls left on your hands.

On motion the Convention adjourned at 6 o'clock p. m. to meet at 7.30 o'clock p. m.

The Hive Considered as a Honey Manufactory.

The honey collected by the bees from flowers contains a large percentage of water, and for this reason it readily ferments. It is sometimes stated that bees inject their sting-poison into the honey to prevent fermentation, but we have no reason for believing that they ever use their poison for this purpose. Sealed honey is always of a nearly uniform density, or consistency that will not ferment; and if the bees could prevent fermentation by any other means than by evaporation, they would not always evaporate before sealing. Bees are careful to keep their poison away from their combs, and even from the interior of the hive. Every bee-keeper who has manipulated bees to any extent, must have noticed that when, for any reason, the hand is required to be inserted among their combs, they will not sting unless the hand is roughly brought in contact with them; nor are they disposed to sting the hand when on the alighting board. Mice sometimes get into the hive, and if they can reach the quilts they will tear them up and make a nest in the combs, and eat honey with impunity for a length of time. When the worker bees want to get rid of the drones they will keep driving them out of the hive for a week or more. Two or three workers may be seen marching out a drone, which is almost certain to go straight back and to be marched out again ; but the workers will not sting the drones in the hive or on the alighting board. When bees cluster round the queen or ball her, as it is termed, the object is to avoid stinging. If we take the ball of bees from the hive, and separate the bees with smoke, or by dropping the ball into a pail of water, the bees will quickly sting the queen, but they will not sting her in the hive. Mr. Doolittle states that he has seen a queen sting workers in the hive. In 1867, taking a queen by the wings from a black colony, I was going to change to Italians, I dropped her on the alighting board of a queenless colony (a second swarm, the queen of which failed to return from her excursion trip), and the queen stung and killed the first three bees that approached her before she entered the hive. Whether she stung any bees in the hive or not I could not tell, but she established herself as queen of the colony. Bees know that if they cluster in numbers around their victim they can accomplish their object without being stung. When Maeterlinck acribes to the worker bees more humanity than his ancestors ever possessed, he is, to say the least, drawing a terribly long bow. If bees get alarmed for their safety by finding strange bees in the hive they will sting in the hive, but for some reason they seem to avoid it.

Bees do not lose their stings in encounters with other bees. If they did they would have no barb stings. In contests between Italian and black bees we frequently find great numbers killed on one side, and very few on the other. The poison kills without being injected into the tissues of the bee. If every soldier lost his life when he shot his enemy with a gun the soldier would carry no gun. The barbed sting became necessary to protect the colony from marauding animals, and at the head of this list stands the primitive man. When Columbus discovered the Western World the primitive man had so nearly exterminated the honey bee that the Indians thought the White Man brought the "honey maker" with him. We have no accounts, however, of the early emigrants taking bees to America. When the white settlers found a colony of bees they did not exterminate it in Indian fashion.

When bees find the honey in the hive fermenting they take it up again into their honey sacs and re-adjust it, and in this way stop fermentation for a time. They sterilize the honey of the bacteria causing fermentation, but it will ferment again if the yeast plant gets into it. It is not safe until the water is evaporated from it. Flowers prevent fermentation, by some means, in the dilute honey they secrete, while it is in their nectaries. So long as the honey is in contact with the living cells of the flower it will not ferment.

To evaporate water from honey the bees have to keep the temperature of the honey above the temperature of the air they are evaporating into, and this they do by consuming honey and raising their own temperature. Insects do not seem to have a normal or fixed temperature as we find in the higher animals. The queen bumble-bee and wasp survive the winter at the freezing point without any means of keeping their temperature to any extent different from their surroundings. In summer they are active and multiply at a temperature of 100 degs. Fahr., a remarkable difference of temperature in the insect in the two seasons. If the temperature under our tongues rises two or three degrees we are indisposed, and if this slight elevation of emperature continues over three or four weeks it indicates the existence of a fatal disease—it indicates that bacteria are at work somewhere in the body. In the vegetable kingdom, however, the bacteria can withstand extremes of temperature far exceeding that of any insect.

Loss of heat by radiation from the hive, when bees are collecting honey, is a loss of honey, and, therefore, thin-walled hives are not as good honey manufactories as thick-walled hives, and it is evident that bees need protection from the cold in summer. In winter the internal temperature of the hive is not much above the temperature of the outward air, and bees will winter as well in a thin as they will in a thick-walled hive; but if there is much sunshine in winter to arouse the bees and bring them out when the air is cold, and possibly snow on the ground, many will, of course, be lost. Bees require protection from the heat in winter, and protection from the cold in summer, and thick-walled hives have the advantage over thin-walled hives both in winter and in summer. Double-walled hives with dead air-spaces, give the best the best protection, and, as a rule bees do well in them for a time. Unfortunately dead air-spaces and disease are intimately related. In our own homes, as well as in the homes of the bees, dead air-spaces become bacteria cultivators; in the palaces

in the hovel; everywhere, even in our lungs, the bacteria readily grow in the in-active air-cells, but they will not grow in the active cells. It is exceedingly difficult to get rid of bacteria in dead air spaces, except in the way that the dentists do with a tooth—by filling up the cavity. The bees seem to understand the business as well as the dentists, for they are always trying to fill up every cavity they can find in the interior of the hive. The bee-keeper, however, is always trying to make more cavities than the bees can fill, and the bees suffer in consequence.

Mr. Cowan states—speaking of the English hive—that the only way to get rid of foul brood is to take the hive to pieces; then boil the pieces and put them together again—an operation by no means pleasing to undertake or easy to perform when we know how obstinately rusty nails resist being transplanted. Mr. McEvoy, of Canada, in his treatment of foul brood, does not consider it necessary to even disinfect the hive. The Canadian hive is like the American, and does not contain dead air spaces. I have no doubt both gentlemen are correct in their conclusions — they have had large experience, and cannot be mistaken. If they differ in opinion about the cure of foul brood it must be owing to difference in the hives they are using.—A. W. SMYTH, M. D., Donemana, in the Irish Bee Journal.

Feeding Bees on Syrup.

Our attention has been directed by one of our leading men to the fact that in the Kennebecasis Valley, several parties have gone quite extensively into the honey business where there is no natural advantage for such undertakings. In consequence bees are being fed on sugar-syrup. They make honey, it is true, and this same gentleman advises us that to all appearances, the article is genuine. The similarity, however, ends in appearances, for the honey is very inferior. Not this only but is contrary to law, though we presume the majority of the present offenders are not aware of the fact. Replying to an inquiry on this point Prof. Harrison, of the Ontario Agricultural College, one of the most thoroughly informed men in Canada on fine points in bee-keeping, writing from Washington D. C., says: "Filled honey, or glucose honey as it is termed, made by feeding bees syrup or glucose, is an infringment of the law. Such a practice is dishonest and one which should be stopped. The product is poor both in quality and flavor.

Our solicitor has handed in the following memorandum from Chap. 11, 59 Vict. Statutes of Canada assented to April 23, 1896:

"The feeding to bees of sugar, glucose or any other sweet substance other than such as bees gather from natural sources with the intent that such substances shall be used by bees in the making of honey, or the exposing of any such substance with the said intent, shall be and be deemed a wilful adulteration of honey within the meaning of this Act, and no honey made by bees in whole or in part from any of such substances, and no imitation of honey, or sugar honey, so called, or other substitute for honey shall be manufactured or produced for sale in Canada: Provided that this section shall not be interpreted or construed to prevent the giving of sugar in any form to bees, to be consumed by them as food."

There can be no misunderstanding that wording.

The penalty for the offence is not less than five dollars or more than fifty, and there is a caution against offering such stock for sale, wrongfully labelling goods and almost every conceivable contingency.—Maratime Farmer.

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EDITORIAL NOTES.

Does clipping queen's wings cause them to be superceded by the bees? Mr. T. K. Massie, writing in the "Bee-keepers' Review," says: "Yes, if done in a bungling manner; No, if done rightly. Only half of the large wing on one side should be clipped. If both wings on each side are clipped close to the queen's body she is most certain to be superceded very soon after such clipping.

Editor Root of "Gleanings in Bee Culture," is somewhat sceptical of the efficiency of Formalin for destroying the sphores of foul-brood. While we have confidence in Professor Harrison's experiment, we hope that some of our people will be in a position to report of their success or failure with it at our meeting in Barrie in December next. The Goold, Shapley & Muir Co. have supplied the drug and apparatus for a number of cases.

The bee-keeping world will learn with regret of the death of Mr. Charles Dadant, of Hamilton, Illinois, on July 16th, after a brief illness. Mr. Dadant was deservedly considered one of the fathers of American bee-keeping, and in his death the industry has lost one of its most faithful and devoted followers, and who, apart from his connection with the revisions and translations of that magnificent work "The Hive and Honey Bee," by L. L. Langstroth, has done much for its highest advancement.

We noticed a very instructive article on Bees and Fruit Culture by Mr. Geo. J. Johnston, Dominion Statistican, in the Ottawa "Citizen" July 19. Mr. Johnston, who is himself an enthusiastic bee-keeper, believes in educating the public, who do not read bee literature, through the public press. Such an article is calculated not only to interest people in the industry but to prevent the misunderstandings that sometimes arise between the bee-keeper and his neighbors.

Secretary Mason of the National Bee-keepers' Association, kindly writes us to ask any of our readers who have questions that they would like answered at the Denver Convention to send them to him soon. Dr. Mason's address is Station B, Toledo Ohio. The Doctor says that they—Dr. Miller, Abbott, Hutchinson and himself—are going to have a "high old time" in Denver. We do hope that these "young people" will be careful to maintain the dignity of the craft when away from home.

Speaking of Bee Escapes, Mr. Henry E. Horn, quoted by Editor Hutchinson in the Bee-Keepers'

view, says that he has obtained the best results by putting the escape in the center, and then have four strips of wood tacked to the top of the escape-board, each strip extending, diagonally, from the escape to the corner of the board. Then when the bees begin racing around the edge of the board, looking for an outlet, these strips lead the bees to the center where the escape is located.

The season has been a very disapponting one to the majority of bee-keepers. As we said in our last issue, "lots of bloom and nectar" but the weather did not admit of it being gathered. We have endeavored to obtain faithful reports from directors and others, and so far as we can ascertain throughout the province of Ontario, at least, there has been about a good half crop of clover honey. Basswood was a complete failure. Comb will be scarce and poorly filled. When asked about prices we can merely say that we see no reason why they should be lower than last season. Do not all rush on the market at once.

A good deal has been written and said about finding the queen. Adrian Getaz, in "Gleanings," however, has struck a point the importance of which has been generally overlooked, viz., the rapid handling of the combs, and says :—

"Smoke a little at the entrance to keep the sentinels from getting 'sassy.' Then remove the cover (and super if any) and smoke over the top enough to quiet the bees, but not enough to drive the queen out of the hive and hide in the queen-trap, which should have been placed first. Smoke down the frames at the ends, not in the center, and also between the walls of the hive and the end combs; then again at the entrance, so as to drive the queen up the combs if she happens to be on the bottom of the hive. This is rather long to read, but takes but little time to do. The object is to have the queen in the center of the brood-nest, or thereabouts. Now take out one or two combs at one end and put them in the comb-basket. Then begin at the other end and take the remainder out, putting them also in the basket. Do this as rapidly as possible, so as not to give the queen any chance to leave the combs while you are taking them out."

It has been our impression for a long time that the worker bees accompanying the queen in the ordinary shipping and introducing cage are rather against her safe introduction than otherwise. The The plan advocated by some one lately in one of the American Journals (we cannot locate it just now) of allowing the workers to escape from the cage and of putting in their places some young bees recently hatched from the queenless colony is a good one and one which we have tried successfully in critical cases. Mr. Arthur C. Miller believes in what he calls the "direct" method, and gives it in the "American Bee-keeper" as follows :—

Among all the systems I have found the "direct" method of introduction is the safest as well as the most expeditious and economical. It matters not to me whether the old queen has just been removed or has been out

several days (provided they have no sealed cells), nor whether the queen to be introduced came by mail or was taken from a neighboring colony. Nor does it make much difference whether or not the honey flow is good or bad. The new queen is caged alone in any convenient receptacle and kept warm for twenty or thirty minutes. Then a few puffs of smoke blown well into the entrance of the hive, and a few more puffs over the frames when the cover is removed, and the queen is allowed to run down on the combs and it is done. I often pick out a comb and let the queen out onto it, watching her ask first one bee and then another for food until one is found who will give the desired luncheon. I never hesitate to look into such a colony at any time thereafter, and I have yet to lose a queen so introduced. Several times recently, when hurried, I have kept the queens "in solitary" but ten minutes, and yet was successful. I put in virgins in the same way and with equal success. For smoke I generally use pine planer-shavings, sometimes tobacco. I can see no difference in results, and under some circumstances I am equally successful where no smoke at all is used.

In connection with honey crop reports, we have received the following from Mr. J. K. Darling, Almonte, not intended for publication as a whole, but as it contains some very good things along the line of handling swarms which will be read with interest, we are taking the liberty of using it. Sorry we do not hear from friend Darling more often:

A very light crop of clover honey, quality No. 1. No basswood, very little bloom on the trees this year, resulting from excessive blooming last year or hard late frosts this spring, or both; no thistle, and, just in this locality, there will be very little buckwheat or other fall honey. Bees were very strong 1st of May and built up finely for a time but it was so cold and dry later in May, and cold and wet in June that for several weeks before swarming they made very little improvement. Clover was a fairly good crop and some heads bloomed in May, but it was near the last of June before it was anything like full bloom, and then it was so wet and cold the bees could do nothing. My first swarm issued the 25th of June; had three that day and three on 28th; that was all for June. About 1st July honey was coming in, and then such swarming! It was terrible, as many as five being in the air at one time. I tell you they made us dance for a short time. Increase 85 per cent. in spite of returning everything I could and allowing others to double up. Colonies very strong now and some of my big hives (3200 cubic inches) are full of honey but only some; most of the hives have not been full this season. Clover is blooming some yet and I think that as the farmers are taking to sowing more alsike clover our prospect of a crop of clover honey will be much enhanced, as often the white clover yields very little honey although there is abundance of bloom.

My bees worked well on some small patches of alsike that was in bloom last fall, and if we could manage to have our neighbors take a second crop of alsike off their fields it would be a bonanza to our bees. Can we accomplish it?

I would like to say a word regarding the returning of swarms to prevent increase. In C. P. Dadant's article in the American Bee Journal, and copied in the Canadian Bee Journal for July, he appears to think that

returning a swarm in two days will be likely to settle the matter. To treat prime swarms in that way would do me no service. If queen cells are present out they come again that day or some other day if they have a laying queen, and it does no good to destroy the queen cells, they swarm just the same. Neither would Harnet's plan with secondary swarms work with me. By the time the first secondary swarm was ready to be returned there might be several more, as it is known that when young queens are hatching the same colony might swarm again the next day and the next, and sometimes they will send out two in one day. I tried returning them the same day, but out they came again, perhaps just when they could annoy me the most and add to the confusion of an over turbulent bee-yard.

The following is my plan and it has never failed with me yet: When a secondary swarm issues (by 'secondary' I mean any swarm with a virgin queen, whether it is the first or second from that particular colony), I go immediately to the parent colony, shake the bees from every comb and destroy every queen cell and let one or more of the queens just issuing from the cells go in the hive, re-place the combs in good order, close up the hive and bring the swarm back and shake down in front, when they go and the deed is done for that season. I let the queen go to make sure the colony has a queen, for I might fail to get the queen which is outside. Never fear swarming because "several young queens may be roaming about the hive." I have turned as many as a dozen queens loose in a hive at once and I never yet had a swarm issue on that account, but I am always very careful that there is no "additional queen left intact," as that has upset my plans and caused me to have to do my work over again in three or four instances, hence the shaking of every comb.

The Exhibitions.

Ottawa August 22 to 30, Toronto September 1st to 13th, London 12th to 20th. We give the prize lists for honey on another page. Apart from the matter of prizes these centres afford an excellent opportunity for making the public familiar with bees and bee-keeping, and with honey in its different varieties and uses, which bee-keepers should not underestimate. Local fairs should also be patronized and the best possible exhibits should be made in order to attract people and interest them in honey—cultivate their tastes and thus stimulate the market.

Artificial Increase.

When we decide to make artificial increase, several conditions must necessarily be considered.

First, we must consider whether we want only a small increase without lessening the surplus, or all the increase possible without regard to surplus.

THE INFLUNECE OF TEMPERATURE.

The influence of temperature depends on the "locality" and the season of the year. Too few bees cannot work at any advantage. It takes all of them to keep warm a very small patch of brood, and in cool weather they might not be able to raise any brood at all.

WHY NUMBERS MUST BE CONSIDERED.

In very warm weather, a small force of bees, generously fed can raise as much brood as a normal colony does under ordinary circumstances.

WHEN FEEDING MAY BE A BIG HELP.

The colonies remaining on the old stand and having the field forces, do

not need feeding if there is plenty of nectar in the field; but it should be plentiful. If there is only a small flow, the building up of the colony will be greatly accelerated by moderate feeding.

The new colonies should be fed plentifully, at least until they have a sufficient field force. Granulated sugar should be used, as it has but little odor, and, therefore, does not incite robbing. I have fed some flour on two occasions, and, I think, with profit, to colonies just made. I put the flour in dry combs and hung the combs in the colonies.

IN WHAT PROPORTION THE BROOD SHOULD BE DIVIDED.

The old colonies with the field-forces can pull through easily, even when deprived of all their brood; but such a course is not best. By the time the new brood would begin to emerge, the strength of the colony would be too much reduced for the best work. They should keep at least one-fourth of their brood.

The new colonies should be made with at least six combs. In very warm weather, with no probability of robbing, four, and perhaps three, would do. But I would not advise it.

Queens should be furnished ready to lay; or, at least ready to mate, to each new colony, to avoid loss of time.

SECURING MODERATE INCREASE.

Here comes the question of allowing swarming, hiving the swarm on the old stand, or preventing swarming, or, at least, preventing increase.

That depends on the locality, and I will not enter into this subject now. I take it for granted that only a small increase is wanted, and the old colonies are kept as strong in bees and brood as possible in order to get a surplus. In such a case, take a comb of brood, honey, and bees out of each colony, and form the new colonies with them, complying with the conditions enumerated above. In the place of every comb taken out put in a frame of foundation. As soon as the foundation is drawn the queen will fill it with eggs; and if the operation is repeated every week, enough room will be furnished for the brood, so as to prevent swarming unless some adverse conditions obtain, such, for instance as a failure of the queen. A built comb will not answer, as the bees would fill it with honey. It would not do to take out more than one comb at a time, otherwise some would be filled with honey before the queen could take possession.

RAPID INCREASE.

Taking two or three combs of brood and bees, or, perhaps only one out of each colony, and forming as many new full ones as the number of combs will allow, is probably the best way. The operation can be repeated every few days. The trouble is that it is too much work.

HOW A COLONY OUGHT TO BE DIVIDED

After trying all the processes advised, I simply divide each colony in two, putting two-thirds or three-fourths of the brood in the new one, and leaving the rest on the old stand. Both hives are completed with empty combs or foundation. Three days later, I look for the queen. Only the new colonies need be examined, and it takes but little time, since they are not strong in bees. Queens are then introduced where needed, and the cells cut out, if there are any.

Laying queens can be introduced anywhere, but the virgins, ready to mate, should be introduced only to the new colonies; otherwise there might be trouble. If necessary, take the old queen out of the new colony and put her back in the old one, and give the virgin to the new colony.—A. GETAZ, in Bee-keepers' Review.

Thoughts and Comments

ON CURRENT TOPICS.

By a York County Bee Keeper.

"ALL'S WELL THAT END'S WELL."

Notwithstanding so much cold, wet weather through June and July, from reports received, would think that a good half crop of honey has been secured. In this locality clover yielded splendidly during the few days the bees could work on it; basswood did not bloom enough to be noticeable in the apiary. In notes for July I spoke of the comparative values of alsike and white clover as honey yielders. All through the season the bees' attention seemed to be divided about equally between the two clovers and grass peas. However, as soon as the alsike began to ripen, although there was an abundance of white clover still in bloom, the flow slackened perceptibly, so I still think that in our latitude alsike is the apiarist's best friend.

By the way, would like to see reports from other localities in regard to grass peas. This past season has convinced me that here, at least, is a honey plant of considerable merit.

LARGE HIVES VERSUS SMALL ONES.

I trust readers of the C. B. J. will pardon me if I venture to say a word or two in connection with that old "chestnut," "What size of hive is most profitable?"

Discussions on this subject pro and con are generally wound up with the compromise "it depends upon locality." While this may be true to a certain extent, in my judgment it depends more upon the season. If the bees have wintered none too well, and the honey flow comes very early and is of short duration, no doubt, a hive no larger than 8 L. frames will give as good if not better results than a larger one. But in an ordinary season, particularly a late one, for an outyard at least, I want a large hive to secure the maximum amount of honey at a minnimum of labor.

At an outyard of 70 colonies this past season, nearly 50 were in hives equal to 9 Quinby frames, 8 were in 8 frame L. hives, balance in very large hives equal in capacity to 17 L. frames, with extracting supers same size. Let me say at the outset that my experience with small hives is quite limited as I was "raised" beside great big hives, still I believe I am familiar with about every plan advocated by users of small hives, such as hoisting of brood, shaking off on starters, etc. The first plan means too much work for the busy man, the second is all right provided you want increase. But, to return, about 40 colonies in the smaller hives swarmed; swarmed any and every way, doubled, trebled and quadrupled, and for all I could do to the contrary, a lot of them were so demoralized during the honey flow that they were practically useless. Those in the "barns" kept mum and worked; results, each one of them stored from 200 to 350 lbs. from the clover during the few days they could work. As the average for the yard was away below figures like that, I feel safe in assuming that had all colonies been in "barns" this season, would have a great deal more honey to take care of. "One swallow don't make a summer," to be sure, yet results have been much the same at yard mentioned for past three seasons. All the work these large colonies received was to have their queens clipped in May, queen excluders and supers

put on and honey taken off. While a number in the smaller hives will have to be fed their winter stores, those in the big hives have each from 50 to 75 lbs. of honey in the brood chamber. I forgot to say that although there are a number of fine Carniolan and Italian queens in that yard, yet the colony that gave me the most surplus was only ordinary vicious blacks, so will some of the brethren please rise up and tell us wherein lies their points of excellence, long tongues or what? Speaking of hives and honey yields reminds one of the latest prodigy in bee-keeping, brought before the public by "Gleanings," namely, Mr. J. Gandy, of Humboldt, Neb. This gentleman started bee-keeping some few years ago in debt $25,000.00, now he is nearly, if not quite,a millionaire.Last year his average at his home yard was 407 lbs. per colony. The secret of his success he sums up something like this: "Large hives and catnip and sweet clover." He says it would pay any bee-keeper to buy land at $100 per acre and sow it to those two plants.

Catnip has one redeeming feature-they say it is good to soothe cross babies, but as for sweet clover, why, 400 lbs. to the colony wouldn't tempt me to sow the stuff in this section as I would be very apt to be drummed out of the county. Seriously though; while I have my doubts as to the advisability of utilizing expensive arable land for bees' pasture alone, yet I feel sure that in the more northern counties of Ontario there are hundreds of acres of cheap rough land that would pay the bee-keeper handsomely with proper management. Friend Hutchinson did not relish the "doubting Thomas" spirit that seemed to prevail at the Woodstock meeting last December when his paper, "How one man managed 500 colonies for comb honey" was read; and so expressed himself in a recent issue of the "Review." Mr. Gill, of Colorado, an extensive producer, says it is no "dream" for a man to manage that many colonies, as he is this season running 712 colonies for comb honey Perhaps it might be well, as Ed. Hutchinson says, that "some of our bee-keepers had better wake up instead of doubting the achievements of those who are wide awake."

Prizes at the Fairs.

The following are the prize lists for honey and apiary supplies at Toronto, London and Ottawa Exhibitions:—

TORONTO

CLASS 239—HONEY AND APIARY SUPPLIES.

(Entrance Fee, 25 cents each entry.

Sec. 1.—Best and most attractive display of 50 lbs. of extracted granulated Clover Honey, in glass, quality to count 80 points, display 20 points 1st prize, $5; 2nd prize, $4; 3rd prize $2; 4th prize, $1.

2.—Best and most attractive display of 50 lbs. of extracted granulated Linden Honey, in glass, quality to count 80 points, display 20 points. $4, $2, $1.

3.—Best display of 100 lbs. of liquid extracted Honey, of which not less than 250 lbs. must be in glass,quality to count 80 points, display 20 points $18, $12, $8, $5.

4.—Best 500 lbs. of Comb Honey in sections, quality as per score card to count 100 points, display 33; total 133 points. $22, $17, $10, $6.

5.—Best 12 sections of CombHoney quality to be considered, that is to say, clean sections and best filled. $3, $2, $1.

6.—Best 100 lbs.of extracted liquid

Linden Honey, in glass, quality to count 80 points, display 20 points. $7, $5, $3.

7.—Best 100 lbs. of extracted liquid Clover Honey, in glass, quality to count 80 points, display 20 points. $7, $4, $3.

8.—Best 10 lbs. of extracted liquid Clover Honey, in glass. $4, $3, $2, $1.

9.—Best 10 lbs. of extracted liquid Linden Honey, in glass. $4, $3, $2, $1

10.—Best 10 lbs. of extracted liquid Buckwheat Honey, in glass. $4, $3, $2, $1.

11.—Best Beeswax, not less than 10 lbs. $4, $3, $2.

12.—Best foundation for brood chamber. $3, $2, $1.

13.—Best foundation for sections. $3, $2, $1.

14.—Best exhibit of Apiarian Supplies. $10, $5.

15.—Best and most practical new invention for the Apiarist, never shown before at this Exhibition. $6, $4, $3, $2.

16.—Best six varieties of uses to which Honey may be put in preparing articles for domestic use, the increase they are likely to make in the demand for honey, quality and originality to be considered. $6, $4, $3.

17.—For the most tasty 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 to be given by the Ontario Beekeepers' Association. $25, $16, $8, $5.

18. To the exhibitor taking the largest number of prizes for Honey at this Exhibition, 1902, to be awarded by points as follows: a 1st Prize to count 5 points; a 2nd, 3 points; a 3rd, 2 points; and a 4th Prize, 1 point. 1st, Silver Medal; 2nd, Bronze Medal.

19.—To the exhibitor showing the best and most originality of design in setting up the display. Silver Medal.

OTTAWA

CLASS 8.

929.—Best 20 lbs. of extracted granulated Honey, in glass. 1st prize, $5; 2nd prize, $3; 3rd prize, $2.

930.—Best display of 100 lbs. of liquid extracted Honey, of which not less than 50 lbs. is in glass, quality to be considered. $10, $5, $2.

931.—Best display of 100 lbs. Comb Honey in section display, fresh appearance and finish to be considered. $10, $5, $2.

932.—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.

933.—Best 10 lbs. of extracted Clover Honey, in glass. $3, 2.

934.—Best 10 lbs. of extracted Linden Honey, in glass. $3, 2.

935.—Best Beeswax, not less than 10 lbs. $2, 1.

936.—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.

937.—Display of Bee-keepers' supplies. Diploma,

938.—Best foundation for Brood Chamber. $1, 50c.

939.—Best foundation for Sections. $1, 50c.

940.—Best hive for comb honey. $1, 50c.

941.—Best hive for extracted honey. $1, 50c.

942.—For the largest, most tasty and neatly arranged exhibit of Honey in the Apiarian Department, all the Honey to be the product of the exhibitor. ($10.00 of this prize is given by the Ontario Bee-keepers' Association.) $15, 10, 5.

LONDON

CLASS 57.

The arrangement of exhibits will count 5 per cent.

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 lbs. 1st prize, $16; 2nd prize, $12; 3rd prize, $6.

2.—Comb Honey, 200 lbs. 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 lbs, put up in most marketable shape. $7, 5, 3.

Prizes in each, Sections 4 to 14—$3, $2, 50c.

4.—Comb Honey, 20 lbs., in sections, in best marketable shape.

5.—Liquid extracted Clover Honey, 40 lbs., in glass packages.

6.—Liquid extracted Honey, not Clover, 40 lbs., in glass packages.

7.—Extracted granulated Honey, 20 lbs., in glass packages

8.—Bees Wax, 10 lbs.

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 labeled. Diploma.

19.—Display of Apiarian supplies. Silver Medal.

The National Convention.

The following is the program of the 33rd Annual Convention of the National Bee-keepers' Association, to be held at Denver, Colorado, September 3, 4 and 5, 1902.

FIRST DAY—WEDNESDAY—EVENING SESSION.

7 30 p. m.—Invocation. Music. Addresses of welcome by President Harris, Mayor Wright and Governor Orman. Responses by President Hutchinson, Secretary Mason and Director Miller.

8.30 p. m.—"Bee-keeping from the Atlantic to the Pacific as seen through the Camera and Stereopticon," by E. R. Root, Medina, Ohio.

SECOND DAY—THURSDAY—MORNING SESSION.

9.00 a. m.—Music. President's address, "The Future of Bee-keeping." Discussion.

10.00 a. m.—"Which is the most hopeful field for the National Association?" by Dr. C. C. Miller, Marengo, Ill. Response by Rev. E. T. Abbott, St. Joseph, Mo. Discussion.

11.00 a. m.—Question box.

SECOND DAY—THURSDAY—AFTERNOON SESSION.

1.30 p. m.—Music. "Reporting the honey crop, when and how it should be done," by C. A. Hatch, Richland Centre, Wis. Response

Frank Rauchfuss, Denver, Colo. Discussion.

2.30 p. m.—"Bee-keeping lessons that may be learned from the word locality," by H. C. Morehouse, Boulder, Colo. Response by E. R. Root, Medina, Ohio. Discussion.

3.30 p. m.—Question box.

SECOND DAY—THURSDAY—EVENING SESSION.

7.30 p. m.—Music. "The outside and inside of a Honey Bee," illustrated by the Stereopticon, by Prof. C. P. Gillette, Ft. Collins, Ohio.

THIRD DAY—FRIDAY—MORNING SESSION.

9.00 a. m.—Music. "Selling extracted Honey at wholesale, how to get the best prices," by J. F. McIntyre, Espe, Cal. Response by T. Lytle, Manzanola, Cal. Discussion.

10.00 a. m.—"Putting up extracted honey for the retail trade," by R. C. Aikin, Loveland, Colo. Response by W. York, Chicago, Ill. Discussion.

11.00 a. m.—Question box.

THIRD DAY — FRIDAY — AFTERNOON SESSION.

1.30 p. m.—Music. "Managing outyards for Comb Honey," by W. L. Porter, Denver, Colo. Response by A. Gill, Longmon, Col. Discussion.

2.30 p. m.—Question box.

3.30 p. m.—Trolley ride, "Seeing Denver."

THIRD DAY—FRIDAY—EVENING SESSION.

8.00 p. m.—Banquet.

A. B. MASON,
Secretary.

COLORADO STATE CONVENTION.

The following is the program of the Annual Convention of the Colorado State Bee-keepers' Association, in joint meeting with the National Bee-keepers' Association:

WEDNESDAY, SEPT. 3, 1902.

10.00 a.m.—Invocation. Reading minutes. President's Address. After the President's address, ten minutes will be given for members to offer suggestions or give notice of any business or discussion that they wish to bring before the Convention. Come prepared.

11.00 a. m.—A four-cornered discussion, by four prominent apiarists, speakers limited to ten minutes each. 1st subject, "Association work and influence—if good or bad, and why." 2nd, "Comb Honey production—best hive and system, and why." 3rd, "Extracted Honey production—best hive and system, and why." 4th, "The most pressing need of our pursuit" General debate on the foregoing subjects, speakers limited to three minutes except by consent of the convention. Appointment of temporary committees. Dinner.

AFTERNOON SESSION.

1.00 p. m.—Question box.

1.30 p.m.—Unfinished business. Report of committees. New business.

2.30 p. m.—Election of officers.

3.00 p. m.—Paper, "The bee in literature," by F. L. Thompson. Miscellaneous business.

Access to books is an open door to wide knowledge, to a disciplined mind, and to immense extension and variety of interests.—Ladies' H...

Notes by the Way

By G. A. DEADMAN.

ALSIKE CLOVER FOR HONEY AND FOR SEED.

I wish for the sake of your readers, Mr. Editor, that I knew more about alsike clover as a honey plant and also how to grow it for seed. If after reading these notes any of your readers decide upon growing some they can no doubt get all the information they may need from the manager of some of our experimental farms or from editors of the many papers on agriculture. It is a little strange to me that more thought has not been given to alsike clover, by the bee-keepers of this or other lands We find frequent mention of alfalfa (which many fear will too soon be of little use to bee-keepers, simply because the growers thereof are becoming wiser in their generation and are cutting it much earlier than formerly) but no mention of alsike. As a honey plant it certainly takes a prominent place, usually secreting a good supply of nectar which our pets can easily reach. I say "usually" because in this locality at least one season they did not. I could not understand it. The weather seemed favorable and never so many blossoms, and a field within a quarter of a mile of the home apiary yet not a bee could be found there. The perfume wafted on the breezes from this field was very fragrant and we could smell it for a long distance when on the windward side. Not sufficient alsike is grown in this neighborhood, however, so I cannot speak much from seeing it, but only from passing through some places where much of it is grown. I visited a bee-keeper, Mr. Joseph Marks, northeast of Toronto, last year. Mr. Marks manages the bees and his son looks after the farm. I was from the latter that my eyes were opened to the great profit on alsike when grown for seed, apart from its value as a honey plant. In the year 1900 he grew some thirty acres and made $900 out of the seed alone. Last year he had at that time 35 acres in his barn and he expected to make some $1200 out of it besides the hay. The latter is not worth as much as if cut earlier but certainly is as good as straw. I was not surprised when told that he quickly paid off the mortgage—good land could be bought and paid for in one season from alsike seed alone. It seemed to me that there is more money in it than in bees, and the beauty of it is when a bee-keeper grows it he has a decided advantage over those who have no bees--for the bees help the alsike and the alsike helps the bees. Four bushels to the acre I am told is a fair yield but where bees are plentiful five bushels is nearer it. There is another thing I cannot understand how or why it is that the demand is so great and the price so high for this seed. I have been told that considerable is exported to England. There is one pleasing feature about it, which is, that those who grow it are not slow to see the value of bees in securing a good crop of seed. A friend some five miles distant was about to sow it for seed and I was quite encouraged the other day by him saying, "I wish you would bring out some of your bees to my place." In these days of lawsuits and endings and threatenings it is quite refreshing to have people talk after this fashion. There is one thing observed, that bee-keepers near the

alsike fields got lots of honey. Talk about sweet clover or catnip and such like, but I think they "are not in it" along side of alsike when grown for seed and if I had more land I would put it to the test. There is considerable grown around Cannington and as a consequence good returns there from the bees. Apart from the honey what crop is there grown, with as little trouble as alsike, that will give from $30 to $35 per acre besides the hay? The bee-keeper who farms and does not grow alsike is behind the times in my opinion.