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NOTES AND COMMENTS

By J. L. Byer.

Foul Brood Legislation.

Whether all the recent amendments to the Foul Brood Act will be for the best interests of the bee-keepers or not remains to be seen. As long as the government see fit to pay for the inspection it seems quite reasonable that they should choose the inspectors. Yet at the same time, while I would feel free to allow any person recommended by the O. B. K. A. to have access to my bees, it would be with considerable misgivings that the same liberty would be given to persons appointed by the government, if I thought no practical bee-keepers had been consulted in regard to qualifications of said person or persons, and while it has been hinted that "political pull" is a possibility under the new law, from what I know of Mr. Montelth, think we may rest assured that no person will be sent on a road who is not thoroughly qualified for the work, and that no such person or persons will be appointed without the Minister of Agriculture having previously consulted with the executive of the O. B. K. A.

Cardboard Over Candy in Introducing Cages.

Quite a number of queen-breeders

are still shipping queens in cages with a piece of perforated cardboard over the candy in hole at end of cage. Have an idea that quite a number of queens are lost by the plan, as in every case I have left the cage in that manner the bees have refused to eat through the cardboard. Last fall I destroyed an old queen, and placed cage with young queen between two combs. As the colony in question was at an out-yard, I did not visit the apiary again till I came to pack for winter, early in November. The queen and attendants were all dead in the cage, and the cardboard was in exactly the same condition as when I placed cage in the hive. Of course, this is only one case, but at least four or five other times that I tried the plan the bees every time refused to eat through the cardboard. By the way, I might say that I rarely try to introduce queens any more in the cages they are shipped in, preferring to remove the queen, **alone**, into cages on hand for the purpose.

Something About Wax-rendering.

Just a short time ago, in conversation with a friend who is one of Ontario's most extensive bee-keepers, I stated that all the old combs I rendered averaged at least one-half pound each of wax. He seemed surprised at such a large return, intimating that he (no press being used) never obtained nearly so much. Having a number of odd-sized combs, bought a few years ago, that I wanted to dispose of, decided to melt

them up and see exactly how much wax they would average to the comb. A number of these combs were in some of the queenless colonies mentioned in last issue, and were for the most part old and black and filled with pollen to quite an extent. The combs were all broken up and brought home, and in just a little over three hours from the time we started melting operations we had 71 pounds of good yellow wax ready for the market. The combs averaged a trifle over one-half of wax each. Since then I notice in "Gleanings" that Mr. J. E. Crane claims to average one-half pound of wax from each L comb that he melts up, so from the fact that my combs are considerably larger than the L frame, I conclude that there is quite a lot of wax that I am not getting. In contrast with Mr. Crane's experience it was with much interest that I read what that well-known bee-keeper of New York, Mr. F. Greiner, has to say about melting up old combs, in the columns of the "American Bee Journal." After telling of melting up some old combs and other scraps, Mr. Greiner has come to the following conclusions: "I am getting pretty fair pay for my time when making wax, but I am getting very little for the combs treated. In other words, the wax I am able to make only just pays for the time it takes to get it. I can make but about three runs with the German steam wax-extractor, and the amount of wax at the end of the day will be about 15 pounds. It is a mussy job, and I would gladly give any man half or more of the wax that he might be able to boil, squeeze, extract or get in any way out of the stuff, providing I had nothing to do about it. It is detestable work, anyway. Such scraps as can be rendered by the solar machine I am willing to work over, but this old-comb business I would like to get rid of. I think I shall build a large solar extractor and

make my wax so in the future. I don't expect to obtain very much that way, but it will be nice, and there will be less disagreeable work and waste of time."

Mr. Greiner further states that as some seem to be able to get considerable wax out of old combs, such persons are the ones that should do the work, and that he for one would be contented with a small portion of the wax obtained from his old combs.

We don't pretend to be able to handle old combs better than any one else, but my! I wish I had all the old combs I could handle to work into wax for one-quarter of the product. Honey-producing would not be in it in the matter of money-making! Fifteen pounds a day! Thanks for the first definite statement to date as to capacity of the German wax-press. Talk of the patience of Job! Any man who will work all day for 15 pounds of wax, and keep his patience, deserves to have his name inscribed on the list of Immortals. With my old wash-boller and the Gemmill press, if I cannot render 15 pounds with a cipher at the end of it in a day I will—well, I'll stop melting up old combs and burn them at once and be done with it. As to the solar extractor Mr. Greiner purposes making, would say that the one I have is never used, as I even run the cappings through the press with the best of satisfaction.

Honey Dew.

Ordinarily, we don't like to see anything in the nature of honey dew being brought into the hives. This year a secretion appeared on the elm leaves during the period preceding clover, and as the bees were next to starving, the honey dew was quite acceptable, as it helped to keep brood-rearing going on. Just here it may not be out of place to say that in our immediate locality the season has been almost a total blank. Fruit-bloom, dandelion and will-

ows failed, there has been nothing has come. Cold weather explains the reason is a foregone conclusion shall the harvest

Treatment

While we with the opinion Apiaries, yet friend McEvoy "new" cures him on the contrary in favor and leading lights recently our attention to this matter "Gleanings" of Chambers of an extensive five years of scourge. After odds he ultimately only sure remedy Mr. Chambers administered, "time." Mr. C. vigorous protest Italians are in foul brood, and a possibility of long as there increased honey in Crosses v Mr. Editor, agree quite full to say about the June "Canadian" largest yields in successive years that I should justify about the only black blood is seen in these a little more matter; as you selection even

lows failed, and up to date (July 2nd) there has been only five days that anything has come in from the clover. Cold weather, with torrential rains, explains the reason. Needless to say, it is a foregone conclusion as to "what shall the harvest be."

Treatment of Foul Brood.

While we do not all always agree with the opinions of our Inspector of Apiaries, yet it must be gratifying to friend McEvoy to note that, while all "new" cures in the end fail, his system, on the contrary, is constantly growing in favor and being championed by the leading lights of apiculture. Just recently our attention was forcibly drawn to this matter by an excellent article in "Gleanings" from the pen of J. E. Chambers of Texas. Mr. Chambers is an extensive bee-keeper, who has had five years of work to rid himself of the scourge. After trying all known methods he ultimately had to come to the only sure remedy known to date, and Mr. Chambers emphatically says. "The old reliable McEvoy treatment, rightly administered, does the work every time." Mr. Chambers also enters a vigorous protest against the claim that Italians are in any sense immune from foul brood, and says: "Neither is there a possibility of curing the disease as long as there exists a drop of the diseased honey in the hives."

Crosses vs. Pure Italians.

Mr. Editor, allow me to say that I agree quite fully with what you have to say about the German or black bees in June "Canadian Bee Journal." The largest yields in one apiary for three successive years was from a colony of what I should judge to be pure blacks. About the only objection I have to the black blood is the difficulty of finding queens in these colonies. That they bring a little more is only a secondary matter; as you intimate, with proper selection even this objectionable trait

might be eliminated. By the way, us chaps who have not all pure Italians are in good company. Dr. Miller, J. E. Crane, and a number of other extensive apiarists, prefer crosses, and have such stock in their yards. Just a few days ago in a note from an extensive bee-keeper, the writer says that he had sent away for a number of queens at a certain price, adding: "But I would gladly give double that amount if I was sure of getting stock that would do anything nearly as good as my own bees." Such, to an extent, has been the experience of the writer. While we have received a number of good queens, yet such queens have been the exception, and we have sometimes wondered if queen-breeders have not forsaken the quality of "hustle" for color and pureness of race.

Markham, Ont.

White clover is just coming out in blossom and will not yield much honey for a few days but promises well, and we expect a full crop of honey. There are about 60 hives of bees in this locality and I do not think that there are more than 60 more on the island, so our crop will not influence the honey market very much. The industry is capable of large expansion here and we have a large home market.

W. E. Pickering.

F. E. I., July 2.

Propolis Corn Plaster.—Make small plasters of propolis slightly warmed, and apply to corns, and you will feel relieved from the pain of this worrying trouble.

Honey Soap.—Take one pound common soap and add rain water. Place the mixture in a pan and boil till soap is dissolved. Then add an ounce or two of honey, and continue stirring until the water is evaporated. Such a soap is excellent for the complexion.

The CONTROL of INCREASE

(By L. Stachelhausen, Converse, Texas.
Paper and Discussion at National
Bee-keepers' Convention.)

The natural way of increase is swarming, and, therefore, the first problem is control of swarming, and this is very important for bee-keepers who keep a large number of colonies in several apiaries. As we have no man in the out-yards to watch for swarms, and as it would not pay at all to keep such a person there during swarming-time, every swarm cast by any colony would be very probably lost.

I am tempted to give you a scientific talk about the cause of swarming, but I think you prefer more practical hints. One of the most practical ways to prevent or, at least, to delay swarming, is to use large hives; that is, a large comb-surface, by which the bees can extend the brood-nest in every direction. At the same time colonies in such large hives will develop faster during the spring, and become stronger colonies. We can force such a development in smaller hives by spreading the brood and other laborious and dangerous manipulations. In a large hive with plenty of honey a healthy colony will develop to the greatest possible strength without any manipulation made by the bee-keeper.

It may be said that such large hives do not always, and under all circumstances, prevent swarming. This is true, but I have observed, if, in an apiary, 10-frame Langstroth hives are changed to larger ones, the bees will swarm less by and by every year. In my locality the bees from hives not larger than 8 or 10 Langstroth frames

will swarm so much that one man could hardly manage an apiary of 100 colonies. I could tell you stories about the ways some of my bee-keeping neighbors acted to get rid of these surplus swarms. For about 24 years I have used larger hives, and have no trouble of this kind any more. This is a very important difference, if bees shall be kept in as many colonies to make a profit-bearing business.

In my locality the problem is to keep the bees from swarming till the main honey-flow commences. During this flow the bees will not swarm, if they have not made preparations for it before this flow commenced. With such circumstances, hives as large as the Dadant hive will prevent swarming sufficiently in most years. In other years, which are more favorable for brood-rearing, I have to watch my colonies more carefully. If I find a very strong colony with brood much extended, I have to manipulate it, especially if I find queen-cells started. It may be set down as a rule, if we find 2,500 square inches of comb-surface, occupied by brood, this colony will probably swarm soon, even from a very large hive.

The prevention of swarming may have different purposes. If we can't, or are not willing, to watch our colonies during swarming-time, we can make the swarms artificially a little earlier; thus they could swarm naturally, but in this case we will get as much, or even more, increase. If we want less increase, we make only so many artificial swarms as we think necessary to prevent natural swarms. Or we may not want any increase at all, and wish to keep the whole force of a colony together, and have it as strong as possible during the honey-flow. For this reason we have to select different ways for prevention of swarming. If we make swarms artificially, we can make one or more

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swarms from every colony strong enough, or we make one swarm from two such colonies, or we take the material to form a new swarm from a larger number of colonies. All this is done for a permanent increase. A second way is, when no increase is wanted, to divide a strong colony for some days only, and when the swarming fever has past, we unite these two colonies again. A third way is to manipulate the colony in such a way without dividing it, that it will not or can't swarm. We will consider these three ways.

There are, again, many different ways of artificial swarming. During many years I used the well-known plan to make three out of two. A strong colony, A, is shaken into a new hive with starters or full sheets of foundation, and this hive is set on the old stand of A. The brood-combs without bees are placed in another hive, and this is set on the stand of another strong colony, B, and the colony B receives a new stand, C. To the colony now at B a queen fertilized or virgin, or even a queen-cell, is introduced. If the honey-flow is good and of long duration this plan can be used with profit, but the colony at B is in a bad condition for some days, having no young bees to feed the larvae, a part of them may starve and be drawn out afterwards. The colony C has lost all the field-bees, and the hive does not contain very thin, watery honey, the young bees can't prepare the necessary larval-food, and some of the young brood is lost again, except we give some water to this colony in some way till some of the young bees will fly out to gather this water outside.

Since a few years I prefer, for these reasons, another plan, especially recommendable if we want very little increase. I take from a colony, which I expect would make preparation to swarm, 3 or 4 brood-combs (3 of my

frames have not quite as much comb-surface as 2 Langstroth frames). The bees from these combs are shaken back into their hive. In place of these brood-combs empty combs or frames with full sheets of foundation are given to this colony. Eight of these brood-combs from different colonies are set in another story, and two empty combs added; this story is set on top of another strong colony over a queen-excluding honey-board. In this way I go through the yard till all the colonies strong enough are managed. In about two or three hours these brood-combs over the excluders will be covered with young bees, and now I remove them again. Two such stories with brood and bees from two different colonies will form a new colony, which is placed on a new stand, a queen in a cage closed with candy is introduced, and at the beginning of the honey-flow one or more supers are given to this colony and this bee-yard is safe for ten days at least.

The advantage of this plan is that the colonies are weakened not more than necessary to prevent swarming, and the new colonies are at once ready to store honey. Hereby, it is important that we take mostly capped brood from the colonies, and that we give the frames of foundation at the proper place. Our purpose is that this foundation should be drawn out and eggs laid in these cells at once by the queen, therefore they must be given at such a place, where the queen is laying eggs in the centre of the comb, or will soon do so. If we have taken away combs, in which some young bees are gnawing out of the cells, just in the centre of these combs, we can put the foundation right in their place, because in a few days the queen would lay eggs there anyhow. If this cannot be done, a safe way is to remove the remaining brood in the old colony close together, and to give the foundation on both

sides of the brood-nest between the last brood-comb and that comb containing mostly pollen, which generally is found on both sides of the brood-nest. If this is not observed, and we examine the colony ten days later, we may find these combs filled with honey instead of with brood, and this will be a hindrance for the queen all the summer through. Many other ways of artificial swarming can be used, too many to be mentioned here.

The second way to prevent swarming is to divide a colony which will probably swarm very soon, or has already started queen-cells, for a few days only, and to have that part of the colony which receives the brood-combs with the queen-cells weakened so much in bees, that these surplus queen-cells are destroyed by the bees themselves. As soon as this is done both colonies are united again. This can be done in different ways.

1. The old colony is removed from its stand and a new hive containing some empty combs and some frames with starters is set on its place. From the old colony is taken one brood-comb with one or more queen-cells and placed between two empty combs in the new hive on the old stand. By shaking or brushing, more bees from the old colony are added to this swarm, being careful not to get the queen in with the bees. The supers are given to this swarm on the old stand, and the parent colony, having the old queen, is set to one side or on top of this swarm. By this manipulation the parent colony is weakened so much that it gives up all swarming and will destroy the queen-cells. This generally takes place in less than six days, and now both colonies are re-united. The queen-cells on this one frame of brood are cut out, the brood-comb set back into the old colony, the new hive is removed and the parent colony set back on the old stand. This plan was

lately recommended in the United States and called "the Sibbald plan."

2. Another way of this kind is known as the "shook-swarm system." From a strong colony nearly all of the bees with the old queen are shaken or brushed into a new hive with starters or foundation, and this is set on the old stand. The old hive with the brood-combs and a sufficient number of bees to cover and nurse the brood is set to one side of the swarm. For reuniting we wait till the brood has hatched from the old brood-combs and unite the young bees with the swarm by setting the old colony to the other side of the swarm ten days later. In ten or eleven days afterwards all the brood of the old colony will have hatched and now we shake all the bees from this colony in front of the swarm.

When we make the shaken swarm we can give one or two brood-combs, or none at all; we can give to the swarm empty combs, full sheets of foundation or starters only; all this depends on circumstances. I used this shook-swarm system for producing section-honey and I will tell you how I planned it out. My experience was that I could not get a satisfactory crop of section-honey, if I had given the section-supers to an old colony in a 10-frame Langstroth, or a still larger hive.

About 18 years ago W. Z. Hutchison recommended in a little book, "The Production of Comb Honey," for this purpose the use of swarms which were hived in a contracted brood-chamber containing starters only. Since then I have used swarms only for the production of section-honey, and worked the other colonies for extracted honey. Using large brood-nests, I got less swarms every year and made them artificially by shaking the bees off the combs, manipulating these swarms exactly as recommended in this little

book. Swarms worked just— even better— stronger.

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Further, in the said that the new brood-nest consumption would better be at such swarms an a colony to make no combs brood-chamber forced into full sheets them partly

book. Such shaken swarms always worked just as well as natural swarms—even better, as they were generally stronger.

The only disadvantage of these natural or shaken swarms is, that they are getting weaker every day during the first three weeks, and more bees are necessary by and by for nursing the increasing brood. To avoid this I used Heddon's plan for preventing after-swarms, by changing the place of the parent colony and so drawing some bees from it to the swarm every eight or ten days. It does not change the principle if this drawing of bees from one colony to the other is performed in some other way.

Some bee-keepers claim that shaken swarms should not be made, except a colony has started queen-cells. This is not so, if a large brood-chamber is used, but it is necessary that the colony be as strong as possible and have many young bees. The starting of queen-cells is a sign that a surplus of young bees compared with the open brood is present in a colony; in a large hive so much brood may be present, that no such surplus of young bees may appear, nevertheless more of them will be in the hive than in another, smaller hive, which has queen-cells. When the shaken swarm is made, this open brood is removed, and we have exactly the same condition as with a natural swarm.

Hutchinson's book, "The Bee-keeper's Handbook," for this reason, which were brood-chambers, and the honey produced in them, worked better than a colony which is nearly in a contracted honey-comb, as no combs are in the contracted brood-chamber, and the honey gathered is forced into the sections, which contain full sheets of foundation, and some of them partly drawn out. These cir-

cumstances overbalance the necessary building of new combs.

In my opinion, the most satisfactory way of producing section honey is to use large brood-chambers in the spring, and when the main honey-flow commences the colonies are managed after the shook-swarm system. This is especially true if all natural swarms must be avoided.

3. This building of new combs can be avoided in the following way: A shaken swarm is made on the old stand, with the old queen, and the parent colony is set to one side or on top of this swarm. As soon as one of the young queens has hatched and has destroyed the other queen-cells in the parent colony, both colonies are reunited. If the old queen shall be kept, it is not necessary to hunt up the young queen in the parent colony. At evening, before the bees cease to fly, we exchange the places of the two colonies for about an hour, and any field-bees from the swarm will enter the parent colony; now the hives change places again, when the bees are not flying any more. These field-bees are used to an old queen, and will, during the night, kill the young virgin queen. The next morning both colonies are united again. If the young queen shall be kept and the old one removed, the best way would be to wait till the young queen is fertilized, then the old queen is found, removed, and both colonies united.

In this way no new brood-nest is to be built, and the colony is divided during a few days only, the swarming impulse is removed, and the bees themselves have destroyed the queen-cells; but the plan will hardly work for section honey, and the same, I think, can be said about the Sibbald plan. In both cases the brood-nest, after reuniting, will contain too many empty cells, which will at once be filled with honey.

Now we have to consider the third

way of preventing swarms by preparing the colony in such a way that it will not or can't swarm.

Here may be mentioned the different plans by which the queen is prevented from swarming out, in a mechanical way, as by the use of a queen-excluding honey-board or a queen-trap, or by caging the queen for some time. These plans are quite against the nature of the bees, and have generally proven unsatisfactory. We can remove the old queen entirely and allow the colony to rear a young one. This plan will prevent swarming, if at the right time the surplus queen-cells are destroyed, but the colony is weakened considerably, probably more so than if a prime swarm and no after-swarm were allowed. The plan takes too much work and attention to be practical in a large apiary.

Another way of this kind has been known for some time, but is not mentioned very often. When queen-cells are reared in an upper story, over an excluder, it was observed that such colonies did not swarm as long as there is some brood in this upper story. If this is true it is plain that swarming can be prevented, if once in a while some brood-combs are removed from the lower story to the upper one over this excluder. This idea can be used for section honey, if a divisible brood chamber is used. When the honey flow commences, the upper part of this brood chamber is removed, a queen-excluder laid on top of the lower part, over this one or more section supers, and on top of them the upper part of the brood chamber. The upper brood-story is kept on the hive till all the brood has hatched and the combs are filled with honey, then these combs are extracted or used for winter food in the same or another hive.

Against this plan I have only this objection, that the queen-excluder is a considerable hindrance to the bees

but I think in many cases, when section honey shall be produced, it can be dispensed with, as the section supers themselves have probably the same effect as the queen-excluder.

Another plan is described by Dr. C. C. Miller, and called the "foundation plan." When in a colony queen-cells are found with eggs in them, these eggs are destroyed; if, 10 days later, larvae are found in queen-cells, the queen is found and caged, and all the queen-cells destroyed, the hive removed and in its place is put a hive containing three frames of foundation. Upon this hive is put an excluder, and over this the supers. The queen is run in at the entrance of the lower hive and the colony is left for a week or ten days. At the end of this time the lower story is taken away with the excluder, and the queen is put back in the old hive which gets the old stand.

This is a modification of the last-described plan. I have never tried this plan, but it seems to me that in some localities, the colony may swarm after treatment, and that the examination of all colonies every eight or ten days to destroy the eggs in queen-cells, or to treat the colony, if larvae are present, will take too much time and labor.

Another way belonging to this class is "Simmins' non-swarming system." It is said that the bees will not swarm, if an empty space is given to them between the brood nest and the alighting hole in which the bees can build combs. Simmins says that an important item in this management consists in supplying every section with fully worked combs. As this is hardly possible in a large apiary worked exclusively for comb honey, this may be the reason that the plan was not favorably accepted on this side of the Atlantic. You will see that this principle is partially employed in Dr. Miller's foundation plan. L. Stachelhausen.

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The President declared the paper open for discussion.

Mr. McEvoy—One point in the paper read was as to shaking bees on to comb. Some people complain that these colonies would grow weak in a few days after, but my plan is to put a cone bee-escape across the front after five or six days for a few hours; the bees come out and they cannot get back into it again. Then you can send your bees where you want to. Another point is that the queen destroys the young queens because the guards are off the the cells. The first queen that hatches will do it.

Mr. Holtermann—I think that the subject that we have here to-night is one of the most important subjects that is going to be brought before this convention, that is, the control of the increase. We have had different methods given to us. The paper, I think is a very good one and very exhaustive. I think that there is a method which can be given in addition to what has been here. Some four or five years ago I began bee-keeping again, and the writing of the Dadant's had made quite an impression on me, for I always looked upon them as very successful bee-keepers, and good sound reasoners; and their observations led me to adopt a larger hive. I had been a strong advocate of the eight-frame Langstroth hive up to that time, and I had adopted a 12-frame Langstroth hive. That Mr. Stachelhausen says is correct. I think the basis or the beginning of the successful control of increase is large colonies. Now there are several features which come into play in the control of increase. First of all the general impression is that it is time to note the swarming impulse when the eggs are deposited in the queen-cell cups. I think in that practice we make a mistake. I think that the first indication towards swarming is the drone-brood; but we will let that

alone, because in a great many cases they may not swarm at all. But the next is when cell-cups are built. I have had men say to me: "I see cell-cups built in many cases and no swarming." That is true. The conditions may change, and so on, so that they will not swarm when cell-cups are built, but that is the very reason why we should note that. In my manipulation in the apiary, when I see cell-cups built, I take it as a hint that the bees are drifting very closely towards swarming, and that is the time, in my estimation, that the brood should be taken out, if at all, unless you are approaching, as far as you can tell the close of the honey season, and then you do not need to do that.

The next point I find, and I think where bee-keepers make such very great mistakes, is in the amount of super-room given to the bees. I don't know how it is over here, perhaps as fully as it is in Canada. But the general method is to give an extracting super to a colony of bees. I am satisfied as long as we think we can run our bees successfully with only one super, so long we will not make the most out of our bees, or succeed in keeping down swarming to the greatest extent. No one should think of taking extracted honey without having at least an average of two supers to the hive.

Then there is the matter of ventilation. I would like to take you into a frame building on a hot summer day with a $\frac{3}{8}$ inch board roof, and very little ventilation, and put you at work extracting; and yet there are nine-tenths of the bee-keepers who consider it economy to have half that, and have no more protection than that $\frac{3}{8}$ inch board; and they have what is equal to a stove in addition in that building, in the young bees and brood in the hive. I consider it a very gross extravagance to use a hive with as

(Continued on Page 158.)

THE CANADIAN BEE JOURNAL

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Editor, W. J. Craig.

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EDITORIAL NOTES.

It is still perhaps a little too early to state definitely what is going to be the result of the season. The honey-flow is reported from fair to poor, the better reports coming from the southern districts of Hastings, Lennox, Frontenac, Leeds and Peterboro, on the east. Some parts of our own county, Brant, seem to be doing fairly well, as also in Oxford, Middlesex and Elgin, on our west and southwest, but the flow has been irregular and fitful, owing to weather conditions. Taking everything into consideration, so far as Ontario is concerned, we would say that it is going to be a very ordinary season. Northeastern Ontario, Quebec and the Eastern Provinces, are somewhat later, and may not be affected to the same extent by the rain. With us the rain would have been a decided advantage, but it came too late and continued too long when it did come.

Some radical changes have been made by the O. B. K. A. Executive in regard to Honey Exhibit at the annual Fruit, Flower and Honey Show to be held in Toronto. Their idea is to have a collective exhibit made by the members of the Association, instead of individual exhibits. President Sibbald and Secretary Couse, writing us on the subject, say that it was decided at the Executive meeting held in London that instead of offering prizes for honey to ask the members of the Association

each to send a small quantity of the very best they produce, and to pay them for it, have it put up by a suitable committee in the most attractive way, and, with a view to advertising, have one or more capable persons to demonstrate or talk honey, explaining its various uses and virtues, and its great value as a pure food, and to distribute honey literature, recipes, etc.

In order that each member who contributes to the exhibit may have equal benefit from the advertising, a directory with the names and addresses of those exhibiting will be displayed prominently. It is hoped that bee-keepers will save a quantity, say 50 pounds or 60 pounds of extracted, and the same of comb honey, so as to make the plan a success and the honey exhibit one of the best ever shown. At a recent meeting held in Mr. Cowan's office the above plan was submitted and received by the general committee as a decided improvement on the prize system. The money that has heretofore gone to pay prizes will be used to pay freight charges, advertising and other expenses

A sub-committee appointed to try and secure better convention rates from the railways report that single fares to all attending the conventions and Show under the certificate arrangement was assured, but they were very hopeful of getting excursion rates without certificates, the same as for other Industrial Exhibits, and the Guelph Fair Stock Show.

In connection with his district report which appears on another page, President Sibbald of the O.B.K.A., makes the following suggestion with which we are sure most of us will be in hearty sympathy:

"As chairman of the Honey Exchange Committee it will not be amiss for me to say that I believe the time has come

for bee-keepers to put their honey up at a price which is all sold. May was the best, so much by too much being bare, so the situation. Take advantage of the extent, and eight or nine wholesale. Drop this method in a figure."

Season's report, June 21st. The first part of May was very rainy. June 20th was a fine day. The flow since the fine weather of the clover is likely to be taken in Peel County.

Bees here are in a boom, owing to the honey-flow from the cold weather. The results are good. The balance is good.

Kent Co., Ont.

The bees are doing pretty freely in Kent Co., but up to the honey, and they are rapidly accumulating yet. The bloom, and the short crop of honey is a very favorable weather. The honey is all sold. May was the best, so much by too much being bare, so the situation. Take advantage of the extent, and eight or nine wholesale. Drop this method in a figure."

for bee-keepers to move the price of honey up a little. The last year's honey is all sold and the price in Toronto in May was 9½c wholesale in 60-lb. tins. The outlook for the season is not the best, so much time having been lost by too much wet weather. The market being bare, dealers must have honey, so the situation is the bee-keepers'. Take advantage of it to a reasonable extent, and do not accept a low price. Eight or nine cents would be my idea, wholesale. In the face of a very large crop this might be a little high, but do not be in a hurry to sell for a low figure."

Season's report for our district to date, June 29th, weather very dry latter part of May and first of June, then very rainy weather set in and until June 20th practically nothing was done. The flow since has been moderate, and fine weather prevails for the balance of the clover season a fair crop will likely be taken.

H. G. Sibbald.

Peel County.

Bees here got very little from fruit-bloom, owing to cold weather. We have had about two weeks of good honey-flow from clover, although rainy and cold weather intervening has not made results as good as we might expect. The balance of the season promises good.

W. A. CHRYSLER.

Kent Co., Ont., June 28, 1906.

The bees began to gather honey pretty freely from clover on the 24th of June, but up to that time they got very little honey, and did not gain in force very rapidly as a result. Very little farming yet. Basswood promises a good bloom, and prospects point to a very short crop unless we get very favorable weather.

DENIS NOLAN.

Simcoe Co., Ont., June 28, 1906.

Bees wintered very well and are in good condition now. Everything is later than usual. Clover is plentiful, but the bees do not seem to be working on it very much yet for some reason. The season has been rather warm and wet of late. Basswood promises well, and we expect about an average season.

F. W. JONES.

Missisquoi Co., Que.

On June 1st I had 90 colonies in good condition. Season is somewhat backward, owing to cold weather in May and first half of June. Swarming is going on now, and the swarms from my 10-frame hives are very large. Alsike clover is just opening now, and it is our main and almost only crop in this part of the country. No basswood here, no buckwheat, only the best and choicest clear white honey is our lot. Our crops are generally good when we have our bees in time as they are this year. The flow is generally at its best between the 1st and the 20th of July.

I expect to have a good crop, as usual, and am preparing to handle it. The clover is growing well, and if the weather permits the crop will be from fair to extra good.

JACQUES VERRET.

Quebec Co., Que., June 28, 1906.

There is any amount of white clover and alsike if the bees only get the weather to gather it, and we may yet have an average yield of honey, but it rains nearly every day. We had four fine days last week, the bees went out early and were working after sundown.

John L. Grosjean,

Northumberland Co., Ont. July 4.

Bees have built up remarkably well considering the cold, wet spring. Clover is in full bloom; prospects are good for a fair crop. Prospects are good for fruit and all other farm produce.

E. L. Colpitts,

New Brunswick, July 3.

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little as a $\frac{3}{8}$ -inch board protection. We should protect them more.

Next, in order to keep down swarming I am going to try to show you the importance of ventilators in the supers. You have a colony of bees there and all the fresh air they can get has to come through that brood-chamber and up into the super; by the time it reaches the super that air is foul, and your bees on that account become discontented and want to swarm, and therefore I use the system of ventilation with supers. A great many of the entrances to hives are too small. In our country we have hives in which the entrance does not go all the way across the front of the hive. I learned a lesson from Mr. S. T. Pettit, to enlarge the entrance of the hive during the warm season by means of wedges $\frac{3}{8}$ of an inch at the front, and going to a point at the back, and as soon as the swarming time comes on, slide one between the bottom board and the brood-chamber, and in that way increase the entrances $\frac{3}{8}$ of an inch. By those methods we can keep down swarming to a great extent. In using the greater amount of super-room, you want to get the condition where you have sufficient super-room in your hive that the worker force in that hive is contented, and in such numbers that the bees that are dying off from day to day are about equal to the number of bees that are coming on. You can't do that unless you have the extra amount of super-room.

The reason why I have said I consider this perhaps the most important subject that will come before this convention is this: I am thoroughly satisfied that the secret of large yields of honey is to keep the bees together. No matter whether your honey flow is short or long, it makes no difference, as far as I can see it as to that point. Your bees, then, are always ready;

your bees come with large forces, and they can take advantage of everything that may turn up, no matter whether it is clover, basswood, or buckwheat—whatever gives you the largest amount of yield.

As far as fall flows are concerned, I know by observation that a great many do not get the amount of honey they could in the fall of the year, because by that time their colonies are so broken up they really have few, if any, strong colonies left.

Dr. Miller—When you speak of ventilating supers, do you mean extracting supers, or sections, or both?

Mr. Holtermann—I have particular reference to extracting supers. The only method I can see of ventilating the comb-honey supers is by having a ventilator at the top of the brood-chamber. I don't think it is practicable to use them in comb-honey supers at the time when the bees are capping the honey.

Mr. Nau—I work the super in the same way Mr. Holtermann does, and I have no swarms. I have a 13-frame Langstroth hive, and whenever one super is half full I put another hive under it. I get as high as six supers full of honey off one hive.

Dr. Miller—I would like to emphasize the point that is made by Mr. Holtermann, and that is as to the importance of ventilation. I have had from year to year what I call "piles," that is, piling them up three or four stories high and allowing each colony to have an abundance of ventilation in other words the full entrance each story. I never had one of these piles swarm. I wouldn't like to say that will always be a certain preventive of swarming, from the fact that these piles were generally formed from what were rather weak colonies in the first place, and built up gradually, very strong ones. The ventilation of the colony can always be made a

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cess with extracting supers, as Mr. Holtermann says: and I have wondered many a time why men working for extracted honey, did not have a current of air running right up through the whole thing. Mr. Holtermann says that, by having the air come out through the brood-chamber but not through the supers, will work for section honey. A good many years ago, before any such thing as sections were known, I was in the apiary of Adam Grimm of Wisconsin—he was working at that time for comb honey, and had little boxes on his hives and over them a telescope cover, and the day I was there, he was raising up these covers and blocking them up a little, so that the air could get up through the brood chamber, and I remember, "with his very emphatic German way of saying things, he turned to me and said: 'I consider that very important.'" From that time on for a number of years, I had that same kind of ventilation. But I want to tell Mr. Holtermann this, that in the upper part of the story, all the sections near that will be much lower in completion than the others, and that is the objection to it. I am meaning some time of having a kind of way of ventilating the super sections right up through the center. In the same such way I would like to have the advantage of the ventilation and hold on to the sections. But in the matter of ventilation when working for extracted honey, I believe you have the best of the whole situation; I don't believe you need have much swarming at all.

Mr. Holtermann—You know why it is, Dr. Miller?

Dr. Miller—No, I don't.

Mr. Holtermann—The impression I got at one time was that if I made an opening at the top of the hive the air would go in at the front and come out at the top, but the fact of the matter is you will find that the air is drawn

in at the top. The air is cool when it first strikes the hive, comparatively, and it has not been raised to the temperature necessary for that evaporation to go on, and therefore in using ventilators for comb honey supers, there is the tendency for the bees not to cap as readily there as in other places, because it does not ripen as rapidly.

Mr. Taylor—Will not bees carry the honey out there too, as well as not cap?

Mr. Holtermann—There may be a tendency for them to do that because they can't ripen it as well.

Mr. Taylor—The ventilation would help to ripen, if anything, and they would not carry the honey out.

Mr. Holtermann—If the temperature outside is 80 degrees and the hive temperature is nearly 100, the temperature of the air when it first enters the hive, has to be raised to the inside temperature by the bees.

Mr. Taylor—That is in the shade. But out in the apiary it is generally as hot outside as it is inside.

Mr. Holtermann—It is night and day.

Mr. Taylor—The reason I have given for that is, that the bees to guard their honey, will carry it away from an opening for fear of robbing.

Dr. Bohrer—The question under discussion is not a new one. Mr. R. C. Otis once put this question to me: "Why do bees swarm at all?" The reply was that it is their nature to. It applies to the honey-bee as well as every other department of the animal kingdom to propagate their species. There are two things that come as near controlling it as anything—one is when there is an abundant flow of honey, provided you give them room. I think the first movable hive I made had 18 frames and I had one of the largest swarms I ever had come out of that hive. I never had a swarm cast where

bees were hived in sugar hogsheads. And I have never seen swarms cast from an old-fashioned salt barrel or any receptacle of that kind. Take a large hive and give them abundance of room, and if the honey-flow is abundant they will work at that and not have much swarming; but give them small hives and they begin to give trouble. At the present time I can't think of any plan that will effectually prevent swarming.

Mr. Holtermann—Isn't the reason because they are confined in those hives during the daytime, and they are comparatively warm and the ventilation is not proper?

Mr. Taylor—I would like to ask a question of Mr. Holtermann. He spoke of looking for the starting of queen-cell cups. Are there no cups left over from the previous year in your hives?

Mr. Holtermann—There are cups, but I don't think anyone would mistake this year's cups. There is a very distinct difference. If those cups are there, and you expect a honey season ahead of you, that is the time you should deal with the swarming matter. When they begin to put brood and larvae and eggs in the queen-cells, in my estimation you have gone a step too far to prevent the swarming without a serious break up of your colony. To protect your colonies temporarily, requires a great deal of labor and a good many extra hives.

Mr. Baxter—Hunting for cups is too much work for me. I have found by 25 years' experience that there is an absolute rule to prevent swarming, and that rule is to have large hives, and see that they have room which, without giving any other ventilation gives them ventilation. But under certain conditions that is not enough. I want ventilation from below—I don't want it from above. It is sufficient if you raise a hive about $\frac{1}{2}$ of an inch

above the bottom board. I have hives some of which could be raised, and some could not be, and no matter how many supers I put on top of those movable bottoms, when the weather became warm they would swarm anyway; but where I raised the hives from the bottom and gave them sufficient room above, I have never had any trouble with swarms; and I have had as many as 250 colonies.

Mr. Holtermann—What is the length of your honey flow?

Mr. Baxter—It begins about the first of June, and ends middle of July, and occasionally in the last of September or the beginning of October. It is for extracted honey. I wouldn't bother with comb honey; I have tried it long enough.

Dr. Miller—In my locality, working for section honey, raising up the hive will help, but it won't prevent swarming; a whole lot of them will swarm. With reference to this matter of the size of hives, I believe in that general rule, and if I didn't believe in another wise I would because of the testimony of the men I believe in so thoroughly as I do the Dadants; and yet in my locality that does not work. I would like it to. One year I got two of the Jumbo hives, deep frames 10 frames—and deeper than the Langstroth, and I was going to have them and have nothing else if those things didn't swarm. The next spring after they were filled, the very first colony that swarmed was one of those Jumboes.

Mr. Bohrer—With regard to ventilation, that big salt barrel had no upward ventilation but it had lots from below. In addition to Dr. Miller's trouble I had lumbago in handling the same hive.

Mr. Holtermann—What did you do in the supers of those Jumbo hives?

Dr. Miller—The same as I did in others.

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Mr. Holtermann—What did you do in the supers of those Jumbo hives?
Dr. Miller—The same as I did in others.

Mr. Holtermann—Drone comb?

Dr. Miller—No, sections with foundation. I am not sure whether they waited until I had the supers on.

Mr. Ferris—There is nothing I have studied more than the question of producing the most brood from the least number of bees I winter, and getting the most honey from them. To keep them entirely from producing any swarms until after the flow is over, I divide them at my will. I will use

both 10-frame Langstroth and a special hive which holds 14 Langstroth frames $14\frac{1}{2} \times 21\frac{1}{4}$, and a division-board through the centre. This makes a large hive.

Provide that through the centre with a solid division-board which is removable, place a queen in the fall on each side of that division-board. In winter

two queens in an ordinary colony of bees in this hive. Then in the spring work each division up to seven frames full of brood. Then I add on

another story, and as each story has a place for the division board, I put in a division board, and in that way #1

at both sides worked up to an exceedingly large colony in brood, up to time when the honey-flow begins. At this

point I take away both queens, and let them be a few days queenless, and then either give them a capped queen-

cell or a queen already mated. In this way you can prevent swarming. I think, as well as in any other way. An old queen will swarm quicker than a young one, and by following this method you

get enormous swarms. I get, with a 10-frame Langstroth, four stories full of bees by June 17, and not one of these colonies ever yet cast a swarm.

Dr. Miller—While others are not getting a surplus in my locality, they had me 200 pounds of comb or extracted.

Dr. Miller—You can endorse what has been said about ventilation. You need considerable of it. For extracted honey, up-

ward ventilation with a hole at the back of each side about three-quarters of an inch is a good thing. It will keep them from clustering on the outside. I had one swarm at one time five stories high, and it was crammed full of bees at night, so that they had a cluster as big as the size of a hat; there would be a half bushel on the outside. That swarm of bees filled five stories full of honey in seven days, except the brood-nest. Three or four manipulations are practically all that is necessary up to the time of the honey-flow, and yet will entirely control swarming.

President Dadant—In how many colonies did you try this?

Mr. Ferris—I had twenty-five.

Mr. Rice—When you remove the queens and division boards do you unite them?

Mr. Ferris—Yes. At the end of the flow. I supply them with another queen besides the one they have.

Mr. Rice—What do you do with the old queens that are over a year old.

Dr. Miller—You consider this practical, uniting two colonies.

Mr. Ferris. Yes, But really you only have one to deal with all the way through.

Mr. Baxter—I would like to be understood on this matter of ventilation. I have holes at the back of my hives also, but then that is simply to ventilate around the super and the top of the super. There is no draught from the lower part of the hive through the hive and out through this hole. I have an oilcloth over it which makes it perfectly tight. If there happens to be a hole in the cloth the bees will not store honey near that hole. You can see from that it is a detriment to have a draught through the supers. But I do believe in having ventilation around and from below.

Mr. Holtermann—I want to say, most emphatically, I have got at least 300 of

these ventilators, only I think I have a better way than to bore a hole of that size. I have an opening of about three-eighths of an inch in depth right across the hive. I have no difficulty whatever in having bees store honey next to these ventilators.

President Dadant—It is a fact that where there is a hole in the oilcloth, even if there is a straw mat such as we use on top of the frames, there is a slight amount of ventilation there, and the bees put less honey at that spot.

Mr. Ferris—Bees that are queenless will go into the supers quicker than bees that have a queen. That is one reason why I advocate taking away the queens at this period, at the commencement of the honey flow. You can control swarming at the commencement by giving the queen room to lay. But after the honey-flow commences they will enter the honey sections more readily if they are queenless for the first three or four days than they will if they have a queen. I use no more bees to winter than you would winter ordinarily in a 10-frame hive.

Mr. McEvoy—Did I understand this gentleman to say that he uses 14 frames in a brood chamber, and the brood is all in the brood-chamber and an excluder on?

Mr. Ferris—I always confine the queen below. In our locality we will have all the lower frames filled with pollen. I have seen it time after time; if we allow our queens to run at random through the hive without an excluder, they will store the first story full of pollen; the next step will be a brood nest, and the honey on top of all.

Mr. McEvoy—I see by the papers that they all advocate large brood-chambers. I have only a medium size, and yet I rear more brood than the most of them, because I go in, as a rule, for pretty near 18 frames. I put the queen above and then I clip off at certain periods, and I leave that

brood afterwards, and in nine days it is capped. I let them swarm and come out with an immense lot of bees. From my point of view I don't want too much super-room, because I can get better ripened honey, and a finer quality and less swarms.

Mr. Ferris—I get 30 frames of brood instead of 18 by June 15 to June 18.

Mr. McEvoy—I understand you to have had the 14 frames just below?

Mr. Ferris—No, I keep tiering them up until the flow begins; I let the queen have full range until the flow.

Mr. McEvoy—All right. I agree with you. That is the best thing I have heard yet.

Mr. Bartz—It is not advisable to mix the two matters, comb and extracted honey the way you are doing. They are different matters, and require different treatment. I would like if each method were treated separately. Most bee-keepers can control increase when running for extracted honey, but the difficulty seems to be with comb honey.

Mr. Taylor—The trouble, I think, is that these people who control swarming are producing extracted honey, and those who produce comb honey cannot control swarming. That is the reason they don't discuss it so much.

Mr. Ferris—There is a question I want to ask. Take these supers, no matter what size section we use, an extracting frame, so that you can put an extracting frame all drawn out with a nice white comb in it on the outside of each side of the super, and in the large cases put one in the middle. When you put that on, the outside will be filled first instead of the center of the hive, and then the super will be capped more evenly all over. Are there others trying that method in different localities?

Mr. McEvoy—Yes; that will work all localities.

Mr. Ferris—We know our poorer sections are almost invariably on the outside of the super, and by getting

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Mr. Jackson—When you have both your queens in the bottom brood-chamber and allow them full range, how do you keep them apart? If your brood frames drop, can they get together?

Mr. Ferris—My ten-frame hive has a solid partition that goes clear to the bottom, and they meet, so that when I put the one story on top of the other the division boards sit tight, and I lay a cloth over the top.

Mr. Hatch—I think we are losing sight of one point mentioned here, the influence of drones in casting swarms. In my observation a colony will never cast a swarm unless there are some drones present. Another idea was, we should look for drone comb, as well as in the cups. I know one of the most successful bee-keepers that uses small frames, 12 inches square and 7 inches deep. He starts in the spring with one

queen and then puts on another section. He is very careful to have nothing but worker comb in any of his frames. As the honey season advances he goes and pries the top hive off and says, "There is some drone comb; they are preparing for swarming." He takes the top off and puts an empty section between them, and they are kept for ten days; that colony won't swarm. He didn't look for queen-cells.

Swarming is an indication of vigor, strength and power. The point is not to stop that, but to turn it in the right direction. Just merely controlling increase is not what we are after. We want to control it in such a way that we shall not lose our honey crop, or diminish it. I have tried a good many ways, and I have never yet found one better way than that was controlling the increase, but what was at the expense of the honey. I have tried the plan of putting the queen on two frames and she will sulk, and wear herself to death

and when you release her again it will only be a few days before she will be superseded. I have tried shaking the bees off onto comb, and onto full foundation, but with the same result. I would rather pay a man \$5 a day to sit in my apiary and watch for swarms and hive them, than to try any plan of controlling increase that I have discovered yet.

Mr. Holterman—I very emphatically oppose any method which forces the bees not to swarm. As Mr. Hatch has said, direct their energies in direction of producing honey.

Mr. Hatch—Do you think it is possible for a colony to swarm without any drones being present in the hive?

Mr. Bratz—I have had them swarm without.

Mr. Holtermann—I don't think that any man is in a position to say that there is actually not a drone present in the hive.

Mr. Hershiser—I have had bees swarm quite frequently without drones when I had set them out in the spring.

Mr. Aspinwall—I received a challenge from Mr. Taylor just now, that we had not heard from the comb honey man. But as I am set down for a talk on the non-swarming hive I thought it best not to say anything. I am working on a different line. I agree with Mr. Holtermann in respect to the queen cells, rudimentary ones that are new in the spring—the old ones are cut down. In the matter of drones I have tried with artificial comb, and that factor is one that produces swarms, but there are a great many factors that enter into and constitute the swarming impulse. If we remove one of them, that is a help; but in an apiary of a number of colonies drones will intermingle quite frequently and for that reason drone comb is a troublesome expense.

When you come to size it up there has been quite a conglomeration here,

What is the young bee-keeper to do when he leaves this session. Next season will he adopt any of these plans, and can you guarantee him success? We want a hive, or we want a system, that will control swarming during the production of comb honey, and then we have got it without doubt for the extracted, and that is the point at which I am laboring. Dr. Miller has been for years working on a non-swarming system in producing comb honey. That is what we are after. We must not have manipulation that will tamper with natural workings of the colony. So sure as we remove the queen, so sure as we cut the queen cells out, so sure as we divide, we are placing the colony in an abnormal condition. Isn't that right, Dr. Miller?

Dr. Miller—Not fully.

Mr. Aspinwall—You have placed them in a desperate condition. The removal of the queen does not necessarily compel them to make as many queen cells as when you have thwarted the swarming by removing the cells only.

There is another point in regard to controlling swarming that has been mentioned here, and that is in reference to the numerous methods set forth in the paper. No one of those methods prevents swarming to the fullest extent. It controls the evil or bane of bee-keeping to a certain extent only. As the writer admitted, there was no one system that could be wholly relied upon. You will pardon me for taking the stand that it must be done mechanically, as well as by the system adopted in connection with it. I know the bee-keeping world is working on another plan, and decries the principle of a hive that will control swarming. I recollect very well in the days of Quinby, Mr. Hazen, who experimented quite largely, lived in my neighborhood. Professor Cook refers to him as making an effort to control swarming

by a non-swarming hive, and he offered such a hive to Mr. Quinby, with whom I was well acquainted.

The matter of giving sufficient room is another factor, and that is what Mr. Hazen did, simply giving surplus room on all sides and the top, the hive in other respects remaining the same. I don't care how much room you give a colony so long as there are six to fourteen combs, as the case may be; the bees may make rapid increase with a fertile queen or otherwise; when those combs are filled any outside appliances for room will not compel them to leave that brood-nest, until they are compelled to by the honey-flow. During that time the brood-nest is overcrowded, and the result, in many instances, no matter what the room is, such a season as last season, notably in my location, would be to have a great number of swarms. In my locality the impulse was something enormous, one third of my queens being mated with black drones last season.

Dr. Miller—As to cutting off the cells there was a time when I most thoroughly believed the cutting of cells did not have any effect at all. Now, actual practice and trial have made we change my views, until I know that in many cases the destruction of cells will stop the swarming. Sometimes it would be just the destruction of cells once in the season, and sometimes the second time would do it, other times not. There are so many exceptions to that case and all I cared for was to have the actual truth known about it. Here were 50 colonies and in all of them the cells will be destroyed; perhaps in 10 of them there will be no swarming, and perhaps in 40 of them there will

Biting a nail in two is not good for the teeth. Quarrelling with a competitor breaks the enamel off your success.—Montreal Star.

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BARRELS.

One page 114 C.B.J. for May, the president is given credit for a paragraph on barrels which he might not care to own. I happen to remember discovering this error when revising the report, but unfortunately the report as revised goes to the government for publication in bulletin form, while the Canadian Bee Journal uses a copy of the original unrevised.

It was myself, not the president, who had used weathered barrels, and learned by bitter experience more about the cooper trade in one short season than the average bee-keeper will ever know. To start at the beginning, honey absorbs moisture from anything at all

in contact with which it comes in contact. The natural and common idea is that barrels are at all loose honey put in them will soon soak up the staves and make all tight. One would be tempted to keep them in a damp place so they would keep tight and not soak up too much honey. Now, the very opposite is the case. My first experience with barrels was, I think, in 1903, when I filled some with honey at an outyard and left them in a small frame house which heated up terribly during the day. At the next visit honey was oozing out through every crack between staves and head pieces. The insides of the staves were smeared with honey so they would not drive. Well—I have had many other experiences; but I got them straightened up.

Barrels for honey should be kept in a dry place, and if next the roof so as not to be heated by the sun and more thoroughly dried, so much the better. Then when filled with honey, the same rule applies. Some advise placing in cellars after filled. This is a very pleasant way out of present difficulty, because dampness will soon soak up the ends of the staves and stop small leaks, but if they are then shipped and standing in the sun on some plat-

form, or in a hot, dry warehouse, this is all undone, and the leaks develop when they are beyond the shipper's control.

The time to stop leaks in barrels is before they are filled. They require careful handling from the first. If left standing on end in a shower of rain the heads and stave ends soak up and attempt to swell. The hoops hold them in place and the consequent pressure crushes the wood so that when dry again the shape of the staves is spoiled and it is difficult to draw them together by driving. After being thoroughly dried we go over every hoop in turn. The first hoop is taken off, set on an anvil or any smooth iron and all the punch points flattened down with a hammer so the hoop will drive easily. It is replaced on the barrel and driven as tight as possible with a steel hoop driver which has a soft iron handle the same shape as that of a cold chisel. This tool weighs about a pound and is driven by a steel hammer weighing about three and a half pounds. An ordinary carpenter's hammer is not heavy enough. I have never burst a hoop yet, though I have started the rivets on a few. The next hoop and all the others in turn are treated in the same way. Next examine the whole surface of the barrel for openings. Plug all holes except the bung-hole. Cracks crosswise of staves can be closed by laying on a piece of cotton and covering with tin nailed down well. Mark with a pencil any spaces where the staves do not come tight together at the end, remove the end hoop and loosen the others so these cracks will spread enough to slip in strips of cotton or flags; then drive the hoops down tight again. If this cooping has been done any length of time before filling drive every hoop the last thing before the barrel is put under the extractor, and there should be no trouble about leaking. The tamping with twine and

tamping iron is a last resort to stop leaks which develop later. Two men can easily upend the barrels a week or so after they are filled and give the hoops another driving. This should be done weekly as long as the hoops will move. In extreme cases of leaking, where the staves and hoops have got slipping with honey, the latter can be removed and both washed thoroughly and sanded to make them catch. I have not found the punch points necessary to hold hoops in place, when well driven they do not stir.
Villa Nova, Ont. Morley Pettit.

BEEES IN SOUTHERN RUSSIA.

Editor C. B. J.:

Dear Sir,—I returned three weeks ago from a small place on the Black Sea called Aloshta. When there I examined some bees in the vicinity; found them very similar to Italians. I visited three apiaries, and in all of them the bees were in very poor condition; they were in box hives and baskets covered with clay. On the average they had not more than ten or twenty pounds of honey, and in my

opinion they never get more. The bee-keepers take the honey out without veil or smoke. One of the bee-keepers has some bees in the mountains (the climate there is similar to middle Russia) and he says they came out all right. On the whole, I was not very favorably impressed with the bees in these parts for their working qualities.

We had to go from Simferopol Aloshta through the mountains, about 48 versts, and as we stopped at a half-way house, I came across an gentleman bee-keeper, and in conversation he told me that at one time had 500 colonies of bees, and had destroyed them on account of foul brood so that those in your country who tend to get Caucasian queens from Southern Russia had better get them from a reliable queen-breeder.

Our spring here opened out warm, and up to the time of writing has been 20 to 35 degrees R. In the sun, except for a few days when it rained.

Yours truly,

H. KIRKHAM

Vladimer, Russia.

CENTRAL CANADA EXHIBITION, OTTAWA

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BIG INCREASE IN PRIZE LIST

Demonstrations and Lectures on Butter and Cheese Making in New Dairy Building.

Exhibit of Automatic Gas Buoys on the Exhibition Lake similar to those used on the Atlantic Ocean.

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Popular Vaudeville Performances in The Hall during Afternoon.

Grand Championship Lacrosse Match, Canada vs. Shamrocks, Saturday September 15th. Buildings open at Night until 10 p. m.

Horse Races, Balloon Ascensions and Special Attractions During Afternoon. Attend the Big Fair and have an enjoyable time.

SEPTEMBER 7th to 15th, 1906

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