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Preparing for Winter

"What! preparing your bees for winter, so early, Doolittle?"

"I thought I would pack and get a few ready along as I had time, Mr. Brown. There is no prospect of any more surplus honey this year, and, as I have all my sections off, it will be better to get the bees ready for winter now than to wait longer about the matter."

"Why? I thought November, or the first of December was early enough to do this work?"

"Well, it is better to do it then than not at all; but disturbing the bees thus late in the season is not conducive to good wintering."

"Why not?"

"On the first cold weather in October the bees form their cluster for winter, and go into a partly quiescent state after having surrounded the cluster with honey near at hand, so it is within easy reach of them, and all disturbing of the hive after that causes them to break cluster, and go into an unnatural excitement that tends to throw them out of their normal condition. But were this not so,

why should the packing of bees, and preparing them for winter be put off till the cold, snowy or sloppy weather of early winter?"

"I do not know that I can give any good reason, come to think of it seriously, and I believe you are right in getting them ready as soon as the honey harvest is past, and the supers are off the hives—at least I will try a part of mine that way as soon as I get home. I see you do not pack very heavily."

"No. I learned some years ago that two or three inches of packing proved better than more."

"Why should that be? Would not six inches of chaff or sawdust keep out more cold than two or three?"

"That would look reasonable; and if the packing kept dry, I presume the thicker amount would answer as well. But a large amount of packing seems to get damp, so that the sun does not warm it up, and dry it out, as does less, and so the walls of the hive remain cold and damp—yes, oftentimes, almost wet—and the bees do not seem to do as well on this account, as they do where a little more cold works through in extremely cold weather, and the sun warms and dries things out whenever it shines."

"Have you any special means of allowing the bees to pass through the combs?"

"No. Do you think any such thing is necessary?"

"I think so. Have you never noticed after a cold snap in the fall, that there will be little clusters of bees from three to twenty, or more, dead between the combs outside the main cluster?"

"Yes, sometimes. What do you think makes this state of affairs?"

"I reason like this: On the first cold spell the cluster of bees is obliged to contract in order to maintain the necessary degree of heat required; and in doing so those occupying the outer ranges of comb, being in a sluggish state from the influence of the cold, fail to pass up and around the combs, quick enough to keep up with the receding cluster, hence are left to perish with the cold."

"Reasoning thus, what do you do?"

"To obviate this loss I have what I call 'winter-passageways' through the centre of the combs. You know that, in old box-hive times, when bees rarely, if ever, died in the winter, they used cross-sticks in the centre of the hive to give the bees an extra attachment for their combs."

"Yes."

"Well, the bees always left holes around these sticks, and that gave these outside bees a chance to draw up with the cluster, through these holes, and hence bees wintered better in those days. To make a movable-hive, something like this old box hive used to be, I make holes through the centre of the combs each fall, so that the bees can crawl through, and I have had my bees winter better than of yore."

"You have got on to the old idea of some 25 years ago, when the makers of hives used to put a curled shaving on a strip of tin long enough to bring the shaving about to the centre of the frame, when the upper end was fastened to the under side of the top-bar of the frame. But, so far as I know,

few, if any, of our most advanced apiarists use those things now."

"Why don't they use them?"

"Because they do not think them of any special advantage, nor believe that those little clusters of dead bees are of any value."

"Of no value? If they are of no value, what bees are of value, pray tell?"

"Bees that have vitality enough to go around the combs with the rest of the bees which go."

"Do you mean to say that the reason these bees are caught away from the main clusters in these little clusters of from three to twenty, is because they do not have vitality enough to winter over?"

"That is just what many of our beekeepers think."

"What reason have they for thinking so?"

"I do not know that I have ever asked others for their reasons; but my reason for so thinking is that, when this old idea was at its height, a quarter of a century ago, I was infatuated with it, and bored holes in the side of my hives, fixing a little door over the same, when every fall I would open these doors, as soon as all comb-building was through for the season, and before the bees formed their cluster for winter, and insert a square stick with a sharp point, and slowly work this stick through to the back side of the hive, when, after the bees had cleaned it out, I had a hole through every comb in the hive, just where I wanted it, right in the centre."

"Well, I declare! that was a novel way of doing it. And after this you think such a procedure of no value?"

"I do so think; for when the comb clusters of dead bees would be on the combs just the same, and I actually found clusters of them with the bees within less than half an inch of these holes."

"That seems strange to me. How did you account for it?"

"After a little watching I found that such death of bees rarely occurred except during the first heavy freeze each fall, and this led me to investigate the matter closely, said investigation proving to my mind that the bees died from lack of vitality, or old age, rather than from not being able to keep up with the cluster by being chilled."

"I do not see it yet."

"Usually we have much cool, cloudy weather before two or three weeks before the first severe cold, so that old bees do not leave the hive to any extent to die, as they do all through the summer months, so that the number of dead bees dying from that cause would be considerable, providing none were chilled. But, instead of dying at once, at this time of year, the old bees seem to linger along through the dormancy of the bees at this time of the year, and so gather in these little clusters, where they remain in a half dormant state until caught by the extreme cold, or a warm time comes when a chance is offered for a flight. If a flight occurs, I have often found them clinging around on old boards, fences, corners of the hives, etc., and I presume, if you will think, you have seen the same."

"Yes, I do remember seeing such things, but I had no idea that these nearly dead bees, sticking to everything, were those I would find dead after a cold snap, in late fall or early winter, if no flight had occurred."

"Then another thing. I noticed that, where a cold snap came immediately after the bees had had a flight, there would be scarcely a bee caught away from the main cluster, this showing also that those caught at any other time were too nearly gone with old age to keep up with the cluster. For these reasons I left off making holes through my combs, for it was

not only quite a job to make these holes, but a worse part was that the bees would fill them up every summer, and with drone size of cells at that. This would cause a lot of drones to be reared when and where I did not want them."

"Well, I am glad to have had this talk with you; and, while not thoroughly convinced that you are right, I shall keep watch of the matter; and if time proves that you are, it will be of value to me."—Conversations With Doolittle, in "Gleanings in Bee-Culture."

EXPERIMENT WITH WASPS' EGGS

In the *Rheinsche Bienenzeitung* M. Dickel describes a curious experiment. He cut a hole in one of the combs of a hive and inserted a piece of comb with the eggs it contained, taken from a wasp's nest. The experiment was repeated thrice and every time it produced a curious commotion amongst the bees. In approaching it the bees stopped dead, as if fascinated by the strange substance. Their antennae were extended forward with feverish movements. They then dashed upwards and spun round madly. This was soon followed by others who joined in the unrestrained dance. By degrees some of them got over their fear of this strange object and approached it with their trembling antennae extended and flapping their wings and still continuing their comical dance. At length they decided to risk an attack, and tore the nest into shreds evidently with repugnance. They were more undecided about touching the eggs, but these they also attacked at last, crushing them with their mandibles. They seemed thoroughly disgusted, and showed it by getting rid of the egg shell as quickly as possible with their front legs.—*British Bee Journal*.

Bee-Keeping in South America

The honey season may be said to commence about the end of August or beginning of September, when the orange trees are in bloom. The orange blossom is a most valuable factor in the production of honey, as the tree commences to bloom about the end of winter (there is no season which can be called spring in Paraguay), at a time when the swarms are weak and other flowers scarce. The orange blossom produces an excellent honey, of fine color, pleasant flavor and admirable keeping qualities. Orange trees are present everywhere in Paraguay; they grow wild in the woods in great abundance, and are, in fact, in many parts the commonest wild tree. Although the fruit of the wild tree is not edible, the flowers are equally valuable as bee pasture. The orange trees continue in flower for about two months, when their place is taken by numerous other flowers. Some plants such as the banana, are in flower more or less all the year round, but, although they contain a large quantity of honey from the shape of the flower they are difficult of access to the bees, who are, however, very fond of them, and may be seen busily collecting honey from such flowers as have fallen to the ground.

To make a comparison between Paraguay and Australia, another part of the world where many large apiaries exist, Paraguay is exempt both from the extreme droughts and the extreme heats of Australia. In the latter colony the thermometer frequently rises to 120 degrees in the interior; in Paraguay a reading of 100 degrees is rare. Australia is just recovering from a

drought of seven years' duration; in Paraguay if a whole month passes without rain it is called a drought. Owing to the cheapness of living and of labor, working expenses are much less in Paraguay than in Australia, while the prices obtainable for honey are also in favor of the South American country. In Paraguay the average price obtainable for honey (whole sale) is about 5d. a pound, while in Australia, so far as I can learn, the average price is only about 3 3-4d. per pound. It is true in Paraguay the market is limited, but there is nothing to prevent the honey and wax from being exported to any part of the world. In Buenos Ayres there are dealers who advertise that they will buy honey by the ton in any quantity, but I cannot say whether it is more advantageous to sell in the Buenos Ayres market or to export to Europe. The latter market is certainly practically unlimited.

It is said that in tropical or semi-tropical countries bees tend to lose their honey-collecting instinct. In a country where there is no winter, and flowers abound all the year round, there is, of course, no object why the insects should lay up any store of honey, and, so it is claimed, they are apt to become lazy and live only for the passing hour. So far as I can learn from my own experience and that of other bee-keepers in Paraguay, there is no perceptible diminution in the laborious habits of the bees domiciled in the country. Although there is no valid reason why they should lay up stores of honey, in view of the never failing bee pasture which is to be found there, yet the insects still conserve the instincts of their primeval climate and continue to work as assiduously as ever in the manufacture of honey and wax. At the same time, I think it not improbable that in the course of generations the honey-sav-

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ing instinct will become lost or impaired, but if so, the process is so slow as to be imperceptible. I think therefore, that it would be advisable on the part of all bee-keepers who think of emigrating to South America to bring with them a good supply of fresh queens of the most approved breeds, so that, by the introduction of fresh blood (if such a term can be used when speaking of bees) from time to time, the original instincts of the bees may be preserved, and any deterioration prevented.

Insect pests are plentiful, and when the hives are weak may give a good deal of trouble, but, with proper care and attention, seldom do much damage. Toads of gigantic size are also numerous, but cause little destruction if the hives are raised a sufficient distance from the ground. Ants are abundant, but give little trouble except in very weak hives. The bees are not subject to disease. I have heard of very few cases of foul brood, and those have generally been due to carelessness. Larger enemies are not much in evidence. In Southern California I remember to have seen a bee farm at the foot of the mountains, which was surrounded by a barb wire fence to protect it from the attacks of the grizzly bears. No such precautions are necessary here.—John D. Leckie in 'The Field,' (Irish Bee Journal.)

HONEY AND ALMOND CREAM.

Honey 1 oz., powdered Castile soap, 1-2 oz., oil of sweet almonds, 13 oz., oil of bitter almonds, 1-2 drachm, oil of bergamot, 1-4 drachm, oil of cloves drops, balsam of Peru 1-2 drachm, liquid potassa 1-2 drachm. Mix the oils with the balsam, then mix the honey with the soap; add enough of the potassa to make a nice cream; add this to the first mixture, and beat for several minutes.—"American Bee Journal."

Robber Bees in an Apiary

At all times robber bees are a thorough nuisance in an apiary, and at times make a bee-keeper very irritable, especially if he is busy at something else at the time the robbing takes place. There are many methods of preventing it, various bee-keepers, each believing in his own system. Perhaps it would be as well to tell what brings about the robbing at various times of the season. During a cold snap, or wet weather during a honey flow, (which prevents the blossoms of the various trees and shrubs exuding the nectar, which the bees gather as honey, and which requires a few warm days to bring them into a fit state for the bees to operate on again) the bees get restless and will try and get into the hives of their neighbors, and then "ructions" for a few days. Again, leaving pieces of honey-comb, cappings, etc., where the bees will get at it, will lead to robbing. What I find the worst time is the latter end of the honey season, when the honey flow is nearly over. It seems the natural time of the year for them to rob; they wish to fill up their own hives with honey at the expense of their neighbors. And how will we stop them? We can't stop them, but we can prevent them from doing further mischief when we find them at the game; and they are prevented in various ways as follows: 1st. Get a lot of half dry grass and pile up against the entrance of the hive being robbed; this will sometimes prevent further mischief. 2nd. If the first does not stop them spray a weak solution of carbolic over the heap of grass, which is a good remedy. 3rd. Turn the hive robbed around in the

opposite direction and partially fill the entrance with sulphur, will puzzle the robbers and prevent further mischief.

4th. Keep all your colonies strong and at the latter end of the season, or when robbing starts contract all your entrances to a two-bee space, and robber bees will not get a chance to start, or if they do the entrance to their own hive and the hive being robbed, will be so small that they can't get around in sufficient numbers to do any harm. When there is 100 colonies in your apiary, and robbing starts, you will think it a hard matter to find from which hive the robber bees came. But it is quite an easy matter. Simply fill up the entrance of the hive being robbed with flour, and keep a sharp lookout at the other hives. In a few minutes you will see the floury bees, (robbers) entering their hives. Having found the robbers, reverse, and contract their entrance, filling up the entrance with sulphur. Do the same to the hives being robbed, and in my experience robbing ceases. Some bee-keepers suggest placing the hive being robbed on the stand of robbers, and vice-versa, but I find such a plan, especially at the latter end of the honey season, disconcerts the bees, and spoils what were otherwise fine colonies. You might, if the robbers are very persistent, open their hives at nightfall and uncapp all their honey frames, placing back again, which takes them a few days to fix up again, by which time they have forgotten all about robbing. Robbing will start, now and again, in the best regulated apiaries, but we can do much to prevent it from starting, by keeping all our colonies of one strength, not allowing any cappings or honey to get about to annoy bees when there is no honey flow. And not to extract too late in the honey season. I have seen bee-keepers extracting late in the honey season, and every hive they op-

en, in pop about a hundred robber bees, and in a few hours the apiary is an angry swarm of roaring bees that will sting everything and anything within a hundred yards of the apiary. The bee-keeper has his extractor and uncapping pan full of hungry robber bees, and his extracting room full of bees flying all around. The Bee-keeper will perhaps desist for a day or two to allow his apiary to quieten down at their own sweet will. He again makes a start with the same result, and go into winter with from 15 to 30 per cent less hives owing to the ravages of robber bees.—C. U. T. Burke, Prize Article in The Australasian Bee-Keeper."

HONEY VINEGAR

If you simply mix the honey and water so that an egg will fairly float at the top, showing about the size of a dime out of water, it may be sufficient or it may not, according to the amount of ferment contained in the honey, and also according to the temperature after the mixture is made. To make vinegar there must be an alcoholic fermentation previous to the acetic, and the more thorough the first fermentation is, the better the acetic fermentation will be.

In order to hasten the fermentation, it is best to add some fresh fruit-juice to your honey water. Then, if the liquid is cold, or if the temperature is low, it is best to heat the liquid till it reaches about 90 or 100 degrees. If it is kept warm, the fermentation will soon begin, and if it remains exposed to the air, it will be but a short time till the sour taste begins to show.

We never allow any honey to go to waste. The washing of the cappings in a well-regulated apiary will fur-

rich enough vinegar for two or three families, even if only a few hundred pounds of honey have been uncapped. In a large apiary, the cappings are first drained through the uncapping-can in a warm room until they seem perfectly dry, and even then several barrels of sweet liquid can be secured from the washings of the cappings of fifteen or twenty thousands pounds of honey. We figure that each thousand pounds of honey extracted gives us about 15 pounds of beeswax from the cappings, and, perhaps, five gallons of sweet water, fit to make good vinegar. So the apiarist should never render his beeswax till it has been thoroughly washed.

Vinegar which will not sour may lack two or three things which are all needed. Sufficient warmth, as stated above. If all other requirements are right, it will still be impossible for vinegar to sour if the weather is cool. A good place to keep a gallon of vinegar is right behind the kitchen stove. In a few days a jug full of mild vinegar will become very sour. Do not cork it tight, but cover the mouth with a cork. A wide-mouthed jar covered with a cloth is still better.

Air, that is, oxygen, is needed. The making of vinegar is simply the oxidizing of the sugar contained in the liquid. No change may take place unless the air is, or has been, supplied. For that reason the vineyardist keeps his barrels of wine full, and bunged tightly so that no air may reach the wine. If, perchance, a barrel remains open, he soon has a barrel of vinegar, instead of a barrel of wine, and the better the wine has been, the better the vinegar will be.

Sufficient sweetness is needed. If the directions I give are followed, a good article of vinegar will be produced. If you want to put the honey by weight, put not less than two pounds of honey for each gallon of water. A less quantity may make fair vinegar.

but it is much easier to weaken your vinegar if too strong, by the addition of a little water when you wish to use it, than to strengthen it by adding more honey after it is partly made.

A very good inducement for any sweet or alcoholic liquid to turn to vinegar is the addition to the liquid of what is called "vinegar-mother," the viscous, ropy matter which is usually found in a barrel of good vinegar. This "vinegar-mother" contains the principal ingredients that go to make vinegar, and although it is practically degenerated vinegar, yet it will add strength to the vinegar very promptly.

So, if you happen to have some old vinegar that has been long standing, you soon strengthen your new vinegar by adding a little of this "mother." Do not listen to those who say that this is a disgusting looking residue. It looks no worse than an oyster does. Vinegar containing this residue is sure to be pure and wholesome. Vinegar made from chemicals does not contain any "mother," neither does it contain any living organism.

The more air the vinegar gets at the proper temperatures the quicker the vinegar is made. Manufacturers of first-class wine vinegar in Europe often drain their vinegar through a barrel full of shavings slowly, drop by drop, so as to give it a good chance to air. In this way the best vinegar is made.

If you have no fruit juices to add to your vinegar, a little cider will help to give it a start.—C P. Dadant, in American Bee Journal.

To find from which colony an after-swarm came, J. Georges gives this in *L'Abelle Alpine*: Early next morning, before bees are flying, take a hundred or more bees of the swarm, shut them in a tumbler with some flour, tumble them about till they are well floured, then free them and run to the apiary to see which hive they enter. — "Stray Straw" from "Gleanings."

Hints for Beginners

R. F. HOLTERMANN

Bees should be packed by the 15th of October if they are to be left on their summer stands. How many neglect this work, bees are left to themselves and with consequent loss to their owner and positively cruelty to the bees. A society for the prevention of cruelty to animals will be quite active in prosecuting a man who ties up a horse, cow, dog or even cat, and lets it starve to death or otherwise abuses such a creature, but we hear of no case where a bee-keeper is brought to task for starving his bees or otherwise fails to provide in a reasonable way for these creatures who are in intelligence above them all.

The man or woman who would spurn to be unkind to any other creature neglects the bees and leaves them as helplessly to starve to death as if the horse were tied to the crib and no food given. Let us look at things as they are and not deceive ourselves. If we will not provide winter stores and protection let us butcher the bees or dispose of them. Feeding may yet during warm nights be given, and the bees will take it up. Let the food be warm, 90 degrees will do, or so our finger can be put into the syrup without actually burning:

Packing.

As to packing, the hive contents want to be kept warm and dry. Some predict a winter such as the last, it may prove so, but it is not likely any person really knows. The safe way

is to always provide for the worst. The packing box makes but little difference so long as it will contain enough packing between the hive proper and the packing box. Next it must keep out the moisture and also (a very important point) let out moisture which is given off by the bees. Forest leaves, cork dust, planer shavings, chaff, all dry, are preferred by me in the order of naming. Chaff draws mice and it is more likely to mould. Six inches below the hives, with six or eight inches at the sides and eight or ten inches at the top should be ample. Pack not too closely, and not too tight, just moderately firmly. The work of the top packing should be to retain heat in the hive, but to allow a little to pass through and carry with it the moisture from the bees, if the moisture escapes from the entrance in cold weather it is apt to condense and even freeze. This is dangerous. Passageways for communication between the clusters is natural, bees left to themselves so build their comb that the cluster can expand and contract without going around comb. In our modern system of bee-keeping with straight and even comb this advantage cannot be secured without cutting passage-ways in the comb. The next best thing is to lay sticks across the top of the frames to allow the bees to pass between the top quilt and the top bars of the frame. There should be small openings under the cover to allow moisture to escape from the case. The size of entrance is a disputed question. Jacob Alpaugh of Galt, who wintered outside with perfect success last year, gives a three-inch wide entrance then closes this all but one-half inch with cardboard, not very thick, the bees can then gnaw away the cardboard if they feel so inclined. So packed bees should winter well.

Brantford, Ont.

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Fruit, Flower and Honey show, Toronto Nov. 3th-12th.

Prize List of Bees, Honey, Beeswax, Apiarian Appliances, Etc.

Section	1st	2nd	3rd	4th
1 Best twenty dozen of Comb Honey in Sections display to be considered....	\$10	\$7	\$4	\$2
2 Best 5 dozen of Comb Honey in sections, display to be considered....	6	4	2	1
3 Best 1 dozen of Comb Honey in Sections ..	4	3	2	1
4 Best 200 lbs. of extracted liquid honey, to be displayed 100 in glass, balance in tins. The glass and tins exhibited to be marketable packages ..	8	5	3	2
5 Best display of 50 lbs. of extracted honey, in glass ..	5	3	2	
6 Best 10 lbs. Extracted Liquid honey in glass..	3	2	1	
7 Best 25 lbs. of Extracted Granulated honey in glass ..	4	3	2	
8 Best display of 200 lbs. Comb and Extracted Honey suitable for a grocer's window or counter. Space to be occupied 6 ft. square by 4 ft, high ..	10	7	4	2
9 Best display, 25 lbs. Extracted buckwheat honey in glass	4	3	2	
10 Best 4 doz. of Buckwheat honey in sections ..	3	2	1	
11 Best 10 lbs. of Beeswax ..	3	2	1	
12 Best display of articles in which honey can be used for domestic purposes ..	4	3	1	
13 Best and most practical New Invention, for bee-keepers' use ..	5	3	1	
14 Best display of Bees and Queens which may be seen by visitors ..	5	3	2	
15 Best method of crating and packing comb honey,— showing 12 section crates ready for shipment ..	7	5	3	
13 Best packages for long distance shipment, of extracted Honey, showing method of packing and crating the same ..	7	5	3	

RULES.

1. All exhibitors must be or become members of the O.B.K.A.
2. All honey and wax must be the product of the exhibitor's apiary. This rule will be rigidly enforced.
3. All entries must be sent to the secretary of the O.B.K.A. as early as possible, accompanied by a fee of ten cents for each entry.
4. No exhibitor will be allowed to make more than one entry in each section.
5. Exhibitors may sell their honey in unbroken packages but must keep

exhibits intact until the close of the show.

6. Members of the O.B.K.A. will be admitted free to the Fruit, Flower and Honey show upon presenting membership ticket for 1905.

7. A discount of 10 per cent will be deducted from the total amount of prize money taken by an exhibitor winning \$50 or over in prizes.

Exhibits will be received and cared for by the superintendent where the owner cannot accompany the same.

Manufacturers of bee supplies are invited to exhibit their goods for which space will be provided.

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BRANTFORD, OCTOBER, 1904.

EDITORIAL NOTES.

Bees from "Swathmore," E. L. Pratt's apiaries, Swathmore, Pa., took first prize at the British Royal Show, England, also at Arlon, Belgium, the most important show of continental Europe.

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Awards at the Western Fair, London: Most tastefully-arranged exhibit, D. Anguish, Stottsville, Ont.; best 200 pounds comb, William Coleman, Birr; best 200 pounds liquid extracted, Mrs. Rudd, London; best 20 pounds comb, William Coleman; best 40 pounds clover extracted, William Coleman; best 40 pounds linden, D. Anguish; best 20 pounds granulated, D. Anguish; best honey vinegar, Mrs. Rudd; largest variety of uses for honey, Mrs. Rudd; best beeswax, William Coleman.

• • •

Winter is almost upon us again, and weather prophets are prophesying another like the last. Be that as it may, the wise thing for us all is to have our bees in the best possible condition. The bee-keepers who came out best last season were those who made the most careful preparations in the fall, especially by seeing that their bees had plenty of good wholesome stores. This goes a long way in successful wintering. If you have a good cellar, fairly dry, and can control the temperature and arrange good ventilation, use it; if not, the bees will probably

be better outside if you pack them carefully.

* * *

Have just received a telephone message from Secretary Couse, saying that the dates of the Fruit, Flower and Honey Show, at Toronto, and the meeting of the Ontario Bee-keepers' Association, which were announced for November 8th to 12th, have been postponed one week later, November 15th to the 19th. The Show will be held in the Granite Rink, Church Street. The place of meeting of the Bee-keepers' Association has not yet been announced to us, but we presume it will be in the vicinity of the exhibition. The usual arrangement will be made with the hotels for delegates, and terms will be announced in our next issue. Arrangements have been made with all railroads in Ontario, whereby delegates purchasing a first-class single fare ticket to Toronto will be returned free, if 300 or more in attendance holding STANDARD CERTIFICATES, or for one-third single fare if 50 or more in attendance holding STANDARD CERTIFICATES. Certificates must be endorsed by the Secretary at the exhibition in the Granite Rink before they will be honored by the railways for the return ticket. When purchasing your ticket to Toronto, remember to ask for a standard certificate.

We understand that the exhibition will be opened in a formal manner, on which occasion many prominent men will be present and deliver addresses. The social features will be largely left in the hands of a committee of ladies. An orchestra will be present the afternoons and evenings of the principal days.

We note in connection with the program of the meeting of the Ontario Bee-keepers' Association, which will be held Tuesday, Wednesday and Thursday, November 15th, 16th and 17th, that Messrs. E. R. Root (editor of

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Gleanings in Bee Culture) and W. Z. Hutchinson (editor of The Bee-keepers' Review) will be present. Mr. H. B. Cowan (Secretary of the committee of management) informs us that Dr. Fletcher of the Experimental Farm, Ottawa, will be present to address the meeting on Tuesday evening.

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**PROGRAM OF ANNUAL MEETING
of the
Ontario Bee-Keepers' Association
Tuesday, Wednesday and Thursday,
November 15-17, 1904.**

Tuesday afternoon, November 15, 2 p.m.
Reading of Minutes.

2.30—President's Address.

—Discussion opened by Vice-President.

3.30—"Extracted Honey," Morley Pettit, Belmont, Ont.

Discussion opened by Mr. R. H. Smith, St. Thomas, Ont.

4.30—Question Drawer. President in charge.

Tuesday Evening, November 15, 8 p.m.

A joint meeting will be held by the members of the Bee-Keepers' Association, with the members of the Ontario Fruit Growers' Association, and Provincial Horticultural Societies.

Wednesday Morning, November 16th,
9 a.m.

9—Address, Prof. F. C. Harrison, O. A. C., Guelph.

10—Amendments to By-laws.

11—Paper, A. E. Hoshal, Beamsville, Ont.

Wednesday Afternoon, September 16th,
2 p. m.

2—"Foul Brood," H. G. Sibbald Claude, Ont.

Discussion opened by A. E. Hoshal, Beamsville, Ont.

2.45—"Importance of Queen Bees," W. Z. Hutchinson, Flint, Mich.

Official reports.

3.45—Election of Officers,

4.30—"Prevention and Controlling of Swarming With the Heddon Hive," F. J. Miller, London.

Discussion opened by C. W. Post, Trenton.

5.30—Question Drawer, Mr. E. Dickinson, Glanford in charge.

Wednesday Evening, November 16, 7.30.

7.30—"The Past Winter's Losses and the Deductions to be Drawn Therefrom," F. F. Holterman, Brantford.

Discussion opened by C. W. Post, Trenton, Ont.

8.30—"Influence of Bee Journals," W. J. Craig, Brantford, Ont.

Discussion opened by Ernest Root, Medina, Ohio.

Thursday Morning, November 17, 9 a.m.

9—"Experiments," John Fixter, C. E. F., Ottawa, Ont.

Unfinished Business.

* * *

Farewell to Foul Brood.—Gleanings, commenting upon our references to the spread of foul brood in Ireland, says: "McEvoy would clean it out in less than a year as effectively as St. Patrick did the snakes in that same island." Now, if the Department will not kidnap McEvoy for "less than a year," we are open to receive subscriptions to bring over that bee-pest charmer to do the trick here. We gather that foul brood does not exist in McEvoy's country.—Irish Bee Journal.

* * *

MIDDLESEX COUNTY ASSOCIATION.

The annual meeting of the Middlesex County Bee-keepers' Association will be held in the City Hall, London, on Saturday, November 5th, at 10 a.m. and 1.30 p.m. A good program is being arranged.

E. T. BRAINARD, Secretary.

NOTES AND COMMENTS

By a York County Bee-Keeper.

Some Common Sense Advice.

If Manager France of the National Association has any one quality predominating over all others, it is that he is intensely practical. From among some recent notes sent out by him, for publication, I select the following:

"I feel that there is much valuable work to be done by the Association, and recommend that city members do not cause quarrels among neighbors, and thus allow the Association more time and money to advertise the use of honey, help the sales of the same, etc."

While the foregoing may appeal to some critical ones as being merely "small talk," in my opinion it is quite timely advice. From private observation have noticed that some members of the National seem to glory in the fact that the Association would undertake to defend its members in case they should get into trouble, and judging by the way they expressed themselves, they didn't intend to take any particular pains to keep out of trouble.

Admitted, that there are "cranks" among the other fellows," it is quite possible that some of "us" might come under the same classification. If all parties concerned would, in a small way, try to live up to the principles of the "Golden Rule," lawsuits would become like the proverbial hen's teeth, "few and far between."

Italians versus Carniolans.

Have before stated in these columns in substance, that if I were in a buckwheat district, I would keep nothing but Carniolans, and, on the

other hand, if in a locality where there was no fall flow, Italians would have my preference. Recent experiences in preparing for winter have confirmed me more fully than ever in my opinion. Have just returned from an outyard of Italians, and Carniolans, (principally the latter) and found all heavy enough for winter. This is explained by the fact that there was quite an acreage of buckwheat within reach of this yard. At the other out apiary, out of 100 colonies, have had to feed 50 of them; some of them had hardly anything in the brood chamber. Among the 100 colonies only some 20 odd are pure Italians. Without exception, these were all heavy enough for wintering. Those with the least honey were all of the Carniolan race, which, by the way, rolled up the most honey in to the supers. While, as hinted at, the Carniolans, yield the most surplus, still, I hardly think the difference enough to pay for the extra trouble of feeding them in the fall. While on this subject would ask the question if any one has ever had a stock of pure Italians that would finish up comb honey with nice white cappings? My experience with Italians is quite limited, yet I have queens from several of the most noted breeders of that race. While they have given excellent satisfaction as extracted honey producers, yet, without exception, every colony would give that "watery" finish to the combs. So noticeable would this be that an inexperienced helper in the extracting-room, would always call attention to this peculiarity, whenever combs from the Italian colonies were brought in.

Large Colonies for Winter.

Despite the fact that some of our best bee-keepers advocate medium colonies for best wintering, somehow I like to see a good big cluster in November. Have one colony this fall that beats everything that ever came

under my notice in this respect. It is in a 9-frame Quinby hive, which, up to a few weeks ago, had three supers, each of the same capacity as brood-chamber. They had very little honey, but **abundance** of bees. The nine framers are now solid, and during this cool weather there are at least a gallon of bees that cluster under the gable roof, on top of the quilt. As the weather grows colder expect they will be able to get "down stairs." Hope to be able to report later how they stand the winter.

Feeding Bees in the Winter.

While this subject was under discussion at Trenton, last winter, it was generally conceded that it should only be done on the principle of "any port in a storm. From a lengthy letter in September "Review" it would appear that some bee-keepers regard winter feeding as being quite practical. The writer, among other things, says: "I would rather feed my bees every week by pouring one-fourth lb. of honey or syrup, on the bulrap directly over the cluster, than go back to the old way of feeding thirty pounds in the fall, and have the bees all starve on a hive full of candied stores. If your bees don't fly, 10 lbs. is enough for winter, and if your spring bloom is continuous, you won't have to feed any in the spring. You can tell by watching closely for ejected brood." That "candied store" business is a hard one on your humble servant, who has often fed the 30 lbs. at once, but has never yet noticed the "candied stores," and funny to relate, has never yet lost a colony so fed. That 10 lb. item is quite alluring, but a little experience along that line has made me unwilling to yield to the temptation. No sir, sooner the 30 odd lbs. and be excused from "looking closely for ejected brood."

The Fruit, Flower and Honey Show.

We notice that during the progress

of the show that on one day apples will be given to the public, and on another day flowers. This brings the suggestion, why not give away honey on **another** day. There are some beautiful piles of comb honey at the National, and as it is only worth in the neighborhood of a paltry \$2.50 per doz., quite likely some of our public-spirited bee-keepers would deem it a privilege to hand out a section to each caller. The writer regrets that, owing to the fact that he has no comb honey this year, he will be debarred from taking part in the work. However, will not display any of the "dog in the manger" spirit, but will give all encouragement to other aspirants who are in a position to "fill the bill." York Co., Ont.

STINGLESS BEES OF BRAZIL.

From The Journal of the Royal Microscopical Society we gather that H. v. Thering (Zool. Jahrb. xix., 1904) communicates many interesting facts concerning the habits and structure of the stingless honey-bees of Brazil. A comparison of representatives of the genera *Melipona* and *Trigona* with *Apis mellifica* shows, in addition to the characters common to all Apidae, such as the existence of drones, queens and workers, swarming, collection of honey and pollen, and the use of wax for building, two important structural differences, viz., the rudimentary nature of the sting, and the formation of the wax-plates on the dorsal side of the abdomen. These differences have led the author to constitute the genera in question a separate family from the Apidae. These bees build their nests invariably in the stems or branches of trees; they choose trees that rot easiest; but some build in the earth, as deep as four metres, with a perpendicular, slanting, or spirally-twisted tube to the surface.—British Bee Journal.

A Wintering Repository Above Ground

The following article in "The Bee-Keeper Review," copied from "The Farmer", St. Paul, Minn., will be of interest to some of our readers, who have been enquiring about the possibility of having a satisfactory wintering house above ground.

"The past winter has been one of continuous cold all through, yet if the bees were in a frost-proof cellar, or bee-house, with food enough, they will be in as good condition, or better, than they would had it been changeable, warm or sloppy, like the winter before.

I think the question of wintering bees outside in chaff hives or sawdust packing is settled for good after such a winter as the one just passed.

Every hive of bees in this vicinity left outside was dead long ago, no matter how packed. Chaff hives and sawdust packing will do where the climate is such that the weather often warms up to above the freezing point, or at least as often as once in thirty days, thus giving the bees a chance to change their position and have a flight, but during the past winter the thermometer here has not been above freezing point for 120 days. All stocks that I have had a chance to examine starved and froze to death with plenty of honey on all sides of them, but had worked their way to the top of the frames above the cluster, and were too benumbed to move sidewise to other combs of honey.

I read in the bee journals of bee-houses for wintering bees above ground made frost-proof by sawdust packing on sides and on top, but which cost \$150. So, for the benefit of those who have no cellar under dwell-

ing, entirely frost-proof, or those living on bottom lands, where cellars would fill with water, I will give a description of my present wintering receptacle.

I built it in June, here in the woods, out of logs, 12 x 20 x 8 inside, chinked between the logs and plastered up smooth outside and inside with clay plaster. It has a good shingled roof, door in end, windows in gables. It was used for extracting and storage of honey during the summer.

In putting on the rafters, which were hewed poles, they were left extended three feet outside the building, roof made of cull boards and shingled down to ends of rafters. On October 1st I set 2 x 4 studding (in my case I used poles) up two feet from the outside of the log building, boarded it up, and filled this two foot space with wet sawdust, pushing it down tight, and packing full, snug up under the eaves, and the same at the ends, eight feet high, making a second door outside the other one. A floor was put in above and two feet of sawdust piled overhead. Two ventilating tubes, six inches square, were put in four feet from each end, but these have been closed all winter. No floor was laid below. The hard clay was scraped level, and four inches of sawdust put down for a carpet. Two hundred colonies were put in November 13th. A thermometer was hung up in the centre of the room, which showed a temperature of 34 degrees after the two doors were fitted closely and tightly closed. Examinations have been made weekly. The thermometer has not been below 41 or above 46 in all winter. The bees have at all times been unusually quiet, a low hum can be heard when one is inside with the door shut. The dead bees have been swept up four times during the winter.

At such times a light was used, but it did not rouse the bees so they came out. The weather here has been most

severe, nine times going 40 below zero, once 43 degrees, and once 45 degrees below zero, but such temperature, with high winds and drifting-snows, has not caused any change within. The sawdust was put in wet, so as to prevent the warmth entering toward spring, acting as a stone wall. The inside will be no warmer in warm weather.

Now for the cost. Here in the woods the logs for building rafters, chinking and mudding cost nothing. Work one day with team hauling the logs together. One day for plastering. Clay mixed with water was put on freely inside and out and mixed up beside the building. Five hundred feet cull boards for roofing, 650 feet cull lumber to hold sawdust. Four thousand shingles.

Upper floor 300 ft., beams 50 ft., total, 1,500 ft., at \$4 m	\$ 6.00
4 m shingles, at \$1 m	4.00
2 windows in gables, at 40c80
Hinges for doors, 40c, hasp 20c60
10 double-box loads sawdust, for hauling	5.00
Nails60

Total cost, outside of work . . 17.00

Ten days' work, while watching the bees, also, completed the whole.

Here, I have a bee-house, good for 25 years at a cost of \$17 cash and 10 days' labor of myself, which answers every purpose as a cellar, as I have my potatoes, fruit and vegetables in it, and also shall keep it during the summer for workshop and extracting-room. It is handy to get into, no steps to go down, wide door, so a wheelbarrow can be run right in with a load of honey; and lastly, it is dry, with no mould or dampness. Should a colony starve, their combs will be dry, sweet and clean. Of course, here in the pine woods lumber is cheap, and in a prairie country one could not get logs, but I see no reason why the same

could not be built of lumber in the same way, using sawdust between the two walls.

Bees at present are very quiet, with no marks specking outside of hives. One colony, apparently starved, was found with the most bees off the combs, and combs apparently empty. Some few still had life enough to stir their legs a little. I gave them a five pound cake of warm sugar candy at once, made by melting granulated sugar in water, and boiling till it would harden, laying it on the frames. All revived within 12 hours, and now cover the candy in a mass. I have often revived a starving colony by feeding, after the bees had lain on the bottom two days, after which they did as well as any.

It is nearly time to set bees out, but wait till the snow is off, and warm weather seems to have come to stay."

Wisconsin. E. A. MORGAN.



The Influences of Moisture in Wintering

Some points on the above in connection with indoor wintering are strongly emphasized in a letter from Mr. C. Smith, Cheboygan, North Mich., to H. A. Bushby, Scandia, Texas, copied by The "Bee-Keepers' Review." Mr. Smith says:

"I were keeping bees in your latitude (as I once did) and were contemplating building a cellar for bees only, there are two things I would consider: 1st, does the honey ever candy in the comb? 2nd, Is it ever so thin that it diseases the bees?"

You speak of the great extremes of temperature and sudden changes, also of great loss of bees and stores, caused by fruitless flight, and squads of bees freezing solid. In a sudden change bees often get caught in outside combs and become chilled. If bees pass through six or seven months here on

the Straits of Mackinac, in a house-cellar at 40 to 60 degrees, with no flight, (there is often a period of six months that they can't fly if they are out) with no greater loss than six or eight pounds of honey or syrup, and practically no bees, and keep clean, healthy and quiet to the last, I see no reason why they can't in Kansas, providing the honey or syrup is good. If your alfalfa, honey candies above the bees, keep the cellar very warm (say 60 to 75 degrees) so warm that the bees will be compelled to spread out over the honey, and thus keep it dry and warm. For this condition an underground cellar, as a matter of economy in heat and fuel saving, might be best. But if your bees often get a lot of thin, unripe and unsealed honey, I would build a cellar above ground. Build an inner and outer door of double thickness with tarred paper in the centre of each door and inside of inside door, and pack the roof well with sawdust or chaff.

Put in two eight-inch ventilators with dampers.

You need no floor or window. Put an inch gas-pipe through the south or east wall five feet from the ground. I would extract the unripe honey if practical, but if not, keep the temperature high. Allow the great excess of moisture to pass freely from the hives, and also from the cellar. If honey will ripen in September, at a daily temperature of 75 degrees, and nightly temperature of 40 to 50 degrees, why wouldn't it ripen in a cellar at a temperature of 60 to 80 degrees? It would; but most bee-men confine the evaporated moisture in the hive, and instead of ripening, the honey absorbs more moisture; and what isn't absorbed condenses on the top-boards, and falls back on bees and honey; or else, if the bees are strong and will consume four pounds of honey per month, with a cellar at 40 degrees, the moisture is driven to the cold corners and

sides, where it condenses and runs down and out; that is, what doesn't seak into the wood, dead bees, and form in mould on the combs.

One of the oldest bee-men in the State, who has spent a life-time inventing things for bee-men, has finally got an underground cellar so tight that not an ounce of water can enter, yet he makes absolutely no provision, that I know of, for ridding the bees of a ton of water, except as I have indicated, and what passes off through three big ventilators. R. H. Boardman, (September "Review" 1903) winters his bees in a big cellar above ground, without ventilators, but with absorbing sawdust walls and artificial heat. Ira Barber (February and May "Review", 1903) winters bees in a manner satisfactory to him in an ordinary house cellar maintaining a high temperature by crowding; while Doolittle, can winter his bees on four pounds of honey. All these men have trouble towards spring, unless it is Doolittle, whose hives are unpainted, and so old that they are like a sponge, so that the moisture readily passes through. I get the same results with ordinary hives with the covers off. If Mr. Barber would leave the covers off his bees would not get uneasy and roar. Mr. Bingham could winter his colonies on four pounds each, instead of twenty, if he would

Leave the Covers Off.

In hives without covers, the moisture not only all passes off, but the bees have perfect control of the heat, and we can permit a very much greater variation of cellar temperatures, in fact, I don't hesitate to say that a strong colony would winter perfectly, clustered on the outside of a two-bushel bag, with ten pounds of honey or syrup in it, in a dark cellar where the temperature ranged anywhere from 40 to 100 degrees.

Build your cellar just large enough

to hold the bees—say 8x10 inside for 125 colonies. If their feed is in a normal condition, place one or two thicknesses of burlap under each top-board in October; in a week or two they will lie close to the frames when the top-board is removed. Put them in early, say November 1st, (and I honestly believe that I should say October 1 for good reasons) **leaving every cover out.** If there is much un-capped honey, I would cut up old blankets for additional covering, depending on how warm the repository is kept, and if it dropped to 30 degrees very often, I'd put a coal stove in it. A low flat car covered with straw could be used for running the bees in from outside, on which they could be left. In that case you would want a plank track and a 4 x6-6 door. Leave entrances open and set hives five or six inches apart, tiered up. Flatten the small end of a broom handle, fasten on a thermometer, and shove it through the gas-pipe. Frequent flights are a damage, unless the bees become diseased, and I would not move them out then until half of them began to daub the entrances, and would move them back in a day or two.

My mention of feeding with a spoon was hardly intended to be the very best way, only to show what **can be done** in an extremity, or on a bet.

Where honey is cheap, the best way to feed is to slip in a frame of sealed honey in October. I fed some last fall in division-board-feeders, and I think it could be done all winter; but in case you get a few in the cellar, that are short, set them on top of the others. The sugar candy so highly recommended by Editors Hutchinson and Abbott is certainly good; or you can feed as I am feeding ten of mine now, by putting in a case of low-grade section honey each month on the frames, under the cloth. "And leave the edges of the cloth up?" Yes

"How cold is your cellar?" "38 to 40 degrees, the coldest winter ever known here." But we hatched our chicks in the cellar in March and April, and the two big lamps raise the temperature 10 to 15 degrees.

Don't move out bees until willow bloom. One more word about feeding. I would rather feed my bees, every week by pouring one-fourth lb. of honey or syrup on the burlap-directly over the cluster than to go back to the old way of feeding 30 pounds in the fall, and have the bees all starve on a hive full of candied stores. If your bees don't fly, ten pounds is enough for winter, and if your spring bloom is continuous, you won't have to feed any in the spring. You can tell by watching closely for ejected brood. Leave the burlaps on two or three weeks after setting out, then put them away for next winter.

The ventilators are principally for carrying off the moisture that comes from the bees, and partly for admitting pure air, but if they don't carry off all the moisture, and you find an inch or two of frost on the stone walls, don't be scared, as it will do no harm there; in fact, a foot or two of it would do the bees good by helping them to keep warm,—just as a snow-bank would. Some say that stone walls are damp. This is not true. The "sweat" or frost on stone walls is the condensed moisture from the room itself, and there is actually less moisture in such a room than if the walls were of a more non-conducting material. In the deep snowbank, the snow is soon melted five or six inches around a strong colony, the water going back into the snow, and, if it can escape, the moisture from the bees goes there too, and the bees in this little ice-bound cavern, keep warm and dry, for the air of their little 2x2 room is drier than that of any kitchen in the world."

Natural Disinfectants

In "Le Rucher Belge" M. Reidenbach propounds new ideas with respect to disinfection of hives. He says it is well known that bacteria are the cause of a great deal of mischief in hives, but these are in a measure protected from the depredations of these microbes by the formic acid, tartaric acid, and ethereal oils in the nectar. Formic acid in small quantity, is found in the poison of bees, but exists in much larger quantities in the larvae, and in combs that have been bred in. He was able to extract from a piece of comb weighing 41 grammes about 36 milligrammes of formic acid. He found none in virgin comb. He concludes that the object of this acid is to preserve the nitrogenous food of the larvae, and consequently, to prevent fermentation and resulting disease. Damp prevents the evaporation of this disinfectant, and predisposes colonies to disease; therefore, it is important to secure good ventilation, so as not to deprive the hive of its weapon against bacilli. Another means of disinfection is in the tartaric acid found in the head-glands, which for a long time were supposed to contain formic acid. M. Reidenbach's research has shown this to be so, for formic acid is very volatile, and is rapidly dissipated in the air, but he found appreciable quantities of acid in the dry royal-jelly several years old, which showed it to be not formic but tartaric acid. This not only inverts cane sugar, but is of greater importance in the food of larvae, as it changes by oxidation into formic acid. A third means of disinfection is in the ethereal oils found in honey. It is these that produce the aroma that escapes from a hive dur-

ing a rapid ingathering, or that attract the bees to the flowers, and give to the plants like fennel, mint, and thym, their healing virtues. Their action in a colony is inestimable, and they assist in preparing a healthy food and while arresting the development of bacilli, give vigor to the colony. An active and vigorous colony produces a large quantity of formic and tartaric acid, and with a rapid flow of nectar, the ethereal oils increase, and the bees are in good condition to defend themselves against foul brood. He concludes by advising the bee-keeper to look after the sanitary conditions of his hives, to be sure that they have proper ventilation and good food—in fact, that they should be in a state to always produce the natural disinfectants to maintain the colony in a healthy condition. There would then be little to fear from foul brood.—"British Bee Journal."

THE DEACON'S MESSAGE.

Deacon Hardscrable, whose pungent articles were a prominent feature in "The American Bee-Keeper," and who was said to have recently passed away to the spirit world, has lately, untrammelled by the flesh, been renewing his connection with that journal in a series of letters. The old gentleman has evidently not lost any of his sarcasm, and is still very much interested in the things of earth, as may be noted in the following:

"A-h-h-h-h! You mortals are bloom-in' stupid! Here I've been a-tryin' all these months to make Harry understand me, and t'is but now that he has become cognizant of my presence, and been bright enough to get someone as knows, to talk with me. Well that was bright anyhow,—durn sight mor'n some folks know. I uster tell him 'twas powerful bad a doin' of so much work nights, but 'twas mighty fortunate arter all, else I 'low I'd never a got his attention.

"I've just been all stirred up wantin' to say things to the boys, and I'm

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right glad to get the chance.

"No, you mustn't ask no questions as to why I am still interested in mundane things, or what I be adoin' here, for if you do I'll get called off. It's agin the rules.

"Say, but there is one powerful advantage in a lookin' at things from here, the perspective is most bee-auf-ful. It's blumb funny to see the boys a-tublin over themselves to laud and worship every new star—provided, he looks big enough. Now there's a chap in York State 'lows as how taint possible to overstock a locality, that he's got hundreds of colonies in a spot. Then b'gosh, right in the same breath almost he says that he feeds TONS of SUGAR. Wal there is some truth in sayin' yer can't overstock a sugar refinery location. L'y'e you suppose he'd dare flavor that syrup strong with onions? No, not by the great Horn Spoon.

"Who is he? Ask W. Z. of The "Review." He is responsible for pasting him up in the bee-keepers' firmament.

"The bad part of it is W. Z. endorses the practice, so do a lot of the BIG producers, so do The "Gleaning's" folks. If you will just sort of cast your eye over the writin's of the boys as tells of the big yields, you'll find every durned one of them says they feed early, feed late, feed between times, feed slowly, feed steadily, feed any old way, only FEED. Why say, the boys would tar and feather the chap as would get through a law a compellin' of them to flavor their syrup right up strong.

"Oh, the wickedness of the Korn Syrup folks and the sinful cussedness of the fellers as mixes in a little glucose to keep the honey from candying. Don't you see them fellers is without the ring, they don't belong to the graft. They don't keep bees, they're rank outsiders, they're SCABS. Oh! Oh! Oh! Say, it's just royally blamed funny.

"Bees eat up the feed afore it gets into the surplus crop. You say color it sky blue or flavor it rank, and taste

for yourself. No, don't give one little dose, just feed 'accordin' to the rules,' early, often and always.

"There aint no such thing as 'overstocking' so long as sugar holds out. 'If this be treason make the most of it A-h-h-h-h-h-h!"

A POPULAR FALLACY

Apiarian Counselors and the Press
Still Teaching a False Doctrine.

Bee-keeping literature has, ever since the general use of the extractor, been full of warnings about the danger of taking out honey before it is properly cured. These repeated warnings are, and probably always will be, in order and should be reiterated time and again by our periodicals.

In my opinion a serious mistake has been made in many of these warnings—one which materially lessens their good effect. I refer to the idea that materially more honey, such as it is, can be obtained by extracting honey before any of it is sealed over. So far as I know this idea has been treated by all writers as though it were an actual fact, conceded by every one. I believe our editor, Mr. Hill, and myself are the only ones who have ever questioned this idea, and gave warning of the serious injury it was doing. So long as human nature remains as it is, some men will be found, even among bee-keepers who think more of a few extra dollars than they do of right or wrong; and so long as they are told of a way to make more money by wrong methods than by right ones will use the wrong ones without regard to any injury done to others. It is time this idea were sent into oblivion, where it rightly belongs, and where it can do no further damage.

My attention was first directed to

this matter while keeping bees in Cuba, some 15 years ago. Up to that time I supposed the idea was correct, having seen it repeatedly given by our foremost writers and never disputed by any one; but while watching some experiments on other points I stumbled on some new ideas.

Special conditions there make it possible to observe much more accurately some points in bee-keeping than it is possible to do in this country. Here our honey yielding flowers remain continuously in bloom day after day during their season, and any sharp difference in the quantity of honey stored by the bees on consecutive days is caused by weather changes of some sort or other. The bell-flower, from which most of Cuban honey is obtained, is a daily bloomer; that is, new flowers come out each day and last for that day only. It is very irregular in the amount of bloom it has day by day. I have seen hedges and other places almost as white as a snowbank one day with bloom, and the next day one might walk a mile and not see a hundred blossoms, while the following day there might be half or a quarter as many as on the first day. As the weather conditions are much more steady there than in this country the amount of honey gathered any day was in almost exact proportion to the amount of bloom on that day, and one could tell each morning with almost absolute certainty what would be the record of the scale hive at night. Any close observing bee-keeper will readily see what an advantage this irregular daily blooming was in certain lines of observation.

I practiced taking record of weight of the hive on scales after work had ceased each day and again before work commenced in the morning. This gave me the actual amount of shrinkage or evaporation occurring in the hive from close of gathering one day to com-

mencement of gathering next day. The percentage of shrinkage to amount brought in was quite regular during the entire season. It was about 25 or 30 per cent. Whenever there was a flowerless day and no honey gathered the shrinkage during the 24 hours until next morning would seldom exceed 10 per cent of the amount of shrinkage of the first 12 or 14 hours. Thus if the scales showed at night that 10 lbs of nectar had been gathered that day, they would in the morning show a loss during the night of 2.1-2 to 3 pounds, but if that day should happen to be a flowerless one, the following morning would reveal a loss during the 24 hours of not to exceed from one-quarter to one-half pound. This shows almost conclusively that nearly or quite nine-tenths of all loss of weight caused by curing of newly-gathered honey occurs during the first 12 or 15 hours after it is first deposited in the hives.

As soon as these observations had been repeated enough times to convince me of their accuracy, the question suggested itself to me: "From where comes the large gain in weight of honey supposed to be obtained by extracting every few days before being sealed over?" and that question is yet unanswered. Many other observations made while in Cuba and since returning to Florida seem to strongly corroborate the idea that little or nothing is gained by extracting unsealed honey. I will not give these points, but may do so some other time.

If the conclusions I have come to are correct, isn't it a serious mistake to teach that much more weight of honey can be obtained by taking out unsealed honey than by waiting until honey is in right condition to take? Some unscrupulous person will be sure to try taking advantage of that supposed fact.—O. O. Poppleton, Fort Pierce, Fla., in "American Bee-Keeper,"

Queries AND Answers

Q.—What effect will it have on bees to take honey from a hive diseased with foul brood or other infections, heated to boiling point, and feed it in September for winter supplies? Will the boiling injure the honey for feed?

Kettleby, Ont.

E. W. L.

Ans.—I have no experience in feeding honey from a diseased colony, but I would certainly expect that if the honey were only brought to the boiling point that it would spread the disease. Some of the best authorities claim that it is necessary to boil honey two hours and a half to make it safe for feeding. I have boiled honey of a poor quality to kill traces of fermentation, and used it for feed; the honey should be first mixed with an equal quantity of water. Boiling will darken the honey, but does not injure it for feeding to the bees.

Q.—Is it better to unite weak colonies than to try to winter them? Those I refer to have scarcely more than a comb and a half.

Norwich, Ont.

J. S. S.

Ans.—When I have had choice queens in nuclei that I wanted to save, I have wintered them when they only had enough bees to cover two frames, by placing two in a hive by placing two in a hive, with a tight-fitting wire screen division board between them to keep the queens apart. The entrances were at opposite ends of the hive. In the usual way, I would unite them

with a queenless colony, or one where I could change the queen to advantage.

Q.—Can bees be safely wintered at an out-yard in the way you described in last Bee Journal, and without any further attention until the following spring? Would you prefer this system to a poorly ventilated cellar?

Grandview, Ont.

D.H.T.

Ans.—Bees that are properly prepared, that is, with a young queen, in a hive in size proportioned to the strength of the colony, with 25 to 30 lbs. of well-ripened stores, should winter without loss, when protected in the manner described in The September Canadian Bee Journal.

Of course, this is supposing that the apiary is at least partially protected from high winds or drifting snow. If in an exposed location, I would advise that a board be leaned in front of the entrance as a wind-break, and the apiary be visited after heavy falls of snow or sleet, and any accumulation cleared away from the entrance. I would prefer the above method to wintering in a cellar where I could not control the ventilation and temperature.

Q.—I find some of my bees have not sufficient stores, and I have no combs left. Would you advise me feeding back sufficient of a poor quality of honey, or give them sugar syrup?

ORILLIA, ONT.

Ans.—If the honey mentioned was merely dark, but well ripened, I would feed it for winter stores without hesitation. If unripe, or gathered from decayed fruit, etc., I would prefer the best granulated sugar syrups.

The greatest enemy of bees is the ignorant bee-keeper.—C. Zwilling, in "La Revue Eclectique."

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BRANT COUNTY ASSOCIATION

The annual meeting of the Brant County Association will be held in the Court House, Brantford, on Saturday afternoon, October 29th, at 2 p.m. Delegates to the Provincial association will be appointed. A full attendance of members is requested.

Chris. Edmondson W. J. Craig,
President ; Secretary

SIMCOE COUNTY ASSOCIATION

The annual meeting of the Simcoe County Bee-keepers' Association will be held at Barrie on Saturday, 15th next., the morning session beginning at 10 a.m. All interested invited.

Denis Nolan, Secretary