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West Maitland, N.S.W.: E. Tipper, April 29, 1911

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No. 1.

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
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# "The Australian Bee Bulletin."

**A Monthly Journal devoted to Beekeeping.**

**Circulated throughout the Commonwealth of Australia,—New Zealand & Cape of Good Hope.**

**Published by : E. TIPPER, West Maitland, N.S.W. Aus.**

**Editor : W. ABRAM, Beecroft**

**MAITLAND, N.S.W.—APRIL 29, 1911.**

## **EDITORIAL.**

Once again the Royal Agricultural Show in Sydney was the great attraction, and owing to the writer's extensive experience in the bee and honey section, his time has been very much taken up with extra work, so much so that proper attention would not be given to selection of good papers for publication. As usual, very many thousands attended the show, both town and country being strongly represented. On Good Friday alone the turnstiles registered 83,000 passes. Easter Monday, however, usually the best day for all to go to the show, turned out wet, and at short intervals showers of rain fell. This made it unsuited for an outing. The next day, however, was a real fine day, and a large crowd turned out. The exhibits, so numerous and varied, afforded much of interest for all, and side-shows provide ample scope to amuse and entertain young and old. Most attention seems to be paid to the ring events, as all available space is closely occupied all the time. Though the ground is large and improvements have been made by the Society, there is urgent need for more space both to facilitate exhibiting to best advantage, and to provide room in comfort for sight-seers.

What concerns beekeepers, however, is the apicultural section. This is one

of the most attractive displays of the products of agriculture, the exhibitors in the trophy forms sparing no trouble and expences to arrange admirably, so much so that the public cannot resist the temptation to obtain a jar or comb of the inviting honey, and in this way many new consumers of honey are secured, whilst many others maintain that they cannot get anything equal from dealers.

If the illustrations in the "A.B.J." represent anything like the best of exhibits there, why, we here are far ahead.

In the trophy there were three competitors, and in the classes there was fair competition, though not as manyfold as on some previous occasions. The quality compared favorably with that of former years. Mr. Roberts did not receive his honey in time, and thus could not quite complete his trophy nor show in any of the classes. It was thought that some venturesome beekeeper from the country would come along and participate in the competition for trophy prizes, but none came. The Amateur Class of 30/-, 20/-, 10/-, did not even obtain an entry; thus those prizes fall back to the Society. The requirements for this class are very limited, and keen competition ought to have resulted, there being so many who keep a few hives of bees, and could have won the prize.



Mr. Pankhurst, Dourie, near Tamworth, was judge; Mr. Trahair, steward; and the judging was completed in good time on judging day to let exhibitors know the results. The task of judging so many different classes can not be an easy one for one man, and in any case it is perhaps a mistake to put all the work on one mind; but the Society seem to prefer single judging.

Following is the list of the awards :-

### BEES, HONEY, WAX, ETC.

(Judge : Mr. Pankhurst.)

#### BEES.

Queen bee (Italian) and her progeny, leather colored—W. Abram and Son, 1, 2, 3.

Queen bee (Italian) and her progeny, golden.—W. Abram & Son, 1, 2, 3.

#### PRODUCTS OF APIARY.

Beeswax, natural yellow, not less than 10lb. or more than 12lb., in one block.—W. Abram & Son, 1 and 2; W. T. Seabrook and Co., 3.

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#### COMB HONEY.

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One dozen 1lb. (dark honey), uniform size.—W. T. Seabrook & Co., 1 and 3; W. Abram & Son, 2.

Frame of comb honey, not less than 100 square inches.—W. T. Seabrook & Co., 1 and 2; W. Abram & Son, 3.

Frame of comb honey, not less than 50 square inches.—W. T. Seabrook & Co., 1 and 3; W. Abram & Son, 2.

Champion prize, collection of the products of the apiary in trophy form.—W. T. Seabrook & Co., 1; W. Abram & Son, 2.

At the show one meets many beekeepers, old friends and others never met with before. And if perchance several meet together, it is not long before all sorts of bee yarns come to light, one inducing another, and one more funny than another. Believe me, beekeepers have their funny bone as much developed as others; all it needs is to get a start, and off they go like fun. Here are just a few I heard telling; sorry I cannot recall them all just at present—

Once upon a time a party wanted a hive of bees, but the pure Italian, being too costly, he got a hybrid lot. In due time they needed robbing. The seller of the bees was asked to do the job; so one fine day he went over; but the owner of the hive had his own notion about the time of day bees should be robbed and so he could not possibly agree that the day was the right time; he always thought at night time was the best. "Well," said the other, "if you want to rob them at night you can do it yourself. I do it in the day time only." and away he went.

Some little time after the owner of the bees and his daughters set to work on an evening—or rather attempted to; but



before they had proceeded very far there was some commotion and the daughters were exceedingly busy to shift bees from places where they were very inconvenient and objectionable, and the job had to be left unfinished. Moral—Leave bees alone at night time; the day time is the time for robbing them.

Here is another: Some years ago a beekeeper had a considerable quantity of honey and meant to sell it. Honey tins being then hardly known, what will he do but get two large wine casks, take out one end and fill the cask with honey, load them on a bullock dray, the bullock team drawing the dray and casks of honey from house to house, the man selling the honey at so much per lb. in any quantity required. All went well for a time, but gradually bees smelled a rat—or rather the honey in the casks—and lo and behold, the bees not only took possession of the honey, but they also electrified the bullock team, and they, with their tails high in the air, took it into their heads to look for fresh fields and shelter. They were found days after in a dense bush. The honey that was left in the casks was pure, absolutely pure, because there were many bees floating in it. What became of that honey, or whether the beekeeper ventured on further like excursions, is not now known, but if this narrative should meet his eye no doubt he will tell us all about it.

Once an exhibitor was not satisfied with the decision of the judge—such is by no means an infrequent occurrence—and perchance meeting the judge, without knowing him, was introduced to him by someone as the party concerning him and his exhibit. He said: "O! are you the B. judge?" The judge, being a young and powerful man, said: "And what about the B. judge?" at the same time starting to remove his coat. The exhibitor, on seeing such unexpected de-

monstration to get the question answered, took quick French leave, and all was peace and quietness hereafter.

In this manner one story led to another, and time passed all too quick. No doubt, any beekeeper can tell some similar stories and this may be the means to bring some to notice. One mentioned a good thing to prevent bees stinging is to rub hands and face with the skin of an orange. It was said that one trial is generally sufficient to convince the most sceptical.

Apart from incidents as above given, one gets a good deal of insight as to how the bees fared during the season. Some beekeepers had most excellent harvests, more especially in the Paterson and Dungog districts, where the flow continued since June last, and is not over yet. The western district gave fair satisfaction, but some missed it almost altogether. The opinion was expressed that there is a chance of a rise in the price of honey ere long, and one large dealing house in honey has brisk demand for large quantities of honey, and also predicts better prices to result. Beeswax is coming to hand fairly well, but anyone has any on hand and will send me a small sample, I am open to take it at a fair price.

The coastal district did pretty well in spite of the amount of rain, and bloodwood is still in full bloom, which keeps the bees busy.

Swarming late in the season surprised many beekeepers.

At Challis House, Moore St., opposite the Post Office, the Government possess a large show window in which they permit exhibits of agricultural products to be exhibited for a week or longer, as also manufactured articles. In February I received a letter from the officer in charge of this concern stating he proposes to arrange an exhibit, about April 24, illus-



trating the bee industry, and asked my assistance in getting an attractive display together. In reply, I stated that I shall be glad to assist to the best of my ability. Whilst very busy with my exhibits for the R.A.S. Show I received a letter informing me that he, not having obtained other exhibits, will I fill two-thirds of the window space. Before replying I decided to speak to Mr. Seabrook, though I had given his name and several others to the officer as likely to participate in the venture; but Mr. Seabrook did not then feel disposed to go to the trouble, and then I told the officer that I shall do what I can to make a job of it. Thus, as soon as the show closed I removed part of the exhibit there and next day set to work to fix the window. It was by no means an easy job, the space in the window being so very narrow that only one person can fix things, and with difficulty at that. However, all was arranged, and when the blinds were pulled up there was a crowd there at once, especially watching the bees. Messrs. A. Hordern have a part of the window space where they display many bee-goods appertaining to the industry.

Mr. R. Benson, late of Aberdeen, and now at Glen Innes, informs me that, having accepted a position as foreman in a factory, he has disposed of his bees, as he has no time to spare. Let us hope that at some future time he will be able to be with us again. It may be mentioned that his bees were supposed to be poisoned last year, and then he made a new start again.

Several matters of some importance must stand over till sufficient time can be given for consideration.

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## Correspondence.

Tindale Apiary,

8th April, 1911.

Mr. W. Abram, Beecroft.

Dear Sir,

My bees have done well of late, owing, no doubt, to the favorable weather conditions prevailing. A noticeable feature during the present season is the scarcity of swarms, especially when most colonies are crowded with bees. I have noticed during other seasons that colonies not near so strong would swarm, despite what would be done to check it. Generally very little swarming takes place in this district after January, although there has (at times) been swarms in March. The whole thing appears to depend upon the conditions obtaining. Honey appears to be plentiful everywhere this season, so, no doubt, low prices will be the order of the day. It is, indeed, unfortunate that a sound export trade cannot be secured for our surplus. I fail to see why this cannot be done, as I venture to say our white clover and box tree honeys will compare favorably with anything produced elsewhere. If beekeeping is to become a remunerative business in this State, other avenues for the disposal of our product will have to be sought. As it is quite an easy matter to glut the Sydney market with a few heavy consignments.

Yours faithfully,

W. J. BENSON.

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## MOVING BEES A SHORT DISTANCE.

By C. P. Dadant.

"I have to move some colonies of bees a short distance. I am at liberty to select the most suitable time for this. At what time of the year would I best do it?"—"Illinois."



Moving bees may be done at any time of the year if the proper requirements are complied with. When the young bee takes its first flight it circles about the hive carefully, turning its head towards it, so as to take note of the exact spot. The action of the young bees when first emerging from the hive resembles that of robber-bees that wish to make note of the spot, so as to come back for more spoils. The only difference is that the young bee is much more composed in its flight. But the purpose is the same. They wish to be able to come back to this identical spot. The exact location seems so well printed in their memory, that if you move the hive but a foot or so they will be likely to alight nearer to the edge than the centre of the entrance, in the direction from which the hive has been moved. However, if the ground is absolutely clean around the hive, the distinguishing signs being absent, there will be less hesitancy in alighting in front of it, even if it has been moved several feet. That bees do make mistakes is clearly seen when colonies of different colored bees are in close proximity to each other. These mistakes are usually made only after the first two or three flights, and not later in life. Yet even old field-bees may be made to enter the wrong hive by covering their own home with some obstruction.

Knowing all these things, we must compel our bees to take notice of a change of location, when they leave the hive for the first time after a change has been made. This may be done in a variety of ways, but the cheapest and most practical is to place a shade-board in front of the entrance in such a way that the worker-bee is compelled to go around it in taking flight, instead of starting out in a "bee-line," as she usually does. If the worker starts out and does not notice the change of location until it is 10 or 12 feet from the entrance, there will be dan-

ger of its being unable to find the hive again, especially if there are other hives in close proximity.

A very good method, in spring and fall, to call our bees' attention to a change of location, is to confine them to the hive by closing the entrance during the night, and waiting to release them until some time after daylight, when they have become impatient at their confinement. If a little smoke is used to release them, when they tumultuously rush out, there will be no danger of stings, yet the unusual condition of this temporary confinement will be sufficient to cause them to look about them, and there will be no loss. Should a large number of bees get lost from the new location, through some mismanagement or accident, and return to the old spot, a very simple method of saving them is to give them a comb of brood in an empty hive at the old spot. When evening comes the lost bees thus gathered should be carried back to the new location. They are then so glad to find their old home and their mother that not one of them is caught again at the old place. They act exactly as do bees that have swarmed—they reconnoiter before they leave on their next field excursion.

I said at the beginning of this article that bees might be moved at any time, but there are times when I would prefer to do it—spring and early fall. In spring many young bees are hatching daily, and these all have to learn the location. The old bees are getting less numerous every day, and a less number will get lost, of course, than at any other date. It must not be done too early in the spring, because if a great many of the active workers were to be lost, it might endanger the life of the colony. I would not transport the hives in summer to new locations, unless compelled to do so by necessity, because the hives



are very heavy, the bees can not be confined safely for any length of time, owing to the heat, and the working field-bees are more numerous at that time than any other.

I would not move bees in late fall or winter, if I can help it, because there are often times when the weather is just mild enough for the bees to fly, but not enough to allow them to take a long flight without being chilled. When the hive has been moved there is more hesitancy in the flight of the bees, more time is required to take note of the surroundings, and there is more chance of the insect being chilled and lost.

These are general rules, not to be taken too literally, for exceptions will often occur. For instance, if you happen to move your bees on a cold winter day, and take every precaution that they may notice the change of location, you may have a bright, warm day for their first flight. In that case you will achieve success. We can only speak of general circumstances and possibilities.

Moving a colony of bees only a few feet on short notice, when they are able to fly, I would close the hive the previous evening, wait until the day is sufficiently warm, give them a smoking and general shake-up so as to make them fully aware of trouble brewing; then release them, placing an obstruction in front of the entrance for the entire day. This will usually succeed in saving all the bees, and if a few go back the suggestion I have given above for gathering them and returning them to the brood-chamber in the evening will make everything safe.

It is usual to say that the bees that have been confined to the cellar for the winter do not remember their location of the previous fall. I think this is probably the rule. But I know positively of one instance when they did re-

member it, and a number of bees returned to the old location. This was perhaps an exceptional instance. It is usually safe to make the change at that time.

When moving bees long distances, when they have to be confined for the space of a day or more, there is no danger worth mentioning of their getting lost, for they have been fully aware of a change of conditions.—“A.B.J.”

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### IS THERE A NEW BEE DISEASE A Puzzling Set of Symptoms Resembling Both Paralysis and Dysentery.

By E. F. Robinson.

On page 377, June 15, I notice Catharine Beattie, describing the peculiar condition of her bees, asks if it is bee paralysis. I have seen four cases of bee disease just like this, and am sure it is either a constitutional weakness or an intestinal disease inherited from the queen, and have proved most conclusively that it can and must be cured by re-queening. The sulphur treatment is entirely wrong, without even a theory to support it. As the bees do not eat it, its action must be by the fumes formed by the heat of the bees in the hive. Sulphurous fumes act principally on fungoid growth on minute animal life, neither of which is supposed to be present in bee paralysis, as paralysis is understood to be an affection of the nervous system.

Two of the cases under my notice were with beekeeping friends in Victoria. Not knowing any better remedy I advised trying the sulphur treatment, but both colonies dwindled away and died right out during the winter. My third case was among my own bees in Victoria. The queen was purchased in the summer of 1895 or '96, rather late in the season, I think. The colony wintered well; but in the spring the trouble developed just as described by Miss Beattie. The bees



would crawl out of the hive, and be dragged out by the healthy bees in a listless, sluggish manner, bodies all swollen up as in dysentery, the wings half extended. The bees would lie on the ground close about the hive. If I attempted to pick one up it would make a feeble movement with its wings, but show no desire to move its body. On opening the hive I found the rabbets under the ends of top-bars full of these swollen, lethargic bees, without strength or desire to move. I found on pressing the bodies that a nasty foul-smelling, yellow mass would be expelled, but not by the natural outlet, always by a rupture on the bee's right side.

The question is, "Why should this peculiar condition prevail?" Does it not show that the intestines were blocked by constipation? Again, we may ask if the bees were not eating pollen (but there was no reason to, as there was plenty of honey in the hive, and dandelion and fruit bloom in plenty). What produces this viscid mass of yellow substance? Surely not honey—perhaps some disease of the intestines. It could not be what they had gathered, as other colonies were quite healthy. I sent some of these diseased bees to The A. I. Root Co. for explanation, as they were from a queen of their raising, and not twelve months old. The suggestion of poison from tree-spraying was offered; but that theory did not hold, as other bees were not affected, and it continued to get worse with the mature bees, but the brood was quite healthy and lasted long—after fruit had all set, well into July.

I tried the sulphur, and fed a syrup with formic acid added, but all to no use. As the queen was very prolific, and the bees handsomely marked, I hesitated to break up the colony. But I smothered the lot, burnt combs of brood, and painted the inside of the hive and bottom-board with strong carbolic acid. Twenty-eight miles from Victoria I have my out-

yard. There is little or no fruit grow there, and I am positive no spraying is practiced, as I have failed to see any fruit-tree pests around.

In the spring of 1909 an Italian colony showed the trouble just as described above—the only one out of thirty colonies. I tried the pressing of the bees' abdomens as before, with the same results—bursting from the right side. I had colonies each side of the affected one, six feet apart, but all remained healthy. As I was receiving some imported queens in June I killed the queens in the affected colony and introduced one of my new stock, left the bees, brood, and honey in the affected colony just as it was (and it was very bad) to see what would become of it. It gradually recovered. I never fed or bothered with the colony at all—just let it shift for itself as an experiment. As it had stored very little honey I fed it up for winter in September. It wintered well; and to-day, June 24, it had eight frames full of beautiful brood, besides six frames in a shallow extracting super, equal to a total of 12½ Langstroth frames, all healthy, and in splendid condition.

I would advise Miss Beattie to re-queen her affected colonies, and earnestly ask that her letter and your humble servant's reply be sent to Dr. E. F. Phillips, as my observations may suggest the line of investigation. Requeening is the cure, but it is well to know the cause of the trouble.—"Gleanings."

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### Degeneration of Bees due to the Use of Artificial Combs.

Something new! you say? For is it not by this very method and by selection that modern bee-culture is improving the race of bees? With frames having 750 cells to the square decimetre (about 15 square inches) in the place of the 850 that the natural combs contain, one will obtain, after a certain number of generations, workers of appreciably larger size, etc. That, at least, is what certain beekeepers expected. But after several years of such practice it must be admitted that the size of the workers has not changed. It is perhaps not impossible to improve the worker in this way, but it is to be feared that the beekeeper's patience would be exhausted before the desired result was obtained. On the other hand, by increasing too much the size of the worker cells, we run the risk of making them too near the size of the male cells, and of seeing the bees build a greater number of male cells of smaller size than the natural ones. We will, in that case, have made a selection backwards. Wishing to increase the size of the workers we run the risk of increasing the number and decreasing the size of the males. For if we can hope to increase the size of the workers by raising them in larger cells for a few generations, it is not to be doubted that the size of the males brought up in small cells will immediately decrease. Now the latter have at least as much influence as the workers on the improvement of the race. Is it not certain that the strongest males and the most vigorous will be the most effective in that direction?

It is now 4 or 5 years since I first noticed the difficulty that I have just indicated. A very large number of male cells was built in one of my hives on

frames with 750 cells to the square decimetre (about 50 to the square inch). It took me two seasons to replace all the defective combs in this hive.

Since then I do not fear to employ the same frames still, but I take care to have the cells lengthened either by the swarms when they are first placed in the hive, or else towards the end of the season. At this period the males have been driven out or are on the point of being so, and the bees are building only worker cells. The latter, though only half finished, are always finished as worker cells in the following spring.

Nevertheless, it was not this trouble, accidental, perhaps, which led me to believe in the degeneration of the males, but the constant observation for several years of the fact that the size of the males is, as a general rule, smaller in the hives with frames where we are striving incessantly to reduce the number of these parasites, than in the hives with fixed combs where they are raised freely, if I may so express myself, in natural combs.

For more than 15 years I have raised bees with semi-fixed hives, in point of fact I have used principally the Dadant-Blatt. In moderate years, unfortunately too frequent, the swarms placed in hives with fixed comb constructions for brood cell do not always finish their building in the first year. In the following spring the building is finished partly at the least by large cells. The consequence is the raising now and then of several thousands of drones, who reduce the crop of honey, by the amount they consume, without benefitting the colony in any way.

Nevertheless it is easy to exaggerate the loss of honey occasioned by the males. I have obtained average yields of 66 lbs. with mixed hives having a quantity of males. But if the drones were more numerous in the semi-fixed hives, they



were at least select males of good size, because they had been reared in cells of large dimensions, such as are the male cells in natural combs. As I have just said, I have remarked that a number of males reared in frame hives are smaller than those born in hives with fixed combs.

That is easily explained: In every way, but especially in completely filling the frames with comb-wax we prevent the building of drone cells. But we never succeed absolutely; there is always, in every hive, a greater or less number of these cells, the wax-makers being obliged to intercolate them here and there, sometimes to destroy the worker cells.—I have frequently verified this.—To replace them with male cells the latter are often wanting in the size and regularity of the natural combs. As the size of the males cannot exceed that of the cell in which they are reared, it is not astonishing that many drones born in frame hives should be of less size than those born in hives with fixed comb. Nevertheless, we need not exaggerate the danger. But if we wish to select, to improve, the race, we must try and remedy this state of things.

Do not be afraid; I am not going to advise you to return to the hive with fixed combs. It is easy to have selected males in your frame-hives, and not to have more than is convenient. All that is needed is to build some parts of the frames with male cells, making the frames attractive with a band of wax about one-half or one-third of the height of the frame, and to introduce them, at the time of gathering the honey in early summer, into a good colony. Those frames with large cells in natural comb are carefully noted so that they may be withdrawn and placed wherever one wishes to use them for rearing. A single one suffices for a colony, and two or three in an apiary, even a fair-sized one.

They are placed in the middle of the spring in the brood cells of one or of

several selected colonies. They can be taken from the brood cells after the hatching of the first generation of males, in order to avoid a second. Provided they be of good quality, one does not need too many males in an apiary. Be careful, as far as possible, to suppress all broods of males in other frames.

I know very well that whatever we do there will escape many males where we do not want them. But if we have made easy, the rearing of an equal number of chosen males we will have the chance of not having lost our time.

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### BALLING QUEENS.

By Ernest Eaton, Expert, B.B.K.A.,  
Cheshire.

The meagre information possessed by the average beekeeper respecting this peculiarity of apiculture has given rise to many misconceptions, but that the queenlessness of many stocks in spring is attributable to it is certain.

The balling of queens is not restricted to any particular season, but is most frequent in the early part of the year. In most cases the beekeeper is responsible for it by being too zealous, opening his hives when the bees are clustered, thereby causing many of them to fall upon the floorboard among which may be the queen. The other causes are the presence of an excessive quantity of drone comb in the hive, feeding at unseasonable times, and anything which tends to make the bees dissatisfied with their queen. The oft-repeated warnings not to commence manipulating too early are in many instances disregarded by some who are anxious to have "just a peep." A description of the symptoms, and a method of remedying the result of this misdirected zeal, will therefore be useful.

It not infrequently happens, while a colony is under examination, that the queen falls from the comb to the floor of the



hive, and is balled. This is accounted for by the fact that the presence of her majesty on the hive floor, and her startled movements after such treatment, are both unusual. The workers, under a misapprehension, treat her as a stranger, and emitting a hissing sound, rush tumultuously with extended wings upon her from all sides, often killing her. If the queen is alarmed by any means, or strange in her actions, this peculiarity may manifest itself, and a queen the bees have cherished as their mother for a considerable time may be victimised.

Again, it may occur when there is little brood in a hive which is opened, and the light falls directly upon the queen.

Dissatisfaction with their queen may arise from many causes. For instance, if a hive is headed by a virgin whose fertilization has been retarded beyond the successful limit, she may at times be heard piping, and the workers may be seen pulling her legs, or twisting her wings. This is preliminary to balling.

When handled, queens are soon alarmed; besides which, they acquire a different scent, which may cause the bees to treat them as strangers. This last point, though often lost sight of by novices, is of great importance.

Queens are sometimes liberated from these murderous knots unharmed, and are still capable of reproduction. In case a queen falls from a comb to the floor and a knot of bees is formed, pick it up and drop it quickly into a cup of water, when they will generally leave the queen and make for the sides, failing which, separate them with the smoker. As soon as the queen is seen, pick her up on a blade of grass, straw, or twig, and if she is not too agitated, allow her to run from the top of the frame into the hive. Watch her progress, and if there is any danger of another attack by the bees, remove and cage her.

If it is necessary to handle the queen at all, grasp her by the thorax, or second division of the body, as lightly as possible. This portion, in order to support the muscles of the wings and legs, is more strongly built, and consequently more capable of resistance. The ovaries are situated in the abdomen, and are at times so full of eggs that the least pressure upon them might result in a permanent injury.

After having been handled by the fingers, it is always advisable to cage a valuable queen alone in the hive before liberation, in order that any unnatural scent which she may have acquired may leave her before she is once more at large and accessible to the bees. To cage her with her own bees, however, would be ineffective, though not altogether impracticable. Discretion is required in the selection of her attendants, which should be young bees.

The "Pipe Cover" cage is the cheapest and simplest for this purpose. Place the cage over the queen and clip a piece of cardboard underneath her, taking care to avoid maiming her. Now, without removing the frames in the hive, slide the cage carefully from the card over some open honey cells, and press it into the comb securely, allowing sufficient space in the cage for the queen's movements. After 24 hours an examination may be made, during which examination give as little smoke as possible, to avoid disturbing either queen or bees. The workers should not be clustering thickly on the cage, but merely passing their tongues through the perforations. Under these conditions she may with safety be liberated.

If the bees do not molest her after liberation, but lick, feed, or clean her, they may be safely left. Should the queen be attacked in any manner, disperse the bees by smoking them vigorously, and confine her for another 12 hours; then try again.—"Beekeepers' Gazette."



## HOW TO RE-QUEEN CHEAPLY.

By Joseph Tinsley, Expert (First Class),  
B.B.K.A., and Lecturer, Stone, Staffs.

By the growth of science in all departments of agricultural life the beekeeper is being considerably assisted, but it is only the more expert people who are really accepting the necessary advantages.

It is a peculiar coincidence, but many beekeepers are also poultry breeders, and they are constantly killing off the old hens and raising young chickens to fill their places, knowing that if a fresh hatch of young fowls can be got, the increase in eggs will be maintained.

The same applies in the horticultural world. Take one simple case, the strawberry. Here, after three years, and sometimes less, the old plants are destroyed, yet they would supply berries, but nothing like the size in comparison with younger plants. The same applies in the agricultural world, as a farmer will quickly inform one, and so all through the realm of creation.

It is more conspicuous than ever in the agricultural field, and yet beekeepers will go on from year to year with the old queens, and display quite different ability with their poultry. Many people believe that the bee can look after itself. This is perfectly true if the bees are in a wild state, but those who have had experience of taking these nests know very little that little or no honey can be found in them. Nature teaches the bee, in this respect, to provide just sufficient for its own requirements and nothing more. But with the bee housed under man's care quite the contrary is expected. The bees are forced along in quite unnatural conditions, and it is, therefore, to be expected that particular assistance shall be given from time to time. Swarming is the natural way of selection and of the survival of the fittest in the wild state. Swarming, in the domesticated way, is

considerably restricted, and no provision is made to either obtain young queens or insist on the bees re-queening themselves at the proper time. A system equally as important to the poultry breeder should be adopted by the beekeeper to obtain young queens, if the industry is to be a source of remuneration.

In the case of a natural swarm, the bees generally construct a number of queen cells, and if the beekeeper wishes to re-queen his stocks from his own colonies, these can be utilised. After the swarm has issued queen cells will be noticed in various stages of development. Some will be sealed over, while others will be in the egg, larva, or pupa stage, but all will produce queens of the finest order. These royal inmates are most valuable, as they are produced under the most ideal and natural conditions possible. To commence with; swarming only takes place just when the stocks have built up to an abnormal strength and honey and pollen are coming in abundantly. Thus the two most vital conditions prevail, food and bees. Again, to successfully raise queens, plenty of hatching brood is required, and of course this naturally exists in a swarming colony.

Another important point is to see that the egg is used to start queen rearing upon, and this is always a difficulty in raising queens artificially, but in the swarming stock the queen has actually deposited the egg in the royal cell, specially built for the purpose.

Almost in every apiary where a number of hives are kept there is usually an early swarm, and it is very little trouble to utilise the overplus of queens for the re-queening of the other colonies.

The queen cells are usually due to hatch about a week after the swarm, but in case the latter has been delayed on account of bad weather it is always advisable to make an inspection on the same evening as it comes off. The swarm is hived



as a separate colony. Now use your discretion as to the relative merits of the several queens heading the other colonies. Hunt them up and inspect their wings. An old one will have a shiny body and ragged wings. Watch the egg-laying and see what she has been doing recently. There are five thousand cells on the two sides of a standard comb. Now, a prolific queen will lay from two to three thousand eggs per day, and if she is not maintaining a good average, pinch her head, and in twenty-four hours give this colony a sealed queen cell from the swarmed stock. The mating of the virgin will take place at the proper time, and if all goes well the colony will be provided with a young and vigorous queen who will do good work for a couple of years, when the same process must be repeated. Treat the rest of the colonies with failing queens similarly.—"Beekeepers' Gazette."

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## THE CONTROL OF BEE TERRITORY

### Has a Beekeeper a Moral Right to his Bee-pasturage?

By J. L. Byer.

It is so seldom that our good friend, Dr. Miller says any thing that we can disagree with, that, when we do get a chance, we never like to let the opportunity pass by. For some time I have been prompted to take issue with him on the question of a beekeeper having legal control of a given territory, and that Straw on page 1423, Dec. 1, 1908, brought the matter to a climax. Before proceeding further, let me say that with him I fully agree with friend Hutchinson when the latter says, "The man who will crowd in upon the territory of another should be looked upon as little better than a thief." Having said so much, it now rests upon me to explain my seemingly paradoxical views. So far as sparce-

ly settled communities are concerned, i.e., sections which, on account of the nature of the land, forbid any chance of ever being intensively farmed, there may be room for argument. Among these localities might be mentioned some parts of Australia; and on our own continent, the mountainous sections of the country where beekeeping is carried on, such as the sage districts of California. Possibly the sandy lands of Michigan and other places where the raspberry grows in profusion might come under this list as well, as I understand much of this land will never be fit for farming. While I have my doubts as to any one having a moral right, to say nothing of a legal right, to determine who shall or who shall not keep bees in a territory, even under conditions as outlined, I shall not argue that point, but, rather, confine my remarks to the question as it affects Dr. Miller, myself, and a great host of beekeepers who keep bees which pasture upon forage raised in the main by the farmers around us. As I am more familiar with conditions as they affect myself, I shall use such conditions to illustrate the reasons that cause me to take views on the question different from those entertained by Dr. Miller.

My apiaries are all situated in rich farming communities, where one of the main crops is the raising of alsike clover for seed. This alsike is our main source of honey; in fact, if there were no alsike raised we would have to move our bees if we wished to continue in the business, as not more than one year in ten do we get surplus from any other source. As an exception to this statement I would say that in the past four years we have had a little surplus from the buckwheat; but as this crop yields nectar very sparingly on our strong soils, it is of little account to the beekeeper.

Now, no one can dispute the point that the farmers who raise the clover have the first right to the nectar the clover pro-



duces, and it quite often happens that some of these farmers take a notion to keep bees so as to secure some of this honey for their own profit. Naturally they are not likely to consult Mr. Specialist Beekeeper, who lives on a lot near them, even if his bees have had the exclusive use (not rights) of their clover-fields. These things have happened and are happening all the time, and I know of cases where some of these same farmers have become successful beekeepers and have large apiaries right near specialist beekeepers.

Suppose a law were in force giving me control of a territory five miles or more square, and some of my neighbor farmers who were raising the clover should take a notion to keep bees to secure the honey from this clover (raised on their own property), wouldn't I cut a nice figure if I tried to enforce that law? Honestly, doctor, do you think that I would have a moral right to do so, to say nothing of a legal right. No doubt Dr. Miller has more in mind, the thought of one specialist moving into a territory already occupied by another specialist; and, as already intimated, I agree that there is a moral wrong in such an action; but where are we to draw the line when it comes to having legislation on the matter. Any such legislation would be sure to be abused, and be the cause of any amount of friction and hard feelings.

As to the action of one beekeeper moving into an already stocked locality for the sole purpose of keeping bees, that party is a fool as well as a rogue! for if he is the means of overstocking a locality it spells financial failure to himself as well as to his neighbor. Fortunately, examples of this kind are quite rare—at least in "our locality," and there seems to be an unwritten law or code of honor (call it what you wish) among beekeepers that forbids the practice becoming common.

Right here comes in the thought as to what constitutes overstocking; and I have known beekeepers to complain of being encroached upon, when other beekeepers, disinterested parties, claimed that there no overstocking by the second party coming on the scene. However, it is wise on the part of a beekeeper seeking a new location to err on the safe side when deciding on a matter of this kind, and not give any possible cause for complaint.

The late Mr. Alexander held the view that the beekeeping of the future would be almost exclusively in the hands of specialists; and if this is the case the matter of having control of territory would be somewhat simplified. However, that view is, in my estimation, extremely visionary, as I believe that professional men and others will continue to keep bees for recreation, if for no other reason; and there is no question that large numbers of farmers and others will, in the future, as in the past, continue to keep a few bees to provide enough honey for their own table. Would the advocates of legal control of bee-pasturage stop all these men from keeping bees entirely, or would they limit them to half a dozen colonies? If the latter course were decided upon, some day when the bees got to swarming freely our amateur beekeepers would find themselves open to prosecution before they knew where they were at.

In conclusion, the question of legal control of territory for a beekeeper in thickly settled communities is, in my estimation, an idea that a democratic people would never countenance. While I am open to conviction on the matter, yet I frankly admit that to my mind the question is surrounded with insurmountable difficulties, and I do not believe that the beekeepers will exercise such arbitrary powers in my time. As the question appeals to me, I would say further that I have no desire that such a law shall ever be passed; and this leads



me to say that Dr. Miller must have some good reasons for taking the position that he does that he has not yet made public. I say "good reasons," for anybody knowing Dr. Miller is always assured of the fact that any arguments advanced by him on any questions are unbiased, and free of any sinister motives or methods.—, "Gleanings."

### SOME VERY KNOTTY PROBLEMS.

By G. M. Doolittle.

With most of the puzzles coming up in beekeeping I just take them to the bees for an answer; but here are some that have lately come up which the bees do not seem to answer readily, or do not answer to an extent sufficient for me to understand. During several trials with a self-registering thermometer, I found that the temperature necessary for brood-rearing was from 90 to 98 degrees. In other words, in some 5 or 6 different experiments with full colonies and weaklings, during times of heat as well as during frosty nights, I could not find a single instance where a temperature of less than 90 degrees was registered, nor one of more than 98 degrees F. So I set it down that the right temperature for brood-rearing was between and including the two.

All went along smoothly in this matter, as far as my mind was concerned, till one spring I had a colony that became so reduced in bees that there were scarcely more than 200 in it. On opening the hive I found that these few bees were keeping a quantity of brood going to a number fully equal to that of their own, but all of this brood was on the "inside" of two combs. In other words, this little handful of bees were not sufficient to cover one comb, the best they could do being to cluster between two combs, and have brood in the side of each of these

next to themselves. Thus the eggs and larvae, which need the most heat, were in the bottom of the cells or in the centre of the combs, on the opposite sides of which was no warmth, with the base of the cell-partition not thicker than a sheet of writing paper.

Soon after I discovered this (to me) strange state of affairs (for up to this time, except with warm weather and very strong colonies, I had always supposed, from all my observations, that if there was any brood in any comb, that brood was of nearly equal amount in the cells on both sides of the comb), there came a night so cold that the mercury went down to only 35 degrees above zero, so that a temperature of but 40 appeared between the two combs right opposite the brood in the little cluster. I expected that the brood, especially the one and two days old larvae, would all be dead, but, to my surprise, when it came warm enough so I could look the next day, all the brood was as prosperous between those two combs as was the case with large colonies. I said to the 200 bees, "You little rascals, tell me how you did it!" But neither the bees nor the queen could give me a satisfactory reply. So I am still puzzling myself over this matter. Have any of the readers of the "American Bee Journal" a satisfactory answer

And right here comes another item: Not long ago, in conversation with a beekeeper, he said, "bees seem to possess the power to retard the development of both eggs and larvae, as also to hasten this process." I felt like saying, "Which may be true or it may not be true."

That the development of young bees is greatly retarded at times, and accelerated at others, no close observer will deny; but the question in doubt is whether the bees have the power of thus hastening or retarding the development, or is it the condition or state of things over which they have no control? I believe



that the egg is changed into a larva when the egg is "ripe," only as it is touched by the pabulum from the nurse-bees, and thus far consider that the bees have perfect control over the hatching of the eggs; but further than this, I think that the time of year, temperature, etc., have more to do with the matter than the bees. A term of extreme heat from 10 days to 2 weeks will so hasten development that I have known perfect young bees to emerge in about 10 days, while very cool or cold weather so retards this development that several cases of worker-bees being in the cell for 23 and 24 days have come under my notice. But to be fair, I must state that in all cases of such development it has come in the fall or the year of after Sept. 1st, at which time the bees pass into a less active mood than is the case during May, June, July and August.

How my attention came to be called to this matter was through the time of the queen emerging from queen-cells placed in a queen-nursery, the same being put in place of a frame in an upper story over a strong colony. Such cells would not hatch regularly after Sept. 1st, the time varying from the usual 16 days up to 24, and in one or two instances still longer or not at all. On looking for the trouble, I found by observation that the brood in the combs on either side of this nursery was as tardy of development as were the queens. From this I came to the conclusion that there were times when through the sluggishness of the bees they really did have something to do with the matter; but in all times of activity in the hive I doubt very much about their being able of their own will-power to change matters very much along this line.

I now come to the last puzzle which is, how the bees are able to keep the inside of the hive as cool as 98 degrees in time of extreme heat; for, as I said near the commencement, with experiments conducted with a self-registering

thermometer, and that on some of the hottest days did I ever know of a temperature greater than 98 degrees F. inside of the brood-nest. How the bees can keep down the temperature of the hive is more than I can see. I am told it is done by ventilation through a row of bees standing at the inside of the entrance, and another row on the outside, when, with the fanning of their wings a current of air is driven even to the remotest part of the hive, thus keeping the inside of the hive at the right temperature for the prosperity of the brood. But mind you, in one of my experiments with the thermometer, the temperature in the shade was only 2 degrees lower than that registered in the brood-nest, while this hive, inside of which the thermometer was placed, stood right in the "blazing sun," which gave a temperature of 127 degrees by another thermometer placed on the hive. Then that very same day I had proven that animal life inside a hive with no bees could not exist on account of the heat, as (for the time being) I had thoughtlessly placed a sitting hen which I wished to break of that trouble, inside such a hive which was in the sun. Much to my astonishment, when I went after the hen an hour or so later, I found her dead and nearly roasted.

Can the bees keep down such a heat by ventilation, when the air outside is apparently as warm as it is inside? May they not have some other means of doing it? I have been told that the bees do this by the evaporation of the nectar brought in from the fields, as the converting of nectar into honey causes a vapor, which carries off the heat very rapidly. But this idea failed to hold good in this case, as the time was between basswood and buckwheat, when nectar was so scarce that I was in trouble from the bees robbing.

Who of the readers of the 'American Bee Journal' are enough interested to help in the solving of these matters?—'American Bee Journal.'



**SPRING DWINDLING.****Longevity versus Pollen Substitutes.**

By Samuel Simmins.

Mr. F. Dundas Todd asks, "Is there a practicable method of giving a substitute for pollen inside the hives?" There are several, some of which he appears to have overlooked. Certainly he had an experience that would make him think hard on just that subject.

Mr. Todd gives a quotation from my 1904 edition, which is rather a condemnation than a helpful explanation of any plan of substituting artificial pollen in the total absence of the natural article. I have seen and known of so much harm being caused by candy fed in winter, and flour candy used at an improper season, that, until the above issue of my work, I had been very much in the same mind as the editor as regards offering various methods of supplying pea flour that I had tried over a period of more

But notwithstanding Mr. Todd found than thirty years.

only four words referring to meal, I should like to ask him to take up that same edition of the work referred to and cast his eye down page 36, where he will find directions for supplying artificial pollen in two forms inside the hive, close to the cluster. The best way that water can be supplied at the same time is undoubtedly by the means of warm thin syrup so placed that it will keep warm all the time.

If the weather should be fair when meal is given to the bees, then no harm can occur; but with a cold and sunless period my own opinion is they are much better without. Stocks have dwindled badly, just because flour candy had been supplied in early spring, and I have always tried to persuade my correspondents to discontinue its use at that period

**Longevity and Stamina.**

I have made a law unto myself, that, unless overtaken by disease, there should be no spring dwindling in any modern apiary where any sort of progress is claimed by the owner. His watchword should be Longevity and stamina; and with these points gained he can defy dwindling and short honey crops. There is not even the excuse available that his bees have gathered a lot of honey-dew, as he can always feed enough pure syrup at the latter end, upon which the bees will then feed during the critical period leaving the poor feed for use when they begin to move freely.

My own district is one that shows a great scarcity of pollen in autumn and spring, so that my stocks, nine years out of ten, winter without that desirable adjunct to their stores. Nevertheless, the bees frequently go from August until April without rearing the least patch of brood; yet I often get two or three frame nuclei (wintered as such) into swarming condition earlier than the established stocks wintered by many of my correspondents, even though they are blessed with an abundance of natural pollen.

The peculiarity of my district has compelled me to select my breeding stock so that workers hatched in August are found still active in May of the following year. So persistently have I bred for longevity that I believe no sort of ordinary neglect, apart from actual starvation, can cause these bees to dwindle; hence the necessity of early brood-rearing is not very important. I might even say its absence is an advantage, as progress is the more rapid when the advent of fair weather provides the necessary nitrogenous food. Possibly few owners have ever established stocks absolutely without pollen at the beginning of winter; but usually one comb would easily contain all I could find among 100 colonies.



In securing the quality of longevity, one is sure of obtaining almost every desirable point required in a good honey-getting strain. The stock of bees that loses the least number will always be strong in wing power, and, of course, they build up to full strength in half the usual time. Moreover, they appear to hibernate so perfectly that the stores show little diminution before brood is reared extensively. They require to fly but seldom; and the almost total absence of dead bees before the entrance during winter is one of the most astonishing facts that result from breeding for longevity.

#### Bees Stealing Eggs.

Surely Mr. Frazer does not imagine any one can think fertile workers are responsible for producing a perfect mature queen. He should understand I implied fertile workers were responsible for the eggs found in queen-cell cups, where no proofs could be offered that these eggs ever came to real queens. His own experience goes to show that bees may sometimes steal eggs, though he perhaps does not realise that even his imported queen may quite likely have taken a flight, as many fertile queens do, and got into the wrong hive.

In the Feb. 1st issue, however, Mr. Pritchard appears to give a true case of bees stealing eggs. Not only were several queens reared different from these in any of the hives except one weak Carniolan lot, but when those dark bees were removed there was no further trouble.

Then we must conclude that bees do, once in a while, develop this remarkable propensity. But what was there to show that the same bees did not continue to appropriate eggs from some other Italian lot. This is a point the queen-rearer will have to consider seriously, for he will now require to keep his eyes open

very wide indeed if he is to be sure he is securing young queens every time from his choice breeder.—“Gleanings.”

#### BEEES IN THE FRENCH SOUDAN.

The February number of *L'Apiculture* has an interesting article on the honey industry in the Lake Tchad district in the French Soudan. We give below some extracts from the article, which is an official report to the French Government by the Administrator of the Territory.

It is principally in the south of the territory that bees are met with, as they can only find a living in country which is well watered and has an abundant vegetation.

There are two kinds of honey—the honey produced by bees and that produced by “flies.” (These are probably a species of native bee of smaller size than the honey bee.) The “flies” are small and brown, and often deposit the honey in the ground or in white ant nests. It is of inferior quality, very brown, a little acrid, often, also, bitter. A drop allowed to fall on a flat surface spreads out instead of forming a globule, as is done by good honey. It keeps badly; the combs are small and very irregular. Often the honey is mixed with a little earth. It is little used even by the natives, who only eat it when they can get no other. The residue obtained after the extraction of the honey is a pasty, viscous compound which does not possess any of the qualities of wax.

The annual production of good marketable honey is about 40 tons, and of wax, about  $2\frac{1}{2}$  tons. The honey is sold by the litre (about  $1\frac{3}{4}$  pints) at an average cost of one penny per pint. Wax is scarcely sold at all.

#### Methods of gathering and Preparation.

The mahommedan tribes who gather honey, of which they are very fond, are



quite uninterested in the bee. The negroes, on the other hand, are bee-lovers. The former are against work of any kind; the latter are industrious, fond of farming in their own primitive way, and interested in anything the earth produces. The result of this difference in character is a marked difference in the method of collecting the honey.

The mahommedan, of Arab race mainly, keeps no hives. If by chance he finds in the bush a few combs of honey in a hole in some wild fig-tree, he at once lights a fire of straw or leaves which burns the whole swarm, and then he secures the honey. He kneads the combs in his hands without thinking of taking out the brood cells, the dead bees, or bits of burnt straw. Then he sells the mixture of honey, wax, dirt, etc., under the name of honey.

The Kirdi (the chief fetish tribe) makes hives by cutting a hollow trunk into cylinders from 3 to 5 feet in length. These trunks are placed horizontally amongst the trees near water holes, fields of millet, fig plantations. They look out for places with a good supply of water and of nectar-yielding flowers. The ends of the cylinders are closed with a plug of leaves impregnated with honey, and these are kept in place by filling the entrances with mud. A hole is then made in the upper surface of the cylinder and honey poured round and through it to attract the bees.

When gathering the honey, the bee-farmer takes away the plug at one end, lights a small fire at the other, and makes a hole in the plug at the fire end through which he squirts a small stream of water. The bees fly out at the other end, and are kept from attacking the operator by the smoke that surrounds him. When the majority of the bees are massed at the far end, the operator removes the plug at his own end and takes out the honey, being careful, however, to leave sufficient to keep the bees in the hive. He

squeezes the comb in a calabast so as to extract the honey, and then throws away the wax. He adds a little water to the honey and boils it so that it will keep longer; during the boiling he skims off any residue of wax, dirt, &c.

The honey is gathered twice a year in some parts; in others, only once. The bees fill the combs during the rainy season when flowers are most abundant. The honey is kept in Calabashes called boursas, or in bourmas, which are earthen pots with a very narrow neck closed with wax or clay or else by a plug of leaves. The bourmas hold from  $\frac{1}{2}$  to 2 gallons.

The natives use honey as an article of diet. The wax, on the other hand, is little used, and is never on sale. Those who need wax get it from some hive near the village. Shoemakers use it for waxing their threads, and players on the native "violin" use it also for their strings. At one time it was in demand for making large wax candles, but nowadays the natives prefer to buy imported candles.

The writer concludes with a few general notes on the quality of the honey, &c.

Honey and wax are both of medium quality, but no attempt is made to sort out various grades. The flavour is not as delicate as that of the best European honeys, due, of course, to the absence of the sweeter-scented flowers. In compensation, however, there is no bitter honey, since there are no conifers, wormwood, hyssop, etc. Moreover, there are no cases of poisoning from eating honey, though such occur in certain parts of Europe, for example, in some of the Alpine valleys.

Lastly, the extreme dryness of the air throughout the greater part of the year results in the almost entire absence of diseases, especially such as are due to humidity. The chief pests are certain birds of the pie family, and wasps and sphinx moths amongst insects.



## WILL BEES CURE FOUL BROOD THEMSELVES?

By Henry Stewart.

In writing these articles, I did not base my authority upon what some good authors have said, or upon one success, or one failure, but I had this system in operation on quite a large scale for 5 years before I gave it to the public, and was absolutely positive of my position.

Mr. Dadant produces a lot of evidence to show that I am incorrect upon the basal principle of my treatment, that bees can and do clean out American foul brood. He starts in with the broad assertion of Dr. E. F. Phillips, that the bees have no power of removing the ropy matter or the tightly-glued down scales, without tearing down the wax-walls. He drops a notch with Mr. N. E. France, who, by the use of formaldehyde, succeeded in having foul-broody combs containing no honey or pollen cleaned up by the bees, and in having healthy brood reared in them. He cuts another slice off his argument by quoting Bertrand, who (because he is a careful beekeeper and uses a disinfectant) destroys but few combs (and I take it, regardless of whether they contain honey or not).

There is only a short step of leaving off the disinfectant and our results are identical, as my bees remove the ropy matter as well as the scales, and seldom if ever tear the cell-walls down to accomplish it.

Mr. Dadant says it is not to be doubted that bees do clean out some foul brood. If they can, and do, clean out some, it should not be a great stretch of the imagination to believe that they can, and will, clean out all foul brood if the proper conditions are met with.

He quotes Fred A. Parker as authority for one case where the disease disappeared of its own accord. This is a case where the disease appeared of its own accord. During the fall flow of August and September I inspected all my bees, and mark each colony where foul brood exists, and unless the conditions are favorable for immediate treatment, these cases go over until all brood-rearing ceases, about Nov. 1, when the marked colonies are shaken on to clean combs of honey, and it frequently occurs that in several of these marked colonies no trace of the disease can be found.

For years we have heard of those who by the use of formaldehyde and other disinfectants have succeeded in getting foul-broody combs cleaned up, while other good authorities claim that no disinfectant practical to use can be relied upon to kill the germs of foul brood. Who knows but what the disinfectant has been merely a stepping stone to give the bees a chance, and those who met the natural requirements succeeded, and those who did not failed? This looks like a very natural solution which I believe to be true.

I believe Mr. Dadant's position is faulty, and is condemned by his own arguments.

Good judgment is a very large feature with any method, but in this it is not the expert, but the bees, that do the work. There is a very large percentage of beekeepers who are not a success with curing the disease by any method, but any one who can acquire success with the McEvoy treatment should succeed with mine.

Now, to illustrate my confidence in the permanent cure, and my lack of dread of the disease, I will state that at the last extracting last fall, the extracting combs of 3 yards (something like 3000 in number, several hundred of which have at some time in the last 5



years contained foul brood) were placed out-of-doors, and the bees held high carnival in cleaning them up.

Now I am perfectly willing that beekeepers shall take Mr. Dadant's advice, and go slow, but before consigning my method to the junk-pile, just do a little experimenting on your own account, and see if there isn't something in it for you, and I am sure that the wheels of progress will neither be stopped nor checked thereby, but ere long will assume a whirr of success not to be attained by the method of destruction so gallantly defended by Mr. Dadant.—“A.B.J.”

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### FEEDING BEES IN THE SPRING.

By Louis Macey.

With all that has been said against spring feeding of bees, I have had some experience that clearly points out some facts on the other side of the question, and facts are stubborn things to deal with. I think there are some who, on the strength of the way they can fall feed in their locality, enough to last till the abundant fruit-bloom, they have come on to stimulate brood-rearing. I say I think some of these men make a mistake in trying to lay it down as a general rule that spring feeding should be avoided.

Now, in my location, we have a honey (sweet clover) that is very bad to granulate, and one of the first things you will see the bees doing in the spring is just to roll out lots and lots of this hard, granulated honey. I have always read that if they have access to plenty of water they will dissolve and use this, but the fact in my case is, that my bees are abundantly supplied with water, and yet they carry out the solid granules right along.

Some one will say: “Extract your sweet clover honey and feed sugar syrup.” I am not sure that would be any better; sugar inclines to granulate, too, and the honey is not all. Our winters here are generally very dry, and the changes of temperature are rapid, frequent, and often very considerable. The bright sunny days often run the mercury up to 80 or 90 degrees about 2 p.m., yet it always freezes every night, so this dryness of the atmosphere and great change from day to night temperature is enough to granulate any honey; and not only does it granulate, but granulates hard.

And now as to the danger of robbing: I know a careless person spilling syrup around can soon start an awful uproar in the spring, but let it come a heavy dew or light sprinkle of rain on this granulated honey the bees have scattered, and there is sometimes an even “wusser” one. The worst case of robbing I ever had was started in just this way; so if the wind doesn't blow it off the alighting-board, I brush it off myself.

Of course, the honey does not all granulate, and the bees can live off the liquid part; but by May what is left of it seems to be rather poor stuff to “stimulate” on.

I notice a good many now are proclaiming that sugar syrup (being destitute of pollen-grains) is poor stuff for brood-rearing, and I rather believe that myself, but is it any better from having been in the hive all winter? And as sugar is surely safe to winter on, does it not follow that when we so use it we must spring feed if we don't rear brood on sugar? For my part, I would rather stimulate brood-rearing with fresh syrup in the spring than to take chances on solid granulated sugar from the fall before, and so far I have fed some every spring, and have let some colonies (and the ones having the most old



stores) go without feeding, and in every instance the spring-fed colonies boomed ahead and did the best. Did I uncapped some of the old stores in the unfed colonies? I did, and generally had to brush off a table-spoonful of granulated honey from the alighting-board after each time I did so.

Often in the spring clean-up (which I do after Dr. Miller's plan) I find a pound or so of hard honey-granules on the bottom-board, and before I learned to look out for it, I had 2 colonies die in April, and on opening the hive I found as much as 8 or 10 pounds of very dry appearing granulated honey still in the hive. Some of the cells (a good many of them) were uncapped and partly emptied—sometimes just a start made—and I could hold up such a comb and just shake out the sugar. Did the bees starve? Does any one else have such an experience? Is it common to this Great Plain Region, where climatic conditions are similar, and sweet clover abundant? It seems to me it would be so, but I have never heard of any one saying so.

One thing, dandelion and willow generally help us out some, and as I said before, where fruit-bloom is abundant they can make it through to that on the old stores, even if they are granulated; but where there is no fruit-bloom, or the early flowers fail to yield, or freeze back as they sometimes do, there is only one thing to do (no matter how heavy the hives are), and that is to feed. As the weather gets warmer the bees are probably able to liquify and use the granulated honey—all of it—instead of being forced to kick out all the solid parts to get a little liquid early in the season.

I may be wrong in some of my conclusions, but I think I have the main facts "on straight" for my locality.

This year my hives are full of Spanish needle honey. As the bees have

been getting frequent flights, I am not much afraid of dysentery, and I don't think it will granulate so badly. If it does, I have quite a lot saved up in a warm room to stimulate with in the spring. Cellar-wintering would probably solve the problem (or would it), but very few bees are cellared here. The sunny warm days, giving a chance for frequent flights, are very favorable for outdoor wintering even if the bees do eat more.

I have fed under the cluster, at one side (division-board feeder), and above, and I find they will take it from a "pepper box" over the cluster when it is so cool they wouldn't touch the division-board feeder.

I used something in this connection I have never seen described anywhere, or as used by any one else. With a division-board feeder I spread a newspaper, 4 or 5 thicknesses, over the top of the hive to hold all the heat down where it is needed in the brood-chamber, and it also holds the bees down when I go to fill the feeder. I press down on the paper with my fingers till I locate the "feel" of the feeder, then with my knife I cut an X right over it, then put on a super to hold the papers down, then stick a small funnel in the X in the paper and pour in a pint every day. No trouble at all. With the pepper-box feeder I use the paper just the same, only I cut a hole so as to come just over the cluster, and make it a trifle smaller than the feeder—4 short pieces of lath are placed next to the edges of this hole on the underside of the paper, and the paper tacked fast to them. The feeder being inverted over the hole in the paper, the blocks around the edges hold it up a bee-space off the top bars so the bees can get at all the perforations instead of just those that happen to come between the top-bars. The important point, however, is that the feeder and



the paper hold all the heat down where it is needed, and the bees don't have to keep the super warm. If the blocks are fitted up to one another, the bees won't gnaw the paper, and none can get up to crawl over the feeder (and zip on to the him who feeds!); tip the pepper-box, puff down some smoke, take it off and put a full one on, are all very little trouble.—“A.B.J.”

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#### WHY NOT.

Bee-Associations and Honey Depots.

Co-operation in the disposal of honey is a subject of great importance to beekeepers, and one in which I have taken much interest and trouble. We have repeatedly started honey depots for the members of our county association, and, though these have succeeded for a time only, we are still hopeful of getting permanent benefit in this way.—“B.B.J.”

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