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# The Australian bee bulletin. Vol. 11, no. 8 November 29, 1902

West Maitland, N.S.W.: E. Tipper, November 29, 1902

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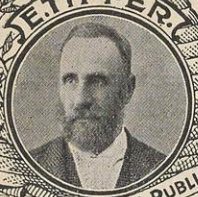

E. TIPPER, EDITOR & PUBLISHER, WEST MAITLAND & WILLOW TREE.

# THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL

Devoted to Beekeeping —

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

MAITLAND, N.S.W.—~~OCTOBER~~ Nov 29, 1902.

The following is a list of advertisers in our present issue :—

### Supply Dealers.

R. K. Allport, Chuter St., North Sydney.
A. Hordern & Sons, Haymarket, Sydney.
The W. T. Falconer Manufacturing Co:, Jamestown, N.Y., U.S.A.
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R. Beuhne, Tooborac, Victoria.

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Allen & Co, 242 Sussex street, Sydney
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W. L Davey, Plenty Rd, South Preston Victoria.

### Foundation.

R. Beuhne, Tooborac, Victoria.

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WE feel assured our readers will pardon us if we for once make a slight digression from bee-keeping. It is the first occasion we have done so. It is of ourselves we mean to speak. We are a little late with this issue, and will tell the cause. We have found it necessary to improve our printing premises, and so have erected additional buildings, for the comfort and convenience of our workpeople, as well as make room for additional plant, which the requirements of our printing trade, in conjunction with every other trade or business nowadays, constantly necessitates. To those who do not well know the variety of different matter that fills the range of an old-established printing business, we will give a few items :—

Neat Visiting Cards, for all who need such.

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All shapes and sizes of billheads, and most business-like designs of memos and letter headings, neat labels for honey or other purposes, also parcel and address labels.

We stock large quantities of envelopes, and are turning out several monthly periodicals besides the *A. Bee Bulletin.*

We have turned out books of several hundred pages.

Machine Ruling and Binding we also do in great quantities.

All orders, no matter in what colony, promptly and carefully attended to.

Our prices are cut as fine as possible. Of course we must have some profit, and also prompt cash, as a printing business is one that requires constant addition of new type and material. Like the ladies, we must be up to the fashions, even in type. New machines and ideas are coming out every month, paper and printing ink have to be bought and paid for; there is always wear and tear on expensive machinery, and last, though by no means least, wages must be paid every Saturday.

We will conclude by asking our many friends—and we are proud to say we have many—to give us their patronage.

## VICTORIAN NOTES.

R. BEUHNE.

The Disappearing Trick.—During the month I have received more correspondence on this subject, some of which is from unexpected quarters. One letter from Gippsland East and several from the shores of Port Phillip Bay. Others again from localities with country and timber similar to my own. Also several very interesting and explicit letters from New South Wales near the Victorian border.

As my correspondence is always rather large and I have a few other things to attend to beside writing letters, I have not been able to answer all the letters so fully as I should have liked to. I have already a considerable amount of information to be submitted to an expert if the services of one can be attained. I have again written to the Department of Agriculture to point out the importance of the matter and the advisability of action while the material for research is available and the facts and the recollection of circumstances fresh in the minds of those who had trouble with this mysterious mortality.

Having suffered greater losses than perhaps any other apiarist two years ago, and to some extent again this season, I am greatly interested in anything concerning this subject, and I wish to thank my many correspondents for their communications.

I have expressed my opinion as to the cause, but I am quite willing to have it proved wrong. Therefore, I invite those who differ from me to express their views, but to give their grounds and measures.

I will now avail myself of the privilege of reviewing the answers to question 16:

Mr. A. P. Haberecht thinks too much work in autumn and no young bees is the cause in his case. It is not in mine. The bees kept on brood-rearing much later than usual.

In reply to Mr. Tipper: 1. Our bees did not work during the winter nor early in spring. 2. Is perhaps merely coincidence. My out apiary had the sun from all sides. 3. The out apiary was on the bank of a creek, good water, no sheep dipped here. 4. There are very few fruit trees here and none are sprayed. 5. Perhaps the 1900 queens bred less than the 1901 queens. (See further on.)

Mr. T. H. Morley—None of our colonies were queenless, the queens perishing finally with the last score or so of bees.

Mr. F. W. Pemberthy.—There was no trace of candied honey in some of the colonies which dwindled away, and the disappearing continues in many cases long after new honey is coming in.

Mr. R. Helms.—I agree with you that excess of honey is not the solution of the riddle. I know of box hives which were choke full since last Christmas, these have come through well and cast swarms this spring.

Mr. W. Ager.—In this case the cause was perhaps paralysis more than anything else. I agree that the length of a bee's life depends upon the constitution of the queen, but that does not apply in my case, for the offspring of queens I saved from defunct colonies of the out

apiary are doing very well on changed stores, while some of those left their honey are stationary. I agree that the length of a bee's life depends upon the conditions under which it is reared, and I will add the nature of the food in its larval state.

R. Latimore.—I am of your opinion that a box full of sealed honey for winter does not cause any loss of bees, unless that honey is unsuitable as bee food or for brood-rearing. I knew a neglected apiary which had no supers on for two years, and the frames filled and sealed over down to the bottom bar, the only ill result was a large number of rather small swarms next spring.

Mr. J. Bassett is a little hasty in drawing conclusions. In a properly managed apiary queens are not kept till they are worn out. If there is any difference in my case between old and young queens, prolific and indifferent as affecting the losses by dwindling, that difference is in favour of the old and the indifferent.

At the out apiary all the best colonies went under whether the queens were young or old. They were strong in bees of all ages, and had sheets of brood at the end of May. Whereas in the home apiary I kept one colony with only a virgin queen (purposely) from April till September, when I gave them a laying one from a dwindled hive and a comb of brood (they are now a normal colony.)

Mr. J. J. Parry has caused some amusement with his friendly lecture, to me and to those who know me and my methods. It is not a good plan to hang a man on suspicion. I said in September issue that the brood combs were heavy with sealed honey, but I did not say there was no brood in them nor am I aware of having expressed an opinion on the ownership of honey in the brood chamber or elsewhere. Of course a bee-keeper must be observant and use judgement in the management of his stocks, and may I add in other things as well.

I admit that I did not examine the brood chambers every day at the out apiary, neither did I at the home, and yet they came through alright at the latter and not at the former. So did the gin case colonies that were full of honey since December emerge unscathed, and some beginners' bar-frame colonies, examined perhaps several times a day, and kept supplied with breeding combs right into the winter, were ungrateful enough to succumb at the rate of three-fourths.

How did the small colonies, nuclei they were in fact, pull through so well, when they had no more attention given to them than the strong ones, (less in fact) which had sheets of brood at the end of the season, and which suffered most.

But supposing there had been no brood at the end of the season. No amount of time in examining them, inserting extracted combs, feeding or anything else would make them breed if they did not want to on account of climatic conditions. But they did breed late, later than usual, and Mr. Parry will be pleased to hear that in the case of the strong ones I did the very thing he thinks I should have done, but I am sorry to add that that was the very thing that helped on their way into oblivion. How, I must defer for another issue.

## QUESTIONS.

17. This being a season in which the bees do not swarm, are queens raised in it equal to those raised in a swarming season?

18. How would you grow white or yellow box from seed?

19. Reviews of replies to No 16.

ELLIOT J. RIEN, M.H.A.C.

15. Not necessarily. They may have cleared out for some reason. I have had them do it, leaving honey, pollen, unsealed brood and eggs. Also see below.

16. Can heartily sympathise with Mr. B. Season before last I had the same experience. As the spring opened, I examined my hives, which had not been interfered with much during winter, to see how they were progressing, and found they were looking splendid, and put everything ship-shape so that I did

not intend to visit them for another ten days, as I was busy otherwise. When I did so what was my surprise to see many of them depopulated, and it was not the weakest, as I usually bring nuclei through the winter. I had some, and they were O.K. Now, the conclusions I drew were: The cause was the bees which had survived the winter were lost, being devoured by birds, also they could not stand the stress of work, consequently, of course, there were less bees to attend to brood rearing, and so of course it ended in hive dwindling down. It would seem so from the remedy I used. In all cases the queen was almost the last to go. Fortunately all my hives were not attacked, and I found it out in time to move some of the affected hives. As soon as I noticed it I started to build up the affected hives with hatching brood from the others, and soon had them in sound condition again, and at work as well as ever, and if my bees do as well this year as those did, then I will be satisfied with the same queen in the hive. Seeing it always occurs in the transition from winter to spring, and we never hear of it in middle or end of season, I think it must be from cause stated, and I should advise anyone living in a place subject to it to keep a sharp eye on his hives, and when one is dropping behind to build it up, for every bee counts at the beginning of the season. That was my first and only experience of it. Of course I have often had a single swarm dwindle away, but then I could certainly fix the cause.

19. Re review your own replies, No. 1 and 2 are I believe main cause with most of the others, and birds contributory, as at beginning of the season the loss of one bee is equal to 1,000 later on and more.

E. TIPPER.

19. Mr. Haberecht: Late work in autumn.
Mr. Morley: Failure of the queen.
Mr. Penberthy: Candied honey in early spring, causing costiveness.
Mr. Tipper: Winter and early spring flow. hives not getting morning sun being worst affected.
Mr. Helms thinks there would always be sufficient room for the queen to lay in —she would even go outside the hive for such.
Mr. Ager says a heavy flow wears out the vitality of the bees when the weather is too cold for brood rearing, causing bees to die off before the first batches of brood hatch in the spring.
Mr. Latimore: Would a small black ant that drenches as it were the trees it attacks with a kind of oil be the cause.
Mr. Parry: A brood chamber full of honey at close of season preventing the raising of young bees for the coming spring
Mr. Bassett: Keeping our queens too old They stop laying earlier and start later leaving only old bees to start in the spring.

My summary.—The cause is heavy fall or winter flows choking up the brood nest, wearing out bees, and preventing brood rearing in spring.

F. W. PENBERTHY.

17. It don't make any difference to me while I have one strong hive with plenty of pollen. I can supply the honey

18. There is a splendid article in the "Agricultural Gazette," I think about two years ago, on that subject. Perhaps the editor will publish the gist of it. It is simple and insures the transplanting.

19. Mr. J. J. Parry has made a big mistake in his judgment of Mr. Beuhne's ability. I am satisfied that spring dwindling is a disease. Dwindling is always coupled with candied honey in the combs with me here. The disease is caused, I think, by the same agency that causes honey to candy; the said agency is greatly accelerated by the moisture from the bees condensing on the face of the combs during winter. "Loyalstone" said of his outyard about a year ago, that the bees in the hives that had large cracks in them came through the best. I suppose the ventilation kept them drier. Bees in this part winter on the honey that is stored in the side or outer combs, which are the likeliest to be damaged by moisture. Those hives with the most brood in proportion to the number of bees seem to suffer the most. Honey that candies quick, with a fine grain, is gathered from bloom that produces abundance of pollen; the honey probably contains an amount of pollen accidentally mixed by the bees while being gathered, while honey that is slow to candy is gathered from bloom that produces very little pollen, such as yellow box and American basswood honies, or where the pollen is sticky.

The crystal of candied honey is long and spear shape and very thin, a number seem to stand out from a common centre, probably a grain of pollen. Marmalade will candy if there is no acid in it, and left open for a while, also heavily adulterated honey will candy if there is something put into it. The American bee papers will not say what it is for fear it would encourage adulteration. I think it must be some nitrogenous substance, to form a culture. We can prevent honey from candying by sealing up hot, same as preserving fruit, and will candy again by leaving the cover off. It has other traits, under other con-

ditions, which is strikingly like bacilli growths. The cause of honey candying should be investigated scientifically by the Department. Nectar may be so dense in the flowers in dry seasons the bees may fail to invert it to honey thoroughly. "Gleanings" says: Sugar syrup fed thick to bees is bad winter food, through not being properly inverted, but if fed thin, is the best of food. This seems to fit in with Mr. Beuhne's case. The above are some facts and theories as they appear to me at the present time, and may form some foundation for future observations and experiments.

J. ANDERSON.

17. Queens raised in non-swarming seasons are equal to queens raised in swarming seasons, as long as you take the brood at the right time to raise the queens, and plenty of honey coming in. As far as my experience goes they are the best, but a March queen is my favourite.

18. I think the best way to grow the box is to get some of the natural soil where the box grows, and make a box and put it in wax extractor. Fill the box with soil, and keep it well moistened. Plant the seed in July, and I think you will get plenty of plants. I find that way is good for any other seeds.

W. SCOTT.

19. I believe that this dwindling of stock in the spring would be largely prevented if we could encourage our bees to keep up brood-rearing right on until the winter actually begins. Strong stocks in the autumn will always with me crowd out the brood nest with honey, until at last the queen will have no room to lay. In some of my stronger stocks the queens stopped laying last autumn a month before those in the weaker ones. This would account for strong colonies suffering more then weak ones. None of my colonies which were weak last February, have been affected with the dwindle this spring, while a good number of strong stocks were affected, and two of them badly. These two that suffered most were both standing on the ground, with nothing under the bottom board, and as the ground in both cases was very damp, I believe that the dampness aggravated the disease. One of these colonies, no doubt owing to the vigorous queen it possessed, has since built up strong, but the other is still very weak. This last one I re-queened a few weeks ago, and though there are still a number of diseased bees in the hive, I notice that the healthy bees have started to drag them out, which they did not do before. Whether this is due to the influence of the young queen and her healthy brood (which is just hatching out) or to the fine hot weather we have had lately encouraging the bees, I do not know. I might mention that two other colonies were in the same damp place, and with their bottom-boards resting also on the ground, but they were not in the least affected. This year I will try to encourage late brood-rearing in my strong colonies, by spreading the brood. There is not much danger of chilling at that time, as there are plenty of bees in the hive in proportion to the brood. It would hardly do to place an empty comb in the centre of the brood nest, as the bees would most likely fill it with honey before the queen could lay in it. Foundation would be better, or even an empty frame with starter. I also will see that all my hives are raised some inches from the ground, and that there are no leaky covers to let in water. I would sooner see my hives with cracks all round to let in draughts than see them damp again. I now have about thirty colonies, all doing well, but do not expect much honey this year.

P. MOORFIELD.

17. I should think that if the queens were raised by strong colonies it would make no difference.

18. Had no experience.

19. A. P. Haberecht states that he thinks that late work in autumn is the cause of the disappearing trick, and your first question, of the wear and tear in winter, and friend Basset have in my opinion hit the right nail on the head, as I stated last year, for this reason: 1. During the last two years we have had a mild winter, so that the bees, instead of lying dormant, have been flying all through. 2. When spring did come it came very hot, the result was the bees got to work, the queen commenced to lay, and the result was, before the brood came to maturity a cold snap set in, and through the old bees being exhausted through their work they kept dying off, and the result was when the cold weather did come there were no bees to cover the brood and eggs, and of course there were no young bees to take their place, and the disappearing trick was done. Now this year most of my queens were young, and I have not had many losses, although on account of the drought they are weak. Now, Friend Beuhne thinks that it is the honey from the grey box. Now round this district there is no gray box, and yet last year there were hundreds of the strongest colonies in this district went away, and the only cure is to get back the seasons we used to have, where the winters are cold and wet, so that the bees can get a rest in the season that they should do so, or if they have to work in winter give them young queens late in the season.

PETER RIDDELL.

17. This depends wholly on circumstances. Good pollen, honey and water, with vigorous

bees, can do it. But queens raised at any time are not equal to each other. Where more than three are raised at one time in one colony they differ much. It would appear, after 30 years' observations, that bees rarely give their whole attention to more than two cells. These are select, and a first care to the bees, the others, up to indefinite numbers, are treated as accidentals. If the bees are not suffering from nilobia they will retain the best queen, under nilobia the first pretender. Given the total number of queens raised in non-swarming time, we must expect the average to be inferior, since fit conditions are easily wanting. Non-swarming bees are retrograde, and soon useless. When we get a bee, that while resting in its hive on a dewy night, can extend its hundred-fathom-long tongue to reach and drain every hive in the bee yard, could we reasonably expect the bee to disgorge the contents into our honey tank? If the tongue of the natural bee were much longer, it would be very awkward in most cases. The beauties of figure and of hue we all appreciate, but the acme of bee perfection must be looked for in that enduring energy that inspires the harvester and gleaner of the bees, that do best in your locality, raise, prove and keep. In raising queens, then, never mind the season, but let the conditions be fit. Faith could do it, but in a commercial age, where faith is not a common quality, try plenty of material, and each queen raised will be equal to itself. That is to say, the difference of one colony of bees from any other in honey results is greater than the difference in milk results from different dairy cows.

18. Lay out rows 20 to 40 feet apart, cover seed 2 inches deep, dry earth; cover all light brush, dry, burn off. In singling of plants alternate brushy and long. The distance in the rows must be determined by the purpose for which grown, and time to wait. Breakwind 10ft., thick spreading trees, 30 to 40 feet. For fine timber thin when ready, leaving what have raised their leafy heads giving good long straight trunks.

W. AGER.

17. It is my opinion when the conditions prevail in which healthy well-developed workers are reared, good queens can be reared also. It is a question whether queens reared while the dwindle was on will be what they should.

19. We had rain again here on the 19th October, and since the dwindle with my bees has ceased, fortunately without the extinction of a colony, although it has weakened several considerably. The hives which gathered the most suffered the most, the worst case being a hive I had taken the brood from started with it a couple of batches of cells, and had not long introduced a laying queen to it. The bees in this hive seemed to get a dreary, discouraged appearance. There has been no spraying while fruit blossom was out about here. My bees are within 200 yards of a sandy creek, which is constantly running. I was congratulating myself for having the bees so forward to meet their work. If the old honey caused the trouble they would not have built up so well on it. I had them in 3-story hives, and some of them were preparing to swarm. Mountain ash was the flora the bees gathered from at the time. Last year I had not one case of dwindle, and the bees gathered from the same flora. If an affected hive was disturbed the bees would fill themselves up, and crawl out of the hive in dozens and die in front. My present opinion is the trouble with my bees this spring was caused by one of these three. First, something injurious gathered; second, the nectar secreted under the conditions prevailing was unwholesome; third, owing to the peculiar, damp, muggy weather at the time, the bee bread, or unripe honey, underwent some bacteriological change.

R. LATEMORE.

17. I am a bit dubious as to whether they would or not.

18. Cannot tell; perhaps this information can be had by applying to the Agricultural College.

19. While one theory may be as good as another, the fact is there all the time. Then, again, in journeying, the longest way round has proved the shortest across I think the next in order, brethren, is to decide on what is going to be done, as next season some of us may have contracted this dwindle ourselves. I for one favour Mr. Beuhne's idea to have an expert to investigate it. One man has lost 200, and another 100, within six miles of where I am within the last few months, so if matters continue at this rate there will be no need for an investigator. My bees (what there are left) are going very well at present.

DAVID CONLON.

19. The question is, what is this disease, if it can really be called a disease. I myself have (up to the present) had no experience with it, nor am I at all eager to have any, but this is the course I should pursue were it to trouble me. Firstly, go into winter quarters with good young laying queens; and secondly, extract about three central combs of the brood nest, thus leaving plenty of room for the young queen to lay in, as I presume a good queen never, or very seldom, wholly discontinues even through the winter.

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WANTED.—Young man to take charge of an apiary.—Mrs. SQUIRES, Warrah Ridge. N. S. Wales.

Mr. James Yeates' "Zampa" Apiary, Korrumburra, South Gippsland, Victoria.

## PRICES OF HONEY.

*Melbourne Leader*, Nov. 15—Honey, this is the most difficult line on the market to move. Best lots to-day brought no more than 3½d., and inferior quality was worth considerably less. The demand is poor. Beeswax—Little alteration is seen in this article, most business being done at 1/- to 1/1, with a higher price for first class quality.

*Australasian.*—Honey and Beeswax.—Prime clear honey is quoted at 3½d to 4d, and dark and inferior at about 2½d. Beeswax is worth 1/0½ to 1/1.

*Town and Country*, Sydney.—Beeswax, clear, 1s to 1/2 per lb., dark, 10d to 1s. Honey—N.S.W., choice liquid, 3½d to 3¾d per lb., candied, 3¼d.

*Garden and Field*, Adelaide.—Honey moving freely. Beeswax dull. Honey 3d. Beeswax, 1s for bright, clear samples, discolored, 11d.

## THE ENGLISH MARKET.

### READ! READ! READ!

F. W. PENBERTHY.

I have an Account Sales here before me, the result of 18 cwt. of honey packed in 7lb tins and sent to England two years ago, through a commission agent in Sydney.

| | |
|---|---|
| The honey realized in London, | £20 11 1 |
| Total expenses .... .... | £18 19 5 |
| Credit Balance .... .... | £1 11 8 |

If sent away direct from here and not through the agent in Sydney, as it was retinned there, the net return would have been, £3 16s 11d.

From this out I am not interested in the export of honey. When beekeeping don't pay me, I will turn my hand to something else.

Splendid honey flow on, but the bees are backward and are too busy building up to store any surplus.

Re the foot note to Mr. Davey's article in last issue. They may produce honey at 1½d per lb. if they can get a *manager* at from 12/- to 15/- per week, but they won't with a two-frame novice extractor to extract from 100 to 150 hives. As for steam rollers for cappings, there would be nothing to roll but liquid. I tried cold rolls once—the less said about it the better.

Mr. Hassall Hall writes us that among the replies to him of persons who had exported honey to England last year, one had received a bill for expenses over and above the amount realised on the honey and which he was resolved not to pay. Another, the expenses had covered the amount realised only.

## PUBLICATIONS RECEIVED.

We acknowledge receipt of the second number of the "Commonwealth of Australia," an annual publication published by the Australian Bookstall Company. It consists of a number of very interesting tales and sketches by a number of Australia's most noted writers and artists. For passing the monotony of a railway journey, or other idle time, we especially recommend it.

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At record honey season at Monaro.

Beeswax melts at 140 degrees fahrenheit.

Strange so little swarming all over Australia this year.

This issue delayed through removing into new premises.

A writer in a German bee paper suggests the breeding of drones to make baits for fishing.

Mr. Beuhne is satisfied in his own mind that the food stored in Autumn is the cause of spring dwindling.

Read Mr. Penberthy's report of his honey exporting elsewhere. Mr. Hassall Hall also writes us on the same very unsatisfactory subject. It will form the subject of at least conversation at the N.S.W. Bee-farmer's Annual Meeting in April.

The *American Beekeeper* says as a result of overstocking the ranges, it is said the average honey honey crops of recent years have been reduced 50 per cent.

In preparing for winter we want plenty of bees, and though we may have stocks boiling over when packing up, they are little good for our purpose if too old or too young—late autumn-bred bees being delicate.—*Exchange.*

The American beekeeper has kept dead air spaces out of the hive to a great extent, and foul brood does not prevail to the injury of beekeeping in America. The English beekeeper, by using shouldered frames, dead air spaces at the ends of the frames, and often at the sides; and by using a hive with excessive surface in it, and surfaces the bees cannot reach to keep clean, is cultivating foul-brood until it is destroying all profitable beekeeping. Not a tenth part of the cases of foul-brood are reported in the bee journals. There are a dozen gentlemen around me who have tried beekeeping in bar-frame hives and failed; and they could not be induced to take up beekeeping again in the same kind of hives. Still, the makers of these hives think they ought to control beekeepers' associations, and that bee journals ought to describe new hives to suit their interests—that the new should not be described as an improvement on the old.—A W Smith M. D. in *Irish Bee Journal.*

Alfalfa cut when it first comes into bloom, furnishes the most protein, according to to the chemists. The first cutting is more hard and woody than the second, and the second more so than the third. Stock will eat more of the late cuttings. One man at the Denver meeting said that for feeding for beef the early cuttings are best. Mr. Gill said that his horses stood it better to work when fed on alfalfa that was cut when in full bloom.—*Beekeepers Review.*

The *Beekeepers' Record* has a photo of a swarm of bees that had worked their way through bottom of hive, through a hole in the shelf on which the hive stood, and built comb in the open 31½ inches below the shelf, remaining so all the winter, though at one time there was a foot of snow on the ground.

In the island of Oahu, Hawaii, there are two large beekeepers' corporations; one is incorporated for 65,000 dollars paid-up capital, with a bee privilege of 75,000 acres. They ship mostly to London. There are quite a number of persons, both white and Japanese, also in the business. The honey is worth 5 to 5½ cents. in the States, but the islanders sell it in the islands for 3½ to 4 cents.—*Exchange.*

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AN ENERGETIC AGENT WANTED. Liberal terms. Early application necessary.—DAVIS-FRANKLIN CYCLE Co., Ltd. Ballarat, Victoria.

## PREVENTION OF SWARMING.

The difficulty in prevention of swarming is to rear a young queen in a colony just at swarming-time, and get her to lay before the bees swarm. My experience is that when a populous colony is made to rear queens during the swarming season it will swarm with the first queen hatched, more readily than if it had not been caused to rear queens at all. If, however. the first queen can be brought to lay, the other queen-cells have all been destroyed, the swarming fever is over, and the interruption in the laying between the taking away of the old queen and the laying of the new one—making a period of some 20 to 25 days—is sufficient to deter the bees from swarming. After the young queen has begun to lay, the season is already far advanced. But a young queen has this particularity: If she is healthy, she lays drone-eggs very sparingly. My father held that a queen preferred laying worker-eggs whenever she was not tired by incessant laying, and according to his views the young queen avoids laying in drone-cells simply because she feels vigorous. The drones when numerous are a great incentive to swarming. I might say, perhaps, that they are the greatest incentive of all when circumstances are favourable. So if the hive has few drones the swarming will be less frequent. Open a hive that has just swarmed, and in nine cases out of ten you will find a great many drones. They are noisy, they are in the way, they make the workers more or less uncomfortable, hence the swarming.

When we give the bees a young queen just at the time of swarming, they usually notice the change from their own queen to a stranger. Ordinarily they accept the intruder, but in many instances it is only a temporary acceptance. I have seen this many times when importing queens from Italy by the hundreds, and introduced them in full colonies. Often the bees would accept them quietly, but would also quietly go to work rearing queen-cells with the intention of getting rid of the stranger at the first opportunity. At any rate that is what I thought was their purpose, for I have many times seen the bees rear queen-cells in a hive where a new queen had been introduced. As a matter of course, if this happens during the swarming time, there are ten chances to one that the bees will swarm out with the queen instead of killing her. The bees have almost become reconciled to her and they are reluctant to hurt her. So out goes the swarm. That is why a young queen may go out with a swarm from a colony to which she had been given not a week before.

In our efforts at domesticating the bees and making them bend to our will, we must put up with their natural tendencies. If our work does not contravene with their native instinct we will succeed, but there will probably always be some difficulties which we cannot overcome. Thus the very requirement to prevent swarming - the rearing of a young queen in the hive at the proper time – will be our undoing, if the bees conclude that the hive is too crowded at the time when the young queens hatch.

I would like to suggest to those who wish to avoid natural swarming, to rely mainly on good, young, prolific queens of the previous year's rearing, for two reasons: The first is, that the removal of the old queen and the rearing of a young one at the opening of the harvest is sure to result in a weakening of the colony by the interregnum of the greater part of a month, during which no eggs will be laid. The second is, the difficulty of preventing the swarm from issuing with the first queen hatched. It is true that the cells may be removed, all but one, but in a populous colony it is quite a task to make sure of all the queen cells, and this would be practicable only in small apiaries, as it would entail a great deal of labour.

When all the conditions have been as favourable as possible to the comfort of the bees—shade, ventilation, and storing space amply provided, the production of

drones reduced within the smallest possible limit—we find that there is but one very strenuous cause of swarming, and that is the supersedure of an old queen by her bees. As the laying has been long protracted, the queen begins to show signs of weakening, or of decrease in her laying, and the bees build queen-cells in the prevision of her decrepitude. Should the queen retain enough vigour, as she often does, to resent this treatment, an excitement is produced, and swarming results, even though the other conditions may be satisfactory. So it is very certain that the older the queens are, the more probability there is of swarms. —C. P. Dadant, in *American Bee Journal.*

## BUILDING WORKER COMB.

There are three conditions of the hive or colony under which, if rightly managed, the bees will almost invariably build worker comb.

"The surest of the three ways is when a colony is quite weak, or what we term a nucleus. If such a colony is deprived of all of its combs save one of honey and one of brood, and a frame having a starter in it is inserted between the two combs left in the hive, the bees will, ninety-nine times out of a hundred, fill that frame with worker comb, and said comb will be as perfect as one built from foundation under the most favourable circumstances. Taking advantage of this fact, I take frames of brood from the weaker colonies I have at the beginning of the honey-flow, those too weak to work in sections to advantage, and give this brood to the weaker of the stronger colonies, and set the weak colonies to building comb, as I have explained. You will note here that I really make a gain in this way as to surplus honey, for this brood, where placed, gives better results in section honey than it would have done had it been left where it was with the weak colony, as it almost immediately puts the bees of the colony where given (into the sections) at work, while, had the brood remained in its own hive, these colonies would have been somewhat slow in starting in the sections."

"The second is, at the time of hiving new swarms, which are treated in this way when I wish them to build worker comb. The swarm is hived on the full number of frames the hive contains, and left for 36 to 48 hours, a super of sections being put on when the swarm is hived. The hive is now opened, and five of the frames are allowed to remain—the five that have perfect worker comb being built in them, and dummies are used to take the place of the frames taken out. This throws the force of bees, not needed below, into the sections, so that the bees do not need to build any store comb in the brood-nest, which store comb, when built for that purpose, is generally of the drone size of cells. By this time the queen is ready to keep up with the bees in their comb-building, with her eggs; and in this way nine times out of ten, I get these five frames filled with worker comb, and, besides, secure a good yield of section honey."

"Why do you wait from 36 to 48 hours about arranging the hive? Why not give only the five frames at the time of hiving?"

"Glad you asked that question, as I should have forgotten to speak of something that would have bothered you had I not told you. In the first place, a swarm given only five frames when hived, is liable to think the place of abode too small, and leave, or swarm out, and such a procedure is a nuisance. In the next place, when any colony having an old or laying queen is first hived, the bees are likely to build comb too fast for her, hence some of the combs first started are liable to be of the drone size on account of the queen not being in condition to lay many eggs at first, as all queens cease almost entirely to lay for 24 hours previous to swarming, so that they may be reduced in weight that they may fly and accompany the swarm; and full prolificness does not return under 48 hours after

the swarm has commenced keeping house in its new home. And as these combs having the drone size of cells are just right for store combs, the bees generally, when once started, keep right on with that size of cells till the bottom of the hived is reached."

"The third condition under which worker comb will be built is just after the young queen gets to laying in any colony having cast a swarm. If after she has been laying two or three days, we take away two or three combs and put frames with starters in their places, we shall find that these frames will be mainly filled with worker comb. As the bees are now over the swarming fever, and desire worker bees to promote the welfare of the colony, no drones are needed, and the young queens are not likely to lay in drone comb. However, we are not quite as certain of all worker comb in this case as we are in either of the other two, as there are plenty of built combs in the hive for the young queen to use, and it sometimes happens that the bees will prefer to leave off storing in the sections and build store combs in the frames, thus defeating what we are striving to attain.—G. M. DOOLITTLE, IN *Gleanings.*

## NATURAL v. ARTIFICIAL QUEEN-REARING.

W. ABRAM.

As I always kept a register of my queens I have had very good opportunity to observe whether queens raised in natural cells (swarm cells) are in any way superior to those raised in artificial cells. Last season was practically non-swarming here, a few swarms issued and then the conditions changed, and the bees destroyed started queen-cells and gave up swarming; therefore, queens had to be raised by other than natural means. But hives having these queens, have issued swarms this season at the same time as hives having natural raised queens, in fact most this season's swarms have artificial raised queens, and for honey gathering some are ahead of the hives with natural raised queens. Some did not swarm, just as some with artificial raised queens did not swarm, though as strong as others that swarmed; but honey is coming in pretty well and in that case swarming is given up by the pure Italians. This season the bees were late in starting breeding, therefore swarms did not result as early as usual. Some seasons I have had more swarms in September, than this season in October and this year they swarmed most early this month (November). One year I did not get a swarm until the beginning of March, and then they swarmed well and stored plenty of honey. Some years they swarm in spring and again in January, others not at all, just as they gather a lot of honey at one time and none at another.

Whilst artificial raised queens may be equal to any in every respect if raised under favorable conditions, there are times and conditions when artificial raised queens are very inferior. Queens in swarm cells are developed under favorable conditions only, but artificial cells are produced under any, sometimes very unsuitable conditions. Nor are the methods for the raising of queens all equal to natural ways. I have tried them, Doolittle's included, and discarded them as unsuitable for my purpose, though handy some may be for the sale of queens. My plan is as close to natural queen raising as it is possible to be, and it works all right, always bearing in mind that not every queen, natural or artificial raised, can be expected to be up to the standard of excellence. Some natural-raised queens are just as useless as some others are good, and vice versa. In the breeding of queens by artificial means nature's ways may be aided to some extent and thus good queens bred; but you have to study nature's ways very carefully, or else be led astray. It is not the greatest number of bees in a hive that will produce the best queens, as

some American says, anyhow. Nor is it always the most prosperous hive that produces the most desirable queens. You cannot apply a rule, like to a board. The best is apt to throw back; the small, the little try to raise, and will do so if a chance offers, that is if there is any good in it at all, otherwise the offsprings of the best will be bad, but the other will be worst. That would seem to be a rather curious way of putting it—but what of it?

A non de plume "Hitter" said in the A.B. some time ago: "If a locality is fully stacked with bees, there is much less tendency to swarm than in a good locality where bees are scarce." Now, with me, it so happens that I have my desired number of hives full just when the bees stopped swarming. "Hitter" also says, "Should bees decide to swarm in a fully stocked locality, there is a tendency for those swarms to fly away to fresh fields." And lo! I hived my last swarm on the 11th just as comfortable as all the others and in the afternoon went away from home, and that swarm went away too. so that evidently the locality is as fully stocked as my hives, according to "Hitter." It was a very hot day and I would have put it down to that that they cleared out. Who is right now? That queen was bred last February, when the natural conditions were very much different to what they generally are at swarming time if you remember.

## A Simple Way of Queen Rearing.

During the past month, one flow being all but over, and a following one scarcely started, we took the opportunity of requeening all the inferior hives, i.e., those that showed least honey returns. We adopted the following plan:—Choose a strong hive. Remove the queen to where an inferior queen may be by one of the introducing ways. In four or five days' time go to said strong hive and destroy all queen cells. On the day you removed the queen in the hive where your intended breeding queen is, put a frame of empty worker brood. On the above-named fourth day this frame will have eggs just turning into larvae. This frame place in centre of queenless hive, the larvae being in just the condition to be converted into good queens, the nurse bees being in quantity, and relieved of the duty of raising brood, by no eggs being laid since the removal of the queen, and the cells they had themselves started being destroyed, they are almost forced into rearing queens from the only larvæ suitable they now have. In nine days the cells will be capped and sufficiently strong to be put into West cell protectors in the same hive, from whence they may be removed as queens are killed in inferior hives. Being in the protectors and queenless, and larvæ and eggs from the killed queen, as soon as released in the cell, and leave in the protector extension, they will be accepted by the bees when released from that. Should there not be such young larvæ it will be better to give larvæ. In five or six days more the young queens should be laying.

## CAPPINGS.

*From American and other Bee Journals.*

A horse belonging to Mr. Harrington was standing unhitched in a field in which was an unfenced apiary, and the horse got among the bees. Pretty soon the horse began to kick, and then a regular stampede ensued. The more the bees stung her the madder she became. She kicked two hives over, and, as if out of revenge, she would walk right up to a hive in front of her, and stamp one of her front hoofs right through it. She actually ran one foot right through one super of comb honey, down into the brood-nest, and, such a racket! Mr. Harrington arrived on the scene just in time to find the horse covered with bees and kicking everything in sight into smithereens. He managed to get her free, and started

her for the open barn. He himself was literally covered with stings. He raked the bees out of his hair by the handfuls; and when he emerged from the yard there was scarcely a spot on his face or body that you could place a finger on without putting it on a sting; and the 'old mare'—well, she shared about the same fate. Notwithstanding the dozens, and perhaps hundreds, of stings received, the curious part is that Mr. Harrington insists that after the first few stings the rest did not hurt, although he remembers feeling slightly sick. As to the horse, Mr. Harrington treated it in the following manner: He called for a pound of salt, and, in the meantime, proceeded to rake the bees off the horse. He wrapped the salt in a paper, and pushed paper and all down the horse's throat. She was beginning to swell, and it was evident she would die in a few minutes unless the salt would act, and something did act. Very soon the swelling began to ease up; the horse seemed easier, and, in the course of an hour, when given grain, she ate as if nothing had happened; and in two or three hours more she was driven home by Mr. Harrington, 2½ miles, in the very buggy in which she had been hitched, and from which she kicked herself clear. With some binding wire the thills were made to hold together, and man, horse and buggy went to town as usual.—*Gleanings.*

Good quality in honey has much to do with the safe wintering of our pets; in fact, I believe *more* than any one thing which can be named; and he who does not pay any attention to this matter cannot expect to succeed to any great extent. But what is good quality in honey? may be asked. If we look to Nature for an answer—that Nature which preserved our bees all through the thousands of years before man began to keep them for the profit in them—we shall find that, as a rule, the honey which a colony left undisturbed by man has in store, is that which has been on the hive long enough so that it is thoroughly ripened, having that rich, good quality we all like so well. Now such honey as this cannot be gotten just at the close of the season, where the extractor has been used till the very last thing, as many novices, and even older ones, persist in doing, leaving only the thin, watery stuff which comes at the time of the year when extracting is usually left off, for the bees to live upon. In my opinion upon the injudicious use of the extractor has been chargeable much of the loss of bees in wintering during the past quarter of a century; for in nearly every instance where we have heard of large yields of honey taken with the extractor late in the season, we were almost sure to hear of a corresponding loss of bees by the same persons the next spring. To overcome this difficulty it is better to set aside enough combs of thoroughly ripened and sealed honey during the season to winter our bees; and then, when the honey-yield is over, exchange combs with the bees; extracting all that is left in the combs taken this late from the bees, if we so desire, or carry it over in the combs to help build up the colonies in early spring, if this seems better in our sight. In this way we are sure that the bees have such honey as they ought to have to winter on. Of course, this applies only to those who are prone to extract too closely during the earlier honey-flows; but it is a good plan to work a few colonies for such combs of thoroughly ripened honey to be used in case of emergency, no matter how the bees are worked. Each fall finds me with an average of at least two full combs of such honey for each colony calculated to be wintered over. Another reason why we should not put off preparing the bees for winter till cold weather comes, is that, if we do this, they cannot well get their winter stores near and around the cluster in time for them to settle down into that quiescent state so conducive to good wintering, as they should do prior to November 10th to 15th. To arrange these stores, and properly prepare them, requires warm weather, hence all will see

the fallacy of putting off caring for them till cold weather arrives.—G. M. Doolittle, in *American Bee Journal.*

I have lately formed new colonies (not nuclei) by simply taking brood and bees from laying queens, putting them in a hive on a new stand without any precaution whatever, and so far I rather like the plan. On the 8th of the present month of August, I put three hives on new stands, each containing four or five frames of brood and adhering bees taken from colonies with laying queens, and put in each hive a caged queen. Yesterday, Aug. 18, I was again at that apiary, and I found each of the three new colonies well stocked with bees, a moderate force of field-workers flying, and in each hive plenty of young brood and eggs. I do not believe they stayed any better for the presence of the queen, for she was a stranger to them.—Dr. C. C. Miller.

Of late years I have come to the conclusion that there are three factors which must be present in rearing good queens, viz: To have the cells started with the proper-sized larvæ; an abundance of royal jelly; and last, but not least, to have the cells reared and hatched in the proper temperature. These are the three essential elements to rearing good queens; should either one be absent, poor queens will be the result. Great care must be taken in handling cells until maturity; not that shaking the cells will break the young queens neck—the injury is not caused by the sudden jerk exactly, but it has the effect of shaking the embryo into the cap of the cell, and there it will simply starve, no difference how abundant the supply of jelly has been. I have noticed that in cell-building a larva will drop down out of the jelly; the bees, in their efforts to get it back, will keep on drawing out the cell, until sometimes it is twice the natural size; such a cell will never hatch. Whenever I handle cells, and if by accident I should jar them so that I think any of the larvæ have dropped in the caps of the cells, I simply reverse the stick of cells and gently shake the larvæ down into the jelly again. At one time I thought it quite necessary to shake all cells to get the bees off, and when doing so I always reversed the stick and shook back what larvæ might have dropped out of the jelly; and I never had any trouble in the cells hatching.—H. G. Querin, in *American Bee Journal.*

It seems to me that the tendency of some beekeepers for "show" has entailed suffering and death to the poor bees by including observatory hives in their exhibits of honey. I was in the Agricultural Hall last week, and the poor bees in a certain shallow-frame were in a deplorable condition, and, in my opinion, a disgrace to modern beekeeping. Our headquarters are in Jermyn-street, at the abode of the R.S.P.C.A., yet our leading lights give awards to what I call exhibitions of bee-torture. Our experts go into the bee-tent and hold forth on the brimstone pit as atrocious cruelty; but much as I deplore the ending of a useful, busy life by the fumes of sulphur, I aver that it is far more humane than the imprisonment and doing to death of a small colony of bees in the circumscribed limits of a shallow-frame. The introduction of bees should be excluded rigourously, except a chance of flight can be given the bees beyond the precincts of the show, especially where the confinement is extended beyond a few hours. Then there is the educational side of this matter. I said something during our discussion about the influence we as beekeepers should have on tradesmen who wish for shop-window advertisements, because I thought that they would take the cue and we should shortly see our poor bees the centre of attraction in some enterprising tradesman's window. Apropos of this, one of our prominent beekeepers said he had supplied bees in an observatory hive for a window attraction next summer. Were they supplied for sordid gain? Oh, yes, he was paid for them; otherwise he should not think of letting them go for the purpose.—W. Woodley, in *Beekeepers' Record.*

At the Wisconsin State Fair, premiums are offered for the colonies that stored the most honey during the two weeks previous to the fair. The colonies are brought in at the proper time, weighed, the hives sealed, and then set into an enclosure surrounded by a high wall of wire cloth. Upon one side of this is a high board fence. Some of the exhibitors placed their colonies next this high fence, that they might be in the shade. Others left their colonies in the open. Now comes the important point: *No colony standing in the shade ever secured the premium.* Mr. Whitcomb put a colony under a small tree in his yard. As the tree grew in size, and cast more shade, the yield from this colony decreased. When placed out in the open, the yield again came up to the average.—*Beekeepers' Review.*

Men are in the bee business to make money, and I am satisfied that the use of foundation in the sections largely increases the crop of honey; much more than a raise of price, of five cents a pound, would increase the profit if no foundation were used. To educate the public to distinguish the difference between comb honey built on foundation, and that built naturally, would be a great task. The general public does not keep bees, is not interested in the question, and *will not be* unless we try to interest it. A beekeeper could quickly tell if the comb was naturally built. Not so the average purchaser. If we attempt an education, it may be to arouse a prejudice in the minds of some, where none now exists. Nine-tenths of the purchasers know nothing of foundation, and never will know unless we educate them. They buy honey now and are satisfied with it. Why try to produce something better, and try to educate consumers to buy it, and pay more for it, when by so doing we will decrease our profits? The use of foundation in sections may be written against and condemned, as much as you please, beekeepers will never give up its use if they can make more money by using it. If friend Greiner, or any other beekeeper, can find a class of customers who will pay a sufficient advance for comb honey in naturally built combs, let him produce it by all means, but for the commercial honey producer who must put his crop upon the general market, I believe that the best course is to use full sheets of as light foundation as will answer the purpose.—*Beekeepers' Review.*

To make the smoker work well an occasional oiling of the valve will be very efficacious.

Some one has said there is nothing like having a place for everything and everything out of its place. That is just about the condition a honey-house will get into if we are not continually on the look out to see that things do not get all tangled up. One of the first essentials to a honey house is a good new broom that sweeps clean; bore a hole in the end of the handle and hang it on a nail near the door, beside it drive another nail and on it hang a dust pan, and whenever you see litter beginning to accumulate, and tools, empty hives, boxes, supers and what not getting all over the floor, go to work and arrange them neatly next to the walls; take down the broom and dust pan and gather up the litter, and while you are at it you better straighten up things on that table over in the corner, you will find that the articles on it can be made to occupy only about one fourth the space if you will only make them do it, and this will leave you some room on which to work when needed. You had better take that saw, hammer, pinchers, plane, square, smoker, veil and chisel off the saw table so that when you want to rip out a strip in a hurry you can get to the saw. I might mention in passing that you should be sure and have the circular good and dull so that when it enters the wood it will smoke and give off an odor of burning pitch. Let us see, it will not take so long to put things in place; I will hang the hand saw here on this nail where it

belongs, and the square on its nail. The hammer, pinchers and plane I will lay here on this shelf where they belong; the hive chisel I will hang on its nail beside the door, and the hat and veil I will lay here on this pile of dummies, (chaff division board) that are not in use at present. The smoker I will put in this half of an old five gallon square can that I have tacked against the wall for its accommodation. You see in case I should fail to knock all of the sparks out of the smoker before putting it away there is no danger of it setting fire to the house when placed in this tin receptacle. The extractor should be thoroughly cleaned out, stood away in one corner or next to the wall in a suitable place when not in use. The uncapping can should be placed over a dripping pan on a box of convenient height between the two to receive the combs after being uncapped. —J. E. Miller, in *Progressive Beekeeper.*

Honey as a food material, furnishes in a palatable, wholesome and readily digestible and easily assimilable condition, sugar which may act for the production of heat, for the development of energy, and also for the formation of fat within the body. We could not live on honey alone, no matter how desirable from many other standpoints, simply from the fact that it does not possess any of these protein or albumenoid substances which furnish the necessary nitrogen, neither does it furnish the bone-forming material. I think, however, it is one of the most digestible, most agreeable, most palatable, and most assimilable of all forms of sugar. With regard to its position as a medicine I cannot say very much. It is used as a demulcent and as an anti-irritant for affections of the throat and coughs, and so on. It is slightly laxative in its character and it has some value as a medicine in that direction. But I think it is used medicinally principally for coughs and colds and affections of the throat, although possibly to some extent as a laxative. In former times it was employed medicinally to a much greater extent than it is now.—Professor Cook, in *American Bee Journal.*

When you write to a house, sending a sample of honey and they write you in return that they can get for you such and such a figure, be sure to keep that letter. If your honey should subsequently be sold for a less figure, you have proof of what you were offered on the sample. In a general way we may say, carefully preserve all correspondence with a business house. If a firm is not quoted in the bee papers, go to your nearest bank and find out its financial rating.—*Irish Bee Journal.*

When I used 10-frame hives, there was more honey stored in the brood-nest than I find in 8-frame hives, and if the harvest began with empty combs in the brood-chamber, those empty combs had to be filled before work was done in the super, and I would rather have that white honey in the super; but when the brood chamber was filled I could not see but the bees went to work in the super just as willingly as if they had earlier formed the habit of storing in the super. Perhaps that does not exactly express the thought. Bees are creatures of habit, and after storing in a certain place, other things being equal, they will go on in that place more readily than they will commence in a new place. But always the desire to have their stores near the brood-nest is stronger than the habit of storing away from it, and they will store elsewhere only when compelled for want of room in the brood chamber. What I mean is, that after filling up two or more combs in the brood-chamber, they will then as readily form the habit of storing in the super as they would have done in the first place if they had not had those two or more combs to fill.—*Progressive Beekeeper.*

Honey should always be stored in a dry, warm, airy room

Honey Labels a specialty at "Bee Bulletin" office. Send for samples and price list.

## CORRESPONDENCE.

Mr. R. Helms writes: Yours of 8th is just to hand with enclosure, which herein I return. There is no purpose to be served to worry with making cultures from the bees in the state they have come. One might readily miss the organism (if such is the cause of the disease) and cultivate all manners of mould etc. that have nothing to do with it and would probably have been the cause of different exposures, and may be from the handling or the paper of the letter. A scientific investigation can be conducted with success only when the greatest care is taken and all possible precautions are taken in the evidence of error. So you think I am quite wrong that the bees will always find room for the queen to lay in. Well, you may be correct that when there is plenty of room in an upper storey that the bees know enough how to utilise it and consequently will not build comb outside of the hive. No doubt it is an extremely rare occurrence at any time, and will take place only when the season is too far advanced for swarming. It was stated by me in order to emphasise that the abundance of honey could not be the cause of the colony diminishing. Or do you really mean to say that I am quite wrong in this axiom? Do you really mean to assert that an excessive honey flow prevented the queen from finding room to lay? What you say may be read so; but you go on immediately about the building outside of the hive, and in this manner it may be construed that I am quite wrong about this point. You are very ambiguous and difficult to understand. After writing to you very distinctly, and giving my reason for it, that I would not answer question 16, and that I only could answer question 15, you head my reply by question 16, to which it in no ways refers. Your readers will, if they are critical at all, consider me a confused babbler.

[Yes, Mr. Helms, very recently we wanted larvæ to give with a virgin queen, and searched in vain in several hives full of honey for such. Have never seen them build comb outside a frame hive, but with old-fashioned box hives have heard and also read of such, a case in point being given on another page of this issue.

H. B., Pambula, October 22.—1. We have a hive that swarmed (primary) from box with clipped queen, which was placed with new swarm on full foundation sheets and a few full combs with some honey. This swarm has issued four times, and as the clipped queen was on the ground was returned, the bees returning also. A frame of brood was given at first, which the queen does not leave, and the honey is being stored as the comb is drawn out, and no eggs in the new comb. Please state method of preventing swarming. 2 Are the fence separators an advantage over the others? and are the bees more likely to take to the sections when placed on the hive? 3. State best method of fixing starters in half-frames thin top with groove. 4. Are half-frames made with wedge and groove, or with V bottom? would not it be more convenient for fastening starters. 5. What is the remedy and reason of nuclei swarms leaving when the queen is hatched without queen (and no queen-cells) and returning.

[1. You should have put the swarm in a fresh place, or else remove the original hive to a fresh place, also given young larvæ. Starters would have been better than full foundation sheets. 2. Not had experience with the fence separators. Perhaps some of our other readers could give the information. Those who make and sell them, of course say they are an improvement. It is for the man who has used them to say, however. 3. Pour melted wax, or fix in with small sticks, which ought to be supplied with frames. 4.


## FOR SALE.

A BARGAIN. About 50 beehives, 2 storey 10 frame wired, painted, &c., mostly new and unused, Langstroth self-spacing frames, also sundries. Owner relinquishing beekeeping owing to drought. Apply

A. WURFEL, Dubbo.

Would prefer in all cases V bottom with Foundation Roller. We presume they are made both ways. 5. Would there be anything wrong about the hive, such as a bad scent, or being attacked by ants? Try a fresh hive.]

X. Y. writes: Would you kindly tell me if there is any usual or recognised signs, suppose you open a hive and there are queen-cells; now, the trouble with me would be, are they requeening or preparing to swarm.

[When requeening there are only three or four cells generally. When preparing to swarm a great many more.]

G. C., Eden Forest, Marulan, October 27.—Just a line to let you know that the people of this district are still alive after dragging through this last exceptionally hard winter. The spring here is usually late, contrary to your part, although we had a very nice rain about a week ago, which I think was pretty general. The native trees are beginning to show out in bloom (called here messmate), and bees are beginning to build up fairly well, although there are intermittent cold snaps that tend to retard their progress. I have seen hot and cold changes here in twenty minutes. I had a letter from Mr. Evald, from California, and he tells me the last season has been the worst as regards drought for 30 years. I receive your little journal regularly and like it very much.

W. M., Bathurst, November 7.—I think we are in for another bad year, everything is drying up for the want of rain. Hoping you are getting better weather than we are.

W. A. G., Stroud, November 2.—I see by last A.B.B. that there is a lot of talk about the Disappearing Trick, so I thought I would give you a few notes. The white box with me only lasted about a month. It blossomed in April, and my bees never died out till August and first week in September. There is no shade at all about my hives, and they get the sun all day, and they were not a hundred yards away from the river, no sheep dip anywhere about here, and there is no fruit-spraying about here either, so that can't be the cause. I had 25 hives and I lost 18 out of that number. I also had a few weak ones, but strange to say they were the ones that lasted through. It started on the strongest I had. The first thing I noticed a heap of dead bees at the entrance of a morning, just the same as if they were chilled; have also seen them on the flowers just the same, chilled but dead. Some hives had brood in them, others eggs, and some none at all, but they all went just the same. I cannot find out the cause. First I thought it was paralysis, but they died too quick for that. I have seen the bees all gone but the queen out of some, and the queen gone out of others, but I do not know the cause as my bees went into winter real strong, plenty of stores with four supers on, and they left the lot. I have only seven left now, but I bought fifteen more and will give them another trial, so I don't intend to give them up if I can help it. I will see how the rest get on and will let you know. I think I have told you all about it this time. It has every appearance of a good season up here, but no bees to gather it. I have got 22 hives yet, and if I have good luck I still will get a little honey. I am selling it at 3½d per lb., per 60lb. tin. Hoping that you will soon find out the cause of the dying of bees, and wishing you and your paper every success.

[We forwarded the letter with enclosed bees to Mr. R. Helms, of the Agricultural Department, but the bees were so crushed in the post they were useless for analysis. This is the communication alluded to by Mr. Helms elsewhere.]

G. S., Seddon, N.Z., Nov 10.—We had a very mild winter and an early spring.

D. C., Snowy River, November 12.—The main honey flow in this part of Victoria (Gippsland East) is from mahogany, which blooms from the latter end of January to the end of March. I have eighteen colonies in standard hives at present, and hope to increase to twenty-eight this season, although at present time of writing they are building up rather slowly. I have always been under the impression that foul brood was the

worst disease we had to contend with in bee culture, but I think we shall have to give it a secondary place on the list of bee diseases, as I would rather deal with a few cases of foul brood than lose about forty out of fifty colonies by spring dwindling.

G. F. D., Hastings River, November 1.—I keep but few bees, but I like your paper.

R. S., Crookston, N.Z., October 20th. —As some bee news from this part of the world may not come amiss, I will try to send you a few lines, for although an old hand with the bees I am a new-chum at writing about them. They have come through the past winter very well, and are at present just commencing to breed freely, and so need a little more attention. Our swarming season here is from the middle of December to the end of February, and the principal honey harvest in January and February, and practically all surplus is white clover honey. The price is generally about 4d. per lb. in 60lb. tins, and the yield on an average is about 50lb. per colony. Of course in some years it is less and some very much more; also, individual hives will give up to 200lbs. and over even, but the conditions are not often favourable to very large yields, as wet and stormy weather is generally experienced in some part of the honey season which soon cuts down the yield of honey, also the number of bees. The number of colonies I keep is from 150 to 180, all Italians, for the last six years, as I found them more suitable than the blacks.

J. W., Lower Hunter, Tomago.—My sister has been robbing the bees the last two days, and is very pleased to find they are so healthy, though there is very little honey. Thank you for your good wishes for the season. We think there will be a flow soon, as there is so much clover about. There is such a lot of brood in the boxes, and young bees, and not a sign of moth in any of the boxes. We are having a new wax extractor made according to Mr. Anderson's, of Kilcoy, plans, and are very delighted with the idea.

T. B., Dunkeld, Vic., October 27.—We have good prospects for a honey crop this season provided the dry weather which is prevailing does not reduce the yield of nectar; and as my winter losses have been practically nil, and we have, in making spring overhaul, had to already remove a few tons of honey and tier up many colonies 5 and 6 stories (Hed.) high for a start, there is every reason to anticipate a record season at these apiaries. Hoping you may have a good one too.

J. A., Hexham, October 30.—I hope you are getting some of the rain we are having down here; we are getting too much now, we can't get on the ground at all. I was looking at my bees last week, and they are in terrible bad order, they were never so bad before. I have lost a lot more hives with the ants and robbing and I have started to put them in new boxes and stand them on bottles.

P. M., Howlong, November 17.—I am sorry to say that the drought has made everything very bad around this district, no grass, no crops, and every chance of the stock dying. There was a good bloom on the yellow box, but the bees were too weak to take advantage of it, although I think through the dry weather that there was no nectar in the flowers, as I have pulled several of the blossoms off and they looked dry, and also, there were no bees on them, whilst the bees were on some pepper trees in bloom near by. I think it will be a bad year again, as there has been no rains, and the few showers we had have not penetrated the ground, and my belief is, that until the drought breaks up we will not have much honey to crow about. Wishing you and the "A.B.B." and also the Bee Farmers' Association success.

J. F., Black Range, October 27.—The bee news from Albury district is very promising for those that have any bees left, but as far as myself is concerned, I

may say that one-half of my colonies have died out with leaving a quantity of honey in their hives. Of those that are left one third is good, another third is middling, and the other third is poor, but all seem to have passed the crisis since the flow of honey has changed.

Mr. Hessell Hall, M.A., writes:—I have lost one-third of my bees, and another third is rather weak, the rest strong. I am thankful to come out so well, as others in this district have suffered much more heavily, and in several cases have lost all their bees. My stocks went into winter without a cell-full of pollen, and breeding stopped early. I should probably have lost nearly all my stocks, only that my bees found a substitute for pollen in the contents of the pollard bins. They fairly took possession of the room all day, and carried off a dipperful of fine pollard a day, leaving all the bran. Fed in the hives it does not answer so well, as the bees throw the bran on to the bottom board and it encourages moths, weevils, bugs and other vermin. We have had very fair rains this spring since the drought broke up, and things look well around the Plains, but the after effects of hail, bush fires, and drought, will prevent us from having anything but the very lightest of crops this year. So far, there has been no surplus honey, and many of the hives required help in the way of stores.

E. J. R., Wyee.—Things have been rather badly with us, and we had a honey flow on from spotted gum and flooded gum, but these excessive rains have spoilt it. Ti-tree is now coming out all over the place, whether that will bring anything I cannot say. However, we must not complain for He holds the key to our lives. I am now on the Wesleyan plan again, so I hope my bees will respect the Sabbath re swarming.

S. M. D., Wodonga, Vic., October 20.—There is a little honey coming in now and the majority of my bees are looking very well, and if the drought still continues the gum timber will soon be out in bloom and we will have the honey flow sooner than usual. About five or six weeks ago I had a little loss and I think my fellow-beekeepers in this district suffered equally so. We had a fortnight of cold weather and the bees being nearly all old ones that wintered died off very suddenly, leaving only a few young ones that eventually swarmed out. I lost 13 hives and also a number of queens, besides having some greatly reduced in numbers, but they have built up well since. Last season here was a failure. I only extracted a few pounds of honey, but the present season promises to be a more successful one.

J. W. S., Condobolin, October 29th.—After taking notice to what you had to say in reply to my letter with reference to special leases, I made two applications for two different blocks which came before our local Land Board for hearing last month. The Stock Inspector in a conversation we had before the cases were called, told me he was going to oppose me on both blocks, saying it was impossible for me to get even a foot of country on the stock routes. But after a real hard battle I came out successful in getting both blocks granted to me, which is a real chuck in just at the present time. I have had a very rough time of it through the severe drought we have underwent, and still undergoing, to keep my bees alive, which I am quite satisfied I never would have done had it not been my good fortune in procuring half-a-dozen Italian queens from Mr. H. L. Jones, of Goodna, Queensland, last spring. From them I requeened the whole of my 150 colonies, with the result that these queens have undergone one of the severest droughts the Lachlan has ever seen in the history of the white man and have come out on top without losing one swarm. You can see the severity of the drought here through trees growing in what used to be swampy country are dying and dead, and in the pine scrubs you will find plenty of dead and dying

trees. A few blades of grass is a thing of the past, and the farmers in this district will not gather a bag of wheat amongst them all, much less any hay. The Lachlan River has stopped running for the past ten months and is only a string of holes sometimes miles apart. The special train still runs loaded with fodder for the starving stock, and returns to other parts loaded with trucks of live stock just able to crawl about. More than half the stock in this district is dead, and the remainder have nearly all been sent away by train or on different roads looking for grass, and they continue to travel until they can rent country with grass thereon. And this state of affairs still continues. I noticed in your last issue a friend wishes to know the cause of spring dwindling. I have went to a lot of trouble to try and find out myself the cause of my bees being unable to increase like they ought to, although I kept them well supplied with pea meal, and the queens kept the slides full of young brood, yet the swarm stood at one strength. I caught our friend the sand martin at work catching the bees on their homeward journey and eat them, but as these birds did not number many I very soon got rid of what I saw. I shot several other likely birds that might have eaten my bees, and amongst them was a small blue martin, that comes about here in the summer in flocks of thousands, and makes its nest anywhere, on old fences, in the hanging bark of trees or hollows, and in stumps, etc. And to my surprise I found that every one of these birds I shot had its craw pretty well full of broken up bees. They did not come close to the hive either after them, but sat about in hundreds amongst the leaves and small twigs of the trees that were in flower, and so snapped their prey. So I have came to the conclusion that if I had not have kept up the pea meal to my bees I would have had no bees at all in any of the hives and put it down to spring dwindling. I am still living in hopes of being able to come down to your next Bee Farmers' Conference even if I get no honey, but as long as I save what bees I have got. With best wishes.

W. H., Wilson River, October 23.—Honey has been a thing of the past with us lately, but they are doing very well now, bringing in a little honey and rearing brood very nicely. I hope things have been good with your bees.

Mr. Jas. McFarlane, of Lyndhurst, Vic., writes :—It was a very poor season last year, and bees are very backward this spring; and am afraid the drought will have serious effect on honey crops, but rain may come in time. Wishing you a successful season.

Read Mr. McFarlane's advt. elsewhere.

W. C., Yackandandah, Vic., Nov. 1.—Present appearances point to a good honey harvest. A good flow is now on from red box and white gum, apple tree will bloom in about a month and stringy bark later, besides scrub and flowers of various sorts, a great deal will depend on the weather. We have had some nice rains at intervals during the past six weeks, and I hope it will continue for some time; for although we feel the effects of the drought here we are well off compared with other parts, as water is always plentiful though grass is scarce. Hoping that beekeepers will have a good harvest and good prices for their product

## BEES IN THE FORBES DISTRICT.

We have received the following communications from Mr. McDade. Would the correspondence in the disappearing disease throw any light on the matter?:

Forbes, Nov. 14th.

Dear Sir,—I am sending you a letter received from Sydney, and the answers we sent to it.

In Forbes and Eugowra district the beekeepers are losing a lot of their bees and cannot find out the reason. They have been disappearing this last two months, and are still going. Any questions you would like to ask about the

matter we would be pleased to answer, and would be very glad if you could throw any light on the matter.

Some beekeepers have had *very big losses*, as yet I have only lost 12 colonies. An early communication will be very thankfully received as they are dying very fast at present, and we have come to the conclusion it is best to leave them alone. Yours faithfully,

T. S. McDade.

Department of Mines and Agriculture,
Sydney, 29th October, 1902.

Sir,—With reference to your letter of the 22nd inst., stating that the beekeepers of the Forbes district are greatly perturbed at the ravages of a disease which has attacked their hives, forwarding a piece of comb with young brood out of one of the hives affected, and asking that the matter be investigated and that you may be informed of the result, I am directed to inform you that the disease cannot be identified immediately from the specimen sent, but the matter is being carefully investigated in the Laboratory, and the Department hopes to be able to give you some definite advice shortly. Meanwhile perhaps you will be so good as to furnish answers to the following questions ;—

1. How long is it since the sample sent was taken from the hive ?

2. Are the adult bees affected as well as the brood ?

3. Was there a good honey flow during the development of the disease ?

4. If there be a good honey flow, is brood-rearing in strong colonies equal, in proportion, with that of numerically weak colonies ?

5. If there be a good honey flow, is the disease equally rampant in the weak colonies as in the stronger ones ?

6. Are the young bees being fed upon newly stored pollen or pollen that has been held over from previous seasons ?

I have the honor to be, sir,
Your obedient servant,

Edward F. Pitman,
Under Secretary.

F. S. McDade, Esq.,
Rankin Street, Forbes.

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Replies—

1. It was taken 21st October.
2. More so. We can't see anything wrong by appearances of bees. They seem to disappear just as fast as they hatch and begin field work The colony becomes very weak, then they swarm out, and when placed in a fresh hive with a frame of brood from another colony, they kill their own queen and raise a fresh one from brood given, but in most cases die out before this young queen has time to repopulate the hive.
3. Very light flow.
4. About equal in proportion.
5. Much the same ; they disappear.
6. Mostly newly stored pollen.

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F. H., Glenorchy, Vic., October 27.—A few lines to break my long silence and to let you know that I still have a few bees. But we have such a terrible drought on us that the bees have had a hard time of it, and the losses have been pretty heavy with some, and the most that are left are too weak to get the benefit of the honey flow that is on at present. Any bees that were in reach of the mountain scrub have come through strong. I am pleased to say that my bees have made good progress this last fortnight, and I hope to have them all strong again by Christmas.

Why Bees visit Pig-Stys, &c.—I don't believe that bees go to privies and pig-stys for salt—that is, salt is not the main thing. All higher life on this planet is a life-and-death struggle with microbes. The excreta of all higher animals abound in antiseptics, which the proper internal organs have made and poured out to keep down microbe multiplication within. Much of this anti-microbe matter is not neutralised, and is capable of being used again. Bees seem to think they need all they can secrete and all they can gather, too. Salt is a mild antiseptic, and comes all in the same line; but you may salt never so wisely the water you offer them at the apiary, and they will still prefer their chosen watering-place where cattle stamp around. —E. R. Hasty, in *American Bee Journal.*

The practice of using full sheets of foundation (in sections) is most objectionable, and cannot be condemned in too strong terms. The aim should be to use as little foundation as possible.—F. Greiner, in *Beekeepers Review.*

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