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## **The Australian bee bulletin. Vol. 11, no. 4 July 28, 1902**

West Maitland, N.S.W.: E. Tipper, July 28, 1902

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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*

MAITLAND, N.S.W.—JULY 28, 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.  
Chown Bros. and Mullholland, Ltd.,  
Thomas St., Ultimo, Sydney.  
R. Beuhne, Tooborac, Victoria.  
John Rush, 407 Collins-street, Melbourne

### Queen Raisers.

W. Abram, Beecroft.  
H. L. Jones, Goodna, Queensland.  
Jas. McFarlane, Lyndhurst, Victoria.  
Mrs. Jennie Atchley, Beeville Bee Co.,  
Texas, U.S.A.  
J. W. Miner, Ronda, N.C., U.S.A.  
R. H. Jervis, Moss Vale, N.S.W.

### Miscellaneous.

A. Hordern & Sons, Haymarket only,  
Sydney.  
Allen & Co, 242 Sussex street, Sydney  
P. J. Moy & Co., 161 Sussex St, Sydney  
W. L. Davey, Plenty Rd, South Preston  
Victoria.

### Foundation.

R. Beuhne, Tooborac, Victoria.

Pollen in extracted honey is said to cause more or less fermentation.

Several beekeepers we have come across anticipate an early and plentiful swarming this season.

Mr. J. B. Blowe, of England, was on January 15, 1902, married to Shoko Koyaka, of Kyobo, Japan.

A desire is again manifested for Cyprian bees in Germany. The Italian race is becoming more and more unpopular.

One of the most extensive German beekeepers is H. Thie, in Wolfenbuttel, claiming to have 14 out-yards of 200 colonies each.

Strong colonies count; not a great number of hives with only a few bees in them. Only more work for a less amount of profit.

A queen that is not profitable to the beekeeper should be replaced by a better one. It is only time and money lost to keep inferior queens.

Dr. Dzierzon thinks it is possible to insure the mating of our queens with drones from our own yards by shortening the wings of our young queens.

To open a hive in cold and windy weather is as imprudent as to take a baby from its warm cradle and expose it to a current of air in its chemise.—Exchange.

Don't crowd your bees. The little harm done by needless room to keep warm will be richly repaid by the great advantage of having full attention given to storing with no destruction in the way of swarming.



A very interesting paper by Mr. R. Beuhne, read by him at the Rural Producers' Conference recently held in Victoria, is unavoidably held over till next issue.

Jamaica in size is 4,200 square miles. Last year she produced 1,503,576lbs. of honey, or 358lbs. per square miles. Much of it is shipped to Bristol, England, in barrels.

Should the reader receive at any time an extra copy of the "A. Bee Bulletin," kindly hand it to some bee-keeping friend who is not a subscriber, and confer a favour upon us.

We would particularly refer our readers to the article "Australian Honey in England," on page 71 of our last issue, and would much like comments on same, especially in reference to other reports.

Have received from the Lands Office a number of copies of Army Remount Papers; also Report of the Forestry Conference of N.S.W., held in October, 1900. Shall be pleased to forward copies of same on receipt of 3d for postage.

Over and over again I have had the strongest proof that the bees preferred old combs to foundation or empty space, or even fresher comb, and I have yet to see the first case in which anything else was preferred to old comb, unless the old comb was mouldy or otherwise in bad condition.—Dr. Miller in *Gleanings*.

Have you noticed, in a honey flow outside hives do better than those situated in the centre. Evidently, the bees returning home loaded often times go to the first hives, and bringing honey with them are accepted. So if an outside hive does better than others do not give it credit for having an extra good queen.

At the N.S.W. Forestry Conference held some time since, it was unanimously agreed there was no need of replanting forests. With proper supervision the forests would do that themselves. A good crop of corn is not produced by overseeding, but planting at proper distances, and keeping clean of weeds, and not planting inferior seed.

All the eggs of the queen are unimpregnated as they leave the ovaries. In its outward passage the egg is impregnated as it passes the seminal sac or spermatheca if the egg is destined for a worker-cell or a queen-cell. But if the egg is destined for a drone-cell it is not impregnated. In the absence of a queen workers sometimes undertake the business of egg-laying; but their eggs not being impregnated, produce only drones, even if laid in worker-cells.

If you have laying workers choose a warm day. Remove the hive say 100 yards away. In its place put a fresh hive with also fresh combs. Here place the queen in cage on top of frame, open side facing downwards. From the removed hive shake all the bees. They will fly to the fresh hive on the old location, excepting the laying workers, whose flying powers are supposed to be impaired by their freshly acquired laying powers. In a couple of days the new queen may be liberated among the bees.

Now that circumstances have caused the price of honey to rise to a payable rate, beekeepers should endeavour to keep it so. The fear, however, is that should good seasons follow, the industry will again be boomed as in former years, to be again followed by glut and low prices. Let beekeepers remember the population of Australia is but small to its size, 4,000,000 against the 100,000,000 of America, and 45,000,000 of Great Britain. But we cannot send our honey to America on account of the heavy duty, and Great Britain is jealous of her own honey production, and also receives it free from all the world.

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### PUBLICATIONS RECEIVED.

The Publishers Circular and Booksellers Record of British and Foreign Literature.

"Every Saturday to Interest and Amuse," published at 283 Collins-street, Melbourne, Victoria, a very readable publication. We wish it every success.



## VICTORIAN APIARISTS' ASSOCIATION. ANNUAL MEETING.

(Continued).

### TIMBER RESOURCES AND BUSH FIRES.

The general discussion was continued in an informal way, with the result that Mr. W. L. Davey moved, and Mr. R. Miller seconded, that steps be taken to bring the matter of Timber Resources under the notice of the Lands Department as per resolution to follow. Carried.

Moved by Mr. Moorfield, seconded by Mr. Wills, that in any negotiations with the Lands Department for the sole use and protection of the green foliage of our forest timbers, within the beekeepers' range, a fair average valuation would be 10s. per square mile. Carried.

Moved by Mr. Beuhne, seconded by Mr. Garrett, that information from the Forestry Branch of the Lands Department be obtained, with the view of asking the Minister for Lands to appoint beekeepers as honorary foresters, as a check on illegal destruction of forest timbers (on the same plan that anglers act as inspectors of fisheries.) Carried.

"The Australian Bee Eater" was the next subject under discussion. A letter was read from Mr. B. Buck (Rheola) stating that the birds had caused him a great deal of loss. He had never seen colonies dwindle as they had done during January and February, and he blamed the "bee eater" for it. It would take £40 to £50 to clear him of loss through devoured bees by the birds referred to. He thought they should be taken off the list of protected birds, so that beekeepers could shoot them at will.

Mr. Beuhne said he had seen them devouring his bees in a wholesale manner; their habits when making a meal of bees was to take their fill by catening the bees when on the wing, and then sit perched on the fence until they had digested the honey, etc., contained in the victims of its voracious appetite, and then

by certain movements of its neck, repeated several times, it would disgorge a round ball of bees' wings, legs, heads, etc., and would immediately begin another attack on the busy bee. He was of the opinion that the "Australian Bee Eater," should be placed on the free list for all time. The bird referred to was about twice as large as a swallow, and when on the wing has somewhat the flight of the well-known wood swallow, and in colour has a bright golden green and azure blue, and in rearing its young usually burrows into sand banks for about three feet, where it forms a space for its nest about three inches in diameter.

Mr. W. L. Davey said he had seen their nests built into the sand hills in New South Wales, and the name given to them there was "Miner Birds."

Friend Beuhne, that does not apply to the bird under discussion, as the Minah bird is spelt differently.

Friend D. Quite true, but the bee-eater as known in New South Wales was called a miner on account of its mining tendency.

Friend B. The only bird known by that name is spelt Minah not Miner.

Friend D., I have no objection to giving in to Friend Beuhne, as it is only a *minor* point. (Loud Laughter.)

After an informal discussion it was moved by Mr. Beuhne, seconded by Mr. Cox, that the Secretary write to the Government Entomologist on matters relating to the "Australian Bee Eater," to ascertain their opinion as to having the bird removed from the protected list. (Carried).

The important items Adulteration and Fruit Spraying were only touched upon as the delegate appointed by the Fruit Growers' Association (Mr. Thiele, of Doncaster) had not put in an appearance. A lengthy letter was read setting forth the manner of Fruit Spraying, and stating he had not found it injurious to bee life.

The matter of Adulteration was temporarily disposed of by Mr. Belton moving and Mr. Wills seconded, that the



Secretary write to the Fruit Growers' Association, asking them their intentions as regards the adulteration of their products (as jam etc.,) and stating that this Association is willing to co-operate in any way possible. (Carried.)

#### HONEY EXPORT.

The Chairman asked Mr. McFarlane if he would state his experience with his consignment of honey to England.

Mr. McFarlane said he would rather keep quiet. However, his experience was not very satisfactory, he sent his very best sample, which remained unsold for a long time, in fact for so long that he instructed the brokers to return it; they sent him back word that they had just sold it at 2½d per lb. The total amount he received for the ton of honey after paying all charges was only £6.

Mr. Yates said that firms in Manchester were paying from 18s to 63s per cwt. for imported honey, according to quality.

Mr. Bolton had sent a test consignment to China, but it would be the last for some time to come, although he believed that there was a splendid opening in China for Australian honey; but the difficulty was to get the honey that far. The Ships' Company thought so highly of his honey that the empty cases were the only part of the consignment left, when the ship reached port.

After further informal discussion the meeting adopted the opinion informally, that export of honey would have to take place eventually to places where they would not object to our flavours.

The meeting then adjourned until 7.30 in the evening, when the election of officers for the ensuing 12 months took place with the following result:—President, Mr. T. Bolton; Vice-Presidents, Mr. R. Miller, Mr. E. Cox; Hon. Correspondent, Mr. R. Beuhne; Hon. Secretary and Treasurer, Mr. W. L. Davey; Executive Committee, Messrs. Jas. McFarlane, V. R. Davey, W. S. Freeman, and L. Wills and all the above

officers; Advisory Committee, Messrs. Geo. McFarlane, S. Hallam, C. J. Duncan, G. Smith, B. Buck, C. Willyan, E. Jackel, J. Bennett, C. Garrett, E. P. Penglase, J. Bassett, Wm. Murray, J. Yates, D. M. Morgan, H. Russell, A. Scurry, P. Moorfield, and Mrs. K. L. Willan.

The *A. Bee Bulletin* was unanimously appointed official organ.

"Feeding Bees" was the next subject discussed. Mr. W. L. Davey said he would like to make a few remarks on the subject, and would simply state his experience on "How Not to Feed Bees," and "How to Feed." Last winter 12 months, having occasion to feed in July, the feeding of sugar syrup was started by inserting a comb of syrup in each hive in the day time, and treating the whole apiary alike, strong hives and weak ones were all fed at the same time. As the spring turned out very wet, the feeding was continued, with the results that the longer the hives were fed the greater were the losses from starvation, caused by robber bees. The robbing becoming so acute in September that bees fed with a full fortnight's supply were without stores the next day; the bees becoming so demoralized that the colonies were at one time all at work robbing each other. Then the syrup seemed to turn sour or in some way affect the bees, because heavy losses followed from paralysis, with the result that 86 good colonies went into winter, and only 40 remained in October in a very weak condition. This plan of feeding he could never adopt again. Having had to feed for the whole of the present winter stores he thought the matter over and adopted a somewhat different plan of procedure. The feeder in this case was cheap honey, brought to the boiling point and then emptied into four gallons of boiling water and allowed to boil for about 10 minutes. This was drained off into the extractor, and a 70lb. bag of the best sugar was boiled in six gallons of water. This was



then run into the extractor and the contents of extractor were then churned by revolving the extractor machinery. This blend of honey, sugar and water was exactly like new nectar. After blending up 80 gallons of syrup, it was taken 15 miles to the out apiary, where 30 strong colonies and 24 of weaker strength had to be fed. The collecting and filling of 100 drawn combs with 4lbs. each of syrup occupied until midnight. These were distributed amongst the weakest hives before daybreak, with the result that these weaker hives had lost that madness that usually draws the robbers to them, and instead they were on the offensive; eager for more they tackled the stronger hives. Now these strong hives were given  $2\frac{1}{2}$  gallons down to one gallon of feed, in a vessel made of the half of a kerosene tin, with about two inches of straw placed on top of the syrup to prevent the drowning of bees, and the feed was then placed on top of the brood chamber and covered by an empty super lid, etc. This second stage of the feeding was done as soon after the daylight as possible (should be done during the night time if possible). He found after leaving them for a fortnight that the artificial nectar had been capped over. The strong hives had completed their task, no robbing had taken place, no bees so to speak had been killed in battle, the weak hives being the aggressor were in a mood to look after their home, and the strong hives were too strong to be affected by the weaker. At the present time the losses were nil, and solid frames of honey were in every hive; that was the plan he should always adopt, to always feed during the night time if possible, and to do it quickly. He contracted all entrances to a one bee space before feeding.

Mr. Beuhne said he had known his bees to leave the syrup after taking a certain quantity; they seemed to tire of it and would leave it untouched in the super for days at a time.

The Chairman: So we should learn

from Mr. Davey's experience that in feeding colonies of different strength we should always feed the weaker hives first.

Friend D.: That is my experience.

Friend Beuhne: I would like to ask a question as to why honey and sugar was used, as sugar is generally the cheaper of the two and just as good, if not better.

Friend D.: Because when feeding two winters ago on sugar syrup I lost heavily from paralysis, which I traced to the sugar. Therefore, I thought to make sure of the bees this time I would give them half honey and half sugar, from information gathered since that fatal winter. I now think the fault was in giving them the syrup too thin and too frequently; a good thick syrup and a good supply at the one time would probably have resulted more satisfactorily.

Friend Beuhne: Sugar syrup is one of the best feeds for the bees, and if given to good strong colonies and well ripened it is almost impossible to tell the difference between honey and the sugar syrup; in fact I have given a sample of ripened sugar syrup to an expert honey taster who declared it was a fine honey.

Friend D.: I would like to ask friend Beuhne if he would mind informing us how many 70lb. bags of sugar it took to make up that 25 ton crop of 1898-1899. (Laughter.)

Friend B.: It would be a heavy loss to feed sugar to produce honey, as I was surprised to find out how much syrup it took to make what was apparently a good thick honey.

The Chairman brought under the notice of the meeting the Conference of Producers at Shepparton and was of the opinion that the Association should be represented.

A resolution was then passed that Messrs Beuhne and Murray be appointed delegates to represent the aims and objects of this Association at the Conference.

The matter of Railway Freights was then dealt with, and several beekeepers pointed out that empty honey boxes or



tins were charged at a much higher rate than butter boxes, and that a beekeeper could send two tons of honey to one person at a certain rate, but should he send one ton to one person and one to another, although to the same town, the beekeeper was charged a higher rate.

Moved by Mr. Beuhne, seconded by Mr. Garrett that the Railway Department be requested to carry two ton consignments at the two ton rate, when consigned by one beekeeper to one destination, even if sent to two different people, and that empty honey tins and cases be sent at the same rate and minimum as empty butter boxes. (Carried unanimously.)

The annual meeting was then brought to a close by arranging several deputations for the following day.

## TUESDAY, JUNE 10th.

### HONEY TESTING.

About 18 beekeepers visited the Agricultural Department to examine the samples of English honey. Opinions varied considerably, but it was generally acknowledged that very little, if any, honey produced here is as pale as the English linden, clover or sanfoin. The nearest approach was a sample Mr. Colstein had with him, produced in South Gippsland. Most of the members were of the opinion that the Victorian honey was of a superior flavour and body, from their point of view.

The English heather honey was decidedly strong and dark, and resembled somewhat the honey produced from the coastal ti tree.

### TIMBER RESOURCES.

The same number of beekeepers then waited on Mr. Mackay, the Conservator of Forests, and brought under his notice the delay and roundabout procedure in obtaining Beekeepers Licenses on Crown Land. Mr. Mackay replied that in the instances complained of the trouble could not be avoided, as the occupier of the grazing land had to be taken into account. In the case of application for

"rights" on Forest Reserves the case was different. The application should be made direct to the Forestry Department, and there would be no delay in that case. A special permit, however, would be necessary for the erection of buildings, etc.

The deputation suggested that as all permits to ringbark are referred to the Forestry Department, they might obtain the honey value of the timber before deciding to grant the required permission.

Mr. Mackay advised interviewing the new Minister of Lands as soon as possible, to lay before him the views of the Association, so that they can be taken into account in an amending act which is now in course of preparation.

With a view of receiving proper recognition the Association suggests the payment of a rent per square mile of about 10s for the exclusive use of the bee forage.

Mr. Mackay thought that the idea was a very good one.

The Secretary for Agriculture was then interviewed by the Deputation. Mr. Bolton reminded the Department of its promise to assist the Association in its efforts to cope with disease by investigations of material, submitted to the scientific experts of the Department.

Mr. Duffs replied that the Department was quite willing to undertake such investigations.

Mr. Beuhne suggested that the Department should take in hand the printing of extracts of reports on Bee Diseases obtained from America at the instance of the Association, and he offered to compile and adopt same to Australian conditions, together with the successful methods of treatment practised in Victoria.

Mr. Duffs replied that he was very willing to comply with the request.

Thus closed one of the most eventful gatherings of Beekeepers in Victoria.

W. L. DAVEY,  
Secretary.



**Victorian Apiarists' Association.****BEEKEEPERS' LICENSE.**

1. The Minister of Lands may grant to any applicant a license for the purpose of a bee farm not exceeding one acre in extent upon any crown lands or upon any lands held under a pastoral lease or a grazing area lease, or annual grazing license.

2. Every licensee of a bee farm shall have the right of ingress, egress, and regress to and from such bee farm, but such license and such licensee shall be subject to such terms, restrictions, limitations and conditions, and to the payment of such fee as may be prescribed by regulations made pursuant to the provisions of Section 142 of the Land Act 1890.

3. Every such license shall continue for a period not exceeding one year.

**APPLICATION FORM.**

*To be obtained at nearest Land Office.*

I.....of.....hereby apply for a license or lease under the Land Act 1890, to occupy the land hereunder described for the purpose of.....(bee farm.)

Dated this.....day of.....

Situation and area of land applied for.....

.....  
Description of land applied for, if previously unsurveyed or forming part of a surveyed allotment.....

County.....

Parish.....

Allotment.....

Section.....

Extent.....

Signature.....

Occupation.....

Postal Address.....

**CONDITIONS UNDER WHICH THE LICENSE IS ISSUED.**

1. The land described in this license shall not be sublet.

2. This license shall be produced by the licensee upon the request of any bailiff of Crown Lands, or police constable or officer.

3. When the holder of the license does any act which if it were done without license would be punishable as trespass; or if he fail to produce his license when asked to do so by any bailiff of

Crown Lands, or any police constable or officer he shall be conclusively deemed to be a person not licensed or otherwise authorised to do such act within the meaning of the 114th Section of the Land Act 1890.

The ringbarking of the timber upon the land by the licensee is expressly forbidden, and he shall not be entitled to destroy or cut and take away any such timber.

The above extracts from the Land Act and *Government Gazette*, are published in response to inquiries, and for the information of all who may wish to avail themselves of a beekeepers license.

In accordance with a resolution of the annual meeting I, together with Mr. Murray of Shepparton, attended the Farmers and Rural Producers' Conference at Shepparton, on July 1st., 2nd., and 3rd, and read a paper on "The Bee-keeping Industry in Victoria," a report of which will appear in next issue. I am of opinion that the Association acted wisely to be represented there, and many advantages are likely to result.

**DETECTION OF ADULTERATION OF HONEY.**

In *Practischer Wegweiser* appears a new method of detecting adulteration of honey with glucose or sugar.

1. 5 grains pure honey are dissolved in a test tube in 20 grains distilled water, add two drops of a 10 per cent. solution of red prussiate of potash (potassium Ferricyanid). Shake well and add one drop of pure nitric acid, shake again and the solution will not turn blue. When left standing white flakes may appear and perhaps a white precipitate (vegetable albumen) this will appear often only after heating.

2. The same test applied to glucose the solution will soon turn a beautiful blue and no precipitate will result, even when heated.

3. When applied to honey made with sugar the solution will turn blueish, blue flakes will form and finally a strong blue precipitate.



To a request to the Department of Agriculture made on behalf of our Association, to have this method checked as to its efficiency when applied to Australian honey, glucose and sugar when mixed in different percentages, I have received a reply from the Secretary for Agriculture stating that the matter had been referred to Dr. Howell, for his attention and report.

R. BEUHNE,  
Hon. Correspondent.

### MY NOTE BOOK.

W. L. DAVEY.

Some apiarists whom we have heard of but have never yet had the pleasure of meeting face to face, were good enough to put in an appearance at the Annual Meeting Mr. P. Moorefield of Howlong, Mr. Kneebone senr., and Mr. Kneebone junr., of Mount Cole, also Mr. Scurry, of Stawell, were all new faces, and infused new life into the meeting, as they entered freely into the different discussions. A new feature must not be overlooked in the presence of members of the fair sex at the meeting, in the persons of Mrs. K. L. Willan of Mansfield, and the Misses Colstein of Tooborac.

It was very enjoyable to see the seats of two long tables at the Federal Dining Rooms nicely filled with genuine beekeepers, enjoying for the first time, a meal in company with those of the industry from far and near.

Beekeepers in Victoria should make a special point of selling as much honey locally as is possible. The Melbourne market is spoilt for two years to come until things Federal have settled down, and then we'll never have our fancy prices again. I anticipate a price in Melbourne of 1d to 2d per lb. for honey, as a result of the coming season's crop, which by report is going to be fairly large in proportion, and as New South Wales, Queensland, and South Australia will have a chip in with their surplus it behoves Victorian beekeepers to be very canny how they dispose of their honey.

If Australia rushes Melbourne markets, somebody will burn their fingers, as there will only be about 6000 tins of candied honey, stacked on the market this time next season, and no sale for it. Far better to sell locally than pay freight and commission and get the ragged remains out of the sale of your choicest production.

As for bees, well I guess and calculate mine are tucking the blankets close up to their chins and ears, as 'tis a freezing cold night, so I'll just shut off steam and do the same, and may in the course of a few short weeks have the pleasure of telling your readers how many colonies have "friz."

## BEEKEEPERS.

WRITE FOR NEW ILLUSTRATED  
PRICE LIST OF ROOT'S SUPERIOR  
BEEKEEPERS' SUPPLIES.

JOHN RUSH,  
407 Collins-street, Melbourne.


Why not have your honey sold before  
it leaves your Honey Room?

Why allow it to granulate while waiting to be  
sold on the market?

**W. L. DAVEY,**  
Beekeepers' Representative,

Secures Highest Prices for Honey and Beeswax,  
also Furred Skins.

Prompt Settlements Always.

 Send Samples Only.

If you want Good Honey Tins write for Price  
List. The best Tins at the Manufacturers'  
Prices. No middle profits.

W. L. DAVEY,  
Plenty Road, South Preston.

### NOTICE.

**M**R. R. BEUHNE, Tooborac, is appointed  
Agent for Victoria for the AUSTRALIAN BEE BULLETIN, and is authorised to receive subscriptions and advertisements for same.

E. TIPPER.



## Helpful Advice on How Women Should Dress for Bee-work.

(BY EMMA M. WILSON.)

There is no disputing the fact that in beekeeping men have a decided advantage over women in the matter of dress. It is so much easier for them to dress cool and comfortable, and also easier to protect themselves from stings, than it is for women. I have felt tempted to envy Dr. Miller more than once, on a sweltering hot day, as he walked around attired in a pair of painter's white overalls, said overalls tucked in his socks to protect himself from stings. He looked so cool and comfortable—perhaps he did not feel as comfortable as he looked, but he looked tantalizingly cool, at any rate.

But women can do much to make their dress comfortable, by a little thought.

Do not wear heavy shirts that take about all your strength to carry around. I have found a light-weight worsted skirt the most satisfactory. Duck skirts are comfortable, but the fact that they soil so easily is a serious objection to wearing them, as they are not very easily laundered. But a worsted skirt and a skirt-waist make a very satisfactory rig.

A large denim apron covering you completely from head to toe is indispensable. Be sure to make it long enough to reach to the very bottom of your dress, so that if a little honey drips on your apron it will not lodge on the bottom of your dress-skirt on its downward course.

Denim is the best material I know of for aprons. I formerly used ticking, but I like denim better, as you can get it in plain colours. The last ones I made were of plain brown denim, and were very satisfactory. Either denim or ticking is good, as far as the wear is concerned, as neither will allow the honey to soak through readily. And when you slip out of your apron, after your day's work is done, you present quite a creditable appearance, which is something dear to the heart of a woman, especially if you are at work in an out-apiary and have a long ride home before you.

My aprons are cut by one of the Butterick patterns, No. 3696, and certainly they are ideal aprons for the apiary. I have worn them for years, and have thoroughly tested them, and I really would feel lost without my big aprons, with their generous pockets. Those pockets are such a comfort (I wish our dressmakers would manage to give some such pockets in our dresses; but no, Dame Fashion has doomed us poor mortals to go pocketless). What do I use those pockets for? Well, I am not going to tell you all I put into them, but one thing I do use them for is to carry my hive-tool. I think it would be lost a good share of the time were it not for those pockets.

One very important item in your outfit is your gloves. I wear a pair of light-weight buckskin at present. I have tried a good many different kinds. For quite a while I wore a white glove, which is quite common. I do not know whether it is sheepskin or hogskin, but I do know that it had a very disagreeable odour. If it was not for that it would be a good glove; as it is, I much prefer the light-weight buckskin.

I sew a pair of white sleeves around the top of the gloves, having the sleeves long enough to come well up on my shoulders. I have a strap sewed from one sleeve to the other across my back. A similar strap across my chest is sewed to one sleeve, and buttoned to the other. This is a very convenient arrangement, as it takes very little time to slip my gloves off or on, is perfectly bee-proof, and at the same time keeps the sleeves of my dress clean.

The reason for having the sleeves white is that the bees will rarely sting anything white. I have about half-a-dozen pairs of sleeves, and as fast as one pair becomes soiled I rip them off and sew on a clean pair. The gloves can be washed clean any time. It is a little more convenient to have two pairs, then you are always sure of having one pair ready for service.



A comfortable pair of shoes is an item not to be overlooked. Never get a pair of shoes with high heels; and if you can get a pair with rubber heels you will find them extremely comfortable. If you cannot get the shoes with rubber heels, you can have the rubber heels put on by your shoemaker for 50 cents. a pair. If you have never tried them just try a pair and see how you like them.

Now we must not forget the bee-hat. I like a broad-brimmed straw hat with a veil made of net sewed around the brim, and a rubber cord run in the hem around the bottom of the veil; a safety pin caught through the hem passing over the rubber cord in front, ready to pin down securely to my apron, pulling it down tight enough so the rubber cord will be drawn taut, then I feel sure no bee will be able to get under my veil.

One advantage a woman has over a man is that she can use a hat-pin to pin her hat on, and that is a comfort. You are sure your hat is not going to tumble over your eyes at a critical moment when both hands are full. Let us score one for the women on that point.

One trouble I have is to get a hat with a crown small enough so the hat will not rest on my ears. I don't see why some accomodating soul doesn't make a few hats especially for women.—*American Bee Journal.*

### FOUL BROOD.

The special kind of bacillus causing foul-brood in bees is a rod-shaped or stick-shaped being about one six-thousandth of an inch long and a thickness only about one seventh of its length. They multiply in a very singular manner. As long as the blood or juices or tender parts of bees or brood last, they continually grow in length, and when a certain length is attained they divide in the middle and what was one long bacillus is now two short bacilli. These in turn grow in length and divide like predecessors. But when the food gives out the rod-like being ceases to divide and

breaks into a number of smaller, round, grain-like things called spores. These spores are very hardy in some respects. They can resist very high and very low temperature at least for a short time, and also very powerful chemical substances, while the rod-shaped bacilli are comparatively delicate and easily destroyed.

However, the experiments of Dr. Howard have shown that a certain amount of moisture is necessary to the existence of these spores. In dry air and sunshine, they die in a day or two at most. In honey, they live indefinitely, without developing into bacilli. The water contained in the honey furnishes the necessary moisture. The formic acid also present, while not in sufficient quantity to destroy the spores, nevertheless prevents their development into the bacilli.

This last characteristic explains why infected honey is the chief source of spreading the disease. Spores therein contained will keep their vitality and develop as soon as introduced into the brood or even the adult bees.

It has been observed that adult bees rarely carry the infection. Some writers have doubted their being liable to the disease. But they are wrong. Microscopic examination of adult bees from diseased colonies will show bacilli, but chiefly in their blood. The acid and gastric juices of the adult bee's stomach are very powerful antiseptics. The same fact occurs in higher animals and the human race.

As long as an adult bee lives, the bacilli multiply in her body by division. But when she is about to die she goes out and dies away from the hive. The bacilli being then deprived of food, turn into spores—millions, and perhaps hundreds of millions of them; which escape from her body and float in the air. But as stated above, they cannot live long in the dry air and sunshine, the winds carry them away from the hives, the rains and perhaps the dews also, into the ground or to the rivers. Only occasionally some



may be carried alive into another colony. This explains why foul brood can be starved out without destroying the adult bees.

On the other hand, the brood dies in the hive. When dead, the spores resulting, spread in the whole hive, on the combs, in the bodies of the bees, in the honey, etc., millions and millions of them. The wonder is that under such conditions, the disease is not even more disastrous than it is.

#### TREATING THE DISEASE.

Now we may be prepared to see why the European operators may have been more successful in using drugs than we have. The details are not always given in full; but usually the whole apiary was treated alike, so as to prevent any possible spreading of the disease. The use of drugs seems to have been continued some time after the disease had apparently disappeared, in some cases, throughout the whole winter, thus preventing the possibility of the disease breaking afresh from the use of old, infected honey.

Whatever method I would follow, I should certainly use some disinfectant (naphtalin, creolin, etc.) and perhaps some medicated food with all the colonies, the sound ones as well as the others as a preventative.

In any case, I would destroy at least the diseased brood, or perhaps to be on the safe side, all the brood of the diseased colonies. In treating pickled brood, I remove the disease brood by raking off cells and brood down to the septum and return the combs. But pickled brood and foul brood are entirely different diseases. I do not think that such combs, in case of foul brood, could be safely returned without being disinfected. I suppose a liberal dose of carbon bisulphide would do the disinfecting.

In discussing the possibility of the transmission of foul brood spores through wax foundation, a correspondent of a German paper, remarks that, even if the heat of the melted wax did not kill the spores outright, they would be imbedded

in it, and never be able to get out, having no means to burrow their way through it. A coat of wax will eventually kill any living being anyway, by shutting air and moisture out altogether. —ADRIAN GETAZ, in *American Beekeeper*.

#### Spreading Brood in the Hive in Spring.

BY G. M. DOOLITTLE.

The old and natural way was to allow the queen-bee from four or five years in which to lay her 700,000 to 800,000 eggs Nature had provided her with, but the Yankee push says she must lay all of these eggs in from one to three years, if the thing is possible, and if the science of apiculture is to demand our attention. Hence many plans have been devised to stimulate the bees in spring, so that they in turn would feed and coax the queen to lay the greatest possible number of eggs, said eggs really meaning the labourers in the harvest-field.

Without going over the many plans devised to accomplish the object sought, I will simply say that after trying nearly all, I consider the mode of stimulating known as the "spreading of brood" the best of any, for by it the queen can be coaxed to lay to a greater extent than by any other which I have tried.

Before describing the plan I wish to say that it requires great care and considerable experience to be successful with it, for an injudicious move will often make the colony worse off than it would have been had it been let alone.

As soon as we can reasonably expect warm weather has come to stay, we go to a colony of bees and lift out the combs to see the shape the brood is in. If it proves to be a good colony we will find brood in five or six combs, the two central ones being well filled, while the outside ones have little more than half a frame full. Finding a colony in this condition at this time of the year, we do what is called "reversing the brood-nest," that is, we put the two central combs, or those having the most brood, at the outside,



and those having the least brood in, in the centre between the full ones. Now the six combs of brood occupy the same place in the hive that they did before, except that those having the least are in the centre of the brood-nest. This places the most advanced brood near the outside of the cluster of bees and the youngest in the centre, and allows the queen to lay her eggs in the warmest part of the nest, instead of the coldest part as she was doing before. The bees are also averse to an empty comb-space in the centre of their nest, so see that it is filled in the shortest time possible, thus coaxing the queen to fill those empty cells with eggs in less than one-half the time she naturally would.

If the weather keeps favourable, in about a week we go to this hive again and take one of the combs from the next outside of the hive, one having considerable honey in it, and after moving the combs along till we come to the centre of the brood-nest, we insert this comb, after having broken the sealing to the cells containing honey, by passing a knife over them flatwise. The bees go at once to removing this honey, and in doing so are stimulated to feed the queen to a greater amount, and the heat of the colony is increased so that the queen fills the cells with eggs almost as fast as the bees remove the honey, through this still greater incited activity.

In this way we keep on inserting combs till all in the hive are filled with brood. Should it so happen, before we secure brood in all the combs, that the queen does not keep up her egg-laying in the outside combs as the brood hatches, this can be remedied by again reversing the brood-nest.

As the season advances, so there is no danger from chilling, through a greater number of bees and warmer and more settled weather, two frames can be inserted in the centre at a time, every week if need be.

If all has worked well the hive should be filled with brood in a little over one-

half the time it would have taken if let alone, so that double the number of workers will be ready for the harvest, if we have planned our time of commencement wisely, than otherwise would have been.

If the honey harvest comes very early in your locality you will want to commence to spread the brood five or six weeks before this harvest, in order to meet the harvest with the maximum number of bees. If you have a late harvest, then govern yourself accordingly; but remember that the earlier you commence, the more care is needed.

To show the harm that may arise, let us suppose that you have a moderate sized colony which is carrying all the brood it can keep warm in moderate weather. We go and insert a comb in this nest, and by so doing cause the colony to spread out so as to keep just so much more comb-space warm. Now it turns cold, and after a little the bees are obliged to contract the cluster to keep from being chilled, in doing which they leave the two outside combs of well-developed brood to perish, in order to protect themselves and the centre combs containing eggs and the youngest brood. Without explaining further, all will see that much harm, instead of good, would result. Therefore I said at the outset, "care and experience" are necessary. With these great gain can be made by spreading the brood. Without them, the colony is much better off undisturbed — *American Bee Journal*.

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### **Foul Brood Cure and Good Non-Swarming Management.**

The following valuable article is from the *Rocky Mountain Bee Journal*:—

While foul brood wiped out many of the original apiarists of the State, it is not considered a serious menace by the intelligent "new blood" that has succeeded them. In the "locality" broadly included in the term Colorado (probably just as applicable to the entire Rocky Mountain region) the character of the



honey-flow is such as to permit a system of management for comb honey that practically renders the apiary immune to the disease.

Some of our largest and best comb-honey producers have for years made a speciality of producing fancy honey. It is a well-known fact that section honey produced over new brood-combs will be cleaner and whiter than that produced over combs that are one year old, or older. In most localities there would be a big loss in having new brood-combs built every year. To one who has never tried it such would seem to be the case in Colorado; but those who are practising it assert that there is not only not any loss in the number of pounds of surplus honey produced, but an actual gain in the superior grading quality of the honey secured and the yield of wax from the old combs.

To secure new brood-combs each season and not lessen the crop of surplus honey, at the opening of the honey-flow each colony is shaken into a new hive containing only foundation starters in the frames, but full sheets of foundation in the sections with a queen excluding zinc between the first super and the brood-chamber. The bees will prefer the full sheets of foundations to the starters, and begin to work vigorously in the sections, building comb in the brood-chamber only just fast enough to accommodate the maternal capacity of the queen. By the close of our long honey season the brood-chamber will be filled, and the best possible work will have been secured in the sections.

To make a success of this system, colonies must be strong and the work must be done at exactly the right time. It may be said further in its favor that it effectually solves the problem of swarming.

The apiarist who practises this system may laugh at foul brood. It will matter little to him if his bees get a chance now and then to rob a dead colony in some obscure back yard. He will shake

them off the infected combs about the time the disease would begin to show, and that would settle it for that season.

In the light of the latest and best knowledge of the subject, foul brood has lost its terror to the man who reads, thinks, and investigates. Its cure is simple and certain, and even comparative immunity from it may be had by following this system of building new brood-combs every season.

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### INTRODUCING QUEENS.

Perhaps no other one subject connected with bee-keeping has received so much attention in our bee-papers and manuals as has the subject of introduction of queens. Yet, after reading the methods and discussions given, it is plainly to be seen that success does not always attend the efforts. On the contrary, many losses arise from the fact bee-keepers in general do not discriminate between queens taken from one hive and placed in another, and those which have come long distances by mail. In introducing queens from one hive to another in the same apiary, it does not require one-half the care that must be given to a queen coming from a distance.

In introducing a queen from our own apiary we very frequently use the following methods:

We go to a nucleus from which we wish to get a queen, and, when she is found, we take the frame of brood she is on—bees and all—together with another frame from the same hive, carrying them to the hive from which we are to take the superannuated queen, placing the combs so the queen will be between the two combs; then we secure the poor queen and dispose of her; then we take out two frames brought from the nucleus in their place, puff a little smoke over the top of the frames and close the hive. The object in taking two frames with the queen is so that while waiting outside of the hive she and most of the bees may cluster between them, thus becoming quiet. When placed in the hive both



are put in together thus leaving the queen quite among her own bees. This is a very easy and safe method.

To introduce a queen that has come to me from abroad, or one which I consider of more than ordinary value from our own apiary, we proceed as follows:

First catch the undesirable queen and let the bees remain queenless from 24 to 48 hours. In the meantime prepare a cage as follows: Cut a piece of wire-cloth 4x6 inches, bend up sides (after cutting out a piece one inch square in each corner), forming a tray-like cage; ravel down the edges  $\frac{1}{2}$  inch. Then we take the shipping-cage containing the queen and escort bees and release all the escort bees—we do not allow any of the escort bees to go with the queen. Select a comb of hatching brood with some unsealed honey above the brood; place the cage, previously made, on the comb over some unsealed honey and hatching brood, and let the queen to be introduced run under the cage. Press the cage into the comb until firmly imbedded into it, and in 48 hours more, if the bees have not released the queen, she may be released.—Mrs Pickard in *American Bee Journal*.

### VALUE OF HONEY AS FOOD.

You ask for an article on "Food value of Honey as compared with Meat, Cheese, Butter, etc." This is hard to give. All kinds of food are necessary to health, and the best condition of our bodies. The proteids: meat, cheese, white of egg, we positively must have to live at all. We call food containing much of these hearty. If we have too little we are poorly nourished and crave them. The carbohydrates: starch and sugars, including honey, if not so absolutely necessary to life, are surely requisite to health and strength. We have a great sugar factory in our bodies, the liver, so that we may have this necessary food even though we do not take it in our daily regimen. Fats and oils are likewise necessary to the best condition of our bodies. We could live on proteids alone, but not in best

health, and such diet is very expensive when it alone ministers to our bodily needs. The liver can manufacture sugar when we eat only proteids, but it works much easier and more effectively when we eat liberally of the carbohydrates. Nearly all sugar, and all starch, must be digested before it can pass to the blood. Not so honey. The bees digest this for us. Thus we may well believe that of all the carbohydrates honey is the best. Thus we can say that honey is doubtless the very best food of its kind, and that such food is absolutely necessary to health and strength, and greatly conserves the more expensive and absolutely requisite proteids. The child voices his need of such food in his longing for candy. We act wisely when we give him all he desires in the best of sweets: honey, which should be served most liberally at every meal time. This will check the desire which leads to the pernicious habit of taking candy at all times and on all occasions.—PROF. A. J. COOK, in *Canadian Bee Journal*.

### CAPPINGS.

*From American and other Bee Journals.*

How to tell failing queens is a question a prominent beekeeper asked me recently, and thinking this might be a matter of interest to the readers of this journal, I will tell you some of the ways whereby they may be told. At any time when bees are all supposed to be breeding up, or at least to have some brood, a good queen will be found to lay her eggs regularly in the cells, beginning, preferably in the centre of the combs and gradually extending until the outside edges of the combs are reached and in the same manner extending outward until the combs next the wall are reached. As soon as the first bees in the centre have hatched she will again fill the cells with eggs and so continue. A failing queen will not lay her eggs in the order above stated and she may scatter her eggs about in the combs so that when



part of the larvæ is capped the brood has a very uneven appearance. A failing queen will also, upon the whole, be contracting the brood nest because she is no longer able to lay to the full capacity of the bees to care for larvæ. A failing queen will also be found laying in drone cells, wherever she may find them, in undue proportion and at any season that she may be failing, and sometimes they will cease to lay worker eggs and lay drone eggs entirely. A failing queen can also be told, by the practised eye, from her general appearance, as she will become darker and smaller as the end of her days approach. Also she will be found moving more slowly and I have sometimes found them barely able to crawl. While the experienced eye may not be always able to tell just how old a queen is or just when she is beginning to fail, yet upon the whole they can do so, especially when their failing signs have become quite noticeable.—H. H. HYDE, in *Lone Star Apiarist*.

The *American Bee Journal* asks:—How is it if the mother-queen is in a nucleus? If the proper proportion of nurse-bees are present, may they not be as active as in a full colony? And having a limited amount of brood to feed, may they not feed the queen as lavishly as she would be fed in a strong colony? Being well fed and having little laying to do, if it is true that laying is exhaustive, ought she not to be in a greater vigour, if possible, than in a strong colony? and as a consequence ought not her eggs to be of the best quality? Then during the very short time that the young larvæ are fed before being taken—a time not exceeding perhaps 24 or 36 hours—why should they not be fed as well as in a strong colony? The case might be different if queens were reared in cold weather, when proper heat cannot be kept up in a nucleus; but queens are reared at a time when the bees have to work to keep down the temperature rather than to raise it.

CAN BEES HEAR.—Opinions are divided. Some authorities whose opinion

are deserving of consideration insist that there is no evidence that bees can hear. As proof that they do not hear, instances are cited in which whistling and loud noises close to the bees have failed to make the bees show in the slightest degree that anything had been heard, while a slight touch upon the entrance board would bring from the bees an immediate response. Such proofs, however, are only negative. If twenty men should testify that they had not seen Smith kill Jones, their testimony would be outweighed by the testimony of one man who had actually seen the murder. That a bee shows no sign of having heard a sound cannot be considered proof positive that it has not heard the sound. Sounds may be produced in which bees have no interest, and no heed paid to them, while sounds to which we might pay little heed might produce a lively impression on them. If you were taken by a band of brigands, and they should state in the most positive terms, but in language unknown to you, that you are to be killed forthwith, you might pay little heed to it, and the brigands might say you were deaf; but if you were to hear the same thing spoken in your own tongue, the brigands would be likely to say that your hearing was acute. If you put your ear to a hive on a still summer evening, the great variety of sounds heard will awaken the inquiry, "Why do bees make all these noises if they cannot be heard?" But that is no positive proof that they do hear. Some years ago when one of my colonies swarmed with a clipped queen, I moved the old hive to a new place; but the bees of the returning swarm found it and began to enter, making as usual a loud call. I moved the hive to a new place, and the bees soon found it. Then I put it on a wheelbarrow and started to travel with it; but whenever I stopped the bees seemed to hear the call and began to cluster about the entrance. That was kept up for some time, and I can hardly understand how the bees found that hive unless they heard the call. It will not do



to say they recognised the hive by sight, for if the same hive was moved, at a time when no call was made, only to the distance of six feet, but beyond another hive, the bees would never find it. Yes; I think bees can hear, but I don't know.—DR. MILLER, in *Lone Star Apiarist*.

I was concerned to see how the mistletoe had increased. Depend upon it the spread of this plant in New South Wales will ere long be recognised as a national question, but all that I can do at present is to sound the alarm and point out what the spread of mistletoe really means. Mistletoe is a parasite on another plant, and is propagated by seed passing through birds and being deposited on the branches of trees where, if the conditions be favourable it takes root and feeds on the juices of its host. In fodder trees and all other valuable trees it should be cut out with a saw, the cut being made between the bunch of mistletoe and the trunk, so as to cut away the parasitic roots.—J. H. MAIDEN, in *S. M. Herald*.

Nature had already done all it could do in the line of producing a hardy bee, as well as one of greatest honey-gathering qualities; she had weeded out all the weak and the indolent, while she had preserved the strongest and the diligent; a process that had been in operation a great many thousands of years, we could therefore not hope to make any more gain in these directions. In the line of perfect capping of honey, the honey-bee might be improved. The colour of bees could be changed, or in other lines, wherein Nature had not busied herself, had not cared seemingly to bring about greatest perfection, there we might expect to accomplish something. As a comparison he said: Hardiness and fleetness had been developed in cattle, and long horns had been given them, so that they might protect themselves against enemies and endure the hard winters. It was not possible to make any improvement there, but evidently Nature had not cared to develop the beef and milk-producing qualities of cattle, and man had brought

about wonderful changes. The difference between bees and cattle was, that Nature had developed as far as possible those qualities in the bee that are desirable for man; but she had not done this much for cattle. The high qualities that our present cattle possess are of most value to man, but of no value to the cattle. The high qualities bees possess are valuable both for the bees and for man. The bee had already a long pedigree. As to breeding out the swarming, habit when swallows and rabbits forget to rear young then bees will stop swarming.—Hon. R. L. Taylor, in *American Bee Journal*.

A SWARM CATCHER.—It is 12x16 inches. Take thin boards, four of them. Take the short end of an iron square, which is 1½ inches wide, with this make lines 1½ inches apart each way on all four of the boards. Then with a ½-inch bit bore a hole just where each of the lines cross, except the centre of two of the boards, there bore a ¾ inch hole, and make one hole square, leaving the other round. Then take another board 5/8 or ¾ inch thick, big enough for a bottom (no holes in this). Now you are ready to nail the box; be sure to get the ¾ holes opposite each other; these are for the pole or handle, which is made square to fit the square hole and go through the box, the end made round to fit the round hole on the opposite side from the square. There must be a shoulder on the pole where made square. When the pole is nicely fitted mark it at the round end close to the box, then pull it out. Bore a gimlet hole through the pole for a pin to hold the box in place, and the catcher is complete. I have four of these, with handles of different lengths. I also have a number of light poles of different lengths, with hooks on the end to shake the bees from the limbs.—J. W. C. GREY, in *American Bee Journal*.

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



## QUESTIONS.

H. BARNES.

10. Wanted useful receipts for honey in foods etc., cough mixtures, by beekeepers and other who have tried them.

11. Do queens deteriorate when brought from a warm to a colder climate.

J. T. ADAMS.

8. Regarding Loyalstone's wax production, I had weakness that way once and worked at it (I am not going to tell you here), but you see I might have been until doomsday, as I had not the right hive; and to change hives for every fad (no offence to Loyalstone's system) means dollars mostly out. Good fat combs to extract and a few starters at swarming time is all my present attempts at it. My time is too limited to work out the Long Idea Hive, which might take as long to realise. Past season honey conspicuous by its absence.

J. THOMPSON.

11. For several years have had queens from Mr. H. L. Jones, of Queensland, and have always been well satisfied with them.

E. J. RIEN.

10. Castor oil, honey. 1 dessert-spoon of each, the white of one egg, juice of a lemon. Dose: 1 spoonful a few times a day. A good cough mixture for children especially.

## QUESTIONS NEXT MONTH.

12. Comments on that article page 71 last issue, "Australian Honey in England."

13. Does dark comb give darker honey?

## SOME IMPORTANT MATTERS.

W. AGER

I noticed an article in the December issue of the "A.B.B." viz:—"Mating Queens from the Upper Story" and of course I must give it a trial. As my experiment may be of interest I thought I would write it out. I built the box according to description, using perforated zinc in the place of wire-cloth, and a piece of sheet zinc to fit on the top of the frames. The 31st of January I removed the queen from a hive, then took two frames of brood and bees and placed into each compartment of the combined nuclei, then shook the rest of the bees in on top, filled up the space from which I had taken the frames of brood with empty combs, gave all a cell in a cage, then placed the combined nuclei on top. On

February 1st all queens had hatched, most of the bees had left the two outside compartments, the middle compartment was well populated. I shook into the side compartment some more bees from the hive below and blocked the entrances, then let loose all the queens. February 2nd, about a handful of bees in each of the side compartments were dead on the bottom, being confined too close I presume. I cleaned them out and took the plugs from the entrances. February 4th, bees in the side compartments seemed drowsy, while those in the middle were working like fun. February 12th, bees in the side compartments were quite lively, the queens in these and the hive below were laying, the queen in the middle got lost. I gave this compartment a frame of unsealed brood and the bees started cells right away. On 21st February I killed the queen from one of the side compartments and tore down the cells in the middle and gave each of them a cell in a West Protector. 24th February both had hatched. 6th March both laying. 13th March I took from the hive below a frame of brood covered with bees and having the queen on it, exchanged it for a frame of brood having on it the queen and most of the bees from one of the side compartments.

17th, the bees had gone from the side compartment the queen in the hive below was safe and laying. March 20th, I transferred a nuclei to the empty side compartment. 21st, I killed the queen from each compartment and went to get cells from a frame of cells I had in the super of another hive over a queen excluder and found them all torn down owing to a dull cold spell we were having. 23rd March, all three compartments had started cells. I destroyed these and placed all brood into the hive below, shook the bees down in front and they settled down without the least sign of fighting. I fancy the bees do better in these than in the single nuclei, for having the warmth from the hive below it requires less bees at home to keep up the heat, and it is convenient to be able to look over three



nuclei without shifting, but it comes awkward when one wants to handle the under hive. I am in hopes of a fair honey crop next season, mountain ash and Sydney peppermint, both of them having bloomed last season, are budded fairly again, besides ironbark and mountain gum. The trees look remarkably fresh and healthy considering the dry summer.

I admire Mr. Niven's enthusiasm and energy, if beekeepers with more convenience were to follow his example they would be a benefit to the industry. I see it is intended to plant shrubs, etc., at the Hawkesbury College, to find out their honey bearing qualities. Don't you think if those officials made greater exertions to ascertain the honey bearing qualities of the natural bee pastures which are already sown in different localities, it would be of more benefit to the practical bee farmer, both in the selection of a locality and the running of the apiary to advantage afterwards.

### PRICES OF HONEY.

*Queensland Country Life.*—3d per lb.

*S. M. Herald.*—Beeswax, 1s 1d per lb. Honey, scarce. Choice 3½d, choice clear 4d, other qualities 3¼d to 3½d per lb. for tins containing 60lb.

*Journal of Department of Agriculture, Western Australia.*—4lb. tins 4s each; 60lb. tins 12s 6d to 15s each.

Melbourne (Vic.) *Leader.*—Honey, the market remains unrelieved of considerable quantities forwarded by apiarists in the adjoining States, for which the demand is exceedingly limited; even of choice qualities of Victorian sales are effected with difficulty at from 3d. to 3½d., while buyers of cloudy and candied lots are able to secure supplies at from 2d. upwards.

*Australasian* (Vic.)—Honey and Beeswax.—The demand for honey is rather slow, the market still feeling the effects of the supplies brought from other states. Prime clear garden is quoted at 3½d., and choice at up to 4d. Dark and cloudy

lots are difficult to place, quotations being about 2d. to 2½d. Beeswax is quoted at 1s 1d to 1s 1½d.

*Garden and Field, S.A.*—2½d. Beeswax 1s 2d.

### WAX AND HONEY PRESSES.

F. PENBERTHY.

I am afraid you lost a lot of wax in rendering those combs, it being only 3.3 ounces of wax per comb. The last 2 lots of drone comb I melted down gave me 5 ounces per comb, which is smaller than your combs; but my combs had been used for extracting from for several years, and only a few had brood in them at any time. I found one comb with a mid rib ½th of an inch thick, no cocoons, all wax, the surplus wax so many think is lost. Your combs brought you in 2½d each, just the price of foundation for the same frames. My lowest valuation for worked out worker combs is 6d each to meet a good honey flow of best quality. I fancy there is a lot of wax in your slum gum yet.

The reason Loyalstone failed with his capping press is because the holes are not large enough. They should be at least ½in. in diameter and ¾in. apart, as I have had no trouble that way except when the honey was candied. I press a block of capping every day while extracting, it is very little trouble, a turn now and then as you pass it and the blocks stow away so compact until the extracting of the honey flow is over. The limit number of hives one can keep is the number he can extract from during a honey flow.

A lever press is quicker than a screw press, as the weight is on all the time, but is cumbersome. The screw press should have a spring in it to reduce the attention needed.

Dear Mr. Pemberty—You must be alluding to figures I gave you when in Sydney some time ago. I don't recollect giving you any since. We would think combs from foundation would have a higher percentage of wax than those



raised all naturally by the bees. Would yours have been such? Like yourself, we leave the rendering up of wax till end of season. Shall take very careful count this time when it comes round.

### THE DROUGHT.

The severest New South Wales drought of modern times is upon us—probably no living man can recall such a period. We have no ample records, but it is said that no such drought has occurred since the twenties. Certainly we are passing through a period of great anxiety, and my view is that the present condition of the country is not entirely owing to the absence of rain, but partly to the cumulative effect of man's indifferent attitude towards the edible vegetation. I am perfectly certain that no one can form any idea of the severity of the drought over a large area of New South Wales unless he has actually traversed the country. I have recently been making certain enquiries on behalf of the Government, and while thus occupied was very strongly impressed with the present state of the country as regards the drought.

Droughts are agencies by which the universe adjusts itself: in many of our soils it would not be possible for growths to continue without intermission. Droughts give the land a rest, corresponding in this respect to the long winters of northern climes. The problem to tackle seems to be the balancing (as far as our poor human skill can do it) of the lean years against the fat ones.

I am not a pessimist, but I maintain that the state of the vegetation of the country is altering for the worse, and that it is time we examined the situation. I do not say that we are in a parlous state, but things are bad enough for us to take a serious view of them. We are eating out the grasses, the saltbushes, and other vegetation, and are chopping down and exterminating the mulga and other shrubs and trees as if it were our direct interest to remove them from the face of the earth. We are doing very

little indeed to protect a few seedlings. As to the native grasses, an ounce of Mitchell grass seed, for example, will cost as much as an ounce of gold, for there is neither demand for it nor a moderate supply of it. Certain pioneers made fortunes out of the native pastures and fodder plants, but there is little virgin land of value now with rich vegetation upon it. In other words, the rising generation will have to look facts very squarely in the face, and when they will do this then they will do what is best for the country. The old shrewd pioneer whose chief qualification was his lion-heartedness will be replaced by those who deal with problems concerning the fertilisation of the land on scientific principles. If this drought brings us face to face with the problems we have to solve and implants in us a determination to solve them its chief lesson will have been learnt.—J. H. MAIDEN, in *S. M. Herald*.

### MOTHS IN HIVES.

A standard remedy is burning sulphur or brimstone, first placing in an empty hive or box all combs in which the wax worm is found. This will destroy the larvae, but not the eggs. Hence the process must be repeated. Besides, while the smaller worms are easily killed, to destroy the full grown ones requires severe fumigation; and this will very likely discolor the comb, thus greatly injuring the quality of section honey.

Carbon bisulphide has been found even more effectual since it destroys eggs as well as larvae, and without injuring either the honey or the comb. Extreme caution, however, is necessary in its use as it is highly inflammable; under no circumstances should a light be brought into a room containing the fumes. These fumes are also dangerous to man when inhaled in a concentrated form. But by closing the room or box tightly and allowing the chemical to do its work, there is really no danger.



It is a liquid, heavier than air, consequently the dish containing it should be placed above the articles infected. The usual allowance is one pound of the liquid to 1,000 cubic feet of space. As it diffuses rapidly the box with combs should be put in readiness before opening the liquid, which may be poured into a dish and left to accomplish its work. The pure article is colorless and leaves no stain. But much of it contains impurities, which may discolor the articles if poured on them. The fumes, however, will not injure either food or fabric. Hence its value to the apiarist.

It is also a simple means of destroying the homes of another enemy to the bee, the ant. Make a hole in the hill and pour in some of the liquid, quickly covering the aperture with a board to hold the fumes in. Some advocate touching a match to it and causing an explosion, but this is unnecessary, as the fumes will penetrate to all parts of the subterranean passages and accomplish their fatal work.

The presence of the wax worm may be detected by stray webs and a fine dust. Brood combs are preferred to those of section honey, probably because the larvae prefers a seasoning of pollen or dead bees rather than a pure wax diet.

*Exchange.*

## CORRESPONDENCE.

W. Abram writes: Dear Mr. Tipper, As I have not been very busy with honey extracting, neither wish to retire from the trade nor sell off, you must put my long silence to that tired feeling which affects one so once it gets a hold of one. You see if I had taken from ten to twenty tons of honey last season and sold it at the present high price, I would be able to take a trip round the country to pay you and others a visit; but as it is I stop

at home like a sensible fellow and mind the bees, and have the satisfaction that if I had had twenty tons others would have had them too, and the price would have been low, as usual. The difference between good and bad seasons makes a lot of difference. Well, we ought to be thankful to those who kept pegging away at bee matters. Then there is Mr. Smith's on "Foul Brood." Here corn and rats, consumption and small-pox, chimney and garrets, all serve to show their relation to the bee disease named. What I wish to draw your attention to, however, is the high price of honey, and the demand, enough to make beekeepers smile with both cheeks, if they have any—honey, I mean. And it all happened through no fault of any individual, combined nor associated energy, but simply the production fell short of the demand, and the shortage was due to the extremely dry season; the shortage of the production—not the drought—caused the price to go up. The inference then is, that the former low prices were the result of over-production. Now here is a lesson learned. The query is, how to keep the price up; the answer, production must not exceed the demand. This is the whole thing in a nut shell. Now, how to act. Would it be manageable, first: To get a law passed that no beekeeper must harvest more than so much per hive per season? Second, that the price of honey be fixed at so much? Third, that all honey produced by outsiders—that is those who are independent of bees for their daily bread—be handed over to the profession free of charge? Ad. one and two nothing more need be said. Ad. third the pleasure of keeping one or few hives of bees might be ample compensation. Then, if there should happen to be more honey on hand than required, why, send it to those who can produce wax from it at a profit. Wax is always in good demand, so why begrudge them the pleasure and profit? Now, all this can be accomplished so long as all beekeepers stick to it and act as one. The eight



hours principle should be extended, since beekeepers ought to work the same as others. Long-tongued and otherwise too thrifty bees won't be wanted here; it is true, but we might send them to America where there is better demand for them, to glut the market there. Or would you sooner have a few more dry seasons same as last? Perhaps some of the Australian weather prophets can arrange it. Do not you think we have been on the wrong track all along? More honey, more money! Would not less honey, less work, and more money be better? The agents were not so much at fault either re the once low and now high price. Nor can adulteration be so much alive, or else now is the time. The chances are that honey will be in fair price for some time to come, because there are less bees than in former years; but they will increase with the return of good seasons. If nothing can be done, well—start growing again, it won't mend matters though. As regards my bees they stored a bit more than their requirements, and were all well supplied before winter. If it had not been so dry and more rain, there would have been a splendid season. It will come again. We have had fair rain lately, and orange trees, peaches, and some bush trees are in full bloom already, an indication of an early spring. Let us hope for better times.

W. G., Campbelltown.—This is the worst season we ever had; there are no crops, no grass, no gardens, no honey, nor money, nor anything to please the eye; cattle, horses and sheep dying everywhere, and the trees are dying in great numbers all over the district, and many have died right out altogether, and the dead leaves and sticks and bushes tumbling down all over the ground. All the wild flower scrub, which was a great help to the bees, is dying out with the drought, and there is enough timber being destroyed without any dying that way. Travelling about New South Wales you go but a short distance with-

out seeing timber being ringbarked, not by the acre, but by the mile. It is a shame and a disgrace that our beautiful timber should be destroyed on such a large scale. Ringbarking is said to improve the land, but it does not. The timber must all die after being ringbarked, and the logs and dead limbs and sticks tumbling down in all directions on to the ground cover up more grass and do more harm than ever the green timber could do in any shape. The green trees also give shade to stock in hot weather, whereas on the ringbarked land they all have to cluster under a few trees that are kept, one here and another there, but sometimes this is not seen. Last January some sort of a disease came in my hives, and killed one-third of the bees. It comes in the night, and every morning you will see them laying all over the ground dead, puffed out. Up to date the bees are in good condition. Hope you have good luck.

F. L., McLaren Vale, (S.A.), June 18.—Another year has rolled round. Last season was a very dry one here, but we are having nice rains now. I suppose you notice the difference in the price of honey now we have Federation, it is selling much better here since; it is 3d wholesale now, it stood at 2d for a couple of years before. I suppose it makes it worse in Victoria, but still it will make it more regular all-round I think.

H. B., Wilmington, (S.A.), June 10.—I have taken a nice lot of honey this last two months from my bees, and plenty sale this year at 3½d instead of 2d (the old rate). There is a terrible drought from here away northwards and east, but we had over an inch of rain here last night. I am going to shift some of my bees out in the bush where there is 12,000 acres of first-class bee land. I receive the "A.B.B." regular and would not be without it for double the price. Hoping you have had a good season.

J. H., Eccleston, July 4.—Have had a good year, 3 tons from 30 hives.



J. W. S., Condobolin, July 7th.—I have enclosed 7s 6d in a postal note; give me credit for 5s and be good enough to put my name down amongst your Bee Farmers' Association with the other 2s 6d. I have 150 hives and I find your Bulletin very useful. I am about to make an application for a couple of special leases for to extend my bee farms, and I want to know if you could give me a little assistance through with it. I see by the "Bulletin" that in Victoria they can get beekeepers' licenses. Now in this State we can't, and we are opposed right and left by either the police authorities or by the stock inspectors, or else some other officers of the crown lands that defy us from ever getting a lease of any sort on the reserves.

[After the 1901 meeting of the N.S.W. Bee Farmers' Association, a deputation communicated with Mr. Crick, the Minister for Lands. We got a letter subsequently from Mr. Curry, Under-Secretary, informing us that the Special Lease provisions of the existing law appeared to meet the case. Mr. Price, M.L.A., says that Special Leases can be obtained upon any reserve in the colony of New South Wales.]

A. A. B., Te Aroha, N.Z., June 27.—The "Bulletin" comes along very regular, and I often find a good idea in it. Our bees have not been a success last year; there was plenty of honey but so thick we could do nothing with it, so the bees had to take their chance as we got disgusted with them.

P. M., Howlong.—I have been receiving the A.B.B. regularly, and there is no doubt but that it is keeping up its reputation of being the best paper for the bee industry in Australia. It has been a very bad year altogether round here, not only for the bees, but everything else as well. There has been no grass, and stock have been dying in large numbers, but I am thankful to say that we have had some nice rain, and grass has begun to show again; the trees are also looking well with buds, but they also did last year at this time, and with the dry weather and the heat they fell to the

ground, and we could pick up handfuls at each tree dead. I only hope we will not have the same experience next year. I suppose you will remember me sending some honey to a friend of mine in Lancashire, England. I do not think many have any to send this year. Well, I received a letter from him the other day, and he says:—"You will think I am very forgetful in not writing to you, but I have kept waiting to see if I could send you some definite news about the honey; but I am sorry to say I cannot. I cannot make it go at all at a profitable price. English honey appears to be as cheap as this, and seems to be as plentiful. There is a man who does all the trade. He has his own bees, and also gets honey in large consignments out of the midland counties, besides. I cannot do any business with the shops at all to make it pay. You know it is a little disheartening when they can get the same honey from the colonies at 32s. per cwt., and tell you so when one goes canvassing them, and show you the price lists to that effect, so do not send any more until I ask you, as I have any amount yet. I could part with it at 3½d., but I will not let it go under what it cost for carriage here." You will see that if one went with a large quantity to Lancashire, and could get 3½d. per pound when honey is plentiful here that it should pay. Of course it was only a small quantity that I sent, and the carriage came to as much as if I sent a ton, so I will leave it to your readers to think it out for themselves. Enclosed 5s. sub. to A.B.B. and 2s. 6d. to Bee Farmers' Association.

W. S. F., Fairfield Park.—I have just received from *The Progressive Beekeeper of America*, a queen clipping device, but it has no instructions with it, how to be used. Would you kindly ask through the medium of the "A.B.B." if any of its readers have used one, and how it should be used. It is similar to a West's Spiral Queen Cage.



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## RULES & OBJECTS.

1. The careful watching of the interests of the industry.
2. To arrange for combined action in exporting honey to relieve local glut when necessary.
3. To advise members as to suitable localities for establishing apiaries.
4. Any beekeeper can become a member on approval of committee, subscription 2/6 per annum.
5. That every member with more than 50 hives shall be allowed an extra vote for every additional 50 effective hives.
6. No member be eligible for office who has less than 50 effective hives, or his subscription is in arrear.
7. The Association to consist of a central body and district branches affiliated with it.
8. The principal officers be such as will undertake to meet each other in committee at least once in twelve months.
9. The officers shall consist of President, Vice-President, Treasurer and Secretary, and Executive Committee.
10. After the first election of officers, arrangements to be made by the Secretary to call for nominations for office-bearers, and issue ballot papers prior to the next annual meeting.
11. Supply dealers or commission agents cannot become members.
12. Members unable to attend meetings or conventions can authorise or nominate any member they know will be present to vote for them on any subject brought forward. Such vote or votes to be in addition to the member's present own vote.