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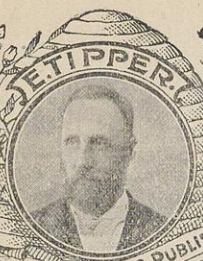

THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL
Devoted to Beekeeping —
Circulated throughout the Commonwealth of Australia — New Zealand & Cape of Good Hope

MAITLAND, N.S.W.—AUGUST 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.

Queen Raisers.

W. Abram, Beecroft.
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Jas. McFarlane, Lyndhurst, Victoria.
Mrs. Jennie Atchley, Beeville Bee Co., Texas, U.S.A.
J. W. Miner, Ronda, N.C., U.S.A.
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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.

The Beekeepers Record anticipates a record honey season in Great Britain this year.

Old dried prickly pear makes good smoker fuel.

Are your hives painted? They last longer and look better.

£50,000 worth of honey imported into Great Britain every year.

Mr. A. R. Ward's Meteorological Notes elsewhere are very interesting.

In California there are seven beekeepers who own over 1000 colonies each.

We acknowledge samples of foundation from H. Vogelee, Newcastle, California.

Plenty of young bees and a good supply of brood is needed to raise first class queens.

The Americans who winter their bees in cellars now reckon damp cellars are most successful.

Send us names of your neighbouring beekeepers who do not take the "Australian Bee Bulletin."

Don't be fooled by the unscrupulous "honey buyers" who tells you he can buy for less money elsewhere.

The best remedy for bee paralysis is to kill the queen. Don't breed from her, and be sure no drones fly from her hive.

With swarms or young queens see they have young larvæ. If not give it them. It may save the loss of the swarm.

Dr. Miller wants a bottom board 2in. in depth one side and nothing the other side, with a false bottom to thrust in and out.

Use only starters in the frames in hiving swarms, or else fill all frames with foundation, or give all frames filled with comb.—Doolittle.

A German smoker is said to have in it clock work that runs 20 minutes with one winding up, and drives a windmill that sends a blast of air through the smoker.

The *Australian Gardener* speaks of eucalyptus gum trees in the Melbourne botanic gardens that have not increased in size for the last 30 years. Is that a habit of the eucalyptus trees?

Mr. J. Smedhurst, of Wyalong, has taken out a patent for cleansing household tanks. It consists of two plugs at bottom of tank, in which a cleansing rod can be placed to scrub the bottom of tank, the dirt and slush escaping at lower plug.

Will beekeepers who have any quantities of honey kindly communicate with us, as we are often getting enquiries for large quantities. As a sample one firm wants price of 2lb. and 7lb. honey tins delivered in Sydney, per six and 12 gross lots respectively.

We know of several beekeepers who are now retailing their honey at 3d. per lb. They could easily get 4d. now, while butter is so dear. They are simply robbing themselves. Butter is a great regulator of the price of honey. Prices will fall again quite soon enough.

Gleanings gives a queen clipping device. A piece of broken section cut in the shape of a fork—the fork large enough to go well over the back of a queen—a small rubber band stretched across the two prongs. Clapped across the queen's back she can be held easily till clipped.

In sending samples of honey be careful what cork you use. Corks retain the flavour of anything that may have been in the vessel they were previously in. We recently received a beautiful looking sample, but the flavour was very nasty, entirely the fault, we took it, of the cork.

Mr. Samuel Hallam desires us to convey his sincere thanks to all members that were at the Victorian Apiarists' meeting for their sympathy as sent to him through the secretary Mr. Davey, as he was laid up at the time. His eye has improved but not better yet. The bee prospects look promising for the coming season.

The beautiful rains that have fallen during the past month have cheered the hearts of beekeepers in the drought stricken parts, both of Queensland and New South Wales. It has retarded the dying off of thousands of trees laden with shrivelled bloom, and given hope of flows of honey that previous to this rainfall seemed doomed.

Twenty-eight years record of honey seasons in Southern California:—1873 fair, 1874 good, 1875 very good, 1876 good, 1877 worst failure, 1878 fair, 1879 fair 1880 fair, 1881 failure, 1882 good, 1883 failure, 1884 good, 1885 failure, 1886 good, 1887 good, 1888 failure, 1889 fair, 1890 failure, 1891 good, 1892 fair, 1893 good, 1894 failure, 1895 fair, 1896, failure, 1897 good, 1898 very short, 1899 failure, 1900 very short, 1901 fair.

The N.S.W. *Agricultural Gazette* for August has a very interesting article on the rainfall records of N.S. Wales in the last sixty years. Dividing it into periods of ten years, he says they have regularly followed as a maximum, medium, minimum. The total inches of rain in each ten years being 487 max., 469 med., 494 min., 514 max., 517 med. The period we are now passing through, 1893 to 1902, in the nine years, 1893 to 1901 gives 411 inches a medium period, leaving 58 inches to fill in 1902 to make up the minimum of the other periods; and the following period 1902 to 1912 will be a maximum period or one with highest rainfalls.

PUBLICATIONS RECEIVED.

The Australiau Gardener, a new monthly journal of Floriculture and Horticulture, for professional, practical and amateur gardener, published by E. F M'Alister and Co's. 3 & 4 James Place, Adelaide, S.A., contains 20 pages, full of up-to-date information, and well illustrated.

SEASONABLE WORK.

Note your poor and inferior queens and supersede them at earliest, either by queens of your own raising, or by those queen-rearers who advertise in our pages.

A queen may be a good brood-raiser, but her bees may be bad honey gatherers.

A man is a fool who sells below market quotations. He robs his wife and family to that extent, also his fellow-beekeepers.

As the season advances look regularly over the hives for queen cells. If a hive has such, place it on one side, then put another in its place with frames or starters, giving the new one a frame with queen-cells on. The flying bees will go to this hive on the location they are accustomed to. The removed hive, losing all these flying bees, will not attempt to swarm but will pull down the superfluous queen-cells. If you have a honey-flow don't interfere with frames having brood in. In extracting cut out drone comb, and comb cells in all but the best gathering hives. Keep all worker brood in the brood chamber. Our experiences in cutting out drone brood in the majority of cases they will put worker where the drone comb has been.

PRICES OF HONEY.

The majority of those who have never been behind the counter have a queer idea of business and seem to think that because a merchant makes 10, 15 or 25 per cent on his goods he must be getting wealthy, forgetting the expenses that must come out of this. In order then to do this we must stop selling retail at wholesale prices. It is no credit to a man to quickly dispose of his small crop of honey by selling in this way, but he will find that to dispose of a large crop he may be glad of other help. At Buffalo, when this subject of marketing honey came up one elderly gentleman went on to say how readily he disposed of his crop of comb honey going from house to house. It turned out, however, that he had sold it at about 14c per lb. "Selling retail at wholesale," remarked one, and they wanted to hear no more. Not long ago we were short of honey at our drug store. A beekeeper near by was selling some around town. I asked for a reduction to sell again, but no, and he charged me the same per lb. for 100 lbs. as a consumer when only taking a lb. to handle it. Let me tell you that honey cannot be handled for ½ cent. a lb. We should, before putting a retail price on our honey, have a scale of prices and not put the retail price so low that we can only give a buyer in quantities ½c. a lb. On one occasion I took a considerable number of orders for honey from customers to be delivered by their grocers. I had some 30 grocers whose names were given me through whom this honey was to be delivered. I went to most of these, to arrange for it, and allowed them 15c. for each 10 lb pail, (no order was taken for less). Now, while some were willing to do it for this, others objected and said they could not do business on so small a margin. I was allowing myself the same amount to cover cost of selling, and, as I told some of them, that surely if I made the sale and all they had to do was to deliver and take the pay, without any risk whatever, that they should be able to do it for the amount stated, especially as this half profit was only on these first orders to introduce it. I mention this incident to show what many merchants think about it.

First then there is the retail price, we will say, for convenience, it is 10c. We allow Mr. Grocer 20 per cent., that will be 8c.; then if we sell to a wholesale grocer we must make a reduction again,

say 1c. per lb., or 7c. It would not be just to charge the wholesaler who sells your grocer or some other grocer, the same price, as one buys in small quantities, while the other buys in large lots and has to take the risk of loss from bad debts and we can afford to take less when we run no risk ourselves. If you put your retail price at 7c., as some do, and then figure on your grocer and wholesale buyer's price accordingly, for remember that your grocer in handling your honey should be able to sell at the prices you do. Some may think that if a consumer buys in quantities that they should have a reduction, and so they should, but do not reduce it so much that your grocer could not supply him at your prices and make a little. Your customers will see the justice of this and when buying in small quantities will expect to pay accordingly. In this way you are not only getting something for your trouble of retailing it, but your grocer will be encouraged to keep it always on sale and display it, too, which is very important. Many a bottle of honey has been sold in our drug store to those who never intended buying simply because they could not go out without seeing it, but you must not expect merchants to do this for nothing.—*The Canadian Bee Journal*

SWARMING.

In my locality, and with my method of management, only from 5 to 15 per cent of the colonies will swarm. Under such conditions, whenever a colony swarms I destroy the old queen and let it requeen with one of its cells.

In swarming time, all my hives are provided with queen-traps. All the traps have a hole permitting the queens to go back into the brood-nest. That hole is usually closed. But when the swarm has returned, and the old queen is destroyed, I open it so when the second swarm comes out the virgin queen can go back.

Now, there are two ways open. One is, to let the young queens settle among themselves who shall be ruler. Somebody called that the Getaz method. It was severely criticised when I first published it. The objection, briefly stated, was that, so long as there is young brood in the hive, the bees are apt to start queen-cells; and as it takes a queen about 16 days to complete its growth, there would be daily swarming with virgins during that length of time, or nearly so.

It seldom takes the virgin queens more than four days to "settle" which one shall be queen, and destroy the remaining queen-cells.

The first day a swarm issues from a hive with a trap attached, it rarely clusters, and generally returns in fifteen minutes. The second day it will remain out longer, and often cluster. The third day it will cluster and stay out several hours, and sometimes cluster successively at two or three different places. The fourth day still worse; they may be out nearly all the day, and even remain out over the night, and come back by 9 or 10 o'clock next morning.

Now, while the swarm is out, the queen-cells are not well guarded and defended by the bees. There are too few of them left. The result is, that the young queens already matured emerge, fight among themselves until only one is left, and she destroys the unhatched cells.

The second method is well known. Five or six days after the old queen is removed, destroy all the queen-cells but one. Well, I did do it for a few years, but soon came to the conclusion that one cell only was too uncertain. Since then I cage (in West cages) all the sealed cells and destroy the others then, and also later on. I have then the choice, and in due time release the best queen.

What is the best queen? Well, I am somewhat partial to colour and size. I note especially a long, well-shaped abdomen, taking for granted that such contains the best reproducing organs. It is soon enough to release the queen when she is old enough to mate. If, during

that time, other colonies show queen-cells, or actually swarm, I give them the other caged queens rather than wait till their own cells are fully developed. In doing this I am to leave the colonies without a laying queen only the shortest time possible.—A. Getaz, in *Gleanings*.

BEES AND FRUIT.

I believe that no intelligent person will claim that bees or other insects can possibly have any influence on the size and quality of fruit. It is only thought by some that bees have something to do with disseminating the pollen, thereby fructifying the stamens and giving a *better setting* of fruit, and a larger crop, than there would be without them. The most kinds of fruits on beeless islands *set too much fruit*, and it has to be picked off—thinned out—to keep it from being too small. Those that do not require thinning usually set as much as is wanted to give good size and quality. Now, what chance could there be to obtain better results with bees here when we get more fruit set than is wanted?

But that "friendly hand" has, incidentally, repeatedly tested that very thing by comparing the fruit crops grown on an island with bees, and that grown on a neighbouring island without bees. Pelee Island, like its neighbours in this group of islands, is well adapted to fruit-growing and many colonies of bees are kept upon it, but we know that the fruit crop is no more certain, no larger nor better than our neighbours who are without bees In fact, there are some incidents that would indicate to a superficial observer that the best crops are grown where there are no bees. For instance, last season I had 60 bearing peach-trees of a certain variety that bloomed profusely but did not set a peach. In visiting my neighbour in October I found that his peach-trees, of the same variety, had produced a good crop, and there were no bees. Now, if this had been the reverse—if the failure had been where there were no bees instead of where bees were plentiful—how quickly the incident would have been used as an argument to show the importance of our little friends in this matter. And this is just like all other arguments used to show that bees increase the fruit crop. The bees have nothing to do with it.—Thaddeus Smith, in *American Bee Journal*.

RAISING QUEENS.

When raising queens for one's personal use it is not necessary to use artificial cells. Dequeen one or more colonies, strong in young bees? furnish them with combs of eggs, and very young larvæ from your best queens, and let them make their cells. Cutting holes in the combs at the proper places will help. The queen-cells started on their own combs should be destroyed in due time if not good enough to use. If they do not start enough cells, another batch of combs may be given a few days later, and even a third or more, provided care is taken to add brood enough to keep up the number of nurse-bees. As soon as the cells are sealed they should be placed in the West cages. A queen-trap should be on all the time in case an "unknown" cell should happen to hatch and induce swarming. When a queen hatches (or, rather, emerges), go to the hive to which she is to be introduced, and remove the old queen. Five or six days later destroy all the queen-cells started. Introduce the new queen in her cage, and release her by opening the cage 24 hours later. Remove the trap so she can mate. She might have been brought in (and left in the cage, of course) when the old queen was removed, or at any time after, if more convenient. But don't release the queen until the cells are destroyed and the brood is too old to make others—that is, in full colonies. In nuclei the case is different. After the queen is released, have a queen-trap attached to the hive. A hole should be made in the piece that supports the cones, so that the virgin queen can go

back to the brood-nest in case she gets caught. I will explain why further on. This is a precaution in case a queen-cell is overlooked. During the two following days, if the weather is fair, the queen-cells that might be there will be destroyed, or swarming will take place. If the weather is bad, the swarming may be postponed.—*Gleanings.*

CAUSES OF BALLING AT THE ENTRANCE.

There are several causes that might contribute to this result. First, a virgin queen from some other hive may attempt to get into the wrong hive. The sentinels will seize her, and more bees grab her, until a ball is formed. If she is not released by the bee-keeper she will, in all probability, be killed. Sometimes such a virgin succeeds in getting into the hive. If the old queen-mother is beginning to fail, the bees may take up with the young one and kill the old one. In that event they will chase their own kin and blood until she becomes frightened and tries to escape. They may grab her at the entrance, ball her, and finally kill her. But the rule is that the new comer is the one that is destroyed.

Again, it will happen that the bees, without any apparent cause, will ball and kill their own queen. Of course, there *is* a cause, but not one that we can discover.

She may be balled inside of the hive, or she may be balled out in the air near the entrance, depending on whether she attempted to escape while they were chasing her.

Still again, a newly introduced queen may be found balled at the entrance. She will emerge from her cage, and apparently every thing will be all right; but should she show a little fear, and begin to run, in all probability the bees will grab for her, and sometimes they catch and ball her just before or after she gets out.

Nine times out of ten, however, the balls at the entrance are occasioned by a virgin returning from her wedding-flight going into the wrong entrance. If the old queen-mother is to be killed, they will do the job inside of the hive, where they can do it up to the young "queen's taste."—*Gleanings.*

LONG LIVED QUEENS

Now allow me to to tell how to rear long-lived queens and bees. My 14-year old son takes quite an interest in bees, and he has made two 9 frame Langstroth hives all under the same roof, side by side, so that all can be turned into one hive. Now when all are full, and if the two queens do not fill to suit with brood, we will fill with hatching brood from other hives, so as to have an immense quantity of nursing bees, and bees of all ages. Now in a hive of that capacity, and filled in that manner, we expect to rear long-lived queens and long-lived workers, and we shall not be disappointed. I know positively, by actual experience, that the lifetime of the bees from queens reared under the best possible conditions is fully three times as long as those reared under the opposite extreme.

D. A. Jones' advice regarding the securing of queen cells out of the swarming season was to shake off two-thirds of the bees from one or two colonies into the hive containing the colony that was building the cells, thus furnishing a great abundance of nurse-bees in proportion to the amount of larvæ that is to be nursed. I have several times, as late as September, shaken so many bees in front of the colony that was building cells that they could scarcely all crawl into the hive, and the result was some of the finest cells and queens that I ever saw. The cells were very large and deeply marked with those little hexagonal indentations that are the hallmark of superiority.—*Bee-keeper's Review.*

Send us names of your neighbouring beekeepers who do not take the "A. Bee Bulletin."

THE POISON OF THE BEE.

The inflammation and other unpleasant symptoms which usually appear after a bee-sting are often attributed to that sharp acid so widely distributed in the animal kingdom, and known under the name of formic acid. This fluid, however, has nothing to do with the swellings, its utility to the bees is of quite another character. Prof. Joseph Langer, of Prague, a little while ago, examined the contents of the poison-glands of 25,000 bees. This he found to be a clear fluid. soluble in water, tastes bitter, and has a pleasant aromatic smell, which, however, soon passes away; this scent can not, therefore, be the poison. The formic acid which gives its peculiar acid reaction to the contents of the gland is also very evanescent. The contents of the gland itself retain their poisonous properties, however, even when dried and subjected to heat. The poison is, we therefore suppose, a vegetable base, an alkaloid, as the most active poisons in the vegetable kingdom are known to be.

Prof. Langer proved that the poison has no effect whatever on a healthy skin; if, however injected under the skin, all the symptoms of bee-stings set in. Should it reach the larger veins or arteries it causes a general disorder of the system, which reminds one of snake-poisoning. The weight of the poison injected into the wound made by a bee's sting is between 2-10,000th and 3-10,000th part of a gram. The largest part of this is formic acid, which is such an important factor for the well-being of the bees. This works as a means of preserving the honey, owing to its acid re-action. The bee allows a little formic acid to fall into each cell filled with honey before it is closed or sealed, and this small quantity is enough to prevent fermentation. Honey extracted fram unsealed combs never keep long unless 0.1 per cent. formic acid be added, which is all that is required.—Translated from the German by R. Hamlyn-Harris, in the *British Bee Journal.*

CLIPPING QUEENS.

"Having found the queen I steady the frame by placing one corner on my right knee, or on some part of the hive while I hold the opposite corner by the top-bar with my right hand, when I take a firm hold of the wings of the queen with the thumb and fore finger of the left hand, when the frame is lifted, allowing the corner which rested on the knee to go down into the hive till the top-bar rests on top of the hive, when the frame is lowered till the bottom-bar rests on the top of the opposite side of the hive. I now lean the top-bar over till the opposite corner of the bottom-bar strikes the side of the hive, and, if I have calculated the distance rightly, the frame will lie so that the flat surface of the comb (brood and bees) will be little less than level. Before going to the work of clipping queens I whet the small blade to my pocket-knife as sharp as possible, and, before opening the hive, place this open sharpened knife where it will be handy to pick up just when I wish it. Having the queen and frame as above, I place the sharp blade on the wing, wings, or the amount I wish to cut off? lower both hands to within an inch or so of the flat surface of the comb, when I draw the knife a little till the queen falls down among the bees, and the job is done. No danger of cutting yourself if you stop drawing the knife as soon as the queen falls. In this way I have not touched the queen, so there is no foreign scent on her; and nine out of ten queens so clipped go about on the comb and among the bees with no more appearance of being disturbed than they had before being caught."

"Possibly your hands may shake some; but if you will begin on some old poor queen which you care little for, your confidence will be greater, and and you will be less likely to get excited."

"Do not some use scissors in clipping?"

"Yes, and good work can be done with scissors. The main difficulty here

is, that you must make a speciality of having the scissors with you, while the pocket-knife goes with you wherever you go; and because of this latter fact you are always ready to clip any queen at any time when you may chance to find a laying one which has wings. To clip with scissors, catch the queen with the right hand; lower her till she takes hold of the long finger of the left hand, at the end, with her feet. Now bring up the thumb and forefinger so as to take her gently by the thorax, when she can be held in any position you like so that you can take your time and cut off just the portion of any part of the wings you desire. Cutting off a certain portion of each wing each year, so as to mark the age of the queen, as some do, as well as to clip, is the better way, as you can take all the time you wish, and be as particular as you like." —*G. M. Doolittle* in *Gleanings*.

IN EVERYTHING GIVES THANKS.

There was never a day so misty and gray
That the blue was not somewhere above it:
There is never a mountain top ever so bleak
That some little flower does not love it.

That was never a night so dreary and dark
That the stars were not somewhere shining,
There is never a cloud so heavy and black
That it has not a silver lining.

There is never a waiting time, weary and long,
That will not some time have an ending,
The most beautiful part of the landscape is where
The sunshine and shadows are blending.

Into every life some shadows will fall
But heaven sends the sunshine of love;
Through the rifts in the clouds we may, if we will,
See the beautiful blue above.

Then let us give thanks, though the way be long
And the darkness be gathering fast;
For the turn in the road is a little way on
Where the home lights will greet us at last.

—*Canadian Bee Journal.*

NOTICE.

MR. 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.

The Beekeeping Industry in Victoria.

R. BEUHNE.

As one of the delegates of the Victorian Apiarists' Associations, Mr. R. Beuhne, of Tooborac, brought under the notice of the Rural Producers' Conference, held at Shepparton last week, the present position of the industry and the possibilities of its future development Mr. Beuhne said:—

As regards beekeeping in the past, it is not necessary for me to go into the history of the introduction of bees into Victoria. About 20 years ago bees in box hives in the wild state in trees were plentiful enough nearly all over Victoria. At that time bees could be kept with profit, and with very little labor and attention beyond that involved in taking the honey. Bee hunting—that is getting the honey from bee trees—was then quite a profitable occupation, and although the product was of variable quality sometimes dark and tainted with the flavor of the wood of the trees, it found a ready sale at prices rarely obtained now for the best quality of extracted honey. All this is changed now; box hives have diminished in numbers, bee trees are comparatively rare and bush honey is almost unsaleable. The number of colonies of bees has decreased, and yet the annual production of honey is greater than it was before. This result is due to the introduction of the bar frame hive and scientific methods in the management of bees. Twenty years ago bee hives were found at almost every home in the country, and the bush was alive with wild bees; to-day honey production is in the hands of fewer people.

DESTRUCTION OF TIMBER

Beekeeping has largely become a special business. That the industry has attained what it is to-day is entirely the result of circumstances. The opening up of the country for agricultural settlement has caused the destruction of the native trees, which are the only source of honey production in nine-tenths of Victoria. In many places it is therefore no longer possible to combine beekeeping with other rural occupations, and the remaining timber reserves of any extent are either on land of such poor quality as to forbid the carrying of any cultivation, or are of a nature such as makes their honey resources undesirable under present conditions. This is, however, but one of two causes, the second one being

DISEASE OF BEES.

It is due to disease that so many box hives have disappeared and that wild bees have in some districts become almost extinct. Methods of dealing with foul brood have been evolved in recent years, and to the expert apiarist, this disease is now nothing worse than a small tax on his income. The same cannot be said as regards the disease known as bee paralysis, which has made its appearance since the introduction of the yellow races of bees, which causes immense losses annually, and for which no really reliable cure is known.

During the last two seasons there has been great mortality amongst bees in some of the central northern districts of Victoria and certain districts of New South Wales, from some cause at present unknown. Thousands of colonies have succumbed, in some instances whole apiaries of 100 to 200 colonies disappeared, and there is nothing known to prevent a recurrence of similar disasters, which must check the development and may endanger the very existence of an industry, the value of which to the State is not sufficiently appreciated in Australia.

HONEY PRODUCTION

According to the latest available statistics those for the season 1899-1900, the total amount of honey produced in that season was about 300 tons (being an exceptionally poor season). This is a very small fraction of what might be produced if an outside market existed for Victorian honey. At present the industry is checked in expansion and restricted in production to the amount of local consumption.

MARKETS FOR HONEY

There have been repeated attempts in the past to find a market for our honey

in Europe, all of which have resulted in failure. In our opinion the failures were due to the fact that the attempts were made without a proper understanding of the difficulties to be encountered. Our honey has characteristics of its own in color and flavor. It has taken us ten years to become convinced of this fact, which is, however, now almost universally admitted. We are accustomed to the flavor of our honey, and call the wild honey of other countries tasteless and insipid. We are therefore biassed in favor of our product, and till recently we were not aware of our bias. The British market is usually supplied with honey from other countries, which conforms much more closely to the standard of English honey than our Australian product does. Need we then wonder that we cannot find buyers? As an article of food it is equal to any other, but that is of little account when it is not at the same time pleasant to a palate used to something different.

AN OUTSIDE MARKET NECESSARY.

The future of the beekeeping industry depends entirely upon the opening of an outside market. We have no doubt whatever that an outlet for our surplus production can be found, provided our industry receives the same recognition and assistance from the State that it receives in other conntries. To create a demand for our honey in Great Britain its cheapness must first introduce it, and there must on no account be an interruption in the supply, for success will result only through people becoming accustomed to it and the maintenance of a continuous supply of average quality is absolutely imperative. With our seasons of alternating gluts and blanks this continuous supply cannot be maintained without the assistance of the State and a thorough organisation of the producers.

There is yet another way possible by which a market may be found in Europe, and which, the first difficulty being overcome, would be much the simpler and cheaper way. The transformation of our honey as produced by bees from the native flora into an article closely resembling the honeys of other countries would at once open an outlet at profitable prices without the need of a continuous supply, which is so difficult under Australian conditions.

COLOR AND FLAVOR.

Considering what science has accomplished in the removal of color and objectionable flavor in sugar, particularly beet sugar, we are justified in assuming that a like result might be obtained with honey by experiments and researches for the reduction of color and the extraction of superfluous essential oils in Australian honey. Efforts in this direction are, however, beyond the power of individuals, or even combinations of producers, but might commend themselves to the State as a means of raising beekeeping to the rank of one of the great industries of this State.

In the eastern portion of Victoria, and almost the whole of the coastal country, there are still immense tracts of timber country with great natural honey resources which cannot be computed at anything less than £200,000 annually, but which must remain unused till our honey is of a character to compete successfully with others in the markets of the world.—*Leader.*

METEOROLOGICAL NOTES.

(A. R. WARD.)

In view of the present drought a few remarks may be of interest.

In the first place, the question of producing rain through the agency of artillery. There is no reliable evidence that rain has been produced by this means; but, on the other hand, it is perfectly feasible to arrest a hailstorm and convert it into a downpour of rain by means of suitable artillery.

To understand the nature of a hailstorm two experiments will be necessary.

For the first experiment thrust an electrified glass rod amongst a number of pith balls. The rod will first attract then violently repel the balls.

For the second experiment place a saucer of water and a vessel containing strong sulphuric acid under the receiver of an air pump. The acid is for the purpose of absorbing the vapour of the water and so keeping the air of the receiver dry. Now on reducing the pressure of the air in the receiver, by means of the air pump the water will commence to boil. Now, as boiling cannot take place without heat, and there being no fire to supply such heat *the water will abstract heat from itself until it freezes.* We are now in a position to understand how hail it formed.

The cloud heavily charged with electricity, first attracts and then repels the particles of moisture in the surrounding air, it in fact, insulates itself with a layer of dry air, air from which every particle of moisture has been expelled by the force of electric repulsion. Now as the storm progresses and rain drops begin to form they fall into this perfectly dry air of (from its altitude) reduced pressure, and of course instantly freeze through their own evaporation. Now by the use of proper artillery (partly by concussion and partly by means of the wad of compressed air which appears to be driven out of the barrel of the gun to a great distance), this layer of dry air is broken up and mixed with the surrounding atmosphere, so evaporation is checked and the formation of hail prevented.

Turn now to a subject of greater speculative scope, but more thrilling interest. Has the great comet which recently visited us anything to do with the present drought, especially in view of the fact that the visit of the great comet in '61 was followed by a very similar drought in '62.

Now what is a comet. A comet is a tornado in the ether. Just as the whirlwinds we may see on almost any summer's day (a tornado is but a big whirlwind) gather the dust of the road in a trumpet-shaped cloud so these extra-terrestrial tornados gather the cosmic dust (meteors and such like) to a focus. Arrived at this point of impact, by collision with one another the particles of matter are reduced to a state of incandescence (strike flint pebbles together in the dark and you will see them glow brilliantly) forming the head of the comet and then streaming backwards in a funnel-shaped cloud form the tail. Sometimes the force of impact is only sufficient to cause incandescence immediately about the focus, and then we have a comet without a tail. Now we know that on the approach of an ordinary storm cattle are greatly disturbed, rushing madly about bellowing and fighting. The approach of these great extra-terrestrial storms appears to have the same influence on the human race, as, to quote a few instances, the Indian Mutiny in '57 just before the comet of '58, the American Civil War, which may be referred to the comet of '61, and Kruger's little ultimatum before our last visitant.

But the subject is far too long for a magazine article. Anyone desirous of pursuing the subject further should first note the dates at which the more considerable comets have appeared and then, *taking the world as a whole*, note the mental condition of mankind for the 12 preceding months, and the meteorological and seismic conditions for the 12 months succeeding. Such work if thoroughly and conscienciously done will elicit some noteworthy events.

RINGBARKING.

The following, by Mr. Maiden, copied from the *S. M. Herald*, may not be uninteresting to beekeepers:—

HUNTER RIVER FLOODS.

Mr. J. H. Maiden, F.L.S., read a paper on "The Mitigation of Floods in the Hunter River." He said that the floods in the Hunter River arose from different causes making their manifestations felt in different parts of its course. For example the 1857 flood was, he understood, an Upper Hunter flood. The 1893 flood was of a different character. It arose from rain on the Lower Hunter, which was mainly confined to the eastern and

southern slopes of the main range parallel to the coast, and thence seaward. The rain clouds came, he understood, mainly from the south-east, and contact with the range induced the downfall. Such a flood being local no engineering or other skill applied to the Upper Hunter could affect matters. Recently he had examined the Upper Hunter and its tributaries to see if, from the point of view of a forester, he could make any suggestions reasonably calculated to mitigate to any degree the disastrous effects of floods in the Hunter. Although he had paid scores of visits to various parts of the river he did not wish to assume that his knowledge of the stream was as perfect as he could wish. He had, however, carefully used his opportunities of studying the Hunter River question. "Every act of man is the forerunner of a chain of consequences of which no man can foresee the end." The natural forests on the rounded steep hills of the Upper Hunter had, in many cases, been destroyed. The ground everywhere was pulverised by the feet of the sheep wandering at the present time after the scanty herbage, and when rain should fall much of this pulverised soil carrying with it grass plants (latent) and seed of grasses, and various forage plants, must be washed into the creeks and again into the Hunter. His view was that it was only a matter of a brief historical period when, unless preventive steps were taken, these rich river and creek flats would find their way into the Pacific Ocean. Some people, including men of great experience and careful thinkers, were of a different opinion, viewing the erosion with more or less equanimity, considering that what was taken off one bank was deposited on the other. He regarded the outlook as serious. Going back to ultimate beginnings, the source of all troubles was the indiscriminative ringbarking and cutting down of vegetation by individual owners. The ringing or felling of trees in paddocks was, of course, necessary; but the requirements of natural drainage seemed not to be considered. The consequence was that in the dry creeks rifts appeared, which gradually widened and carried soil (often the best soil) into the creeks, and so on ad infinitum. The remedy lay in the intelligent control of ringbarking. Summarising his proposals for the mitigation of floods in the Hunter, he said they were not sensational, but they were all practical, and he thought that if they were given a fair trial it would be found that they were based on sound principles. He proposed: (1) Intelligent control of ringbarking or felling as the beginning of all things. (2) Repair of little incipient rivulets by gradual replanting, or placement of obstructions, such as logs, &c. (3) Planting of willows, &c., near the water, and of most other trees back from the banks. (4) Champering of the banks. (5) Fencing the banks. (6) Burning as much as possible of the dead timber and branches to prevent their finding their way into the water courses and scouring the banks. There was an abundance of dead timber after a drought.

CLIPPING QUEENS.

Different beekeepers practice different methods in clipping queen's wings. Hon. R. L. Taylor said at an institute he would catch a queen by her wings with his right hand, and place her upon his knee. She would then immediately catch hold of the fabric covering his knee With thumb and fore finger of his left hand he would grab her thorax sidewise. With a pair of scissors he would then clip the wings without there being any danger of cutting off legs.

Many bee-keepers have of late claimed that clipped queens come up missing more frequently than those not clipped. Some think the reason might be that, when a queen is held by the thorax as in Mr. Taylor's case, her scent is slightly changed by this contact with man's fingers, when after ward the bees will regard her as a stranger. There may be some truth in this. Still, it does not explain why queens (clipped) come up missing months after the operation.

I do not think it best any more to handle queens by the thorax, when it can be

avoided. It is not at all necessary to take hold of a queen by the thorax when we wish to clip her. I simply pick up a queen by her wings with my left hand, hold her a few inches above the frame-tops, and draw the knife over the wings where they touch the end of my thumb, cutting off all the wings as closely as I wish. No part of her body has thus been touched except those remaining between my thumb and fore finger. She drops right back among her bees on the exposed frame-top, and is never molested. It is a very simple operation, and very quickly performed. The only thing to be watched is to get a good hold of her wings at the first grab. I am not sure but a queen may be injured holding her by one wing only. When caught in this way she has a notion of twisting or spinning around, which probably causes her intense pain. I thought I had lost a queen in this way last summer, for she seemed dead for five or ten minutes after I had released her. However she was but paralysed, and came to again later, and she may be in her hive now. Others to whom I related the incident thought the queen was simply frightened, which would not prove an injury to her. I have never before seen a queen show the effect of a scare in this manner when she was picked up properly.

When I fail to catch a queen properly I let her go again and make a second attempt later. The knife is the tool to use in clipping, for, we always have one with us. The closer the wings are cut, the easier the queen may be found at any future time. The peculiarity of her appearance is a marked distinction between her and the other bees in the hive.—F. Greiner in *Gleanings*.

OVER FIVE MILLION BEES.

COLORADO'S LIVE EXHIBIT WILL CONTAIN MILLIONS OF WORKERS—STATE HOUSE OF BEE-HIVES.

World's Fair Grounds, St. Louis, June 14.—"The liveliest live exhibit at the Louisiana Purchase Exposition in 1904, will come from Colorado." Thus spoke Van E. Rouse, the Colorado Springs mine-owner and capitalist, during his visit to St. Louis this week with the Colorado World's Fair Commission, of which he is an active member. "The world generally knows that as a mining country Colorado leads all nations on the globe," continued Mr. Rouse, "and this has naturally created the impression outside of Colorado that all the wealth of our magnificent State is hidden underground. Our exhibit at the World's Fair will show Colorado to be not only great in mining, but that it is a world leader in horticul- and agriculture."

"The World's Fair management in their plan and scope of the Exposition declared they wanted life exhibits, so in casting about for plans to make our exhibit conform to that idea we interested one of our wealthiest and most public spirited citizens, Mayor Swink, of Rocky Ford. Mr. Swink is an apiarist, and he has, perhaps, the largest bee plant in America. He is going to bring his bees to the World's Fair, and they will work here from the the time the Exposition opens until it closes. Mr. Swink's plan, which will cost fully $10,000 of his own money, is to bring to St. Louis enough beehives to construct in minature a counterpart of the Colorado State House at Denver. The bees will then be turned out to find material for honey-making in the country surrounding the World's Fair grounds. It will require about 640 hives to construct the little State House, and in it about five and one-half million bees will work. It will be a great exhibit. In Colorado we make the finest honey in the world. We have one bee man who works his bees all the year through. In summer they work in his alfalfa fields in Colorado, and in the fall he ships them to his plantation in Florida, where they work among the flowers and orange groves until time to return them to the West in the spring.

In Colorado we have each year a Watermelon Day at Rocky Ford, a Potato Day at Greely, a Strawberry Day

at Canon City, and a Fruit Day at Grand Junction. These are holidays and all Colorado turns out to the celebrations. In 1904 these celebrations will be held in St. Louis, and we expect to bring a good many trainloads of people here to participate in them, and on these days Colorado fruit will be as free as water for those who celebrate with us.

The Colorado exhibit will cost a total of $300,000. The Commissioners appointed by the Governor under the law creating the World's Fair Commission, have so far refused to draw on the State appropriation for their services, preferring to leave the money in the treasury to be used in making the exhibit.

CORRESPONDENCE.

J. T. A., Mooroopna, Vic., June 20.—Regarding the question column, most of them are beyond me, and where is the use giving the printers useless work to the exclusion of more beneficial matter. Now, I could read Beuhne's writings for an hour; he has the courage to give reasons for his opinions. Even if you have to differ this gives food for thought to see if you are not wrong yourself; that is if you have the courage to test your idea with others that differ. I believe in interchange of opinions. If I get into a groove I would thank one who would lift me out on a good going track. To err is human.

J. W. S., Drakesbrook, (W.A.), June 21st, writes:—I am very sorry to notice from recent reports, that my brother apiarists are having such a hard time in New South Wales, and that the drought is still continuing, and think each should from present experience, take to heart the lesson so severely taught and make an honest effort to pull together, that when a good season comes they may have a return that will recoup somewhat the loss of these hard times. There is not any doubt in my mind that beekeeping besides being a healthy may also be a fairly profitable occupation, if only the fraternity would co-operate and keep prices at a fair and honest value. We have had a sort of patchy season on this side, some are away much below the average, while a few have had a fairly good yield; and the latter have in most cases rushed their honey on to the market at prices far below their true value, and that in face of the probability of a likely shortage in the supply. We want in West Australia the same as you in the eastern colonies, or States, as I have stated above, co-operation, very badly indeed. Personally, I have no reason to complain, as my average for the season is about 210lb. per colony spring count, and have built up 50 per cent. I am wintering 120 colonies which are in prime condition, having an abundance of stores. My health has been only poor for some time, but still I have to keep in touch with my pets. I expect before this reaches you, at least I am hoping, it will have been transferred, so far as the farm is concerned. The bees I will have to remove to a smaller place, although I will have some trouble to get a better stand for the bees. I must not close without referring to your journal, which is read, aye and re-read, with profit and pleasure every time. Wishing you every success, and that things may soon change for the better with you in New South Wales.

J. F. P., Wagin, (W.A.), June 6.—I had very bad success with the bees last season; in the winter there were too many frosts, and after the frosts what did keep alive the birds played great havoc among them, so I did not get very much honey. I hope you are having better success with your bees than I have had.

J. T., Mary Vale, June 30.—It is a long time since I sent you any bee news, the reason why I have not sent any is because I have had no good news to send you. Most of the bees around here have died out. The seasons have been very bad about here for bees for a long time,

and very few people have any left. As for myself I have sold out some time ago on account of so much clearing being done and dry seasons. I was compelled to either sell out or let them die. Honey sells well about here at present from 4d to 6d per lb. retail.

J. T. H., Lismore, July 3.—I am not so constantly at the bees lately, but intend keeping some still, and also to keep on your interesting journal which is O.K. I think there are a good many this season who will say "there is nothing in bees," some of whom are better out of the business, some who ought never to have been in it. I quite agree with many things which you have written from time to time re the injudiciousness of painting the business in such colours as to induce so many adventurers as competitors into this struggling industry, thus reducing honey below paying price, etc. Let the industry grow itself as the demand for honey increases, find a foreign market and then the production will soon expand as a paying price is more likely to be obtained. Hoping the coming season will be better for yourself and all bee-keepers.

A. H. F., Mount Torrens, (S.A), June 22.—I want to know how best to produce wax by feeding honey or sugar. I would like to know your experiences with the Long Hive, as well as the particulars of wax production. I would also be pleased if you could tell me where to purchase Belgian hares with price and any particulars available. Do you know of any book on breeding of same. I have just started in the bee line here; have purchased 115 stocks and trying to pull them through the winter. There is splendid promise of honey in the near future.

[We will never use sugar again for feeding if we can help it. When feeding with honey and warm water the bees came through the winter alright. Not so with sugar. I have an idea there is some chemical used in the manufacture of sugar that is not agreeable to the bees. The best producer of wax is a good honey flow. As to Belgian hares, we don't know of anyone having them here in Australia. They are, moreover, a noxious animal here in N.S.W. Like bee-keeping in N.S.W. they have been boomed in America, and the craze is now dying out. Somehow or other for at least the past two years my long idea hives have not done as well as my other 10-frame hives. I cannot tell the reason.

W. B., Stroud, July 3rd.—The few hives I have got have done very well as yet, but I have not the time to look after them properly. Wishing you success with the "A.B.B." and a good season for the bees next time.

E. J. R., Wyee.—I do not know what the coming season is going to give us, we had 17 points rain last month, and not an inch since the end of April; 12·74 for past six months. In 1900 we had 31·94 for same period.

J. B., Mount Cole, (Vic.), July 8.—There is not much news to write, no honey this season but a good prospect for next season. I was very glad that I went to the annual meeting of Victorian Apiarists' Association for they were all jolly good fellows, full of information and very agreeable. Let me ask if it is really necessary to strain extracted honey, will not every particle of comb eventually rise to the top where it can be skimmed off. And if we do strain it will there not still a scum arise that we must skim off; if so, what is gained by straining. Perhaps I am exposing my ignorance, but never mind if I thereby learn knowledge.

[It is better to strain it. When the strained honey settles, and any scum is at the top the pure honey can be drawn off by honey gate at bottom of tank.]

C. P. R., Goulburn River.—My bees are at present in a very low condition owing to the terrible try time. I have had my work cut out to keep them alive, never having to feed before. I found out I had something to learn when I had to start. As I am a poor hand with the pen I can't tell you my experience. We have had a nice fall of rain this week.

Mr. and Mrs. Atchley, the well-known Queen-raisers of Texas, U.S.A., write: It may transpire that we will go to Australia some time in the near future, if the

good Lord be willing; and if we do we will call upon you for a short visit. We would like to see your country.

We shall be very pleased to see you.

Chinese Bees the Forerunners of Good Luck.—Recently I saw the statement that the bee has never been tamed; but if left to itself will always seek a home in the woods. This is emphatically *not* true of Chinese bees. *They seem always to seek a home with man*, somewhere in some sort of structure reared by his hand; and the only case that I have yet met with in all my tours of a swarm of bees in a hollow tree was in the edge of a village, in the butt of a large camphor-tree, about six feet from the ground. For ages and ages the Chinese have believed that bees bring good luck; and so for ages and ages the safest place for bees has been the human habitation, till now they cleave to man instinctively. Even superstition sometimes shows a brighter side. But may not a few generations of scientific bee culture accomplish the same results in America? —J. E. Walker. in *Gleanings*.

"In filling supers I aim to have 700, or one for each colony, with a row of drawn comb, from the previous year, across the front and rear end of each super; the two centre rows being filled with full sheets of foundation. Honey will be stored in the drawn comb as soon as any appears beyond the daily needs of the colonies; comb building, too, will not lag, as the foundation is right over the heart of the cluster, where there is the greatest amount of heat. A large per cent. of colonies thus started in the supers, can, by proper handling, be led onward and upward, so to speak, beyond the temptation to swarm.—Mr Gill in *Beekeeper's Review*.

C. A. Olmstead thinks that "if there had been as much time spent examining and measuring the wings of our bees as there has in measuring their tongues we would be better off. Stop and think of the wonderful influence the nurse-bees have on the larvæ in a queen cell. Instead of a short-lived worker we have a large, perfectly developed queen capable of living four or five years, and laying thousands of eggs a day during quite a part of her life. I believe the nurse-bees offer the greatest field for investigation." —C. A. Olmstead in *Beekeepers' Review*.

Increased breeding in the spring comes from the handling of honey. If the honey comes from the fields, well and good, if not, results can be secured artificially by any method that induces the bees to handle honey. In this direction, advantage may be taken of the fact that bees are inclined to rear their brood near the entrance, and to store their honey in the back part of the hive; simply pick up the hive and turn it half way around, putting the back end of the hive at the front, or where the entrance was before--that is, reversing it or turning it end for end. This puts the brood at the back of the hive, and the honey at the front. This does not suit the bees, and they at once begin to remove the honey at the front and replace it with brood; this leads to the handling of honey and an increase of breeding.—Aiken in *Beekeeper's Review*.

S. D. Chapman, in the *Beekeepers' Review*, reckons the swarming fever does not come from queen or drones, but from the workers, and almost invariably has its origin with those bees that are under 15 days old. It is impossible to create the desire to swarm in a colony where all the bees are field bees. But the swarming fever can be easily produced when all the bees in a colony are under 12 days old.

Didn't Want the Honey.—"I can not take your honey this year," wrote a dealer to a Holstein bee-keeper. "What's the reason? We have very fine honey." "Well, yes, but the President of your Association wrote in the bee paper lately: 'We are just swimming in honey this year.' "—Gosch.

VICTORIAN NOTES.

R. BEUHNE.

Correction.—On page 77 last issue, I am reported to have said that I had known bees to leave syrup after taking a certain quantity, whereas what I *did* say was that bees after being fed *honey* heavily inside the hive, they would tire of it, become bloated and hardly touch it.

Feeding Sugar.—When friend Davey produced paralysis by feeding sugar it must have been beet-sugar, and the disease beet-paralysis.

HIVES, COVERS AND FRAMES.

The A. Beekeeper of July has several articles on these subjects. In that from the Beekeepers' Review appears a complaint about hives opening at top and bottom corners through extreme dryness outside and moisture within. I have had no such trouble since making my own hives and taking care that the side of the board which was the inside of the tree comes to the outside in making the hive. Some timber will show the rings of the tree's growth plainly, even on a rough saw-cut; with some it may not show them till you run a sharp plane across the end of the board. It is perhaps expecting too much of manufacturers that they should see that the ends of the hives are rabbetted so that the heart comes to the outside, but that is really the one way of avoiding gaping corners. Wood shrinks more or less according to the age of the tree out of which it was sawn, the same holds good in regard to the different lays of wood in any one tree; the new wood is formed on the outside, is therefore the youngest and shrinks the most, hence the curving of boards. By putting the inside or older layers of wood to the outside in making a hive we expose it to the drier atmosphere causing it to shrink more, and the younger wood being inside and moister will shrink less than it otherwise would, thus keeping the board straight. Putting the board the wrong way we lessen the shrinkage where there is already too little, and increase it where there is too much.

I have hives twelve years old and outside ever since they were made, which, looking at the outside cannot be told from others a few months old.

In regard to hive covers the editor of A. Beekeeper says:—The perfect cover is not yet devised. The cover that is finding most favour in the larger apiaries in Victoria is one made of any kind of boards, nailed on to a two inch rim or frame the size of the hive, covered with plain galvanised iron on top, turned down over the ends and sides of the boards to project a little below them. This cover is non-warping, water and fire-proof, needs no paint, and costs not more than 9d at the outside. In those I use the rim is slightly larger than the hive, and rabbetted out to telescope over the hive, thus leaving no joint exposed to wind and wet or robbers to fool round.

The shallow broad standing frames which appear to be in favour in N.S.W., I used extensively ten years ago, when I used to cut out the frames for wax production. As that did not pay dividends I found these frames unsuitable for my method of management in working for extracted honey.

With a 12-inch honey knife I uncap a full size frame just as quickly as a half depth, and I found two sorts of frames a nuisance, as sometimes I have brood in two or three bodies, and at other times exchange broodnest and super. I broke up those frames years ago and have just cut the last half supers into halves for hive stands.

PRICES OF HONEY.

Australasian, Victoria.—Honey and beeswax.—Honey is in good demand, quotations ranging from 3½d. to 4¼d., and occasionally up to 4½d., for very choice. Dark and congealed lots are dull of sale at about 2½d. to 3d. Beeswax is quoted at 1/0½ to 1/1, and occasionally up to 1/1½.

Leader, Victoria.—Honey. Stocks were fairly large to-day, and moderately active sales were reported. Clear garden lots

sold at from 3¾d. to 4d., cloudy samples being disposed of at from 2½d. upwards. Beeswax.—Buyers paid from 1/ to 1/1½, according to quality, business being somewhat slack at those rates.

Garden and Field, S. A.—Clear extracted honey, 2½d., dark and candied, 2d., Beeswax 1/2.

S. M. Herald, N. S. W.—Beeswax.—1s 1d per lb.—Honey.—Scarce. Choice 3¾d, extra choice clear 4d, other qualities 3¼d to 3½d per lb. for tins containing 60 lb.

Agricultural Gazette, N. S. W.—Honey, prime 3¾d., medium, to 3½d. per lb.

QUESTIONS.

12. Comments on that article page 71 last issue, "Australian Honey in England."
13. Does dark comb give darker honey?

J. JOHNSTON.

12. The British beekeepers don't want Australian honey at any price, to compete with their own. The eucalyptus flavour is a cry the British beekeepers make most of. Some of our Australian commission men are not too reliable. Are those thousands of miles away more reliable?

13. Only appreciable for show purposes. For general trade it makes no difference whatever.

MR. HESSELL HALL.

12. Re our honey in England, some of our best box honeys are not appreciated simply because the flavours are new to the English palate. But with mild pale candied honeys of the coastal mountains the objection may be the ancient one described in scripture "It is naught saith the buyer, but afterward he goeth his way and boasteth." Have our honeys ever been sold on the other side by any company that acts as agent and purchaser at one and the same time? Such a position would require more "grace" than is ordinarily allowed to mortals, and should there be such a company in existence it should remember the old test "By their fruits ye shall know them" and should leave no loophole for suspicion in the form of glaring shortages in weights in the returns and such like little details.

13. In my opinion dark comb does not give a darker colour to honey. Some of the palest honey I have ever taken has been from the blackest of old combs. The reason why so much dark honey is taken from old combs is that the brood hatches out of the old combs and being vacant in the slack time of the year when dark honeys come in, the black combs are used as store combs, because nearer the centre of the cluster, and therefore warmer than the surplus combs.

F. W. PEMBERTHY.

12. Eucalyptus again. It seems all Australian honey has it judging by the British taste, I think, like the child who can taste vinegar before it touches its lips. On the other hand we cannot smell or taste a slight eucalyptus taste on account of always breathing air scented with eucalyptus. In other words if I had a brandy I could not detect the smell of brandy in your breath whether you had any or not. As for mixing 'lime' honey with ours it could be better done in England. As for growing lime trees here for that purpose by beekeepers, the honey would never be uniform. Clover honey will always pay to send to London, but the localities are few where it will grow to produce honey. Get the British to plant eucalyptus trees extensively and then we will have a say in their honey market.

13. I have never noticed any difference; if there is it is not sufficient to reduce the value of it. Dark combs are strong, which allow you to extract 50 per cent. quicker than with new combs.

CORRESPONDENCE.

J. T., South Lillimur, Vic., July 26.—Our season among the bees has been a poor one, not only less honey but a poorer quality. The outlook for the coming season is very promising.

A. C. F., Inverell.—I have no bee news of any importance on account of the drought. I have had very little honey, but bees are wintering well on white gum and very strong. September is the month that tells the tale with me.

W.H.C., Stoke, Nelson, N.Z., Aug. 8th.—I receive the A. B. B very regular and am very pleased with it, and shall certainly continue taking it. My first year ends this month. My bees are wintering well so far, but we are having exceptionally fine weather.

J. G., Tamworth, August 20th.—King Drought still reigns supreme and is causing great devastation about here. All stock has to be hand fed, and the

famine price of fodder is causing great anxiety, as many people cannot afford to feed their stock and they simply have to let them die. Our earnest hope is that rain may come soon.

B. G., Nyah, Vic, August 11th.—All being well we will have a good year here for honey next season, as all the timber is budding very heavy now. I have had a fair year this season as well. I sold all my honey at 4d per lb wholesale. Your Bulletin comes along very regular, which I find very useful to me. Hoping your bees are doing as well as mine and trusting we all will have a good season for honey.

W. S. H., Glengarry, Vic., August 6.—I find in the "Bulletin" a lot of useful information, well worth the small fee asked for it. The past season was not a very bountiful one with me as far as honey was concerned, having extracted but one 60lb. tin per colony from 30 hives, but that is even better than some, judging by reports. I have hopes of the coming season being a good one, as the trees around are well covered with buds, and all my colonies seem in a thriving condition. I see by the papers you are having a terrible time with the drought in portions of New South Wales, but trust it will soon break up and be followed by a season of plenty. With well wishes.

F. W. P., Elsmore, August 12.—Bees are working well on wattle, the little there is in bloom. Plenty in about two week's time, the frost don't seem to hurt it in very dry times. Red gum is in heavy bud, the dry weather don't seem to affect it as it does the yellow box, which has lost nearly all its buds. It is a very poor honey producer in dry weather. I intend to over-haul the bees next week, and put them under spring conditions, the few I looked at were in very good condition. Does ringbarking affect rainfall? Take 100 to represent the attraction needed to bring rain. Suppose before the country or timber was rung, the attraction was 105 then the rain would fall, but on account of so much country being rung it has brought the attraction down to 98, which would allow the clouds to pass over.

W. G. A. G., Stroud, August 8th.—The past season has not been as good as expected. The trees showed well, but when it was time to open they all fell off. I extracted 600lbs. from six hives and left a lot on, but will soon take it off now. We have had some splendid rain lately. I have had five hives die out from paralysis, but it is different to what I have had about three years ago. The first time I had paralysis the bees would come out of the hive swollen, and crawl from the hive and die, but now they die at the entrance. I have got about 40 colonies to start the spring with if no more die. I would like to know how to cure it if any of your subscribers know of any cure. Honey is a fair price now and I hope it will keep up. The A.B.B. comes regular, and it is getting better than ever. Would not like to be without it now at double the price. Wishing you and the bees every success.

[The only remedy is to requeen as soon as possible.]

W. F., Bungowannah, July 20.—This past season has been a failure for honey in this district. I only extracted about 3 cwt. from about 40 hives. I lost several hives in the early spring from spring dwindling, and a good many of the others were very weak from the same cause. I hope they will do better in the coming season. I had a good lot of old honey on hand, for which I am now getting a good price. I am well pleased with the "Bee Bulletin," but I think you are on the wrong track in trying to keep down the number of beekeepers. I believe we would get a better price for our honey if we produced a hundred times as much, as we would then be in a position to establish an export trade. I am also a bit surprised at your attitude on the Federal Tariff. The duty on honey is no advantage to us, as we produce more than enough for our own consumption in an ordinary season. But the tariff increases

the cost of our appliances and necessaries and so reduces our returns. Wishing you success with your paper and the bees.

[We would get a better price if we could increase our population, and so our markets. Also if we could educate people to take honey instead of butter. They will while butter is dear, and then only. The tariff will be the means of inducing manufactories here, and the competition of such will do as it has ever done elsewhere, make the prices of all such articles cheaper, at least to the extent of shipping charges and profits in the countries the goods come from.]

G. S., Taranaki, N.Z.—People here, in Taranaki, seem to be troubled with foul brood, and they always will be as long as people keep bees in the common box. I myself have got all Langstroth hives. I have visited apiaries with 70 or 80 hives, half of them being rotten with foul brood. Over here we get very rough winters, starting from June and lasting up till October, sometimes right into November, although it is a great honey producer, chiefly white clover, hives average from 60lbs. to 80lbs. and not worked up very careful at that. Our honey season starts in December, lasting to the end of February. The wild bees are dying out fast. Several people here have gone in for Italians, but I think myself they are an improvement on the black bees. They are good for handling and gathering honey, and the queen is easily found. One fault they have they seem to be good robbers, and good at getting through any small hole into the honey-house.

W. Ager, August 9th, writes:—I would like to express a few points of consequence to the price of honey. It is a known fact, that the supply and demand governs the price, but when the supply is at one place and the demand at another, what is the result? Well, in consequence of the glut where the supply is, prices are hauled down, and those prices rule supreme throughout. Some bee-keepers assert that the industry is overdone, and would like to see the supply restricted. It is my opinion that the more employed in the industry the better for the state and all concerned. A couple of my mottoes is live and help live? Show your sincerity in actions, not in empty words. Now for those who declare the industry to be overdone, I would propose that they retire from the business, and leave more room for those who are left. We do not want to restrict the supply, but to control it. To further illustrate my expressions, we will picture a baker starting business, he makes his bread into 60 lb loaves and sends it down to the market. What would be the result? That baker would be considered a fit lunatic for the asylum. How about the bee-keeper? Now the baker to succeed, must make his loaves into sizes to suit the consumers and deliver it to them. To be successful in marketing our honey, to receive a fair price, we must do the same. We must study the consumer and therefore study ourselves. The whole thing resolves itself into this, bee-keepers must foster the demand by distribution, by placing their honey before the consumers in convenient sizes. The exportation of honey, by all accounts, seems to have proved very unsuccessful. It now lays with beekeepers to ascertain all difficulties and objections, and overcome them by the time our good seasons come round again, for the purpose of relieving our overstocked market. If these points are not attended to we will again hear the same cry, overdone. How can the industry be termed overdone when the marketing is not done.

CAPPINGS.

From American and other Bee Journals.

Heat is a prime factor leading to swarming. A certain temperature is imperatively required before the bees make any preparations. On the contrary, a fall in the thermometer postpones the crisis, it may be, indefinitely. Heat above a certain degree makes the inside of the hive almost intolerable as a residence, and hence, if other prime factors

necessary to swarming are lacking, bees cluster on the flight-board, waiting further internal developments. Reduce the internal temperature promptly and you check the contemplated preparation and so reduce or eliminate the desire to swarm. Ventilation in many forms aims at attaining this desideratum, but succeeds only to a certain extent. It can only be given as an aid to prevention —not a cure.—*Beekeepers Record.*

A curtailment of super space helps (not always) to secure swarms; so it follows that a reasonable extension in this region aids us in preventing swarming, and, to secure this, supers should be placed on the hives even in anticipation of the bees' requirements. Once the bees gain the idea that they are pressed for room, they at once start queen-cells. If this occurs and the swarming fever is generated, nothing in the way of adding surplus avails a whit. Therefore have supers on in good time to secure prevention. Here is the bee-man's chief controlling power, and it is the simplest and easiest to apply.—*Beekeepers Record.*

"Swarthmore" says in *Rocky Mountain Bee Journal*:—Last season I was prompted to do some experimenting with drone-eggs, sent to me from many distant points by post, and the result was so highly satisfactory that I hasten to give the long-suffering Northener the benefit of these experiments. A number of batches of fresh-laid drone-eggs, in dry comb, were forwarded to me by mail nicely packed in tissue paper and enclosed in 4¼x4¼ section boxes. Immediately on receipt of these bits of drone-comb they were fitted into frames and placed in the centre of the brood-nest of a strong colony previously made queenless for the occassion. Very few of these eggs were removed by the bees, and the number of dislodgments in transit was hardly worth mentioning. The queenless bees readily accept these drone-eggs, and each and every one will be properly cared for, reared and sent forth in handsome, healthy, flying drones long before any other colony in the yard has given a thought to drones or the need of them. Thus the Northern (in Australia southern) breeder may gain from six to eight weeks' time in getting under way with his breeding operations for the season, and as soon as the traffic is well understood by both shipper and receiver, I warrant both will wonder why they did not do the simple thing many years ago.

In New Zealand there are two plants that yield poisonous honey, the wharangi and the whanriki; the first blooming in early spring, and the other in the autumn. And it is just as certain that the honey from these plants is only injurious when in its crude or unripened state, and that, in its matured or ripened condition it is quite innocuous. The Maories state positively that about six weeks after a particular honey produced ill effects, the same kind of honey, from the same nest, may be eaten without the least risk, thus showing the poisonous matter to be of a volatile nature, which evaporates as the honey ripens.—*New Zealand Farmer.*—Some six or seven years ago the American Bee Journals reported cases of poisoning from eating honey from the mountain laurel. One medical man there experimented on a black boy in his employ with the same, nearly killing him. Is the American mountain laurel related to these two poisonous plants of New Zealand?

All hives should rest near the ground when heavily laden; bees can reach the entrance without rising the second time. Many bees miss the alighting board, and have to rest before they are able to take wing the second time. This matter of having hives near the ground is a very important one, from the fact that many queens in coming out with the new swarms fall to the ground, disabled in some way, so that they are unable to rise with the swarm, with which they must get back into the hive again. Hence a hive near the ground has a big advantage in this matter alone. It is almost useless to inform a beginner in

beekeeping that it is quite an important matter to have his hives, section boxes, frame and honey supers all in readiness for the bees long before they are needed —at least, before the bees get to swarming or the honey harvest comes on. From many years' experience in this line of work, I find that the winter season is the proper time and the most convenient to do the work. If you have not a good warm place to work, and the proper tools to work with, you cannot be a successful beekeeper. If you have new hives to make, they should all be made, painted, and stacked away in some dry place. Or, if you have a lot of old ones to fit up and make up all one size and repaint them. Supers should be made and filled with sections, but don't forget to put in sections. —*New Zealand Farmer.*

In the *American Bee Journal* Mrs. N. O. Penny recommends the following dress for a lady beekeeper:—I wish to suggest to other bee-women, the wearing of bloomers instead of an underskirt for bee-work. They will find them much lighter than an underskirt from the bees. Bloomers are best made of blue drill or denim. I also wear leggings of the same material; that is so I can wear low shoes. I like a duck skirt and a gingham apron, as the gingham washes much more easily than the denim. I wear gloves made of white duck, if I get into a hive that is inclined to be cross. I keep them in my pocket, handy, or else near by on a hive. I wear a black tarletan veil.

Victorian Apiarists' Association.

R. BEUHNE, HON. CORRESPONDENT.

In reference to the test of parcel of honey for adulteration submitted to the Department of Agriculture, for verification or otherwise, I have received the letter published herewith.

The method in question is from *Practisher Wegweiser* and published in July issue of *A.B.B.* page 79.

The test has proved unsatisfactory, but it is well that it was submitted to the Department to prevent wrong deductions being made by some who might have applied it to suspected honey.

Department of Agriculture,
Melbourne, 21st August, 1902

Sir,—In reply to your letter of the 7th ult. I beg to inform you that Dr. Howell reports as follows:—

"The investigations as to the accuracy of the ferri-cyanide of potassium test disproved the reactions as stated in the letter from the Victorian Apiarists' Association.

On submitting a sample purchased as Australian honey to the test described, it failed to give a precipitate, even on heating. On allowing the solution to stand, however, for two days, a pale green floculent precipitate eventually settled out The solution also being pale green.

The test applied to a sample of glucose and treated in the same manner as the honey, gave a green coloured liquid and a dark blue precipitate.

The test applied to a sample of sugar gave a dark blue liquid but no precipitate.

The results obtained by the above tests were not sufficiently marked to render the test of any special value for estimating the percentage of adulteration.

The ordinary tests as used in this Laboratory are as follows:—

1. For adulteration of honey with sugar add 5 c.c's of 5 per cent. solution of cobalt nitrate, to 15 c.c's. of solution to be examined, mix well, then add 2 c.c's. of a 50 per cent. solution of caustic soda.

Sugar: Gives an amethyst violet solution.
Glucose: Torquoise blue.
Mixture of honey: Sugar gives a dark coloured solution distinctly violet.

2. For adulteration of honey with glucose. (Beckmann test is used) 5 c.c's. of honey solution, '20 grms. in 100 c.c's. of water) are mixed with 3 c.c's. of a 2 per cent. solution of barium hydroxide, 17 c c's of Methylated alcohol added, and the mixture shaken. Pure honey will remain almost clear, but in the presence of glucose syrup a considerable precipitate is formed.

3. By estimating the ash in the sample—if this exceeds 3 per cent. a fair indication is given of the addition of either cane sugar or glucose.

4. The most reliable method, however, for detecting and estimating adulteration is made by a careful examination of the action of the sample on polarized light and its behaviour with Fehlings and other reducible solutions.—I am, Sir, yours obediently,

E. G. DUFFUS,
Secretary for Agriculture.

R. Beuhne, Esq.,
Correspondent Vic. Apiarists' Association,
Tooborac.

N. S. W. BEE-FARMERS' ASSOCIATION.

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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.