# The Australian bee bulletin. Vol. 14, no. 8 November 28, 1905

West Maitland, N.S.W.: E. Tipper, November 28, 1905

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# THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.
Edited and Published by E. TIPPER, West Maitland; Apiary, Willow Tree, N.S.W
Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

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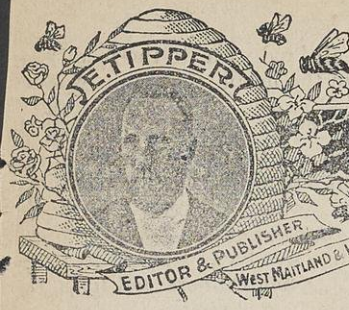


# THE AUSTRALIAN BEE BULLETIN.

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MAITLAND, N S W.—NOVEMBER 28, 1905

The following is the list of advertisers in our present issue, all of whom we would recommend our readers to patronise :—

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## THE PHILOSOPHY OF OUTDOOR FEEDING.

As not everyone has made the outdoor method a success, it is, perhaps, not amiss to explain the philosophy of it. By understanding the principles involved the reader may discover the cause or causes of failure. The average beekeeper feels very cautious about exposing sweets to bees, as he knows that, when the honey-house door is left open, perchance exposing a lot of combs, that there will be a fearful uproar, cross bees following one even round into the streets. Well, then, if this be so, how can one possibly feed bees outdoors without bringing in precisely these conditions?

When you discover that your bees are robbing in your honey-house, what do you do? You close the door, and after a time let the imprisoned bees out and close the door tight again. The *sudden* interruption of the wholesale pilfering causes the bees to hunt high and low for more of the same goods. They will pounce on to every weak colony, and in some cases rob them all out entirely. It is the *sudden stopping* of the wholesale gathering of the sweets that starts up the fury of the bees. If the stoppage is *gradual* the situation is very different. Let us now take another case.

Suppose we scatter within a hundred yards of the apiary three or four dozen well-filled combs of honey. In the course of an hour the bees will discover them and pounce on them like a lot of

little wolves. If you were to take all of these combs away from them before they have finished up the job, they would pounce on to every weak colony in the yard, hover around the doors and windows of the house, and, in fact, make themselves a general nuisance; but let those bees clean the combs out *gradually*, so that no more is left, and they will quiet down because they know that the sweets have been cleaned up and no more are to be had.

But the first day after the combs have been exposed, the bees will be all excited; and the first hour or two, especially after they have discovered the sweet, if you open up the hives you will probably be pestered with robbers. Why? Because not all the bees have learned the source of the honey. By some means of communication the fact is published to all the bees that a "find" has been made, but its exact location must be discovered by each bee. There will be a general hunt, and the first hive that is opened will be the object of their attack. And why not? They know that *some* bees are getting something good, and they naturally suppose that this is the source. Before we open another hive we will wait till the next day, and we may then expose some more combs. All the bees by that time have learned where the sweets are to be obtained, and they will go there and nowhere else. A veteran bee-keeper explained to me that he makes a regular practice, after the honey season, of exposing combs (which he desired to have cleaned up) hung on the siding of his buildings surrounding his bee-yards. He emphasized the importance of putting out *enough* combs so the bees could *all* help themselves.

Lest the reader may not have discovered it, I will explain that the two important requisites to outdoor feeding, in my mind, are, first, putting out a lot of feed in some definite place where the bees have learned to go to it, and keep up this feeding on every day when the hives were to be opened. The busybody robbers will all be drawn to the feeders, while you, in the mean time, can work your hives just as you would during the honey-flow. These would-be robbers know that food is to be obtained, and they go right where they have been in the habit of getting it, that is, to the feeders, leaving the exposed combs unnoticed. Our boys have learned by experience that, when robbers get to be a nuisance, they can stop this annoying pilfering almost entirely by starting a large outdoor feeder going a few yards from the apiary. Just as soon as the bees have learned there is something to be had they will desert everything for the feeder.

So far I have, perhaps, given the impression that outdoor feeding has the only merit of stopping robbing. This is a small part of the entire benefit. Brood rearing is stimulated; syrup is stored in the combs preparatory to winter; and the result is, the colonies are in prime condition, and ready for the cold that follows. There is no fussing with small feeders, for the work can all be handled outdoors with two or three large feeders. Just before the feeding finally stops, the apiarist goes through his hives and finds which have enough, and which have enough and to spare. Sealed combs are taken from these latter and given to those which have not enough; and the result is that such a colony in the yard receives a supply sufficient for its needs. *Gleanings.*

## INDIAN BEESWAX.

"A recent *Agricultural Ledger* contains a valuable article on Indian beeswax and its sources, preparation, trade, and competition. It seems that in India the industry, especially as regards the honey and wax, is chiefly in the hands of almost wild tribes, and the wax is refined by very primitive methods, without any special regard to appearances. Indian beeswax is procurable in large quantities and the trade, which has remained almost stationary for the past twenty years

is capable of great expansion. As an encouragement, we have before us the example of the West Indies, where much attention has latterly been given to the subject of apiculture, with very successful results. During the ten years from 1888-89 the value of beeswax exported has increased from £4,823 to £10,359 from the West Indies. The wax sent to the London market is of a very high quality, and good prices are consequently realised. In India the methods adopted are extremely primitive, and although varying in detail are much the same throughout the country. The Godavery and Kistna districts afford large quantities. Collectors are let down the rocks with a basket lined with wax, brushwood, and a knife. When they reach a comb they cut away the under part containing the larvæ without disturbing the bees. They then light the brushwood to drive the bees off, cut off the upper portion of the comb, and put it in the wax-lined basket. In Canara large collections are made, and it is curious that the Chinchu tribes, who are in other ways cowardly and apathetic, display much courage in venturing into apparently inaccessible and dangerous places. Coimbatore and the Nilgiri Hills are also large centres of the trade. In Burma the Chins are particularly energetic in collecting from March to May, and an interesting custom prevails by which each man has a recognised claim to collect over a certain locality. This claim he inherits from his ancestors, and on his death the privilege descends to one of his children. A curious ceremony is performed in the Kabaw Valley, Upper Chindwin District, by certain associated villagers when the flowering takes place. The villagers build bamboo-hives near their villages, and after having made offerings to their *Nats* (wood demons, Dryads) they, after having themselves gone through a complicated ritual accompanied with songs sung in the Kadu dialect of the Shan language, invite the bees to swarm; the Shans at the same time make as much noise as possible by striking tortoise-shells with a stick made from a fresh-water cat-fish (dried in the sun until it is like a bone *Nga-yan*). They then leave the hives, visiting them now and then to see if the bees have swarmed, and going through the rite again on any sign of a swarm. If swarming follows, they eat the resulting honey. This festival coincides with the flowering cycle of the *Mayans*, a species of Strobilanthes, shrubs of which genus are known to blossom at regular intervals in hilly regions of Southern India as well as Burma.—*Bee-keepers' Record.*

## COMB HONEY.

In producing comb honey, if we give a super of brand-new sections with full sheets of foundation to a colony of bees at the approach of the honey season, likely enough they will sulk, or at the best do only a little work in the sections, and then swarm. To overcome partly this tendency in the bees not to go above probably the majority use "bait sections," dirty things of the previous season's use. The honey in these dirty sections is always of an inferior quality. The argument that is usually presented in favour of their use is that they cause the bees to enter the sections so much more readily that really they do not cost the producer anything---that we get just as much or more honey, exclusive of the bait sections, so the bait sections really cost us nothing; but I think most of them eventually find their way on the market, though, and I am sure these bait sections do not help the market any, and are quite likely to cause less consumption of comb honey.

Perhaps the next most marked system is that of giving each colony a shallow super of drawn comb to start them above. After they are well started the drawn-comb super is removed and a super of clean new sections with full sheets of foundation is substitued. The bees being

used to working above do not hesitate about going into the sections when substituted for the combs.

## SOMETHING ABOUT SECTIONS.

"When I first began bee-keeping, comb honey was not put up as at the present day, as a part of the boxes used were made to hold 15 to 20 pounds as you have just said, while the smallest boxes then made in this locality held fully six pounds. Some of these had glass sides, while others had only a small piece of glass over an auger hole, so that the owner of the bees could see through this glass to tell when the combs were completed, or when the honey was ready to take off. As time passed on, the thought originated in some enterprising bee-keeper's head that honey would sell better if stored in smaller boxes than those weighing six pounds, so we soon had the four pound glass box, having four corner-posts and glass on all four sides. These were very tasty, and took well in the market, as the customer could see the honey on all four sides, the same being very attractive and captivating to all who saw it. But bee-keepers were not content, so that the next we had was the Harbisah box, or one holding three pounds, the same having glass on two sides. The box was used the same as its predecessors had been; namely, with the glass sides separating each other from all others, while it was made long enough to hold only one comb, which was 2¼ inches thick when completed.

"With this box I had very little success, for the bees seemed very loth to work in it; and when they did so they would often try to put in three combs, which made it in very poor shape for market. For this reason I decided that it was not in accord with 'nature' for the bees to be cut up in such little clusters (as the boxes were glassed before placing in the hive) and have their combs as thick as 2¼ inches. Consequently I went back to the six pound box again, and left the matter of small boxes to others."

When the two pound section with separators was introduced (these were the first sections in reality), I considered them as being still worse than any preceding them, for it seemed to me that the bees were divided into still smaller clusters than before. One night while lying awake thinking on the subject I believed that I saw a difference between this way of using boxes and the old way, where glass was used on both sides of the box; for in using separators the bees were not, properly speaking, divided into little clusters as before. Why not? Because, as the seperators lacked ¼ inch of coming within reach of either the top or the bottom of the box, the bees and warmed air could pass from one to the other, to a certain extent, just the same as if no tin were there. But I feared that the tin would be a hindrance after all, so I went slowly the first year. The result tried was greater than from hives worked in the old way, on an average; but as I used only a few hives I feared I was not sure in the matter, so I tried only about double the number of the year before, the season following, working the rest of the apiary with the six-pound box as before. At the end of that season I found that the sections with separators gave me the largest yield again, and the combs in these sections were simply perfect, and sold in market for two to three cents per pound more than did the six-pound boxes. I still had fears in the matter, so the next year I worked about half each way; but when fall came, and I found that sections were still ahead as to yield, and the same as to price, I could hesitate no longer, and adopted sections entirely for the future. The bees worked as well in the one-pound section with separators as with the two! But I was very loath to make this change not so much on account of fearing that the bees would not do as great work in them as because this change would very nearly, if not quite, double the work of

getting a thousand pounds of honey ready for market as was required with the two pound sections. There was double the number to make, handle, scrape and propolis and crate; and I never could see aught but a mistake, on the part of bee-keepers, in rushing into these one-pound sections in advance of any call for the same for the consumer. It was simply a matter of seeing to how much greater an extreme one could run than his predecessor. And this craze went so far that some put forth a half-pound section, and cried "Eureka" over it. Mind you, the bee-keepers were doing this—making themselves four times the work of the past, that one could get a little ahead of the other on a small sized section, without a single consumer asking them to go into such folly of quadrupling their work. This has always been one of the wonders to me. The half-pound sections did not come into general use. The bees "kicked" against being cut up into quite so small clusters, and would not work to so good advantage as in the pound-section, and so all seemed to settle down on the latter; and after the consumer got used to these small pound sections the call for two-pound sections ceased although there were some in New York city that called for the latter sometime after they ceased to appear in the market. If the bees kicked on the half-pound why not on the pound and on the two-pound, to a proportional extent? It would seem that they should: but from practice I find that, so far as the yield of honey is concerned, as much can be produced in these smaller sections as in any thing larger. I still use tin separators. The claim is made that fences are better. Yes. Theory argues along the same that you are doing, that all the 'traps' used in modern bee-keeping are a hindrance to the bees; and so the fences have been put forward to overcome this partially, by allowing the bees to pass through between the boards, and thus allow of a greater circulation of heat and bees than was possible with the old whole-tin separator. If it did, the Betsinger arrangement, with wire cloth having meshes of a size to admit bees freely, used as separators, should as far surpass the fences as daylight does moonlight: but after a thorough trial of both, I can not see enough in favour of either, over and above my old tin separator, which have been in use since the latter seventies, to pay for an exchange. Yea, more, I can not see a particle of difference as to the yield, perfect capping or perfect filling, in favour of either, when mixed up in any super on the same colony, or under like circumstances with like colonies. If a colony is in good condition to produce fancy comb honey with one of the plans, it will produce equally nice with either plan. But I am well aware that theory and reasoning from man's standpoint, would say that the greatest success would be given where the wire cloth was used, as with this the bees are inconvenienced apparently little, if any, more than they were in the days of our fathers with their 25-pound box. When the queen excluding honey-boards first come before the public I tried them slowly, as I did the sections with separators, using more and more each year, till, so far as I am able to see, I can say that, with me, and in my locality, they do not decrease my crop of comb honey. But I am not speaking for others, only to advise them to do as I have done in testing the matter, if they think there is a chance that, in their locality, these would not work the same. The old saying, "Prove all things, hold fast that which is good," is as valuable to you as to anyone, and as good to-day as it ever was; and if you have doubts in this matter, this is the thing for you to do. However, he who can commence where the best bee-keepers of to-day leave off has the advantage of those who have gone all the way proving these things for themselves—at least their financial success may be greater.—Doolittle in *Progressive Beekeeper*.

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Bee have a great liking for salt water

## N.S.W. Bee-Farmers' Association.

Mr. Colbourne says in the *Poultry Journal*:

I am sorry to note that there are a few who appear to be doing all they can to cause discord in the Bee Farmers' Association. The rules as they stand appear to me to be as nearly perfect as it is possible to make them. The sore point with the discontented ones would appear to be the voting by proxy, what appears to annoy them is that so many entrust the Secretary with their proxies. If those who complain would only take time to think they must see that no one could trust anyone with their proxies unless they were certain that they could trust the man to whom they sent them. I for one knew that they are perfectly right in their choice, as, who in Australia has done so much for the well-fare of bee-keepers as Mr. Tipper. There is not the least doubt in anyones mind but what he has lost money by taking the stand that he has, as, had he boomed the bees business, no doubt many more would have gone into it and have become subscribers to his paper, and the supply-dealers would have filled his pages with advertisements. Therefore it is the duty of every beekeeper to support the Bee-Farmers' Association, and by all means see that the proxy voting is retained.

The Bee Farmers' Association backed up by the Bee Bulletin has done good work in the past, and I feel sure it will do more in the future.

## WAX.

As stated in our last issue we have lost two-thirds of our bees through the abnormal cold spells, and so have a goodly number of empty hives, with frames full of comb, many of them having also honey in them. We have two lads at work cutting wax out of the frames. What we call dry wax—that is, with no honey in them—we sew in cheap thin hessian bags. The thinner the better to enable the wax to well escape. Put in a copper with water and boil well. Then, when well melted, with a good boiler still, twist the bag and let liquid drain, then put quickly into the tin frame with perforations belonging to Mr. Penberthys press; put under screw, and apply pressure. The liquid flows at once into a tub placed for its reception. Every atom of wax is pressed out, and a solid cake of slum gum only is left. With combs containing honey we use our steam and solar apparatus.

The heat in the steam chamber underneath the tray containing the combs, and the heat of the sun on the glass above soon reduces the comb to wax and honey in the receiver, the former forming a nice cake on top of the honey.

## THE TOBACCO INDUSTRY AND GLUCOSE.

Willow Tree,
Nov. 18, 1905.

J. Perry, Esq., M.L.A.

Dear Sir,—Just heard that there is a Select Committee of the Senate being held in Sydney on the Tobacco Monopoly. Could you kindly transmit the enclosed communication to them at earliest.—I am, dear Sir, yours truly,

E. TIPPER.

Nov. 22nd, 1905.

E. Tipper, Esq.,
Willow Tree.

Dear Sir,—Yours to hand. The Committee have left Sydney, but I will send your letter to them to-day. I did not get your letter till to-day.

Yours truly,
JOHN PERRY.

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To the Gentlemen of the Commonwealth Senate on the Tobacco Monopoly.

Sir,—I would respectfully call your attention that the introduction of Glucose, duty free, into Australia, is a serious injury to the Honey Industry, the cheap imported glucose being used in preference to honey raised in the colonies Not only does it compete with honey in the Tobacco Industry, but unprincipled persons will be blending the cheap glucose with honey to the injury of the honey industry, and also the public health, the

production of glucose necessitating the use of both arsenic and sulphuric acid.

Trusting hon. gentleman will take these facts into consideration, I have the honour to be, yours very respectfully,

E. TIPPER,

Hon. Sec. N. S. W. Bee Farmers' Association.

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Ingleburn, Nov. 22, 1905.

Dear Mr. Tipper.

I received your post card this morning, telling me you could not attend the Senate Committee. I also see by to-day's issue of the *S. M. Herald* that the Committee has adjourned *sine die*. It is much to be regretted that we had not time to take some concerted action to enable us to place our case before it. But still the Queensland men may be able to do something in the matter. Going over the whole question, I do not think the said Committee can do much to alter things. The Tariff Commission, which is now sitting in Adelaide, would be the body to go to, so far as recommending a tax on glucose is concerned, and the Senate Committee so far as the impropriety of using Glucose. I see by the "Herald" that W. H. Wicks, in his evidence, says that "nothing was used in the factory until experts had certified as to its harmless character." Glucose is to a certain extent harmless, but when used constantly, induces diabetes, and to meet Mr. Wick's assertion, we would want an expert's opinion on statement as to the constituents of Glucose, and the effect of its continuous use as a smoker uses it. On this point we are, of course, too late in N.S.W., but it might be done in some of the other colonies, if the Committee goes further than Sydney.

It should be shown to the Tariff Commission that we used to get 4d, 5d and 6d per lb for honey, while recently we were getting 1½d and 2d per lb. The Trust and Tobacco manufacturers could use our darker honeys and let us get a fair price for better kinds. A neighbour of mine told me that he had been in Sussex Street the day he spoke to me, and said he was offered good honey, granulated, at 5s per 60lb. tin, and that he could have had a cartload of it at that price if he would take it. If we could get rid of the glut we would get better prices generally for our honey.

I don't know the price of Glucose now, but several years ago it was imported at 3 4 per lb.

Yours truly,

T. H. BRADLEY.

Messrs. Prescott, Limited, of Sydney, writes under date November 28th. 1905:

HONEY.—With shorter supplies the market has improved, and 3d per lb. is now obtainable for really choice quality. Medium and inferior lots are still dull of sale from 1¾d to 2¼d per lb. BEESWAX.—In good demand; selling freely at 1/1 to 1/2 per lb.

The W.A. Beekeepers' are endeavouring to form a Co-operative Union. They talk of getting 2000 shares sold.

Honey should always be stored in a warm and dry place.

If any colonies have died in the winter leaving a hive with combs in unoccupied, such hives should be closed so as to exclude robbers or the combs should be taken out and stored in a safe place secure from robbers. The doors and windows of the honey houses should not be left opened any more than necessary for even if the screens are closed to keep the bees from entering they still get a scent of the combs and honey within and will persist in hanging around the scree door waiting for an opportunity to dodge in.

A Cuban beekeeper, writing to the *American Beekeeper*, says—"The honey producing business here becomes daily less encouraging, as, when good crops are secured, prices are so low that there is no profit in it for the producer; and higher prices are quoted only when there is but little or nothing to market. Last year when we had a good crop, we could get but 26 cents per gallon, Spanish gold, and this year, with but a meagre harvest, the price is up to 37 cents."

When they once get a taste of honey from a neighbouring hive they will spend a great deal of time in flying around that hive; watching for a chance to dodge in and steal a load, rather than go to the fields for it. We should therefore use every precaution to prevent them from getting a start at robbing. In working with the bees we should as far as possible keep the bees from getting a taste of the honey of the hive or colony over which we are working.

## PRICES OF HONEY.

*Maitland Mercury.*—Honey, 1½d to 2d. per lb. Small tins 1/9 to 2/-.

*Melbourne Leader.*—Honey, Prime clear garden honey is selling at up 3d., medium and cloudy lots going at from 2d to 2¾d. Beeswax—Prime samples are quoted at from 1/1 to 1/1½, down to 1/- being accepted for more or less discolored lines.

*Melbourne Australasian.*—Honey. Prime clear in good demand at 3d., medium, 2½d to 2¾d; inferior lower.

*S. M. Herald.*—Honey, 60lb tins, choice extracted 3½d, good 3d to 3¼d, candied 2¼d to 2¾d lb. Beeswax—Dark 1/1½, prime 1/2.

*Brisbane Paper.*—Honey, 1½d to 1¾d.

## HONEY.—

Since the advance of Butter to 11½d, there has been a better demand, and stocks are moving off more freely. Choicest quality is selling at 2¼d. and occasionally we can secure 2½d. in small lots. Dark and Candied lots are slow of sale from 1½d to 2d.

## BEESWAX.—

There is a splendid demand for this at present, and we have several orders unexecuted at 1/1 to 1/2.

# VICTORIAN.

## A Bill to amend the Land Acts.

Be it enacted by the King's Most Excellent Majesty by and with the advice and consent of the Legislative Council and the Legislative Assembly of Victoria in this present Parliament assembled and by the authority of the same as follows (that is to say):—

1. This Act may be cited as the *Land Act* 1905, and this Act and the *Land Act* 1901 (hereinafter called the Principal Act) and any Acts amending the same may be cited together as the Land Acts.

*Swamp or Reclaimed Lands.*

2. So far as regards any lease or perpetual lease or conditional purchase lease or contract of sale of any swamp or reclaimed land, where the Minister is of opinion that expenditure for substantial and permanent improvements to the extent mentioned in the condition set out in paragraph *(a)* of section one hundred and thirty-three of the Principal Act would not be advantageous or profitable the said condition may—

(*a*) in any lease or contract issued or made after the commencement of this Act be either omitted or modified as the Governor in Council may think fit; or

(*b*) in any lease or contract issued or made at any time before such commencement such condition may be either cancelled or modified by the Governor in Council and the said lease or cantract shall notwithstanding anything therein contained be read and construed accordingly.

*Village Communities.*

3. In section three hundred and sixteen of the Principal Act in the interpretation of the word "Cultivation," paragraph (1) relating to fencing is hereby repealed.

4. In section three hundred and twenty-two of the Principal Act at the end of paragraph (5) there shall be inserted the following words:—"and (*e*) within one year from the date of the lease shall fence the land with timber or other durable materials not being a brush fence."

5. The amendment made in section three hundred and twenty-two of the Principal Act by section thirty-four of the *Land Act* 1904 shall be deemed and taken to have come into operation at the same time as the Principal Act; and a like amendment in section ten of the *Settlement on Lands Act* 1893 shall as from the passingthere of be deemed to have been made in the said section ten.

*General.*

6. Notwithstanding anything contained in the Land Acts, after the value of any land selected or taken up under a license or lease containing conditions for payment of purchase money by means of instalments extending over any term has been determined the Minister may direct that a condition be inserted in the licence or lease providing that until the final instalment of purchase money is paid to the Crown, interest at the rate of four pounds ten shillings per centum per annum shall be charged to and paid by the licensees or lessees on such portion of the licence fees rent or purchase money as for the time being remains unpaid.

*Bee Farms.*

7. The licence of every site for a bee farm at any time granted by the Minister in pursuance of section one hundred and forty-seven of the Principal Act as amended by section sixteen of the *Land Act* 1904 shall be subject to the undermentioned provisions namely—

(*a*) No person company or firm shall hold more than two bee farm licenses, or a licence or licences for more than ten acres in the whole;

(*b*) Every licence should be issued for a period not exceeding one year, but during a period of seven years from the date of issue may be renewed by the Minister if he thinks fit from year to year by an indorsement on the back of the licence;

(*c*) The applicant for a license or renewal of a licence shall pay to the Minister in advance before the issue or renewal thereof such annual licence fee as the Minister may fix;

(*d*) A licensee may at his own risk erect any buildings or fences or make any improvements on his bee farm site, but shall remove the same whenever so directed by the Minister in writing without any compensation;

(*e*) No fence shall be erected on any bee farm site except on the boundary thereof nor unless the boundaries thereof are clearly defined by a survey approved by the Surveyor-General;

(*f*) No dog shall be kept or be allowed to remain on any bee farm site;

(*h*) The Minister may at any time cancel any bee farm licence in the event of it being proved to his satisfaction that the licensee has committed or permitted in connexion with the bee farm site a contravention of any of the provisions of this Act or of the terms or conditions of the licence;

(*g*) No licensee shall permit the careless use of fire on or near his bee farm site; and

(*h*) No bee farm site shall be transferred or sublet by the licensee without the previous consent in writing of the Minister.

8. Where a licence is issued for a bee farm site forming part of a pastoral leasehold or of a grazing area leasehold or of any land held under a grazing licence, possession of such site may if the Governor in Council thinks fit but not otherwise be at any time resumed by his Majesty on the licensee of the proposed site paying to the Minister all moneys payable by the Crown in respect of such resumption.

9. (1) Notwithstanding anything contained in any grazing area lease or pastoral lease or grazing license it shall not be lawful for the holder thereof unless he is also the holder of a bee farm licence to keep more than ten hives of bees on his holding.

(2) For every hive kept in contravention of this section such holder shall on conviction before a Court of Petty Sessions for a first offence be liable to a penalty not exceeding One pound and on conviction for a second or any subsequent offence be liable to a penalty of not less than Two Pounds or more than Five pounds for every hive kept in contravention of this section.

(3) If after a person has been convicted for a contravention of this section he fails within one month to reduce the number of his hives to ten than he shall be deemed to have again been guilty of a contravention of this section and shall be liable to be again convicted under this section accordingly.

10. The licensee of a bee farm site is hereby declared to be entitled without payment to a right of ingress egress and regress for himself and his family and his agents and workmen with or without horses or vehicles over and across any land held under any grazing area lease or pastoral lease or grazing licence between any such bee farm site and any public road or track.

*Bee Range Areas.*

11. (1) The Governor in Council may by proclamation published in the *Government Gazette* declare that any unalienated Crown land mentioned in such proclamation shall aotwithstanding anything contained in any Act be available for being licensed for the purpose of being used for bee range areas.

(2) In this section "unalienated Crown land" includes any land held under a grazing area lease or pastoral lease or annual grazing licence.

(3) The Governor in Council may at any time revoke any proclamation made under this section, and any such proclamation shall be published in the *Government Gazette*.

12. Subject to the undermentioned provisions and to such terms and conditions as the Minister think fit the Minister may grant a license of any land proclaimed as aforesaid for a bee range area—

(*a*) No person company or firm shall hold more than two bee range area licences ;

(*b*) Every bee range area licence shall be issued for a period not exceeding one year, but during a period of seven years from the date of issue may be renewed by the Minister if he thinks fit from year to year by an indorsement on the back of the licence ;

(*c*) A licensee shall pay to the Minister in advance before the issue or renewal of a bee range area licence an annual license fee to be fixed by the Minister of not less than one half-penny for each and every acre within one mile of the site of his apiary as specified in the license ;

(*d*) A bee range area license shall not be granted in respect of any apiary which is within two miles from the site of any other apiary in a licensed bee range area ;

(*e*) No bee range area shall be transferred or sublet by the licensee without the previous consent in writing of the Minister ; and

(*f*) The Minister may at any time cancel any bee range area license in the event of it being proved to his satisfaction that the licensee has committed or permitted in connection with the bee range area a contravention of any of the provisions of this Act or of the terms or conditions of the license.

13. (1) A bee range area license shall confer on the licensee a right to the use by his bees of any trees within one mile of the site of the apiary of such licenses. Such site shall be specified in the license.

(2) A bee range area license shall not confer on the licensee any right whatever to enter or remain on any Crown land or any land held by any other person under lease or license from the Crown.

14. In the event of a lessee of a grazing area or pastoral allotment applying to the board to sanction the ringing destroying or cutting down of any timber on any land within a bee range area, such application shall not be considered by the Board until after at least one month's notice in writing has been given to the licensee of the bee range area.

## THE REWITI HONEY POISONING CASE.

A case of honey poisoning recently occurred at the native settlement of Rewiti, near Helensville, six natives suffering ill effects, all of whom recovered, however, under the care of Dr. Morris, of Helensville. Mr. I. Hopkins, the Government Apiarist, who is very anxious to learn all he can on this subject, in order to make it public, and so prevent accidents in future, paid a visit to the district, where he interviewed all the natives who had eaten the honey, and was taken to the bee nest in the bush from which the deleterious honey had been secured. This was in a large hollow in a part of an old rata tree which had fallen apparently from age. The bees were still there, and Mr. Hopkins, by reaching into the hollow as far as he could, was able to secure some of the combs with a little honey in them, which he is sending to Wellington for examination. When questioned as to what plant or plants they thought the honey had been gathered from the natives seemed to have no clear idea, but Mr. Hopkins was enabled to enlighten them on that matter by pointing to the wharangi (Melicope Ternata), or pukapuka, growing in abundance in the district, and which was just going out of blossom.

One of the natives on the 11th inst, secured about 3 lbs of honey and comb, which he carried home, and himself with five other natives partook of about 2lbs of it for tea; the remainder was thrown away, as they seemed to be somewhat suspicious of it. About midnight the first ill-effects were felt by one native, and the rest began to suffer about breakfast time the next morning. One native described the symptoms as a kind of inward twitching and itching, with trembling and severe pains in abdomen and head and vomiting. All had completely recovered when Mr. Hopkins saw them.

Mr. Hopkins has no doubt that the honey which caused the trouble had been gathered from the wharangi shrub, but this is the first instance in which a case of poisoning by this honey has come directly under his notice. The wharangi blossoms in August and September, and its honey can only be dangerous to those who, as in the present case, rob wild bee nests at that time, as it could never get into the honey of commerce, which is not taken from the hives till about December at the earliest. Reference to Mr. T. Kirk's "Forest Flora of New Zealand" shows that the wharangi is found in all parts of the North Island, and in Marlborough in the South Island. It, however, grows most luxuriantly in the northern province of New Zealand. Mr. Hopkins advises very great caution in eating honey taken wild bee nests, especially those found north of Napier, and never to touch it when taken in early spring and autumn.—*N. Z. Farmer.*

## POLITICS IN THE APIARY

By Henry E. Horn.

Gov. Folk of Missouri, has veteod the foulbrood bill passed by the Legislature of his state because of the unreasonable power with which it invested the foulbrood inspector. Gov. Folk deserves the thanks to the bee-keepers of Missouri for his conscientious act, though that is about the last thing he is getting from some of them. The bill appears to have been partially copied after the California law, and as the actual working-out of the latter is by some of our bee-men feared more than foulbrood itself, the wisdom of Folk's veto may become manifest.

According to the provisions of choosing inspectors "made and provided" by our law the board of supervisors of a given county are authorized to appoint either by petition or free choice any one they may deem fit to the office of inspector. There is no test necessary to prove fitnness, no examination to show competency. The office carries a good salary, as do also the jobs of sub-inspectors, or deputies if each are appointed, as is usually the custom.

After being thus legally appointe the inspector, or his deputy, has the power to

enter any apiary and to make a lengthy examination of every colony of bees present, serving no notice of the impending invasion on the owner, nor leaving no report nor word of any kind behind him after departure. To him, the owner simply does not count. It would be strange indeed if under such conditions—keeping in mind the well nigh terrific pressure of universal competition for jobs on the one hand, and on the other the political debts elected county officers usually owe to petty politicians, and which are regularly paid off with public jobs and snaps—results fearful rather than beneficial did not follow in the wake of the march of the law through the apiary.

There are apiaries after apiaries that have been thus inspected and re-inspected without the owner ever knowing a thing about it except—for the damage done. As every competent beeman knows there are times, dry seasons, sudden cessation of nectar flow, requiring operations, when to open a hive means damage. But our inspectors pay no attention to any such little things as that. Mr. Brown, of West Riverside, told me one day last summer that he had three colonies robbed out just after the inspector had been at them. I myself lost two, and if I had not happened along just in time—the bees crazy and hunting for a half a mile around for something to sting—I probably would have lost twenty. But the inspector had made his point, i. e. "put in" two or three days of his otherwise probably idle time, and gained a claim against the county—what does he care whether the simpleton of a bee-keeper likes this vandalism or not?

But here is a worse feature. As Preuss discovered and Cheshire proved, foulbrood is caused by an almost infinitely small vegetable, or plant which, while in the seed or spore state floats about in the air, readily attaching itself to anything with which it may happen to come in contact. Hence the opening of a hive of diseased bee, taking out the frames, setting the hive atmosphere in rapid motion through the instrumentality of a vigorously applied smoker, cannot but cause the neighbourhood of that hive instantaneously to become thickly spore-infected in an ever widening circle. There is a chance that no harm may come from that to the rest of the hives but it's more likely that every one around will become spore invaded. Should, however, all danger from that source pass happily by the further activity of the inspector is well calculated to to give one the cold shivers. For, having shut up the first hive he goes, spore infested millionfold in clothes, skin, hair, breath, smoker, to the second hive and industriously, though ignorantly, sows and smears and glues bacillus alvei all through that, and then the next one, and so forth. And to-morrow he goes into a clean apiary mayhaps, but if it remains clean thereafter the credit will have to be given to the bees, or their keeper—certainly not to the inspector for disinfect he his clothes and person ever so thoroughly, bacillus alvei can stand several hours boiling in water, and our inspector cannot. Besides, how many are taking the pains, or are competent, to disinfect themselves properly.

Of course, though our foulbrood law would thus seem to bring about conditions diametrically opposite to those expected it may therefore not be without some virtue. The now for years rigorously conducted campaign of bee papers and supply houses to start everybody beekeeping, and to make everybody now keeping bees to "keep more bees" having logically brought on "the crisis" of a dull market for honey and low prices, the energetic sewing of foulbrood seed on the part of inspectors, and the consequent destruction of the thus infested colonies may reduce the number of them again to a normal level, and thus, also the supply of honey.—*American Beekeeper*.

## BEE NOTES.

By R. Shaw.

So far as honey gathering is concerned I think bee keeping will be a very easy occupation. There was a fair promise of a good season in Aug., but the cold spell

that followed soon after, not only settled the promise of a good season, but it also settled a large percentage of the bees. Colonies here are just beginning to work up as they usually do about mid July, in short the season is just about 4 months late. We may now have a short summer flow, with a possible small flow in the autumn. So far as bees are concerned, the season is almost as bad as was experienced during the drought.

In the spring of 1904, I had an unpleasant experience with bee paralysis. Three colonies had the complaint, one of which—the strongest in the bee-yard—appeared to have the most severe attack. I tried all the usual remedies, sulphur, salt, etc., but all to no effect; the bees simply rolled out of the hive in heaps, and lay on the ground to be shoveled up and destroyed every morning, the bottom board of hive also being covered with dead bees. Well, I remembered that some blame the queen, and suggest requeening, but she was the best Italian I had by honey results, and I decided to keep her if possible. From an exceedingly strong colony, it now was nothing but a mere handful of bees; still the queen was laying away strongly for a large colony. I then washed boxes and lids and bottoms with carbolic, and placed napthol-beta in the hive. Still the decimation continued.

I concluded that it must be the food that was causing the trouble, so I removed every frame containing honey or pollen from the hive, both brood chamber and super, washed boxes, tops and bottoms, with carbolic water, gave the colony four frames of sugar syrup (no honey in it), a frame of bees and brood from another colony, and in a few weeks that colony was as strong as before the trouble commenced. I am inclined to think that the trouble lay in the old honey, and not the queen; I still have the same queen, she is now 3 year old, and her colony is doing as well as any other in the yard. I treated the other two colonies with the same result. Perhaps I am wrong as to cause of the cure, some one more experienced may throw more light on the subject.

Pleased to see your efforts *re* B. F. A. receiving such report. As you had the right to use proxies at annual meeting according to the rules, in addition to the permission of the members sending them, I cannot see where the objectors had ground for complaint. If the rules did not satisfy any member, there was a proper course to adopt, instead of using abusing epithets such as, "monstrous, scandalous." It was just as possible for any other member present, to be the holder of a large number of proxies, so I fail to see where a member could be blamed for exercising a right which the rules permitted. Wishing you as much benefit as this multilated season will permit.

## FREIGHT ON HONEY.

A deputation from the W.A. Beekeepers' Association waited on the Chief Traffic Manager on the 4th October and brought under his notice certain portions of the new rate book which they claimed as anomalous. The President of the Association (Mr. Shipton), who introduced the deputation, said that honey should be carried from the produce centre to the metropolitan or other markets at Class B rates, with a minimum of 5 cwt. It was pointed out that at present honey could be forwarded at Class B rate with a minimum of 1 ton, or at Class 1, for which the producers had to pay more for 10cwt. than if they sent 1 ton at Class B. That was claimed as too much of a burden for the small bee-farmer. Mr. Short (who apologised for the unavoidable absence of the Commissioner) promised to bring the requests made under the notice of Mr. George, and forward a reply to the secretary of the association in due course.—*W.A. Farmers' Gazette.*

## MEAD.

3 lb or 4 lb pure honey to a gallon of water, to 24 lb such put 12 lb of hops, also a teaspoonful of powdered ginger and half as much allspice to each gallon.

Boil over a very slow fire till the whole is reduced one third. From the boiler empty into a large tub or barrel which must be deposited in a warm place during eight days to undergo fermentation. Afterwards filter through a wooden filter into a barrel, and place in a cellar for use. The older it is the better and stronger it becomes. After 12 months it may be bottled and kept for years.

## GLUCOSE.

INGLEBURN,
Nov. 7, 1905.

The Federal Government has recently published a list of articles which the Tobacco Trust is allowed to import free of duty. Glucose appear on the list. Formerly honey was used extensively in the manufacture of tobacco, and answered the purposes glucose does now. Honey was at that time 4d, 5d, and 6d per lb, and in the natural order of things had to give way to glucose, which was selling at 1½d per lb. Now that granulated honey—and nearly all the honey on the market is granulated—is selling at 1d per lb, is it fair to the beekeepers of the Commonwealth to allow this combine to import glucose from America, free of duty, when it can obtain a locally produced article which will answer its purpose equally as well, if indeed, not better, for honey is an absolutely pure, healthful, and innoxious product, and glucose a compound of poisons. The brewers had to give up the use of glucose in the manufacture of beer. Why? Should not the smokers and the beekeepers of the Commonwealth take up this question and ask for fair play?

T. F. BRADLEY.

To the Secretary Bee Farmers' Association N.S.W.

## The Nutrition of the Bee.

(Continued from last issue.)

VARIATIONS IN QUALITY OF POLLEN.

In order to prove how far there is a difference in the quality of the pollen from different plants, comparative analyses have recently been made in the laboratory of this Department.

Result of Analysis of samples of Pollen.

| Pollen from | Moisture | Nitrogen in water free substance | Equivalent to Protein. |
|---|---|---|---|
| Yellow box and Messmate | 23.50 p.c. | 3.56 p.c. | 22.25 p.c. |
| Blue Stringy Bark ... | 25.15 | 4.39 | 27.43 |
| Messmate ... | 20.80 | 4.29 | 26.81 |
| Black Wattle etc. | 24.25 | 3.87 | 24.18 |
| Cucumber | 20.17 | 3.66 | 22.87 |
| Flat Weed | 22.10 | 2.77 | 17.31 |

In the foregoing table the samples of pollen were obtained as pure as possible, the source being judged by the colour of the material in relation to the plants which were then in blossom. The percentage of nitrogen multiplied by 6¼ gives the percentage of protein. It will be seen that there are very marked variations, the richest specimen containing 60 per cent. more than the poorest. In order to obtain a clear idea of what this difference in percentage means, we may say that amongst the articles of human diet meat and bread stand in nearly the same relationship. The first is rich in protein, the second comparatively poor, and in order to build up the tissues of a rapidly-growing boy on the latter alone would entail the consumption of about one-half more food. Now, while the digestive system of all growing animals is, to a large extent, adaptable to the special variety of food consumed, there is no doubt that overloading the digestive system with food of wrong quality interferes with the health in two ways. The proper amount of protein, for example, is not supplied within a reasonable compass, and the excess of other material by interfering with the digestion tends to prevent the absorption of such protein as does happen to be present. Apply this to the case of the bee. We must remember that the nurse probably knows little about the proportion of pro-

tein present in the food of the larvæ. Probably she has some notion of the kind of food of which she is in search, and having obtained as satisfactory an approximation of this food as possible, she uses all her energies to get the larvæ to consume as much of it as possible. It appears, therefore, that the rational method of insuring the health of a brood of bees involves a fairly definite knowledge of the chemical composition of the food of the larvæ. If pollen is not available, eithes in proper quantity or quality, some substitute must be found for it. The worker uses little pollen herself for food—experiments having shown that she is able to build comb and remain quite healthy and contented on a diet of only pure sugar and water. Unless pollen or similar material is available, however, they do not think of rearing the larvæ. The flour or meal of many kinds of grain is used for this purpose. The favourite substitute for pollen in America seems to be rye, and it is said that the bees may be left to take care of themselves as far as the quantity consumed is concerned. Ordinary wheaten flour is said by American observers to cake into so hard a mass that it is difficult for the bees to make use of it later on in the season. Pea or bean-meal contains a much larger percentage of nitrogen than either ground barley, rye, or wheat, but I am not aware if it has been successfully used for this purpose. A friend at Orbost informs me that he has successfully fed the bees with a mixture of sugar and the white of an egg; the white of the egg constituting about 5 per cent. of the mixture. This form of albumin is very readily dissolved and assimilated, and when mixed with so large a percentage of sugar it has no tendency to undergo putrefaction. Various kinds of meat and other animal matter contain much larger percentages of albumin, but the practical difficulty seems to be to supply these to the bees in a form which is free from the danger of decomposition without at the same time becoming too dry. Instances quoted in the text-books on bee-keeping, of bees patronising cheese crumbs, dead insects, and even roast chicken, all indicate the influence of the instinct for nitrogenous material. I am not prepared to offer any opinion on the best practical method of supplying a substitute, but provided it can be done without injuring the health of the workers, I think there can be no doubt about its importance for the nutrition of the larvæ.

### RELATION OF VITALITY TO DISEASE.

Two of the main causes of disease are—(1) Inherent weakness due to some defect in the development of the individual; and (2) invasion from without. In the latter case micro-organisms of some kind are concerned; but what I want to draw attention to particularly is the relationship between the inherent weakness of constitution and the effect of the micro-organism. Take for instance, the case of foul-brood. When the *Bacillus alvei* was first discovered it was supposed that it was the sole cause of the disease; in other words, that this bacillus, if it once entered into a hive, was certain to cause the disease, while on the other hand, unless the bacillus was present the hive would be free of foul-brood. Further study has, however, shown that the matter is more complex. It is true there is no foul-brood without the *Bacillus alvei*, but on the other hand, the bacillus requires to have favorable surroundings in order to enable it to produce the disease. Among disease-producing bacteria it is found that there are great variations in the virulence, not only of different organisms, but of the same organism under different circumstances; in fact, the virulence of the organism seems to be an unusual development of its activities, and unless circumstances are specially favorable for its exercising these powers, its degree of virulence rapidly dies out. The favourable circumstances cannot as yet be fully enumerated; but, amongst other things, we know that feeble vitality on the part of the living cell which is attacked is one of the most important. The *Bacillus alvei* itself is an organism of comparatively little virulence. It is so closely related to one

of the ordinary non-pathogenic soil bacteria that the two are looked upon by most bacteriologists as being identical. It requires to have favorable conditions before it can start its growth, and these conditions are furnished by enfeebled activity on the part of the bee at some stage of its development. It is impossible to keep hives free from bacteria and many other kinds of micro-organisms. Bees are continually picking them up on their feet when they alight on any damp ground. They become more or less covered with the spores of moulds and other lowly vegetable organisms from frequenting flowers and other parts of plants in their search for food. However cleanly the bee may be in its habits, it is impossible for it to remove all the micro-organisms which are adherent to the outside of its body, and hence the interior of the hive always contains bacteria, mould, and spores of many of the lower orders of plants. The reason why these intruders do not grow and over-run the whole of the hive is explained by the fact that neither honey, pollen nor wax are favorable for the growth of such lowly vegetable forms of life. When, however, it happens that the more highly nitrogenous parts of the interior of the hive are less resistant than usual, the conditions for the growth of bacteria become favorable, and under these circumstances the *Bacillus alvei* and other bacteria begin rapidly to flourish. All bacteria are able to accomodate themselves, to a greater or less extent, to the conditions of their surroundings, and when they once begin to grow and flourish the generations which succeed each other with marvellous rapidity become more and more at home in any given surroundings. In the laboratory we know that it is often difficult at first to cultivate a micro-organism which is being isolated from diseased tissue, but once growth begins it is usually possible to make it gradually accustomed to artificial cultivation, and the resultant growth becomes more and more vigorous. The same holds good for the interior of the hive. Suppose the egg and larva are of diminished vitality, so that they are less capable than normal of resisting the bacterial invasion, it follows that the invasion becomes more and more presistent, and the results correspondingly disastrous. When the disease has once become established in this way the bacilli themselves become more accustomed to growing in the living tissue, and the longer they continue to grow in this situation the easier it is for them to do so In other words, the virulence of the organism is increased. If some of the organisms which have thus increased in virulence are transferred into another hive, they may be able to set up the disease there. Whether they will do so or not depends, as before, upon two factors, namely, the relation between the virulence of the organism and the resisting power of the tissues of the eggs and larvæ. These considerations hold, I think, for all the micro-organisms which have been found to affect the hive. In addition to the *Bacillus alvei*, the ordinary blue mould (*Penicillium glaucum*), the white mould (*Aspergillus pollini*), and the different bacteria which have been discovered in cases of black-brood are all organisms of little or no initial virulence. They are only able to produce disease when they have been growing after a time in circumstances favorable for the development of this function, and amongst these circumstances I am inclined to attribute the chief part of the diminished resisting power of the larva. When it is remembered how favorable our climate is for the life of the bee—the bright sunshine and the mild weather in winter—it will be seen that we have not to contend with the same difficulties as are present in more severe climates. This brings us back to the original statement at the opening of this address. The life of the bee is dependent upon two kinds of food. Granted a sufficiency of these, and the inheritance of an average constitution from the queen, there seems no reason why our bees should not be remarkably healthy and vigorous. The part which the nitrogenous material takes in building up the living tissues is all important. Unless the tissues have been properly nour-

ished with a proper supply of protein, they are certain to be enfeebled, and since the working bee depends upon the food which has been supplied to it while in the larval condition, having no resources of its own to make good any deficiency which it had to meet at that period of its life, it follows that the supply of protein is proportionately much more important for the insect in the early stage of its existance than it is for the young of the higher animals. While insects are in many respects, as highly advanced and specialized as the mammalians, they are vastly inferior in the fact that no provision is made for the continued development of the adult individual. The chief business of the imago seems to be to prepare for the perpetuation of the species and the nutrition of the young. It is the development of a more elaborate system of organs for assimilation and excretion in the higher animals which gives them their vast superiority, because the wear and tear of the living tissues can thus be made good, and the waste products removed. With the insect, once the original working tissue is worn out, the individual dies. Hence the importance of starting the young bees with a good supply of the proteid material essential to form good active working tissues; and in view of the marked variations which exist with regard to the chemical composition of pollen, I think there is no more important point to which the bee-keeper can turn his attention than the question of the proper nutrition of the larva.

## CORRESPONDENCE.

R. S., Parkes.—When I wrote you last, I enclosed a question. The question was: Has any reader grown mignonette as a bee fodder, on a large scale, say one acre, and with what result.

Can any of our readers reply to this question?

E. B., Gouldsville.—Would you be good enough to give me a little information about making honey-beer, how much pure honey would be needed per gallon of water? about how much hops per gallon, and would there be anything needed besides the hops in making? would it be advisable to make in an open cask, and when done working skim well and cover up cask close and leave in the cask. [See page 173, "Mead"—Ed.]

E. D., Drake.—I am posting some time photo of my apairy of 225 colonies, but it don't show all. Hope you will receive it safely. Having a dry time here at present, no rain of any good since last March. Last season was good; I took 15 ton of honey, and had to leave all my hives full. This will be an off year here. I have disposed of all my honey at satisfactory prices. I have never saw in the A.B.B. what I use for the smoker, that is, grass tree, it gives good smoke, and once lit will never go out. It takes a long time to dry, six months at least. If chopped in block will dry quick, but will not be so good if it grows in your district. Try it. If stunted is much better worth going long distance for. Hoping you have a good season, and wishing you and your paper every success.

Mr. H. L. Jones writes: Am sorry that things are so bad in the bee line your way, and I'm sure it will be no consolation to you to learn that conditions are the same here. One large beekeeper on the Downs has just written me that he has lost 80 colonies. Honey certainly should be a good price next winter, as very little will be harvested this season. It will now be a survival of the fittest. Trusting that better times are in store for all of us, and with kindest regards.

W. Reid, sen., Paupong, via Cooma, writes: I note by last issue of A.B.B. that losses in bees has been exceptionally heavy this spring. There is evidently no race of bees better to build up quick than the Cyprian race. My bees are exceptionally strong. There is but poor

hopes of a big honey flow here this being our off year. I have just met a friend from Deep Water, near Wagga, who states that trees there are loaded down with blossom. We have just passed through one of the coldest of springs witnessed for many years. I note in your October number of the A.B.B., page 138, you state that the so-called Blue Martins troubled you on October 16. We are troubled every year with them. They made their appearance here for the first time this spring. I think they are somewhat later this spring, perhaps owing to the very late cold spring. If my memory serves me right they leave us early in February. They burrow into soft ground, build their nests, and so breed up. This bird is only seen in the very warmer parts of our Monro district. Watch them enter their burrows, walk up soft and break the entrance in, and so follow them until caught, or blaze into them with a shot gun on their first appearance. Do not wait for them to destroy thousands of your bees, which they soon will do. There is more destruction in them than beekeepers think.

R. Beuhne, Tooborac, Victoria:—I am sorry to learn from last issue that your bees have fared badly. You attribute the loss to the breeding in August, and subsequent cold weather. Your correspondent, P. M. Hawly, in the same issue on the other hand thinks absence of breeding is the cause. That seems contradictory, and yet you may both be right in so far that in each case it was a contributing factor, but not itself sufficient to cause the loss. I also have lost heavily at the out apiary but not at the home apiary, the two apiaries are only about 4 miles apart in an air line, and a very slight difference in elevation only. The same strains of bees, same hives, same management, they were wintered in three different ways in both places that is some shut down snug on only the combs they could cover, some with the brood chamber on top of the super and others with the super left on top. Fifty of the colonies at the out apiary were shifted there only in December from the home apiary, and four were brought home from the out apiary in April. They went into winter in about the same strength in both places, but at the out apiary hives were much better stored than at the home. Breeding commenced at the same time in both places in August, the weather and every thing else was the same. By the first week in September the home apiary was well in advance. First week in October home apiary progressing well, out apiary disappearing. Third week in November out apiary 60 stocks completely gone with honey and pollen left, the remaining 90 having from a few ounces up to 11b of bees, 6 with about 3 lbs of bees each. At the home apiary (same week) colonies were generally strong (considering the lateness of spring), having from 4 to 14 combs of brood, averaging about 7 per colony. None disappeared except the four brought in from the out apiary in April. At each of the intervals named I examined every colony at both places, comb by comb. There was no income of honey at either place till a few days ago and no pollen to speak of till end of October. So the breeding up at home, and the disappearing at the out apiary were both on winter stores. At the home apiary everything was consumed during the last comb spell and I only prevented disaster by giving them a few round sections each. At the out apiary there are still plenty of winter stores but very few bees. I am making quite a number of experiments, exchanging stores and bees between the two apiaries. Several other beekeepers near the out apiary have lost heavily, while others near the "home" have had no disappearing. This refers to frame and box hives, Italian and Black bees in both cases.

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You can not produce comb honey with a short but profuse flow. The shorter and more profuse the flow of honey the larger the hive-body, and *vice versa*, the longer and steadier the flow of honey the smaller the hive body.

## THE BLUE BLOCKER.

(Recited by Mr. Edward Fraser at the late Farmers' Convention, and published at the request of a very large number of those who heard the recital. Mr. Fraser, however, does not claim that he is the author of the piece.)

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Yes, they mean to lease the Blue Blocks, that's the latest fad they've got;
There's nothing like a Blue Block for a man that's off his dot;
For the Minister says, smiling, with a countenance so bland,
That he's going to settle every mother's son upon the land.

They will happy be in future, they will all be free from care;
He will give them nice selections fifty miles from anywhere.
Where the stock will never perish for the want of ample grub,
For if the ti-tree fails, why, there's honey-suckle scrub!

They will never want for water, though in reservoirs not held—
It is flowing down that God-forsaken gutter called Grenelg.
And the sturdy Blue Block squatter, he can live on Blue Block stews,
That's a dish that's manufacured from the tails of kangaroos;

And the way it's manufactured, each Blue Blocker understands,
He must give the skimmings of the pot to the Minister of Lands.
For the Minister has told him, he is sure to make his pile,
And will lease him land that wouldn't feed a 'possum to the mile.

He will money have in future, he will ne'er be short of grub;
He'll have plenty occupation chasing wombats in the scrub;
Fifty miles from any market! fifty miles from any town!
Yes, it is a pretty prospect, pretty place to settle down!

But he'll some day have a railway, yes, they'll run a railway through;
That's a thing that's sure be happen—in a hundred years or two.
And the terms are nice and easy, and he'll let them ring the trees,
Thereby spoiling pasture, Nature meant for feeding bees.

It is free from strife and trouble, it's a quiet place to live,
It don't require a fortune—only all that he can give.
If he hasn't got the money, he can sell his pots and pans,
And thereby raise a sub. with which to pay the Minister of Lands.

It's free from all temptation, he will never see a pub,
He'll have any amount of frolic, chasing emus in the scrub;
And then there's that great prospect kind Providence has sent,
Cutting sleepers in the bush to sell to Tommy Bent.

He can cut away at sleepers, till his axe it gets the gout,
But he'll never find a carrier to cart the sleepers out.
And if his prospects vanish, well, there isn't any harm,
He's only got to make his will and start a Bunyip farm.

A better place for Bunyips the world has ne'er beheld,
The're roaming up and down all night, on the banks of the Glenelg.
And some day when a millionare and to charity inclined,
He can build a sanatorium for porcupines that's blind.

And so he thinks he'll take it, its ahead of Mallee sands;
So he tackles it, and says a prayer for the Minister of Lands.
He's settled on his Blue Block, and his prospects pretty bad,
For the big flood on the river drowned the last few sheep he had.

They had dwindled down to fifty, and were doing pretty right,
Only for the blooming river flowing over them one night.
He awakened in the morning, and a dismal sight beheld—
He found his little flock had all eloped with the Glenelg.

But he never grew disheartened, though half starved for want of grub,
Till he saw his neighbor flying wildly through the scrub,
With his hair and whiskers streaming, in his eyes a vacant stare,
And he roared as he was going "I'm bound for anywhere!"

So at last he thought h'ed chuck it, or he might
go mad as well,
So he packed his earthly chattels and left his
little hell.
He shouldered high his bluey, and made for
foreign strands;
He jumped upon his hat, and cursed — the
Minister of Lands.

## CAPPINGS.

PUBLICATION RECEIVED.—"The Magistrate," a neat well got-up and exceedingly interesting—to those for whom its circulation is intended—publication.

Another precaution, that I was a long time discovering, is the necessity of doing the work in a warm room, for the best results. In cooling, the wax shrinks considerably. If left to cool too much on the press, where the sheet is held in place, innumerable almost microscopic cracks occur over the whole sheet and render it exceedingly brittle. If the sheet is taken up while soft, and can then shrink freely, the shrinkage takes place as a whole without causing any crack.

I am keeping bee now mainly for revenue. But just as I have gotten the business up where there ought to be considerable revenue in it, the revenue has fallen out of the business. The bee-supply makers and dealers, the commission men and the railroads, get the revenue. I work for nothing and board myself. What am I going to do about it?—*Exchange.*

I have satisfied myself that the queen's attitude governs her reception, and it is logical to assume that the same law applies to the workers. If a worker possesses senses so keen as to guide her from the fields to her home and direct her in so many, to us, intricate and obscure labours, it is quite reasonable to assume that these same acute senses quickly acquaint her with the presence of strange or unfamilar surroundings, whereupon she is instantly upon her guard. Her actions then govern her reception.

California will go on record this year as having harvested one of heaviest crops of honey yet produced.—*Western Bee Journal.*

Manipulation which has an "eye" towards the securing of the maximum number of bees on hand just in time for the main honey harvest, counts anything towards the successful production of honey.

The past honey season in Ireland has been an out and out good one.

Now-a-days neither clothes nor honey boards are used as much as formerly.

We are practicing the duel plan of introducing, every day. There may be two virgins in the hive at once, one caged and the other out. When the latter begins laying she is taken out and sold, when virgin No. 2 is released and ready to take her flight. When she begins to lay, No. 3 takes the place of No. 2, and so on This duel plan of introducing would not be possible except that both queens have the colony odour, or have during the time of caging acquired *something* which is *individual* and *peculiar* to that colony to which the queen is introduced.—*Gleanings.*

We have found in numerous instances successful bee-keepers in a locality where there is a good demand, but comparatively little honey produced, not aware of the opportunities of their market, supplying their grocers in small lots in the early season at from 1 to 3 cts. per pound less than the regular market at that time in the nearest large city. These bee-keepers do not seem to consider that they can obtain from 16 to 18 cts. for their crop when sold early in small lots, locally, as easily as 12 to 15 cts. We urge the necessity of bee-keepers all over the country, when selling in small lots, to see to it that they do not sell below the market.—*Gleanings.*

Honey Ginger Snaps.—1 pint honey, ¾lb butter, 2 teaspoonfulls ginger. Boil together a few minutes, and when nearly cold put in flour until it is stiff. Roll out thin, and bake quickly.

Usually when a chicken gets sick, unless it happens to be a very valuable fowl, about the cheapest remedy is to cut it tail off right behind the ears, and I am not sure but what a similar remedy is the cheapest way to dispose of a weak queenless colony of bees. A few days ago I found one such colony. I gave them a comb containing brood from a strong colony and may succeed in making a fair sized nucleus out of them, and by using them for mating queens when the proper season arrives, in that way make them earn me something. Yet I am doubtful whether this was the wisest course. As a general rule I believe the best thing to do is to shake the bees in front of one of the nearest hives and let them join the colony, and remove the hive which they occupied. In this way they may be some help to the other colony, while if we attempt to doctor on them they are likely to prove only a source of annoyance and be of little use in the end.—*Exchange.*

Dr. Miller believes in rearing all the queens for requeening his apiary and for increase, from the queen whose bees produced the largest quantity of honey a previous season. As it happened, that queen this time was a hybrid. But he is requeening and queening the increase made by the nucleus method with queens reared from the one mentioned.--*American Bee Journal.*

Granulated honey in paper packages is the newest form of packing. The honey is first put into 60lb tins, and allowed to granulate. The tin is then cut away, leaving the solid square block of honey, which is then cut by machinery into long squares of 1¼ lb. each, on the same principal as that in which butter is treated in large dairying centres. The block of honey is then folded first into waxed paraffin paper, then into white parchment paper, and finally put into a card-board holder or carton. A highly gilt label, with the name of producer, encased the package, making it neat and attractive. The plant employed and the waste of the tin are somewhat expensive, but apart from these, the expense of preparing each block of honey for market figures out at about a half penny. At present the 1¼ lb package is said to sell readily retail at 25 cents (or 1s). I am strongly of opinion that this method of handling extracted honey is worthy of a trial in this country.—*Beekeepers' Record.*

Leaky Cover.---Take good white-lead paint about as thick as cream. Give a good coating of this to the hive-roof, and, while still moist, tightly stretch a piece of unbleached calico, pressing it smoothly down over the paint. Bring the cloth under the edges of the roof, and fix it down with thin, narrow laths of wood, firmly tacked from beneath. After a day or two, give another coat of paint, and when this is dry a third. Roofs thus covered will require no attention for years, and when they receive an occasional coat of paint they will prove watertight for a long period. A coat of glue over the wood before applying the calico answers very well, and fixes it as if it were a part of the grain of the wood.

Many people who cannot eat sugar without having unpleasant symptoms follow, will find by careful test that they can eat good, well-ripened honey without any difficulty at all.

I do not object to the establishing of a honey exchange of a national character. But it seems to me the hindrances are unsurmountable. It will take a host of clerks to handle the honey crop, and it is not to be expected but that an unprincipled element will creep in just the same as it does now in the commission house force. —F. Greener, in *Amerian Beekeeper.*

It is now a simple question of dollars and cents whether it is more profitable to let the bees alone, and keep 100 colonies only in one place, and the same number in several other places, or to keep a large number in one apiary and do spring and fall feeding, spreading of the brood, and several other kinds of "play work." I have found it more profitable to start out apiaries, and I keep my bees now in five yards.---*Exchange.*

It is well known to the cottager, that when the flowers have not yielded an abundance of honey in the latter part of the summer, the bees in his hives will have less chance of existing through the winter than when the production of honey has been plentiful. This latter circumstances may, perhaps, be said to arise from a deficiency in the quantity of honey stored up by the bees, but there is strong reason for believing that it arises chiefly from the bees being in a worse bodily condition, and having but a small quantity of nutriment stored up within their own systems, which alone enables them to pass some portion of the winter in a state of repose. If the female of the common bumble bee, Bombus terrestris, which sleeps through the winter and appears early in the following spring, be examined about the end of summer, its abdomen is found to be supplied with large bags of fat. At that period the insect is less active and evolves a smaller quantity of heat than in the spring, when there is a much lower temperature of the atmosphere. And if at that period the insect be deprived of food, it will continue to live very much longer than it would have lived, under similar circumstances, and exactly at the same temperature of the atmosphere, in the early spring.—*Exchange.*

To preserve hive stands from white ants saturate with a solution of sulphite of copper or bluestone. In a box ½ inch longer, inside, than the longest pieces to be treated, and make water-tight by running boiling wax over all the joints, dissolve sufficient bluestone in water to make a saturated solution so that in about a day, with occasional stirring, some of the crystals remain undissolved. The wood to be saturated should be thoroughly dry, and be packed into the box of solution, with bits of stick between the pieces to keep them apart, and a weight on the top to keep them under. Immersion for 24 hours will be sufficient, when the wood may be exposed to air and sun to dry. After the stands are made up, the pieces impregnated should be painted or tarred to prevent the bluestone being soaked out by rain water.

There are certain goods which are on sale at all grocery stores and which everybody uses, such as condensed milk, canned meat, breakfast foods, rolled oats, various canned syrups, biscuits, etc. These goods are in practically universal use, and canned or in packages have largely superseded similar goods in bulk. If we could bring honey into this class, the problem of marketing would be solved, and producers sure of an income.—*Exchange.*

## VICTORIAN APIARIST'S ASSOCIATION.

Melbourne, 15th November, 1905.

Sir,—I have the honour to forward herewith for your information copy of a letter dated 29th September, 1905, received from the Agent-General on the subject of the samples of honey shipped to London per "Suevic."

I have the honour to be Sir, your most obedient servant,

E. G. DUFFUS,
Secretary for Agriculture.

R. Beuhne, Esq., Tooborac.

Office of the Agent-General for Victoria,
142, Queen Victoria-street, London, E.C.,
29th September, 1905.

Sir,—I have the honour to inform you that the Inspector of produce reports that the honey ex s.s. "Suevic" which formed a portion of the show exhibits for this office, has been submitted to two leading firms in the provision trade, and also to Mr. W. Herrod, one of the leading apiarian specialist in England, who all agree that the clear sample is worth in bulk 28s per cwt., but that the dark sample is, two of them say, of no commercial value, while the third opinion is that its value is about 23s to 24s per cwt.

I hope to have further opinions on the quality of this honey, of which I will advise you on receipt. In the meantime, however, of which I will draw you attention to the accompanying cutting from the "Grocer" of the 23rd instant, in which it is stated that the honey harvest of England for 1905 is almost a record one.

I have the honour to be, Sir, your most obedient servant,

(Sgd.) J. W. TAVERNER,
Agent-General.

The Honourable the Premier, Melbourne.