The Australian bee bulletin. Vol. 11, no. 12 March 31, 1903

West Maitland, N.S.W.: E. Tipper, March 31, 1903

Registered at the General Post Office Sydney. for Transmission through post as a Newspaper.

E. TIPPER.

EDITOR & PUBLISHER, WEST MAITLAND & WILLOW TREE.

THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL

Devoted to Beekeeping —

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

MAITLAND, N.S.W.—MARCH 28, 1903.

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

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Work for the Month.

Winter is now approaching. Have your hives sufficient honey to carry your bees through it? See that there is good linoleum on top of frame. They should not be air-tight, but so that bad air or moisture can escape round the edges of such. The bees will cluster under the centre, and so be warm without a surplus of moisture or bad air. Read up back numbers of the *Australian Bee Bulletin*, Should your purpose increase in the spring in your now spare time, make what hives you are likely to require. Paint, at any rate, the tops. In our last issue, we gave a good way of making hives out of kerosene boxes.

A Mr. M. A. Gill of Northern Colorado has 1,250 colonies.

Mr. J. J. Parry of Gosford has extracted from 84 colonies this season.

The drones reared in worker cells cannot pass ordinary perforated zinc. —*Adrian Getaz.*

This month's issue of the *Dairyman* contains also copy of the proposed Dairying Act.

Read up back numbers of the *A. Bee Bulletin* during the coming winter evenings. It will not be lost time.

There is a new issue of *Gleanings* in *Bee Culture* this year. We have not seen it, but it is highly spoken of by the various American bee journals.

A German paper says that bees reared in natural swarming time, are always larger and of greater activity than queens reared from worker larvæ.

It is calculated there are 700,000 beekeepers in the United States, of which only about 1,000 belong to the National Beekeepers Association, and affiliated societies.

Honey for a Bad Cough.—"Equal parts of honey, olive-oil and pure home-made wine made from grape-juice or currants, is both soothing and strengthening for a bad cough."—*Exchange.*

Messrs. Allan and Co., Sussex Street, writes us: The honey market has been glutted of late, and values low, but it now shows signs of improvement, and prices will rise as the cool weather sets in.

We acknowledge receipt of circular from the Secretary of the Sydney Lord Mayor's Fund, urging on the country districts' efforts to assist same on behalf of sufferers by the Drought, settlers, and others. At least £50,000 will be required. Messrs. Nesbet (Town Clerk of Sydney) and Brierley are the Hon. Secs.

I am slightly disappointed in one of my reasons for being a beekeeper, viz: the financial side of the question. True, with proper care and management on the part of the manipulation, there is money in beekeeping, but for the one who has made a pile out of it, a dozen have made a failure.—W. J. Brown, in *American Bee Journal.*

Interfere as little as possible with your hives now. If you do, dont be surprised if robbing ensues. You will know that by seeing a great crowd of bees, and some of them fighting, or else trying at every part of the hive to get an entrance. Close the entrance so as one bee only can get in at a time, and cover the hives with bagging or sheeting.

At the late Ontario Beekeepers Convention there was a division of opinion on the advantage or disadvantage of wiring, some of Canada's most successful bee-men being on either side of the question. We ourselves have not used wired foundation for several years, both on account of its stretching when the frame is full of comb and honey, and because the horizontal stick across centre of frame is much better, and less trouble to put in. We know a number of good beekeepers who are adopting the stick plan instead of wires.

Erina, Gosford.

J. J. PARRY.

I do not think it worth while to reply to Mr. Beuhne in full. You would have to go and prove practically before he could, or would discover, that the truth of some of the perplexities through which he has been wandering had been attended by some adhering fallacy and that he only believes the contradictory results of his own experiments. I know he thinks we have all sorts of fantastic notions. If two vehicles collide in the street, both the parties think the other one is in the wrong, and he is right. And it is hardly to be expected that a man like this could see any food for thought, from the ideas of men, who perhaps cannot describe to advantage their ideas, but nevertheless are good and practical men. We will suppose that our ideas are a kind of a quarry, jagged, and ugly, badly put together, and not of a pleasing shape. That is no reason that a man with real common sense, and long experience could not square, build up, and get something from them. And that none of the brethren is reliable, shows a spirit of self-willness or eccentricity, and is altogether foolish and wrong.

Let us suppose for a moment that there are some inaccuracy in what has been written. I feel certain that you will agree with me, if I can establish the fact that the dwindling by many is associated with hives that have a considerable quantity of sealed stores, will add proof to my theory that a precautionary measure should partake of the opposite conditions. It is not exactly the conditions in which the bees die, but the history of the condition.

I admit also, Mr. Editor, that the modern tendency of life, is towards hurry, and if you want to keep out of the ruck, "You must keep going too."

But I think a lot of this trouble is caused through keeping more hives than we can manage at the right time. A man often feels certain that he can do or manage a class of work, but at the most critical period he is very doubtful whether he can do it or not.

A method that would succeed well in North Queensland, would not in Victoria perhaps, and so it is, we must adopt a method most in harmony with the place in which we happen to be. And the ability to attend the right thing at the right time is the chief element of success in every undertaking. And to get acquainted with the usual course of the life history of the bee (which science alone can teach) is a kind of knowledge which pays very good interest. The value of a scientific knowledge becomes more apparent the longer we live.

Mr. Gladstone once said, "the sufferings and errors of mankind arise out of want of knowledge rather than the defect of goodness." And that these fallacies of Mr. — as so ruled and obscured from his view, that the light of his reasoning has not been able to penetrate.

I ask, is the light of science a fitful lamp or a brief torch, which accident may upset or a gust extinguish.

If we have pet theories as we supposed to have, well we have succeeded with them. And all I can say Mr. Editor, when we have got light we appreciate it, while others still grope about in the dark, whether those that differ think we are right or not, we are amply rewarded by our results. The proof of the pudding is in the eating of it, and ones method can be pretty well be judged by the success he attains.

And that we should not exercise a wise discrimination if we meddled with our own system at the bidding of one who says we are not right, and is not half as successful as ourselves. You might have an idea, but your system may be quite out of accord with it. It is a matter worth considering that most of those that have given their views, that they agree with each other so closely as to the main facts that the dwindling is caused by minute organisms which are produced from pre-existing germs, and there is no reason for not believing that the moisture is the cause of the disease. If the air contains germs competent to give rise to bacteria, and cold and moisture seems to prove beneficial to the development of these bacteria, then we have some ground for considering the circumstances under which the malady starts, and by noticing these facts will perhaps aid us in the prosecution of further research, and what is imperfectly understood at present will be an accomplished fact in the future.

It is very unfortunate for those that have lost so heavily, but it does not seem to be noticed till the bees begin to die, then remedies are of little avail. The lowest organisms, whether plant or animal, are vitually aquatic. Although they do not necessarily always remain in a liquid medium, they become quiescent when moisture is withheld.

So we see that when bacteria are placed in unfavourable conditions, growth and multiplication takes place with difficulty. The nature of the disease depends upon the behaviour of the organs or tissues with which the bacteria or their products meets. What we want is to achieve a certain knowledge of the means of preventing the trouble. "Prevention is better than cure." Is success more likely to attend the man who keeps his bees dry and warm with proper ventilation - as Bro. Bridgetown put it - than the man whose bees are cold and damp ?

These spores which are everywhere in nature, are like a spark, which is a molicule of matter, which may kindle the whole. When these invisible clouds of Bacteria about in the air gain access to the tissues and organs, under favourable circumstances, then they have the opportunity to multiply and exercise their disastrous powers. But where no susceptibility to the disease exists they can be harboured with impunity. But when

the resisting powers of the bees become relatively feeble or impaired, through damp etc., the attacking powers of the microbes has become relatively strengthened. When the vital force becomes low, through these damp, cold, combs of honey in winter, or through the debilitated condition of the bees, they are incapable of dealing with these minute invaders. But should the vital force be strong, the natural forces of the organisms are strengthened, just as a warm bath suceeeds through the intervention of the nerves, and by raising of the temperature of the body incites to a temporarily increased activity the same natural protective forces of the body. And any system that encourages this growth, can hardly be in the interest of good management. So you will see, that it is erroneous to regard these spores the first cause, when Bacteria are only the result of suitable conditions. Science holds many things in its hands, but not life. It has not yet brought to light either "the philosopher stones" or the "vital essence." These moist walls of honey swarms with bacteria, some are friendly, others may be deadly. But when more accurate knowledge is attained of bacteria, we shall be able to see the relation as cause to effect.

Effect of Comb on The Color of Extracted Honey.

Ques.—"Does the color of the comb, from which honey is extracted, have any effect on the color of honey?"

Dr. Miller—I may say in general terms that it has been claimed that the old combs did have that effect upon the color of the honey, and some, who say they have produced extra-white honey, say they have done it by taking it from virgin combs. Mrs. Harrison, for one, claims that there is some reason for believing that comb of a very dark color should have an effect upon the honey for this reason: I think nearly all of you know that when you have taken some very old, black comb that has been filled with water, no matter how, if that has stood for some time, and you take it and shake out the water, it looks almost as black as ink. I think I can appeal to the mojority of you as to that. If water will take the black color out of the comb, then the water which is in honey one might naturally suppose would also take the color out. I think the argument is plenty strong in that direction, and yet if any has had positive proof about it, it will be worth more than theory.

Mr. Dadant.—We used to save all our old comb, all the broken combs, to put into the frame; we used to import in small boxes combs 6 x 4; we thought so much of the comb that we saved it and put them one above the other, 16 pieces for one frame; we used those for extracting, and we have produced as white honey as anybody else. There might be a very slight difference in the shade, we do not know whether that is due to the comb or due to other causes, but we do know we can produce a very white honey in very dark combs. There is one color which gets into the comb that I think has more influence than the dark colour, and that is the yellow color of the blossoms. Sometimes the combs are turned yellow in a very few days; I believe that color can get into the honey, but usually the honey we harvest at that time is of the same shade, so that it can have no influence over it.

J. A. Huebner—In regard to this question of honey-coloring, I want to say that I had an experience of that kind last year. Last fall I extracted some honey out of dark comb, and it was almost water-white, and then two weeks later these combs were filled up again, and I was absent from home, and this honey was not extracted until the next May, 1902, and that honey which stood in the comb over winter got darker, which I have every reason to believe was colour taken from the dark comb.

W. P. Collins—That honey which stood over might have been darker, and

even the white honey might get dark.

Mr. Dadant—There is one thing I might state. If the dark comb is likely to give any color I think it will give it the first time. We have extracting combs from which we have extracted every year for 30 years, and they are better to-day because they are heavier.

Dr. Mason—Dark combs?

Mr. Dadant—Certainly. Before foundation was invented we used to save the pieces of our combs and put them in the supers. Those dark combs, after you extract from them three or four times, do you hold they still colour the honey? Suppose there is colour the first time, it is not likely that the color will be dissolved in the first extracting, and that for fifteen years they will be as good as new combs? It looks to me unreasonable to think we can make old combs white by having them color the honey. There may be a very slight difference, but you must be sure that that difference is not caused by some other things, such as you mentioned here when you get two bottles of honey side by side and say they are two grades of honey. Some of you, I understand, say when when there is no water in the soil the honey is darker, although it is from the same blossom. Don't charge the dark comb with the coloring of the honey unless you are positive that that has done it. I believe you can only say it has done it in perhaps the first instance, that is, the time when it has just been used for brood, and afterwards used for honey, and then this color is likely to become loosened and absorbed by the honey.

Mr. Gill—In my judgment I am satisfied that the honey Mr. Huebner speaks of was darker when it was gathered than the other honey was.

Dr. Mason—I can understand this whole question. It all depends upon the locality. You have had that before you to-day. Now, then, you may argue all you have a mind to. You can see those two bottles now, the honey in one bottle is light honey, and that same honey was put in the same combs ten days before I came here and left till I came away, and that is the same honey, and those combs have been used for extracting for the last four years. It all depends upon locality, not on the combs.

J. A. Green—I would like to ask Dr Mason how he is sure that is exactly the same honey in those two bottles?

Dr. Mason—I know in this way, because I took some of this honey and put into the dark combs myself just to test it, because this question has been asked so many times. That is the same honey, precisely; it was in there seven or eight days perhaps, and I took it out just for the purpose of bringing it here.

Mr. Green—Did you give it back to the bees after that?

Dr. Mason—No, sir; the bees had nothing to do with it since I got it, of course not.

Mr. Green—I ask that because it is so easy for the bee keeper to be mistaken in that respect. The first honey that I extracted this year was very light in color, about a white? and a few days later, and from the same source, and from the same comb, much darker. Like Mr. Dadant, I have old combs.

Dr. Mason—The question is, will the color of the comb make any difference in the color of the honey?

Mr. Green—I have a large number of old combs, and I agree with Mr. Dadant that for the first extracting there will be a slight tinge given to the honey, but after that there certainly can not be, or at least very little. I have these old combs, thousands of them, some of them 25 years in use; to all appearances they are just as black as ever, and I get just as light honey from those combs as from new combs.

J. B. Adams—One year I had a good chance to test that I had white combs. I had read in the journals considerably about the combs coloring honey, but I didn't want the bees to be idle, so I used black combs, and I got just as white honey from those black combs as can be

produced anywhere. It didn't make a particle of difference; there was no more shade to the honey than there was to any water-white honey.

R. D. Williams—I use in my upper stories half-drawn combs, and I have full sheets of foundation; the full sheets of foundation are white, while the others are very often very black, and I notice there is no difference at all in the honey.

Mr. Dadant – I was called upon to give an opinion on this subject, and I think it would be well for me to add, that in regard to the color of the honey we must never be too sure on that point. We have had honey from the same blossoms in three or four different yards, and there was so much difference in color that while we could sell the honey from one yard we could not from the other; the difference in shade was quite perceptible, so that the person buying would not accept the honey from one yard in place of that from another, and yet the blossoms were the same. What caused it I am unable to tell. I believe if you can at any time get very white honey from very dark comb, that will settle the question. I, perhaps, have seen that, but I have not paid any particular attention to it.

W. L. Hawley—For the last eight years there is one thing that I have borne in mind. I have noticed one particular thing: Take a frame and put it into the super, leave that till the last, and throw that out while there is a light flow of white honey, and you will see a difference; but the next time you go around and perform the same operation you will see no difference whatever; from that time on, as long as you use those combs for extracting, there is no difference whatever between the old comb and the white comb: but the first time you remove it out from below, or use it for extracting, is where the difference comes, and that is the only time you can see any difference in the use of the comb.

Dr. Mason—This thing probably depends upon locality, for the gentleman is absolutely wrong so far as my locality is concerned. I tell you, the comb that colored this honey has been used for extracting purposes for five years, and has been extracted from a good many times, you can not be right. Locality makes a difference.

Mr. Green—Was there no brood reared in that comb during those five years?

Dr. Mason – No, sir.

Mr. Brown—Speaking about locality and color of honey, in receiving honey I received it from central California and different locations, and on the south is Tulare Lake; it is a shallow body of water, and the ground being sandy the water runs under it, and alfalfa is grown upon its borders, the roots run down directly into the water; the honey that is produced in that locality is darker; but a little further away where it is dryer the honey is whiter; when you come up to where it is very dry, and no moisture, our honey is white; and when you show me white alfalfa honey I will tell you the condition of the ground on which it is grown, every time; but whether that holds good with reference to other honey, I can't say.—*At the Denver Convention for American Bee Journal.*

SOFT CANDY.

1. Into a brass preserving pan, or enamelled iron one put 7lb. of sugar (fine granulated), 1½ pints of water, and 1 tablespoonful cream of tartar. 2. Put on a brisk open fire, stirring constantly to prevent burning, until it comes to the boil. 3. When at the boiling point, cease stirring. Withdraw slightly from fire to prevent boiling over, until the mass begins to settle down to boil, which is readily known by the frostiness leaving it. 4. Have ready a teacup of cold water, and with a teaspoon, lift out a little syrup, and drop into the water. If it mixes readily with the water, it is not boiled enough; but if it lies at the bottom of the teacup, so as to lift like very thick paste or putty, it is just right, and ready to be removed from the fire. If too much boiled, the syrup will be hard and crisp

in the water, which can be remedied by adding a little water to the syrup after it has been taken from the fire. Two minutes' boiling is sufficient for the above quantity. 5. Next have ready some shallow plates, or, preferably, shallow tin dishes; returning to the pan, which may be placed in cold water, or, better still, in a running stream to hasten the cooling process. Then stir the mass constantly until it begins to get greasy-looking, gradually getting whiter and stiffer. Lastly, pour into the dishes and allow it to cool. The result will be a very fine-grained. moist, soft candy, that will cut readily with a knife. To the above I may add that the sugar should be dry and finely granulated, the cream of tartar free from damp and fresh, and the fire as strong as possible. I find the ordinary kitchen range much too slow, so that an open fire, with an arrangement called the "swee" in some parts of Scotland, to withdraw the pan when boiling from the blaze, is the best. I usually make about 40lb. at one boiling, and find it takes from seven to ten minutes' boiling briskly for that quantity. Whatever candy is not required for present use should be kept in a dry place, as it is liable to be affected by the different changes of temperature.—*Beekeepers' Record.*

CORRESPONDENCE.

H. W. S., Walcha.—Bees are doing very well here this summer, although it is very dry at present. Some of our best trees are dying for want of water, others are dying because they are ring-barked. The honey harvest is not over with me so I will let you know more about it later on.

C. A. C., Cooboora, March 6.—I received the sample copy of the A.B.B., and was very pleased with it as a bee journal and think it very valuable to beekeepers. The season down here has been very good, or at least I think so. I only got my bees six months ago and don't know much about it yet, but hope to in the future with the help of the A.B.B. I have 54 colonies, some weak and some strong, and have extracted 43 60lb. tins of honey up till the present time, but hope to get a few more yet. The moth is very bad down here this year. 1. The bees are working very strong on the corn now, can you tell me what they get out of it, whether honey or pollen. 2. What is the best way of getting the honey out of the cappings? 3. My bees are in an old garden and the weeds are very bad, how can I keep them down? The demand for honey is very poor, I have sold about 7 tins at 3½d and 4d. per lb. The weather is very dry and our losses have been very heavy, but this last two or three days it has been trying to rain, and times might get better. Hoping you are having a good season down there.

[1. A beautiful light honey, besides pollen. 2. A Pemberthy press (Elsmore), or Anderson's solar extractor, (Hexham.) 3. Salt, elbow grease and hoe.]

R. W. P., Garland, March 6.—We are haaving a poor season here.

J. F. D., Bellinger, Feb. 24.—I trust you will have a good time at the annual meeting in April. Kindly vote for me. We have had a good time with the bees this season so far, and are expecting a good flow yet from gum which promises well, still it is very dry, I mean the weather, and the flow may not come up to expectations, but we are hoping for the best. You beekeepers who are near the railway are having the benefit of getting your empty tins up free, the only necessity being a declaration that the tins be returned full. I wish we who are connected only by boat to the market could get our tins up on these conditions. Could not something be done for we unfortunates too. I have tried several times but have failed so far.

W. Hessel Hall, Emu Plains, Feb. 28. —There has not been much blossom out this year, but what has come out has yielded well, enabling my stocks to build up again, and to yield a surplus of about 2½ tons. For a long time my whole stocks were in jeopardy, but since the rain came they have built up to 100 strong hives. Plunkett lost nearly half his stock and has very little honey. Poor Lewis who had 8½ tons the year you came to see me has been reduced to six weak hives. He fed freely and wintered without loss. But in the spring they all went to pieces from inability to rear through want of pollen. All the smaller men about here are practically wiped out. Am glad to know you got some good maize honey I have no means of finding out whether other parts have had good honey crops, but owing to prevalence of drought should think not. I am inclined to attribute drop in prices in Sydney to the rushing in of new crops to get advantage of late high prices, and as at this time of the year there is little or no consumption, the prices naturally dropped. I think they will rise later when consumption begins. I am unwilling to part with good honey this year, even in bulk, below 3d. My fruit was extra fine this year, and the few vines bore enormously, 40, 74, and 80 fine bunches on individual vines. The rows of planters friend you saw at bottom of garden struggled through the drought and winter, and were a few inches high when the spring rain came. I kept it clean and cultivated, hoping against hope, and in the end got a fine crop 10ft. and 11ft. high, and a nice lot of seed.

J. B., Tarcutta, Feb. 23.—Since I have read of so many being visited by that disappearing trick I thought I would write and let them know that I am in the same boat. I came through last winter with 60 swarms, most of which were strong, but instead of gathering strength they died down until they left me three swarms. Strong ones were the first to go, the ones that are left were small swarms from last year. I gave the hives a good cleaning and boiling in case of other diseases. Some years ago before bees were so well cared for, I had about 200 hives in boxes, they died down the same way to about 30, leaving plenty of honey and clean combs. I don't think beekeepers have came to the root of this evil yet, for there are two apiaries within 4 miles of mine and neither suffered many losses, so I don't think it can be from what they gathered.

Mr. H. L. Jones, of Goodna writes:— Still O.K. and bees now doing nicely, so that in another week or so will be ahead of orders again. We still want rain very badly, and won't breath freely until we get at least six inches. A. A. Roberts is with me and is making a model apiary of the one he is in charge of. You must come up and see it some day.

[Very pleased to hear from you, and shall certainly endeavour to avail myself of your kind invitation.]

Dr. Miller says: "To decide whether a virgin queen is present, a common way is to give a frame of eggs and young brood, with the understanding that, if a young queen is present, no queen-cells will be started. It is pretty safe to follow the rule that, if no queen-cells are started there is a queen present; but I have, ceased to put faith in the opposite rule, that the presence of cells shows the absence of any queen; for too often cells will be started, even with a good virgin queen present. It's a good thing, all the same, to give the young brood. The Editor *Beekeebers Review* replies;—You are just right. The presence of cells under some circumstances does not necessarily indicate the absence of a queen; but they may show that the old queen-mother is playing out, or they may show the fact that the hive was queenless at one time, and that a virgin present for some reason had not seen fit to destroy the cells and thus put out of the way any possible rival.

VICTORIAN NOTES.

R. BEUHNE.

WORK FOR THE COMING VICTORIAN CONVENTION.

Members of the Apiarists' Association should now be busy scheming on the best way and means of dealing with a number of problems which confront us. If every beekeeper keeps these problems in mind till we meet, and gives them the serious and patient reflection they deserve we should be able to accomplish much more useful work than when attention is given to the subjects only when they come before the meeting in the programme.

One very important subject is the continuous and ever increasing destruction of our honey bearing flora. We cannot and do not propose to oppose the opening up of country for agricultural purposes which is inevitable, but we have every right to object to the illegal destruction of timber on areas on which it is expressly prohibited, and on roadsides, commons and reserves. We should also use our best efforts to prevent land, inferior in quality and more valuable for the growth of trees for timber and bee pasture, than for grazing being alienated.

A large area on the Upper Glenelg in the western district of Victoria is shortly to be thrown open for selection, and although we cannot hope to successfully oppose the opening up of this locality we should certainly ask for judicious reservations of intervening belts of country in the interests of Apiculture, the timber industry and the influence of timbered areas on the climate.

As to the value of the district for apiculture an article in the *Argus* based on facts, supplied by Mr. Bolton will speak for itself:—

A WONDERFUL HONEY DISTRICT.

"The Blue Blocks in the Upper Glenelg district, which are to be thrown open to selection shortly, form one of the finest honey districts in Australia. A recent letter in the *Argus*, from Mr. T. Bolton, a prominent apiarist drew attention to this point, and investigation shows that there is good reason why the Minister should be careful that bee-farming, which is successfully carried on in this district, under conditions in regard to suitable bee pasturage nowhere excelled in the state, shall not be exterminated. Mr. Bolton was the pioneer of the Upper Glenelg for bee-farming, and has now 384 colonies of bees near Glen Isla, and Messrs. Payne, Stevenson, Gaston, Kearns Bros., Fisher, Wormsley, Young, Scullion, M'Donald, Ballinger, Russel, and Basset have each entered upon the industry, and have a number of colonies established in the neighbourhood.

The district is covered with a forest of eucalypts, composed of yellow box, the finest of all the native trees for honey-yielding blossom; white ironbark, red gum, grey box, stringy-bark, messmate, manna gum, peppermint, and bastard box. The honey season begins in October, and often lasts till May, when the grey box blooms.

A recent interview with Mr. Bolton, whose distributing centre has been established at Dunkeld, afforded some interesting information on the value of this fine honey district to the beekeeper. The following extract from his books and income tax returns reveals at a glance what a well managed bee farm can produce in a district where there is abundant bee pasturage:—

Season.	Spring Count Colonies.	Swarms.	Honey. Yield.	Value.	Wax.	Value.
			Lb.	£	Lb.	£
1898	100	260	33,400	559	173	12
1899	223	345	2,960	58	244	13
1900	310	439	67,362	1,127	628	36
1901	329	409	11,267	203	245	14
1902	384	448	80,000	1,200	1,100	64
			194,989	3,147	2,390	139

Thus the average annual gross value of honey and wax for the five years amounts to the surprising sum of £656 16s., a record that may well challenge Australia to beat. The bees (together with the requisite buildings) which produced this

annual income occupy about two acres of standing room, and gather over six square miles of virgin forest."

This subject was before our last meeting, and as a means of overcoming the revenue aspect of the question, we suggested to the Department of Lands, the leasing of such timbered land to bee-keepers. The proposal was favorably received, but the difficulty is that it cannot be done under existing laws and regulations. If we wish such timber country to be preserved, we must be prepared to pay a rental to compensate to same extent for the non-receipt of revenue from its alieniation.

The "executive" have not lost an opportunity to further our object. Mr. Cox, one of our vice-presidents, made a special effort which was likely to have good results, when a change of Ministers took place.

Another very important matter is the increased prevalence of Bee Paralysis, particularly North of the Dividing Range. This disease although apparently less virulent in individual colonies than formerly, is now much more general and the total loss much greater in consequence. So far the only reasonably effective way of dealing with it is re-queening. We know that it is caused by a micro-organism. What we want to know is how it gets there, to what extent is it hereditory, can it be elimiated by special select breeding (and mating). Why is it more in evidence in the warmer than in the cooler climates? Is the cause of the difference one of temperature, moisture of atmosphere, elevation food or water consumed in rearing larvæ?

Upon all these points I want bee-keepers to think, think deeply and give their opinions and experiences, we may then get the basis for an investigation.

What is likely to be the state of the honey market with a good season in a majority or all the States, and what steps, if any, can we take to provide a safety value. In a paper I read on behalf of the Victorian Apiarists' Association last July, at a Rural Producers' Conference, I pointed out that it is color and excessive aroma, which prevent our honey finding an outside market, and drew attention to the possibility of removing these objections.

Let us discuss this matter in all its aspects, and let us at least get the opinion of a prominent chemist, whose speciality is the manufacture and refinery of sugar. The more the country is being opened up the more will bee-keepers be forced on to the country producing an inferior grade of honey, and the less chance we shall have of finding an outlet for it. I have briefly discussed the matter with a man of science, and he expressed himself as hopefull that honey could be reduced in color and aroma profitably.

THOSE DISAPPEARING BEES.

Three new causes have come to my knowledge during the month. The first is that on page 241, last issue, giving the results of investigation by the chemical branch of the N.S.W. department of Agriculture, and I have no doubt, is the correct explanation of *that Dwindling* to which it refers, but it does in no way refer to the disappearing of bees here and all over the North East of Victoria, as must be evident to any one who has read all the correspondence on the subject.

Here is the second: (Leader, Feb. 7th.) Mr. Beuhne, in "The Leader," after stating various causes leading to their collapse, gives it as his conviction, that "There can therefore be hardly any doubt that the disappearing is due to the loss of the bees while out foraging, on account of weakness, the result of unsuitable food while on the larva stage." My protest is against this theory, and that the codlin moth is the destructive agent, which not only intrudes itself into the hive, depositing its larva in the comb, but also with its progeny taking possession of the whole colony. In addition to this formidable enemy there are myriads of small insects which take possession of the feeding ground, so

that the unfortunate bees are both robbed and starved. If the expert you have promised desires these points proved more fully he might call on.—Yours, &c.,

Mrs. W. BROWNBILL, Wattle Grange, Arnold's Bridge.

The third appears on page 243, last issue, and is about as absurd as the second. How Mr. Hewitt after carefully noting what each has to say on the subject, could come to the conclusion that the so called modern method of queen-rearing is the cause, I cannot understand, unless he has read everything through his own particular spectacles.

A large percentage of the colonies which succumbed were in box-hives, and their queens raised in the natural way by swarming without the interference of the owners. About one third of the queens of my colonies were also of natural raising, having been purchased with swarms from box-hives, but there was no difference between those and others raised artificially, nor between the different races. Italian, Black or Hybrid naturally or artificially raised, young or old, they suffered irrespective of all these points, some survived of each and a lot succumbed.

Some twenty years ago when modern methods were quite unknown here, the same losses took place in this district. W. Martin lost 60 hives, E. McCormack 40, and others smaller numbers. They were all in box-hives, were full of honey, and the honey was still in spring, but no bees. The honey flow was late in Autumn. Where do the modern method queens come in, and where the wrong management.

THE LOCUST-FUNGUS.

The bees received and supposed to have died of Locust-fungus disease, I forwarded to Dr. Cherry of the Bacteriological Laboratory, who writes to say, that careful examination of all the dead bees has failed to show any fungus, and as it is usually easily obtained from grasshoppers we may safely conclude that the bees are not affected with the locust-disease.

Bee-Keeping Two Thousand Years Ago.

Honey was always known as an article of food, and from the most remote ages was sought in its wild state, but at what date men first began to keep bees cannot exactly be known. Certain it is, that when the Latin poet, Virgil, lived, B.C. 70, not only were there bee-keepers, but considerable progress had been made in the study of the useful little insect.

Virgil wrote a treatise in verse upon the habits of bees, and the proper method of keeping them. Modern bee keepers will not agree with all that he says, but there is a good deal that is true and useful, and if some things read strangely we must allow "poet's license," and not take him too literally.

The hive he has in view is of basket-work, woven of osiers and strips of bark, the outside is plastered with mud, and he observes that the bees will fill the internal crevices with propolis. The apiary, he says, should stand in a sheltered spot, not upon marshy ground, and must be protected from the interference of cattle; a supply of water is essential, shady trees near, nectar-yielding plants within easy reach. Their natural enemies are the swallow, the lizard, the hornet or wasp, the spider. The plants they love are fruit blossoms, especially the strawberry and the pear, violets, wild thyme, green cinnamon, the saffron flower, the lime, the elm, and the plane tree.

Everything depends upon the queen. No colony can continue to exist without her. The queen, he says, directs the workers, and they will sacrifice their lives in her defence. The drone is a foe to labor. He will be expelled from the hive before winter. The worker lays no eggs, but brings in all the honey needed for the coming winter, and stores it in combs of her own building. She also feeds the queen and young ones. There are two kinds of bees. The poet describes their appearance in flowery language, "golden spangles," "ruddy scales," and so on,

but it is not very clear what they would be called in these days.

Honey, Virgil tells us, may be taken twice a year, in early summer and autumn. Before going to work at the hive, the bee-keeper should wash his face and hands, and use smoke for subduing the bees. Honey is useful, not only as food, but for tempering the flavor of rough wine, and some flowers impart to it their distinctive aroma.

Not more than one queen can exist for long in the same colony; should there be two, the rivals and their followers will fight, and it will be necessary to sprinkle dust upon all alike, then select the more promising queen and destroy the other. At swarming season rub sweet-scented herbs upon the branches of trees near the apiary to induce swarms to settle, and when they come off make all the noise you can with bells, cymbals, and clashing steel. But if you do not want swarms, clip your queen's wings, and thus keep all at home.

It seems doubtful whether the poet was himself a practical bee-keeper. He may have got his information second-hand, for we find him tripping now and then, as when he says of bees in general that they never live longer than seven years; that the workers carry home honey on their thighs; that they return to the hive late at night; that bees are the only creatures which dwell in a united town (he forgets the ant in his wish to praise the bee); that the old bees' duty is to stay at home, protect the hive, and build cells. He advances the curious theory that when high winds prevail, bees steady themselves in their flight by carrying little pebbles, just as ships take in ballast to prevent their being top heavy.

He is right when he says that there is a risk of losing stocks in winter; that they often perish from hunger and disease. Stocks that are diseased may be known by the changed color of the bees, and their weak, thin, and unhealthy appearance. Fumigate those hives with Syrian gum, and medicate the food. All sorts of nostrums are recommended for this purpose, from bruised gall to new wine boiled over a fierce fire.

And then he tells us what to do when the whole race of bees dies out in a neighbourhood; if we do not know where to obtain swarms to replace our stocks, all we have to do is to slaughter a two-year old bullock, leaving the hide intact, and with heavy sticks beat all his inside to a jelly; next build him up in a little house with four openings (one to each of the four winds). Throw in beside the carcase a quantity of sweet-smelling herbs, and wait a few months. Then what will you see? If this has been done in the early spring, you will, in the course of the summer, have a magnificent swarm of bees. From the corruption that takes place within the small building, multitudes of live creatures will issue forth; maggots at first, they soon gain wings, then rise in myriads, buzzing and swarming till the air is thick with them.—H. de V. Hunt, in *Irish Bee Journal.*

A Broken Silence—Rearing-Queens.

Except foi Dr. Gallup's startling discovery, as told on page 408, I should not think of disclosing the remarkable facts which are to follow. But when the "cat is out of the bag" why seek to keep secret longer that which so mightily concerns the rearing of queens full of years?

It was early in my bee-keeping career that I first noticed the umbilical cord (scientific name, pupaskinna castoffica) of the queen-bee. I attached great importance to that attachment, and immediately placed an attachment on my discovery. What I recovered and discovered is as follows:

I reasoned that the royal jelly is so thick and tough that the poor queen, in the short time at her disposal, could only get a little benefit from the food through the umbilical cord—pupaskinna castoffica. If I could substitute a thin and vitalizing fluid I could, perhaps, work wonders. After much thought I proceeded as follows:

On June 2, 3:05 p.m., I transferred 500 freshly laid eggs from ten of my best queens to cell-cups previously prepared. These 500 cups were given to 100 strong, queenless colonies, five to each. On June 16, 4:07 p.m., at which hour the pupaskinna castoffica is wont to appear, I carefully removed the 500 nymphs (royal) from these cradles and laid them in a row on a downy strip of cotton-batting. After much scrutiny I selected the fairest of the 500 and most carefully set her to one side. With a hypodermic syringe I now took the *lives* of the 499 remaining princesses, carefully drawing each out through the pupaskinna castoffica (umbilical cord—E. Gallup). With considerable skill I now injected through the pupaskinna castoffica of the selected nymph these *lives* at the rate of 15 per minute until I had injected 299. The remaining 200 were reserved for a most delicate operation.

By the aid of the X-rays (yes, I knew all about the X-ray at the time, but refrained from giving my discovery to an incredulous world), I now injected 100 of the remaining lives into each ovary of my princess—destined to be a queen full of years.

It required the utmost skill to insert the syringe under the third abdominal ring and into the delicate ovary. Had it not been for the fact that the subject had been given 299 lives through the pupaskinna castoffica I fear that I should have failed here.

The royal subject was now put into a cell and given to a nucleus in a glass-hive so I could watch what followed. I tell you true, I watched there 55 hours and 10 minutes. The queen first began to show vitality at the end of the 31st hour, by emitting piping that caused the glass of the hive to shiver. At the close of the 32nd hour she came forth, an ordinary queen except for her exceeding activity.

In less than four hours she showed signs of anxiety to take her marriage-flight. My task was not yet done.

I had the day before prepared 1000 lusty drones from the best stock in my yards. The task of dissecting out the the male elements of each was a tremendous one, but I succeeded in getting at least three grains of the rich fluid. This fructificative fluid was injected into the retaining-sac of the queen. Here again the excessive vitality of the subject was called upon, not to mention the elasticity of the retaining- sac. The queen laid her first egg three hours and ten minutes from the moment the syringe ceased its work.

Such a queen! A brief mention of what she did in her 10th year will show her worth. I kept her in her 10th year with a colony of her three-year-old workers. I kept no other queens except two in my log-gums and one in a straw skep. This queen laid all the eggs for my 20 regular colonies. She would fill 10 frames in 24 hours. I simply set in empty frames as I took out full ones to give to the other colonies.

Space will not allow me to tell much about the wonderful work of the mammoth 20 colonies. I will merely state that the workers never die of old age. They all meet death through violent causes. (I might digress to the extent of saying that I once saw a spider eat one of these bees. That spider was immediately so filled with vitality that she went on a stampede; and it is a fact that spiders could not stay in the vicinity of these hives.) Some of the colonies occupied 3000 sections at one time. I had to give an entrance the whole bigness of the hive-bottom.

Though the queen was endowed with such amazing vitality her claws would wear out as fast as those of an ordinary queen, and at the end of the sixth year she experienced difficulty in clinging to to the combs. I experimented a long time before I discovered a way to help her. Finally I replaced her six feet with those of a young queen, cementing them on with royal jelly. The task was done so easily and well that the royal

circulation was scarcely interrupted. I now practice giving her a new set of feet and new antennæ every second year, believing that it pays to do so.

Hoping to hear more from Dr. Gallup and the umbilical cord (pupaskinna cast-offica),

Yours truly, Baron M. Lieawful.
—*American Bee Journal.*

QUEEN INCUBATOR & BREEDER.

AN ARRANGEMENT THAT ALLOWS THE BEES ACCESS TO THE CELLS AND QUEENS AT ALL TIMES.

One of the greatest objections urged against a lamp nursery, or any kind of a nursery where queens are hatched away from the bees, is that the cells and their inmates are robbed of the actual care of the bees. When the bees have access to a cell, and the time approaches for the queen to emerge, the wax over the point is pared down, and, as the queen cuts an opening through the cell, and thrusts out her tongue, she is fed and cheered in her efforts to leave the cell. A queen hatched away from the bees loses all of this food, cheer and comradeship; and, until introduced to a nucleus, or full colony, has not the natural food that she would secure were she among the bees.

All of these objections are overcome by an invention of Mr. Arthur Stanley, of Dixon, Illinois. Mr. Stanley makes the cell-cups according to the directions given in Mr. Doolittle's Scientific Queen Rearing, sticking the base of each cell to a No. 12 gun wad.

By the use of melted wax, these wads, with the cells attached, are stuck, at proper intervals, to a strip of wood exactly the length of the inside width of a Langstroth brood-frame. Two wire staples driven into the inside of each end-bar, slide into slots cut in the ends of the cell-bars, and hold them in position.

When the cells are sealed they may be picked off the bar (still attached to the gun wads); and right here is where the special features of the Stanley process steps in. Each cell, as it is removed, is slipped into a little cylindrical cage, made of queen-excluding zinc, the cage being about two inches long, and of such a diameter that the gun-wad fits snugly, thus holding the cell in place and stopping up that end of the cage. The other end of the cage is plugged up with a gun-wad. Long rows of these cages, filled with sealed cells, are placed between two wooden strips that fit in between the end-bars of a Langstroth frame, and are held in position by wire staples that fit into slots cut in the ends of the strips. To hold the cages in their places, holes, a trifle larger than the diameter of the cage are bored, at proper intervals, through the upper strip, thus allowing the cages to be slipped down through the upper bar, until their lower ends rest in corresponding holes bored part way through the lower bar.

A frame full of these cages, stocked with cells, may be hung in a queenless colony, and will require no attention whatever, except to remove the queens as they are needed. The workers can freely pass into and through the cages, cluster upon the cells, care for them, and feed the queens after they hatch, exactly as well as though the queens were uncaged.

These cages are unsurpassed as introducing cages; either for fertile or for virgin queens. The bees are not inclined to attack a queen in a cage to which they can enter, yet they can surround, caress and feed her. They can become acquainted with her, and give her the same scent as themselves. When desirable to release her, one end of the cage can be stopped with candy, and the bees allowed to liberate her by eating it out.

By putting food in one end of the cage, a queen may be kept caged, away from the bees, the same as in any other cage.
—*Beekeeper's Review.*

Do Bees injure Sound Fruit?

During the summer of 1901 an experiment was started when there was no surplus honey to be gathered from plants outside, with ripe fruit of four different

kinds—peaches, pears, plums, and grapes. These were exposed in different places near the Experiment Farm Apiary, where it was easily accessible to the bees. This experiment was continued during the season of 1902, with the addition of strawberries and raspberries. All fruit was placed in the same position as in the experiment of 1901.

On July 2, 1902, ripe fruit of four sorts of strawberries was tried in each place—the Williams, Clyde, Buback and Warfield—exposed in different places where it was easily accessible to the bees: *a*, Inside the bee-hive; *b*, On branches of trees in the apiary enclosure; *c*, On shelves in a workshop, to which bees had access through an open window. Every care was taken that all the fruit used in this experiment should be perfectly sound.

Fruit exposed inside the bee-hives. The fruit was exposed in three different conditions: 1, Whole fruit without any treatment; 2, Whole fruit that had been dipped in honey; 3, Fruit that had been punctured in different places with the blade of a pen-knife.

Four colonies were selected for the experiment, all of about equal strength. Each of these colonies was in a hive, upon which was placed a super divided in the middle by a partition. In each one of the four hives the whole specimens, of fruit not dipped in honey, were placed within three empty frames, tied together as a rack; in the brood-chamber, the whole specimens of fruit dipped in honey were placed in one compartment of the super, and the punctured specimens were placed in the other. The bees began to work at once, both upon the dipped and the punctured fruit, and kept continually on it as long as any liquid could be obtained. They also clustered thickly on the whole sound fruit, but did not appear to be getting, or even trying to secure, any substance from the berries.

Fruit exposed on the shelves in a workshop, the bees did not visit at all, nor on branches of the trees in the apiary; in the two latter places the fruit appeared to dry up and mold. In the hives all fruit decayed more quickly from the extra heat from the bees; this experiment was tried but one week.

July 29, experiment with four varieties of raspberries—the red, purple, very light-colored, and the black-caps. Each box contained some of each sort. They were placed in hives in exactly the same position as the strawberries. At this date there was considerable honey coming in. The bees did not touch any of the fruit in the hive, super, trees, nor in the house-apiary. On July 31, half of each sort of berries that were sound were cut in halves to see if they would attack the fruit, but they did not touch any of them. All the sorts in the hives decayed much sooner than the fruit exposed. That exposed to the air dried up considerably and molded.

A second test has been made with peaches, pears, plums, and grapes, with practically the same results. The bees actually starved where separated from fruit-juice only by the skin of the fruit. John Fixter.—*Ontario Beekeeper's Convention.*

BEES IN A TREE.

I have taken out 18 colonies of bees this season without cutting the trees. I have a ten-foot ladder and a pair of climbers. I climb the tree, take my rope and pulley up with me, and fasten the pulley above the bees. I then come down and hook the rope on my ladder and pull it up the tree, and wire it fast to the tree. The top ladder has a platform on it. I get every thing in order. If I am allowed to cut a hole in the tree I make a long narrow one where I think the honey lies. I find the brood-comb, and cut it about the right size to fit the frame, then take out all the honey and let it down to the ground. I fasten the brood-comb in the frame, and pull the hive up on the platform. I then take a dipper and dip the bees up and pour them into the hive slowly, watch until I get the

queen in the hive, then I smoke the bees out of the tree. They soon find the queen. I leave the hive up the tree until night, then take them home. This way I never lose the queen or the honey. I used to cut the trees down, and would often lose the queen and the largest share of the bees, and about all of the honey. I took from one tree this season 150 lbs. of nice clean honey, besides filling an eight-frame hive full of honey. I sold my tree honey at 10 cents per lb. If I cut the tree down I can hardly sell the honey at any price, as it is mashed up so badly, and mixed with dust from the tree.

We will now go back to the first. If the farmer doesn't want his tree chopped into I take a bit and bore a hole through to the honey. I then take a stick and break the honey so the bees will fill up. I give them a good smoking, then bore a hole above the bees and one below. I smoke the bees from both holes, and take a hive with one frame of brood in; place the front of it in connection with the hole where the bees go into the tree, then I smoke the bees from the two holes, one below and one above. The bees will soon begin to come out and bunch up on the side of the tree. I take a lard-spoon and dip them up and put them into the hive. I work this way until I get all I can in the hive, then shut up the hole in the tree, and keep up the smoking. The bees will come out of the first hole I bored. I watch for the queen, and put her in the hive. All the returning bees go to the old hole in the tree, and it is shut up. They soon find the way into the hive. I work this way until I think I have about all the bees out of the tree, then leave the hive until night; then I take it away. The last thing I do, I take a stick and punch the honey open as much as I can, and the bees will not return to their old quarters, but will carry the honey all away.

I have been a bee-hunter for 35 years, and I have tried all kinds of plans, and this is the only one I have ever found by which I could get bees out of a tree without cutting it down or cutting a hole in it.—*Gleanings.*

Wetting Brittle Sections for Folding.

If you have sections that you have kept over from last year without making up, and they have become dry and a brittle, breaking badly when bent, try pouring a little boiling water in the V-grooves, but be careful not to get the water on the dovetailed ends of the sections, else you may have trouble in putting them together. The sections usually come 500 in a crate, and you can wet the whole 500 at one time. You would better take out a few of each layer, and then wedge them up tight before wetting. If you don't take any out, they will smell after they are wet, and will be wedged in so tightly that you will have trouble in getting them out. To take them out easily before wetting, turn the crate on its side, then the ones that are left will not tumble when some are taken out.

If you take a funnel and put in a plug whittled down to a sharp point at the lower edge, leaving room for only a small stream of water to pass through, and hold the funnel directly over the grooves, pour the hot water into the funnel and move quickly along the line of grooves, you will find it works well. A small tea-kettle about half full of boiling water makes it easier to manipulate without spilling the water where you don't want it to go. Be sure the water passes clear through to the other side of the crate, so that all the sections will be wet.—Emma Wilson in *American Bee Journal.*

The two pounds of honey which you take in autumn from the necessay supply of your bees will cause you to lose double that amount in spring.

For a cold, boil 30 grams (about an ounce) of flax seed in half a pint of water, strain it and add a little honey, the juice of two lemons, and an ounce of sugar. Stir and let it boil five minutes. Drink hot.

N.S.W. BEE-FARMERS' ASSOCIATION

ANNUAL MEETING

—AT—

TATTERSALL'S CHAMBERS

Hunter St, Sydney

—ON—

Wednesday April 15, 1903.

Beekeepers, who value your product, do your best to attend.

It is not more beekeepers wanted, but the making the Industry more profitable for those that are in it.

If you are not a member read the rules elsewhere and join. Then, if you cannot attend, get a proxy paper from the Secretary and forward to any member you know will be present, giving him power to use your votes.

E. TIPPER, Hon. Sec,
A. Bee Bulletin Office,
Willow Tree.

SUGGESTIONS.

That the Federal Government be approached and urged to assist beekeeping by giving a bonus on all honey exported from the colonies.

That the Victorian Apiarists' Association, the Western Australian Beekeepers' Association and other bodies be asked to co-operate, to urge on this matter.

Would regular periodical public auction sales of honey, under the auspices of the Association, be better than the present system of sending it to the Commission agents ?

Amalgamation with the N.S.W. Chamber of Agriculture.

CORRESPONDENTS SAY.

S. T. Main, Dungog.—2¼d for prime quality honey does not pay sending to market, and there is no local demand. Then there is loss of tins and cases I think the Bee Farmers' Association should have taken a stand before this, and demanded that the honey be sold gross weight, as I am only credited with an average of 57½lbs. of honey, and lose tins in bargain, which is very unfair to the beekeeper.

J. G. R. Gaggin.—The evergreen problem of export of our surplus honey, and (2) the urging of every individual member of the Association to an unremitting canvassing of his neighbouring beekeepers, with a view to the latter joining the ranks of the Association. A stronger combination of honey producers is urgently needed. We can hardly as yet look upon the Association as really representative. As regards the export question, it is, in my opinion, of vital importance. At the present moment, how many scores of tons of honey are being held back by large producers, because there is no remumerative outlet, and won't be for months, for it in Sydney. How comes it that we cannot—unlike the dairy farmers with their product—command a really outside (London) market for a great part of this surplus ?

T. H. Bradley writes us:—Regarding Sussex-Street, we have a hard time of it there, so much so that I do all I can to keep out of it. The quotations from there are altogether too liberal, so much so, that it makes it very hard to do business out in the country. Honey, in the first place, should not be quoted by the lb., but by the cwt., and beekeepers should not put 60lbs in a tin, 56lbs should be the standard, and then the two tins would make the cwt. If we could only get the beekeepers to follow this plan, the lb. quotations would cease. I could have done a large retail trade but for the lb. quotations. When buying from me, purchasers of a few pounds, from two upwards, expected it at wholesale prices, and quoted the daily papers for what they were offering. If I sold twos in the block books of the shopkeepers, and if I refused twos in the block books of purchasers—now all this would have been prevented, if our article was quoted by the cwt. Try and get this altered, irrespective of what I have said. Remember that a fall of ¼d. per lb means a fall of £2 6s 8d in the ton, and where is the article of daily consumption, that its smallest fall in one day even, is £2 6s 8d per ton, or 12½ per cent? Take butter for instance, that is, say 1/- per lb generally, now take honey at 2d per lb, a fall of ¼d in the lb of butter, and the same sum in honey, and the difference would be as 1s 9⅓d is to £2 6s 8d. If the comparison was carried out in its entierty, you will find that a fall of ¼ per cent in honey, or £2 6s 8d, would mean about £14 in butter. The whole matter should be gone into.

You beekeepers who are near the railway are having the benefit of getting your empty tins up free, the only necessity being a declaration that the tins shall be returned full. I wish we, who are connected only by boat to the Market, could get our tins up in those conditions.—J. F. Donnelly.

SHOWS.

During the past month we have attended several shows, at which there were moderate displays of honey, wax, etc.

It would be well if those who draw up schedules for shows would always make it a rule in honey as well as many other things, to endeavour to secure uniformity in quantity and of article, and description of vessels containing same. It is impossible in too many instances, to judge fairly between samples of different quantities and vessels of different shapes.

At Quirindi we made what we considered a very nice little trophy, and got two first and two second prizes, for wax and honey. Mr. E. J. Barnett also secured first for large frame of comb honey, and large frame of honey.

At Armidale the following were the winners:—Honey: P. Short, A. Strahl, P. Short and J. Herden. Beeswax, J. Herden. Observatory Hive, A. Strahl. One great feature of the show was the Parish Competition, for which there were three entries. Each parish was to show what could be produced in it, and looking at the beautiful displays of vegetables, &c., we would scarcely believe such a thing as a drought of the disastrous nature as it has been, had been passed through.

At the Newcastle Show the following was the prize list:—Best display of extracted honey in any form, not less than 60lb.: James Anderson 1. Best display comb honey, not less that 25lb.: A. Wile, 1. Extracted liquid honey, six 2lb. screw top jars: A. Wile, 1. Beeswax, yellow, not less than 5lb.: J. Anderson, 1. Beeswax, white, not less than 5lb.: J. Anderson, 1. Best three large frames of comb honey; J. Anderson, 1.

Some chat on show competition in our next issue. Look out for it.

There was a very nice display of honey at the Tamworth Show. Mr J. Grayston secured prize for most attractive display of comb honey. The other exhibitors were Messrs Pankhurst, Pender, Chaffey, McDonnell, Dawe, Bridges. The second day of the show may be regarded as the break up of the terrible drought, and it was almost sad to see the hurried exodus from the grounds out of the drenching rain, gladdening as it did however, the hearts of many.

FEEDING.

As, during the coming winter, when there may be no honey coming in, and bees may be short of food, it will be necessary to feed, we give our readers the plan we have adopted with the greatest success:

We ascertain in the day time what hives are wanting food. From each such we take a frame, and leave a vacant space in centre of hive for a frame. In the evening we warm honey (preferably) or honey and sugar, or sugar itself if nothing else is obtainable—with water, to the consistency of a syrup. Take out empty comb, lay it in, say, a milk dish; take a jug full of the syrup, and from a foot or so above the comb, pour the syrup into it. When the cells are well filled, take it out to a hive, and drop quickly into the space left during the day. If done quickly the bees will scarcely be disturbed, all excitement caused by the new food will be over before the morning, and no robbing will take place. Should there be an attempt at such in the morning, throw a bag or sheet right over the entrance, but it will be very unlikely.

Three years ago we had to feed in this way 140 colonies with every success.

UNITING.

As the winter approaches it will be as well to unite hives. United the bees keep themselves more warm, and they come out stronger in the spring, and more ready for whatever honey flow is then coming in. The way we do, is choose two hives that are near each other. Get an entirely fresh hive and place between. Smoke the two swarms to be

united, and sprinkle with some strong scent. Then take the brood frames alternately from each and put in the new hive, till full, killing the worst queen, or leaving the bees to settle the matter. The scent of the new hive, and the strange company they find themselves in, seemingly settles them down quietly. This is how we have always found such.

CAPPINGS.

From American and other Bee Journals.

When moving bees we would prefer to have everything well secured so that no bee can make its escape. Then no trouble will ensue. For short distance, used strips of bagging, or other rag material about three inches wide and as long as the width of the hives. Fold double, lay against the entrance and push into the whole width of the hive with a knife. To open the hives, run through the yard, pull out the rags and that's all.

A Bright Trick With Forced Swarms. —This was given at the Chicago Convention by J. C. Wheeler, who, it seems, has been making such swarms for a number of years. Some say that all the bees should be shaken or brushed from the combs, so that the whole force of bees may be left on the old stand; and others reply that if the brood be placed on the new stand without any bees there may be a great loss from robbing, starving, or chilling. Well, Mr. Wheeler succeeds in leaving all the bees with the swarm and yet avoiding danger to the brood after the following fashion: All the bees are shaken or brushed off, and the hive of beeless brood is set on the old stand, the forced swarm near by. The field-bees will return to the old stand, and the brood will be well cared for. In a day or two the forced swarm is put on the old stand, and the hive of brood removed to a new stand some distance away. All the old bees will be sure to go to the old stand, and enough young bees will have emerged to care for the brood, thus leaving *all* the bees with the swarm, and yet running no risk with the brood. —*American Bee Journal.*

Some time in September of this year, speaking with different wholesale men in Toronto, I was surprised to hear them speak of beekeepers coming to them and telling of their big crops of honey. One man in particular, who had a fair crop of honey this year, seemed to have visited nearly every firm for the purpose of expanding himself. I did not wonder that when I tried to assure them that there was not a large crop of honey in Ontario this year, they shook their heads in a knowing way, intimating that I had "an axe to grind," or I would not talk like that.—*Extract.*

Bees do not wait to see what colored shirt-waist you have on, but they scent what odors are objectionable, and if you have been doing light housework, or have been about a domestic pet; such as a dog, or a horse, their sense of exquisite odors are so acute they recognise it as a foreign odor, and sting immediately. I make it a rule never to wear my bee-dress outside of the yard. I disrobe on returning and leaving the yard. No, the grand secret of no stings is a perfectly clean garment, starched is best, and if worn only in the yard it will attain a peculiar sweet odor from the ozone of the hives, which, whether black, green, yellow, or any other color, our little pets will delight in and never sting. Of course, there are a few mad bees that will sting any way, and when I have a colony that is cross, I handle them very firmly, not nervously, (a good beekeeper ought not to have nerves); I give them a reasonable quantity of smoke, and talk to them; they learn in time to know my voice; and, right here, I want to say, with all due deference to the statement that bees cannot hear, I say bees can hear. I don't "think they have ears, but that sound reverberates almost with electric rapidity" through their little bodies, and is the same to them as hearing is to us, one

cannot doubt. You cannot walk past a hive without attracting their immediate attention; and just fire off a gun in or near the apiary, and see what an uproar it will cause at each and every hive. Tap on the hive, and how instantaneous is the result. I cannot see how any beekeeper can say that bees cannot hear. I left my apiary for a month; they wrote me the bees were robbing, and on my return I was worried. I entered the yard without veil or gloves; I went up to one very strong colony and spoke to them, and they all came running out, tumbling over each other. I thought I would get badly stung, but instead they just fluttered their little wings and returned to their hive without attempting to sting me, as much as to say, "You are here; we are all right now." Three other persons witnessed this extraordinary discernment of sound, and remarked it.—Miss Emma Wilson in *American Bee Journal.*

Refuse left in the smoker will take "a coal" quicker than anything else, so that all I have to do is to get a piece of the partly burned fuel out, "strike a match," and presto the whole in the bottom of the smoker is a "bed of embers." Add the fuel and you are ready for another day, in less than one-fourth the time it would take to start with new fuel. Yes but we are at the out apiary, where there is no building, and where the wind sweeps with a vengeance, on some windy day when necessity compels us to work. In this case you will take a small vial, one that will hold two or three ounces, and before starting for the out apiary, fill it with kerosene oil, corking tightly. Arriving at the apiary, set apart a place for this vial, and always keep it in its place. Now take out a piece of partly burned fuel and pour four or five drops of the oil on the charred end of it. Set the smoker so that the open end of it is up, and yourself on the windward side of it, holding the oiled end of the stick of fuel down inside of the barrel. Now "strike" your match, and quick as thought plunge it down in the smoker so it touches the oiled end of the fuel, and there you are, with a fire inside which will astonish you so quickly that you will drop the match and fuel before you know it, and the whole thing is on fire and ready for use as soon as you can put in a little more fuel.—F. L. Thompson in *Progressive Bee Journal*

For sore throat, make a gargle composed of the following: Borate of soda, 62 troy grains; same of chlorate of potash; same of alum; clear honey, an ounce and a half. Apply this to the affected parts by means of a feather or fine pencil.

If the throat is but moderately sore and the ulceration light, an infusion of sage or rose leaves, or the two mixed, will effect a cure. A gargle composed of half a pint of the infusion of sage leaves and rose leaves, with two teaspoonfuls of vinegar and one of honey, is very efficacious in case of sore throat.—*French Bee Journal.*

The great bakery trust in the United States, with factories in each main city, is such an extensive user of honey that they pay their honey-buyer $15.000 a year, or $47 a day.—*Gleanings.*

Cuban Competition in the United States.—Much as certain journals, controlled by bee supply interests, seeking a larger market for their products, would like to quiet our fears, the ogre of Cuban competition will not down. That it is more of a reality than a bugaboo to be laughed away, will be seen by reading the market report of R. A. Burnett & Co. of Chicago, in this issue. New comb honey from Cuba is already on the Chicago market, and as this firm says "this is a new source of supply that will in the future obviate the necessity of laying in a stock during the summer and autumn to draw from in the winter and spring months." The quantity arriving this year will probably not appreciably affect the market, but it is the entering wedge to what in the near future will be ruinous competition, unless prompt measures are taken to check-mate it. The bulk of

Cuban honey comes from the aguinaldo, a species of the wild morning glory. It yields a light, mild flavored honey, that is in every way fitted to successfully compete with the best products of the states. The honey resources of this rich tropical isle are just beginning to be exploited in characteristic Yankee style, and the production will increase with amazing rapidity in the next few years. The bulk of this increased production will be dumped at the doors of its nearest consuming neighbour, the United States.—*Rocky Mountain Bee Journal.*

NEW ZEALAND.

J. C. H., Palmerston.—The season 1901 and 1902 has turned out better for me than the two previous seasons. My spring count was 150 hives rather backward and short of stores. But the honey flow started early and was continuous all through the season. As a result I harvested about ten tons of the finest clover honey I have ever extracted. The bees swarmed prodigiously there being sometimes 20 swarms a day. By uniting the swarms I secured the honey.

In the hives that swarmed the bees filled up with honey as fast as the brood hatched; from some two storey hives that swarmed I extracted nearly 100lbs. of honey each.

Last June my apiary was flooded for 26 hours, there being from 9 to 18 inches of water in the apiary. One row of 24 hives was washed away and nearly all the bees drowned. The water entered pretty well every hive. Fortunately most of my colonies were wintered in the upper storeys and were clear of the water, those below were drowned or half drowned. I saved the single storey by putting them on top of the other hives. This happened at 4 o'clock in the morning so it was a rather awkward business.

When the flood subsided it left from one to four inches of mud in the hives. It took me several weeks clearing the mud out of the hives and from between the combs. I had hoped that the bees would clear out the combs in the honey season, but it was too much for them the mud having set like cement. Some colonies tore it down and built drone comb, others left it alone. My apiary was considerably weakened by this flood. However, I have much to be thankful for, for if the water had risen a few inches higher the whole apiary would have been washed away, and where the flood was a lot of thistles have grown which are coming into bloom now, which will be a considerable help to the bees.

I think my experience with foul brood for the past ten years would be of benefit to beekeepers at large. Would you have room in A.B.B. if I wrote an article on it? [Yes, by all means, and thankful.]

PRICES OF HONEY.

Melbourne Leader, Vic.—Honey—Business was moderately brisk, best samples having the preference with purchasers; prime clear garden lots have quittance at from 3d to 3½d; cloudy and congealed realising from 2d upwards. Beeswax—Buyers paid from 1/- to 1/1½, according to quality, trade being rather slack.

Australasian.—Honey — Prime clear garden in fair demand, 3¼d to 3½d; medium qualities dull of sale, 2½d to 3d.

Sydney Morning Herald.—Beeswax, 1s 1d lb. Honey—Choice 2¾d to 3d, good to 2½d, inferior 2d, for tins containing 60lb.

Maitland Mercury.—7lb tins 2/- to 2/3.

Tamworth News—7lb tins 2s to 2/3.

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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.