



# LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

## **The Australian bee bulletin. Vol. 7, no. 1 April 30, 1898**

West Maitland, N.S.W.: E. Tipper, April 30, 1898

<https://digital.library.wisc.edu/1711.dl/VECNQOG43FDOL8H>

<http://rightsstatements.org/vocab/NKC/1.0/>

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

vol. VII. nos. 1-4. April to July  
1898

**MARRIAGE.**

JONES—CAMPBELL.—On the 23rd March, at the residence of the the bride's parents, Redbank Plains, by the Rev. Joseph Walker Henry Lewis, youngest son of Lewis Jones, Esq., Redbank Plains, to Charlotte Elsie, eldest daughter of James Campbell, Esq., late of Leaghur, Victoria.

# *The Australian Bee Bulletin.*

**A JOURNAL DEVOTED TO BEEKEEPING.**

**MAITLAND, N.S.W.—APR. 30, 1898.**

A poor honey season anticipated this year for California.

Previous to a thunder storm bees gather more honey than after.

The German Beekeepers' Association numbers 25,000 members.

The royal jelly for artificial queen raising is procured from other queen cells by means of a fine brush.

We are very sorry to hear that Mrs. Atchley has been sick for nearly four months. She is now getting better.

Read the index to last volume published with this issue. It ought to lead to very interesting re-reading. It did with us. Things read and forgotten seem to become doubly interesting.

At the late Muswellbrook Show, Mr. Roberts, in addition to his apicultural wins, gained first prize for Langshan and second for Indian Game fowls. His total prizes amounting altogether to £10 4s 6d.

While at Muswellbrook recently, we stayed at the house of Host Hill, nearly opposite the railway station. Mr. Hill is an enthusiastic beekeeper, having some 16 hives. Honey was on every table at every meal during our stay.

**TAREE, MANNING RIVE**

R. LATIMER.

Dear Sir, Perhaps a line or two from this part of Her Majesty's dominion may not be out of place, and should the same not prove of interest to your readers, it will nevertheless go to fill in small space in your valuable paper. To begin, the past has not by any means been what might be termed a prosperous honey season in our districts, and also think I give you the universal verdict of the majority of our beekeepers when they say the honey gathered is not of the best quality, that is, taken all through the season. We have some fairly large apiaries here about. To enumerate and give each one their due would fill a volume itself. I could scarcely expect you to print, even were I inclined to write, the history of each. I will endeavour to give you and your readers a choice lightning glimpse of the history of my own apiary called respectfully the "19th century apiary." This is my 5th season keeping bees for profit. The first year I secured 12 colonies, principally bush swarms taken out of trees. I gave each an untested Italian queen, and also as much inferior bush honey as required, put into a large zinc tub fixed with floats, to keep them from drowning of course. Just here I might say, it was a pity they didn't drown, as after all, about the first of April I discovered that almost every colony was more or less affected with foul brood. To make sure that such was the case I consulted a friend of mine, who is a professional germ disseminator; the result was my opinion was corroborated, when the Root's method was carried out to the letter. The disease of course disappeared, and has not returned since. Well I got through the winter with five colonies, and the year ensuing I increased the number to 48 colonies, taking 1300 lbs of honey as well, which I sold readily at 3d a lb. The year following I started 44 colonies, spring count. This was a very bad year, increased to 75 colonies, took 25 pounds of honey, selling all at 3d a lb.; Started the fourth year with 73 colonies

extracted 9½ tons honey, the greater part of which was sold in Sydney, and locally for 3d a lb. 840 lbs of this was exported to South Africa, which cleared after paying all expenses £10/10/-. During the above year, I secured 350 11b sections, which were sold in Sydney for 8/- per dozen, 212 lbs. wax realizing 1/1 lb. in Sydney; Fifth year started, spring count 75 colonies, 5 tons extracted honey, 300 11b sections, increased 164 colonies at date of writing. Some of this crop has been sent to Sydney, 20 cases to South Africa, balance on hand. Honey selling locally 13/6 a 60lb tin; my price less quantities 3d per lb. There are some selling from 8/- per ton upwards. Those are the greatest enemies the beekeeper has to contend with.

I notice in your correspondence column wherein it is stated, R. Latimer is sending eight tons of honey to South Africa, special order, etc. How this took unto itself wings is more than I at present know. I would only be too glad to endorse this if it were the truth. The fact of the matter is this, I am sending 20 cases on spec, knowing full well that a better market awaits it there than if sent to Sydney. I will let your readers know eventually of the success, or otherwise. Keeping bees in this district is only as yet in its infancy. Mr. Gale can be ascribed as being the legitimate father in these parts whatever, and should nothing turn up to hinder the honey industry will be a very large one indeed in the near future. We are all very pleased to see the bee men have almost succeeded with the government, their grievance to adulterated honey. I have received two copies of the *A. B. Bulletin*, please continue until further orders.

E. P. P., Whyte Park, Wirrabara, South Australia, April 2nd, 1898—I am sorry to say we have had the worst season ever was known here, I have only taken 80lbs of honey from 40 swarms, and plenty of others none, although it is a good place for bees.

## CO-OPERATION. AND THE HONEY INDUSTRY. BY FRANK J. FOSTER.

Sir,—The fact that good honey is now selling in Sydney at 2d. per lb is one which should set all who are interested in honey production thinking upon the probabilities of the future of the honey trade, and it should stir them to take some action which will put one of Australias most important future industries on a solid footing.

The main causes which have led to the present bad state of things, I hold to be as follows:—(1) Adulteration; (2) Want of unity among bee-farmers; (3) Lack of foreign markets. There may be other minor causes, but I believe these are the three chief ones.

I consider beekeepers of N. S. W. should feel very grateful for the efforts of the present committee of the N.B.K.A. in trying to cope with the adulteration business. I have a few suggestions to make in regard to the co-operation of bee-farmers to deal with adulteration and to further push the sale of genuine honey.

Suggestion 1, is that a uniform trade mark should be adopted by all members of the N. B. K. A. That each member when getting his labels printed might have the trade mark printed on his labels. This trade mark would guarantee the genuineness of the honey as coming from a bona-fide bee-farmer and would induce a very large number to join the Association. It would also be a guarantee to the buyer that he was getting pure honey, because the genuine bee-farmer is the last person to think of adulterating. Further, all purchasers of honey could be warned that they could not depend upon the genuineness of the honey they were buying unless it bore the trade mark of the Association on its package or label. The general public could be appealed to to deal a blow at adulteration by purchasing only honey which bore the trade mark of the Association.

Suggestion No. 2. In our midst has been started a branch of the great British Co-operative Society. This society has over four million customers in Great Britain, who import, yearly, over thirty million pounds worth of produce, and among this produce is a great quantity of honey. Through their delegates they have informed us, that if we can supply them with as good produce as they are obtaining from foreigners, they will patronize us by preference for national and other reasons.

Now, the course I suggest is this, That the N. B. K. A. after it has adopted a uniform label, should make a bid for a monopoly of the honey trade from Australia, direct to those millions of customers. This they can do by showing that they are a co-operative body of producers, who have stood together to protect their industry from the adulterator. The co-operative society buys from co-operative sellers by preference, and will not buy adulterated goods, where the genuine article can be obtained.

S. T. Pettitt, in *Gleanings*, recommends perforating dividers for sections with a number of holes  $\frac{3}{4}$  inch each. He made 122 in each with "most gratifying results in every way." "The crop was not only better, but larger than it would have been by the old way because the bees work to better advantage when properly distributed."

## WAGGA WAGGA.

T. HALLORAN.

I do not often write, for the reason that I am only a novice at the game. Beekeeping is only a hobby with me, but it is one I like. This summer was the most troublesome I ever experienced. In the spring things looked well, and bees swarmed better than usual; about December the honey flower ceased, and the ants and robbers began. The ants, the small black ones, were worse than I thought it possible for them to be. I tried all plans but found wood ashes round the hives, where they were on a

stand, round the legs of the stand to be the best. I put some hives on stands, and tied flannel soaked in castor oil, in kerosine, and in creosote round the legs, but without effect. I put some on bottles with a tin inverted over the top of the bottle, and a chalk mark round the bottle, but without success. I tried a mixture of tar, kerosine and fat, no result. I tried trapping them, and poisoning them, and I poured hot tar down their holes, until the country all round was tar marked; and at last I had to fall back on the ashes, which is successful if attended to. All this time there was no honey coming in and as soon as the ants were beginning to get the best of a hive the robbers would chip in, and clean the unfortunate swarm out in a day or two. I again tried all remedies that ever I heard of, but without results. I contracted the entrance, I put a drone guard on. I shifted the hive. All seemed of no use. A peculiar thing about shifting the hive happened, I waited until dark, I smoked any robber that might be left out, and after a little while I shifted the hive about fifty yards. Next morning before the sun was up the robbers were at it. On another occasion I was away for a day and on my return about sun-down I found the robbers at a hive, and apparently they had quite taken possession. I smoked them out and closed the hive, and they at once started on the hive next door, I put a drone guard on this, and it being late the robbers went home. I then opened the first hive and found no bees, no queen, but a lot of young brood. It was now almost dark, but I took the frames of brood to a rather weak colony thinking I was doing them a good turn, next morning the robbers were at this hive. I then determined to have no mercy on them. They were an organised gang, all coming from one or two hives on the southern boundary. I got strong kerosene emulsion, and having closed the hive I turned the spray pump on to them. In about two days there was not a bee in the apiary that would deign to rob his

neighbour. I was perhaps cruel, but I did enjoy the way their hive mates turned out the few that did get home with the kerosene on them. Most of them died at the hive they were robbing. I have not been troubled with robbers since. Within the last month the white box is blooming to some extent, and the bees are doing fairly well, but the honey is so thick I have to steam the combs before I can uncup them.

### PRICES OF HONEY.

Messrs A. W. Sandford & Co., Adelaide, South Australia.—Honey 4d to 4½d for best clear extracted.

Melbourne, (Victoria) *Leader*.—Honey 4d to 4½d.

Napier, N. Z., *New Zealand Farmer*.—Honey 4d wholesale, 6d retail.

Messrs A. McArthur & Co., Sydney, N. S. W.—Honey plentiful at 2d per lb.

Chicago, U. S. A., *American Bee Journal*.—Top price, comb 12 cents, extracted 6 cents, wax 27 cents.

Honey selling 1d to 1½d in Brisbane, Queensland, at present. Some fools are peddling at 2½d per lb.—A. F. Burbank.

### MUSWELLBROOK SHOW.

The following were the apicultural awards at the recent Muswellbrook show:—Collection of apicultural products in trophy form, A. A. Roberts 1, and very highly commended; leather coloured queen and progeny, Pender Bros. 1, A. A. Roberts 2 and 3; golden queen and progeny, A. A. Roberts 1 and 2, Pender Bros. 3; jars liquid honey, Thos. Ellerton 1, George Paine 2, Pender Bros. 3; bottles liquid honey, A. A. Roberts 1, Pender Bros. 2, George Paine 3; granulated honey, A. A. Roberts 1, George Paine 2 and 3; 1lb. sections, A. A. Roberts 1 and 2; Langstroth frame of comb honey, A. A. Roberts 1 and 2; large frames of comb honey, Thos. Ellerton 1, A. A. Roberts 2; beeswax, Chas. T. Bourke 1, Pender Bros. 2; brood foundation, A. A. Roberts 1 and 2. For members of Beekeepers' Association only: Jars honey, A. A. Roberts 1, Thos. Ellerton 2, A. A. Roberts highly commended; bottles honey, A. A. Roberts 1 and 2, Thos. Ellerton and A. A. Roberts highly commended; sections, A. A. Roberts; Langstroth frames, A. A. Roberts 1 and 2; half-depth frames, Thos. Ellerton 1, A. A. Roberts 2; beeswax, A. A. Roberts 1 and 2.

### COOMA SHOW.

The above show took place on 30th and 31st March, 1898, and was a fair success for the season. Honey collection, prize 10s., 1 Langstroth comb containing clover honey, 1½ Langstroth comb containing apple tree honey, 4 1lb. sections containing clover honey, 1 bottle clover honey, 1 bottle apple tree honey, W. Reid (Paupong); liquid honey—6lbs. white clover honey, W. Reid (Paupong); 6lbs. yellow box honey, Walter Reid (Paupong); 6lbs. black butt honey, H. Stuard (Cooma).

The white clover honey was right away the lightest honey, the yellow box rather dark for yellow box, the black butt honey a splendid sample for that honey. In previous shows clover honey has always carried off the prize, which is the case as a rule at other shows the clear light firm honey finding favor. We take the above as an exception.

### SYDNEY SHOW.

The annual show of the Royal Agricultural Society was held as usual during Easter week. The exhibits, while not quite as numerous as last year, were undoubtedly of greater merit. This was very apparent both in live stock and machinery. Horses and cattle reached a very high standard, and the South Coast and Jersey cattle were much admired by the hugh crowds that attended. In farm machinery there was a very extensive display, which was eagerly inspected by the country people. Vehicles, both light and heavy, made both an extensive and attractive display. The Government exhibits of cereals, fruits, vegetables, etc., grown at the various experimental farms, were worth going miles to see, while the woollen goods, manufactured at Parramatta and Marrickville, showed beyond a doubt, that in quality and appearance we can equal Old World standards. Food supplies were numerously represented and evinced great merit.

In honey the display was attractive, though better shows are occasionally to be seen in honey producing localities. The exhibits were generally good, though in comb-honey some exhibits were hardly fit for exhibition purposes. In extracted honey the exhibits were a credit to those who sent them in. The judges were Messrs. A. Gale, J. Trahair, and J. D. Ward. The following is a list of prizes.—Best twelve 1lb. sections, Bloxham Bros. 1, A. A. Roberts 2, best six 1lb sections, W. G. Watson 1, Bloxham Bros. 2; best large frame of honey, W. T. Seabrook 1, Bloxham Bros. 2; best small frame of honey, W. Abram 1, A. A. Roberts 2; best small frame of honey (sections excluded), A. A. Roberts 1, W. Abram 2; best samples of extracted honey in twelve 1lb jars or bottles, Bloxham Bros. 1; W. T. Seabrook 2; Champion Prize, trophy of £3 for the best collection of the products of an Apiary, W. Abram.

## TAMWORTH SHOW.

The Tamworth Annual Agricultural Show was held on the 30th and 31st March, and so far as the apiculture section was concerned the Tamworth Beekeepers' Association has every reason to congratulate itself on the successful result of this portion of the show. It is a noticeable feature that at almost all country shows, with the exception of Muswellbrook, the beekeeping industry is much neglected, and Tamworth has been no exception to this rule, but this year the local Beekeepers' Association, which has been formed during the last 12 months, determined to alter this state of apathy, and the result was that the bee exhibit was the most attractive feature of the pavilion. A large stand in the form of a pyramid was erected on a table in the centre of the pavilion, the competitive exhibits occupied almost the whole of the shelf room, and from the shelves were suspended large and small frames of comb honey, the top portion of the pyramid was built up with liquid honey in glass jars and bottles, comb honey in 1lb. and 2lb. sections, also wax moulded into different phases, the whole forming a very handsome and attractive trophy.

The services of Mr. A. A. Roberts, of Muswellbrook, were secured as judge, and this gentleman carried out his duties in a most able and satisfactory manner. Mr. Roberts expressed his admiration of the excellent quality of the honey, and also stated that the queens and bees were exceptionally high class, in fact he was afraid that if the Tamworth beekeepers took it into their heads to exhibit at the next Muswellbrook show the Muswellbrook beekeepers would have some difficulty in retaining their laurels.

Mr. A. J. Pankhurst of Duri Apiary, Mr. G. H. C. McDouall, Tamworth, Mr. J. Pender, jun., Carrabubula, and Mr. F. Smith of Smithvale Apiary, were the principal prize takers. The following is a description of the exhibits and the names of the prize winners:—Honey in comb, most attractive display, G. H. C. McDouall 1, A. J. Pankhurst 2; honey in comb, best six 1lb. sections, A. J. Pankhurst 1, G. H. C. McDouall 2; honey in comb, two small frames, F. W. Smith 1, J. W. Pender, jun. 2; honey, liquid, best six bottles or jars, G. H. C. McDouall 1 and 2; honey, granulated, six bottles or jars, J. W. Pender, jun., 1, A. J. Pankhurst 2; beeswax, best 4lbs., G. H. C. McDouall 1 and 2; best leather-colored Italian queen and her bees displayed in a single comb glass nuclei, A. J. Pankhurst 1 and 2; best yellow Italian queen and her bees displayed in a single comb glass nuclei, F. W. Smith 1, A. J. Pankhurst 2; special prize by Pender Bros., best six pickle bottles of liquid honey, E. J. Warren; special prize by Mr. P. J. Treloar, best fitted and most complete hive, ready for use, J. W. Pender, jun. 1 and 2; honey in comb, four small frames not competing in any other class, J. W. Pender, jun. 1 and 2.

## QUESTIONS.

EVERTON.

149.—Is there a method of making honey vinegar by solar heat?

150.—Is there a book published on honey vinegar making and the price of the book?

151.—Do you leave supers on or off during the winter months, and why?

F. SWAIN.

152.—What makes the best cloth or mat to put over the frames, to serve for summer and winter?

153.—Have you ever tried keeping bees in a shed or building of any sort, if so, with what success?

W. MURRAY

154.—What is the best size of hive for a nucleus? How many frames?

155.—Should the N. B. K. A. hold a Convention in June, and where?

\*\*\*\*\*

W. NIVEN.

146.—The weather being favourable a succession of drops. Should wet weather occur while a certain tree is in bloom, the nectar would be lost from the flowers that are expanded.

147.—At the Conventions held in this colony men of education and ability have read papers and taken a leading part in the work, I admit with the best intention of placing apiculture in a better position. In doing this they have taken the work out of the hands of the practical beekeeper to a large extent. The men we want at conventions are bonafide beekeepers. Another reason is that beekeeping is not as profitable an industry as many think. A beekeeper has therefore often to remain away from the convention on account of the expense.

148.—7 lbs.

A. A. ROBERTS.

151.—Yes. If the bees are strong, I leave them on; they can care for the spare combs better than I can, and it saves storage room, and if there is a winter flow they have a place to store it.

152.—I do not use mats winter or summer, a good sound cover and a well made hive I think suits the purpose.

154.—I like a four frame hive (L frame the same as I use in the rest of my hives) and with proper management you can winter them in them, and save a lot of trouble forming nucleus in the spring.

155.—Yes, in Sydney the most suitable place for all. I think Easter time the most suitable. I don't think the teachers should have all the consideration. I hope all country associations will be affiliated by then, and I feel sure good will result.

FRANK J. FOSTER.

155.—I say yes, a Convention should be held in Sydney, at the usual date and a special appeal should be made to all beekeepers to attend for the purpose of dealing with the special subjects of (1) Adulteration; (2) The export of honey through the Co-operative Society and the extension of the sale of genuine honey generally.

R. H. JERVIS

151.—On. Because they need no place to store, and moths will not trouble them, when one has 300 or 400 supers, they take up a lot of room.

152.—Get a good quality of canvas, give two coats of tar and cut to size required.

155.—Yes. Sydney.

BEEKEEPER.

155.—This should be a question to *paid up* members and associate associations of the N. B. K. A. only. If the Secretary of the N. B. K. A. is the good man I take him to be, if he has not already done so, he will no doubt do very soon, issue circulars to all such asking their advice, to be returned by such a day. Then call a meeting of committee, and take action on such advice, and if a Convention is to be held, hold it in a place most convenient to the largest body of such members and associate associations of the N. B. K. A.

UNSIGNED.

151.—I have taken them off, but find the bees come out of winter weak. I intend to leave them on in future with upward ventilation enough to keep the combs dry.

152.—Good oilcloth for flat covers.

153.—No.

154.—Anything less than six frames need so much attention. I use three worker and three drone combs for storing honey in.

155.—Certainly. Sydney. I would prefer it a week before Easter.

W. CRAWFORD.

149.—Don't know, had no experience.

150.—Don't know, had no experience.

151.—I say to leave supers on strong colonies, as the bees will take care of them better than if they were put away, and seem to winter as well as in single story.

152.—I find linoleum the best mat to put over the frames, as the bees won't gnaw them, and no matter if the wind blows the cover off, the mat will stop on and keep bees dry, and are almost everlasting.

153.—I have kept a few colonies under cover, and they do better than out in open air. They go to work earlier than other bees (in open air,) and within these last three years, I lost 50 per cent of bees (in open air) with paralysis, and not one of the ten colonies under cover had any signs of it, therefore did not lose any and all appeared to be dry and snug.

154.—I like a nucleus hive to take six frames, as I find it better than a small one.

155.—I should think it would not be worth while holding a convention, as most of the beekeepers cannot find time to attend.

GIPPSLANDER.

149.—Never heard of it being done. I know a beekeeper who has a vinegar room where the temperature can be kept even. I intend to build one myself next season.

150.—Have never seen a book on honey vinegar. We have made some very nice vinegar very simply. We just save our honey water when we extract, put it in earthenware jars and stand it on a shelf in the kitchen. It is sour enough in two or three months. Read what C. P. Dadant says on page 13, A. B. B., April, 1897.

151.—Leave them on every time, because they come out stronger in the spring. Another reason, we generally get a flow of honey in winter from honeysuckle.

152.—I find clean bagging answers very well. Put a double layer on in winter.

153.—Yes, I've tried it. Don't like sheds. Prefer a level piece of land without shade in the winter. A good hedge around the fence helps to break the wind. We have black wattle around us.

154.—Three frames Langstroth, one for brood, two for honey. Entrance about  $1\frac{1}{2}$  inches.

155.—Of course. In some beekeeping district. Victoria should do the same.

J. H.

149.—Don't know of any.

150.—There are many recipes for making honey vinegar, don't know of any book.

151.—Leave supers on during winter. I find no difference in hive with supers on or one with them off after opening up in the spring, and it saves much inconvenience.

153.—Yes. It answers very well if it was not for the expense; answers for shade in summer, and warmth in winter, and I think would be better for bees and save expenses in long run.

154.—Four Langstroth frames are about the size of hive for a nucleus.

155.—By all means hold a convention in June, although they have not done as much good as they ought to have done, they will do more in the future. We must educate. What convention or business does as much as it aims at. Let's have the convention and give the beekeepers on the Northern line a chance this time, holding it at say Tamworth, or some where on the line. Bathurst and Goulbourn have had a show.

G. H. ARKINSTALL.

149.—Yes. Never tried it. See A. B. C. on Bee Culture, allowing for the difference between the American gallon and ours.

150.—Not that I am aware of.

151.—I contract down to half supers as the honey flow slackens off, and leave them at that through the winter. I have tried both ways and to my mind they winter better with it on, and come up stronger and quicker in the spring, as well as

keeping up the population of the hive in the autumn better. But a good deal will depend on the climate. It may be better to contract down to one body in a cold climate, but I have had no experience in the snowy regions, so can't say.

152.—For both winter and summer a good quality carpet smooth side down. I have this on some of my hives, and like it well, the only objection I have to it is the expense. On the majority of my hives I use a piece of duck American oil cloth in summer, and add a piece of felt or linoleum on the top of it in the winter, the latter I like best as it is composed principally of ground cork, a non-conductor of heat or cold and to a great extent keeps the air inside the hive from condensing and dropping down on the bees.

153.—Never tried it.

154.—A four framed Langstroth or frames to the same capacity in any other size frame.

155.—Yes. Sydney I think is most central, but I am of opinion that it should be held at Easter time, just previous to the show; swarming being over he is a poor beekeeper that cannot fix his bees up so that he can leave them for a week at that time. There is also the advantage of cheap fares at that time.

G. S. HAY.

149.—Yes. Get a cask the required size, fill with soft rain water, add two pounds of honey for each gallon of water, knock the head out of cask, which should be placed where it can get plenty of sun, cover with clean chaff bag or piece of cheese cloth. You may skim or leave the froth on. With the above quantity of honey it will take about six months summer weather to make. When sour enough use the white of four eggs well mixed to 28 gallons to clear it and sugar well browned to color it. With a lesser quantity of honey the vinegar will make quicker. I could send you the Dadant's recipe if you wish from the *A.B.J.*

152.—For winter, leave a super or full body on, take a chaff bag, spread it over the frames, stuff it all round the ends and outside frames. This done, get a quantity of what is called bees-wings (otherwise the light chaff of wheat from the winnower), fill up the super or full story and pack, tuck in the ends of your chaff bag, place the cover on and your bees are warm and snug for the winter. As good as any for summer or winter is a good new corn sack, single for summer and double for winter, that is if you don't wish to go to the above trouble.

W. E. BAGOT.

151.—I keep them on to store the tie-tree crop in.

152.—Cloths are no good, the bees chew and gum them; if the ends lap over they get wet and capillary attraction draws the damp into the hive. Far better to use good beech hives with a proper bee space. This timber does not shrink and warp and you can depend on your hives being nice and snug in the cool weather.

153.—Yes. I have a small shed in the centre of my apiary. The points in its favor are: it is cool for both bees and men in warm weather; if your hives are made of pine or imported wood it keeps the weather from decaying them. Against it: Extra expense of building; hives have to be grouped closer together; you have to go out in the bright light to see eggs in the bottom of cells; spiders love to build their webs from post to post. On the whole I prefer them outside in covers 4ft. x 6ft. apart, let your cows and horses feed among them, they will keep the grass down and you will be surprised at the little damage they will do if slinging a roof over sometimes can be called damage. After 16 years' experience I have found this method to be the best and the bees gather just as much honey.

154. Full size hives with a follower are the best. During the continuous wet weather in January and February had several nuclei swarms out of small hives. The largest hives were quite contented.

155.—No matter when or where within reason let the N.B.A. make the marketing and sale of honey the chief subject of discussion. Let no other overshadow it, as on this one point alone rests the rise or fall of the industry.

W. S. PENDER.

149.—To produce vinegar no heat is required, fermentation sets up at certain temperature, and any heat above or below that point retards the development of fermentative germs. If the cask is placed in a warm situation, say a temperature  $90^{\circ}$  to  $100^{\circ}$  F, good vinegar will be made. If the honey and water be boiled before placing to ferment a clearer vinegar will result. When made from washings of vessels and capings, where the amount of honey to the water is unknown, an Hydrometer should be used. The following I roughly measured and entered in my book for reference: 2lbs of honey to a gallon of water registers  $14\frac{3}{4}^{\circ}$  on a Baum Hydrometer;  $1\frac{1}{2}$ lbs of honey to gallon registers  $10\frac{1}{4}^{\circ}$ ; and 1 pound of honey to gallon registers  $8\frac{3}{4}^{\circ}$ .

150.—The only publications on honey vinegar are the various hints given from time to time in our bee journals.

151.—Leave supers on during winter if there is a honey flow, take them off if no honey flow to make bees more snug, and store supers in a cold dry place or moth worms will destroy combs early in spring.

152.—A plain board and that the hive cover.

153.—Yes, in an open shed. Sheds are too expensive unless hives are very much crowded, and spiders become troublesome. If I again used a shed I think it would be a house apiary, i.e. closed all round and under lock and key, giving entrances to the bees through the sides.

154.—No. Encourage country associations to hold district conventions. Then the conventions will be of the greatest good to the greatest number.

J. C. HALL.

149.—Have not tried by solar heat, but think it could be made much quicker. Nothing easier than making good vinegar. Mix 2lbs of honey to the gallon of water, let stand in an open cask about 10 to 12 months. I have made vinegar several years this way.

150.—Have not heard of any.

151.—Take supers off by all means, they are warmer and come out better in the spring. I like the doors shut in cold weather, and boxes are better under cover.

152.—I prefer canvas.

153.—Yes. But don't like sheds, I like the open air, the bees are easier to work, and you have more light.

154.—Three and four frames.

## QUESTIONS NEXT MONTH.

G. STEVENSON.

156.—I know a man who keeps about 100 hives in common boxes and strains the honey. He would like to keep his bees in better hives but can't afford the expense. If I find the hives, foundation and extractor, he to fill them with swarms, keep an eye on them, and help to extract, what would you consider a fair share of the honey to be allowed him? As to the value of the bees, I may say that I frequently buy swarms from him at 3/- and I would retain the ownership of the hives, allowing him 3/- if I should remove any of them. I should be glad to have the opinion of some of your leading beekeepers on this point?

J. F. MUNDAY.

157.—Do bees spread or transfer disease among plants, say among potatoes?

In the paper on Adulteration, read at the Muswellbrook Convention, a misprint occurred. It should have read, "Glucose manufactured from corn," not as printed "IRON."

Our deepest sympathy goes out to our American cousins in the war trouble now visiting their land, and our sincere wish is that none of our beekeeping friends will suffer by it, also that a speedy victorious termination will secure things again in the track of peace and prosperity.

J. F. Bingham says in *Beekeepers' Review*.—The plain sections will cause the beekeeper extra expense, the shipper extra danger, the merchant extra care, and will be a violation of the accepted lines of art and beauty.

Michigan beekeepers have been experimenting with foundation with no walls. Bingham and Aspinwall report favourably and Hutchinson of the *Beekeepers' Review* thinks it is worthy of most thorough trial.

According to the *Canadian Bee Journal*, adulteration being quashed there, it is resolved to follow up by punishing those who put unripe honey on the market. The trouble is to get a standard of how much water honey should contain.

Mr. H. Jervis writes:—In looking in a hive where I had introduced a queen, I found bee balling her. I smoked all the bees away but one, and that one had hold of the queen with its sting protruding, trying to sting, when the queen caught hold of it and pulled it clean out.

A Mr. Aspinwell uses tin separators, having immediately opposite the upright of the sections oblong transverse slots, reaching to within half an inch of each edge of the separator. On this edge not cut out  $\frac{1}{4}$  in. stops are fastened, the purpose of which is to separate the separator a bee space from the sections.

In reference to our remarks about that disease at Inverell, alluded to in our Northern notes, we have since received the following from Mr. Penberthy: "In reading Cook's Manual I saw that raspberry rust has been gathered by bees in place of pollen, it struck me that my bees were gathering wheat rust when they got that disease. I was greatly puzzled to know where they were getting so much red pollen from, as I knew of nothing in bloom of that color, except Darling pea which they did not work on. A farmer told me that the bees worked in thousands on the stalks of wheat about that time. I am sending some to Sydney to make sure."

## THE MUSWELLBROOK CONFERENCE.

*Continued.*

THURSDAY MORNING.

On the motion of Mr. Grant, seconded by Mr. Ellerton, Mr. J. W. Pender took the chair. He said he had been requested to convey the hearty greetings of the Hunter River Beekeepers' Association to those present. The Muswellbrook was a live association to co-operate with. He complimented them on the splendid display at the show. It was contemplated in West Maitland to have a Convention there, and trusted that the Muswellbrook Association would come down and assist them. Australia was one of the finest countries in the world for the production of honey. He alluded to the antipathy in England against every thing Australian. Things were there in the hands of middle-men, who poo-pooed our products, but sold them as English at top prices. Till such time as Australians saw their way clear to have their own stores in England we will not get the price we deserve.

Mr. Grant read a paper by Mr. C. U. T. Burke, on "Out Apiaries," and another on "Foul Brood" by Mr. W. S. Pfeffer.

Mr. Gale took exception to the words "amateurs spreading disease." All beekeepers were amateurs at one time or other. They commenced as amateurs for the purpose of becoming practical men. The words should be changed to "careless beekeepers." He could not understand fumigating outside, but understood fumigating inside. Re the Foul Brood Act, he thought the majority of people were not aware what we required. The Act would not require an army of inspection to work it. What he should like to see should be an inspector in his own district. He advocated the division of the colony into districts, each of which should have its own committee and chairman, and should send down a representative to the central committee under whatever name you like to call it,

and let your practical men be your inspectors. The men we have to fear are gin case men that slop it out in tubs, and buckets. Men with bar frame hives and not gin cases—the practical beekeeper—will never have trouble with disease like careless beekeepers. The Act was now in print, and waiting for some time to get passed through the House. Under the Act there would be no inspectors, but a board would be appointed. He had a decided objection to make billets for hundreds of men. There would not be a penny taken out of the pockets of any beekeeper for the purposes of the Act any more than for the purposes of the Board of Health. As soon as Mr. Smith, the Minister for Agriculture, can get the bill through he would do so. It would be submitted to the beekeepers and they should not run away with the idea that the majority would be ruled by the minority. All beekeepers would have to be registered under the Act. Persons inspecting should be allowed out of pocket expense. He urged suggestions should be sent to the National Beekeepers' Association.

Mr. Grant next read a paper by Mr. Cooper of Armidale on "Wintering of Bees."

Discussion ensued, in which Messrs. Gale, Ward, Grant, and Cox took part.

Mr. Pender called attention to the destruction of bees by owners of cordial factories.

Mr. Ward thought the devil must have something to do with the man who deliberately set traps for bees to destroy them. He again referred to the matter of affiliation with the N.B.K.A., expressing regret that correspondence for the Muswellbrook Association had not been attended to, but promised such should not be the case during his term of office.

Mr. Gale also spoke to the same effect and said the Muswellbrook beekeepers were justified in their complaint.

On the motion of Messrs Ward and Tipper, supporter Mr. Cox, Mr. Grant, the Secretary of the Muswellbrook B. K. A., was instructed to issue circulars to

various associations of the colony, asking them to consider as to the best means of dealing with the evil caused by cordial factories, and make suggestions to the Secretary of the National Beekeepers' Association.

A hearty vote of thanks was accorded the Chairman on the motion of Messrs Gale and Ward by acclamation.

The chairman in replying, said that beekeeping would yet be one of the leading industries of the colony.

Mr. Grant, on behalf of the Muswellbrook B.K.A., thanked all present for their attendance at the convention, and expressed a hope that that was only the first of a series of conventions to be held in the country.

#### QUEEN REARING.

By Mr. W. S. Pender, read at the conference of beekeepers held in Muswellbrook:—

The essentials for a first class breeding queen are: 1st. That her workers should be good honey gatherers. 2nd. The bees should be sufficiently tractable (gentle) as to permit of examining the hive. 3rd. The queen should be prolific. 4th. The queen should be long lived. 5th. The queen should be as pretty as it is possible to get without deteriorating other qualities; by pretty I mean as regards colour, form, size, etc., etc. If a queen should show the slightest deformity by all means discard with her. 6th. She should reproduce her good qualities in her young, and a queen who will not do this is not a first-class breeder. No one can breed good queens who does not pay special attention to the drone. Drones should be bred from tested colonies which have proved to be good honey gatherers, the queens in such colonies being perfect, the drones should be of large size and active. I will not say much about colour, for the colour of the drone varies from almost black to almost solid golden. The black drones generally belong to the Ligurian strain from Italy, but so far as I can see the colour of the drone does not affect the colour of the progeny of the queen he mates with.

**Queen Cells:**—To produce good queen cells the hive must contain a very large number of nurse bees and a fair amount of stores. In order to get a colony into this condition early in the season give it as much hatching brood as the bees can care for or give both bees and brood. When such a colony is very strong confine the queen to the lower storey by placing a queen excluding honey board between it and the upper stories. In eight days all the brood above the queen excluder will be sealed; examine the combs and destroy all queen cells (if any) started

thereon, now remove the lower story with queen excluder, placing the upper story on a bottom board where the hive stood, and leave them undisturbed for 24 hours or more. The hive now containing the queen can be placed in the position of a colony from which queen cells have just been removed, placing the latter over the queen excluder as supers.

The 24 hours now expired, the bees have missed their queen, they have searched the hive for her, and failing to find her have looked around for an egg or larva upon which to raise another queen and find none, for all the brood is over eight days old. There is an abundance of nurse bees with food in their stomachs ready to feed the brood, in fact the colony is in just a perfect condition to feed abundantly and to give every care to rearing young queens. The beekeeper now gives these bees a certain number of larvae of the right age in a favourable position for them to care for them when mature and under the most favourable condition for the production of perfect queens. Remember, the only care and attention these bees are called upon to bestow is upon the 15 to 20 young larval queens. Fancy 15,000 to 30,000 bees to feed so few young queens and gather what food they can obtain from the fields. Can anything be more favourable?

**How to prepare the cells:**—There are many ways of preparing the cell cups ready for the queenless bees to complete the queen cells. That which found most favour a few years ago, and is still preferred by many, is the artificial wax cup invented by Mr. G. M. Doolittle. He prepared a round piece of wood and shaped it at the end to exactly fit a cell cup. By soaking this stick in water and dipping it into melted wax about  $\frac{1}{2}$  an inch deep he succeeded in producing a wax cell cup which the bees would readily accept, the wax cell cup is dipped less into the melted wax each dip by 1-16th of an inch, which leaves the edge very thin and the base thick enough to resist what handling is necessary in after manipulation. These wax cups are easily removed from the wet forming stick. A piece of wood about a  $\frac{1}{4}$  inch thick and long enough to just fit in a frame between the two end bars is now secured about the middle of the frame with one nail driven through end bars into middle of end of stick, a number of these cells cups are arranged on this stick about  $\frac{1}{2}$  inch apart. Into the bottom of each cell cup is placed a small quantity of royal jelly (larval queen's food) after which a tiny white larva, from the breeder's hive, is transferred on the point of a fine pointed quill or piece of wood, on to the royal jelly. The frame thus prepared, with the centre stick turned so that the mouths of the cell cups point downwards is given to the queenless bees previously referred to. The wax cup, as introduced by Mr. G. M. Doolittle, was modified by Mr. Willie Atchley, who made a small sink at the bottom of the cell cup about  $\frac{1}{8}$  of an inch deep,

and the diameter of an ordinary worker cell. Instead of using royal jelly in the cell cup, he secured a piece of old comb from the breeder's hive, and shaved all the side walls down to the base; he now, with a fine pointed pair of tweezers, removed the old cocoon (called cradle) from the base of the cell with the larva in position and placed the cradle in the sink of the cell cup. By this means the larva was not disturbed and so there was no chance of injury to it in the transfer. The cradles can be more easily removed if the piece of comb be bent over the finger. To facilitate the removal of the cradle a Mr. W. H. Pridden introduced a stick called a transfer stick, a piece of round wood reduced at the end to fit inside a worker cell, a hollow being worked in the end of the stick to make the edges sharp, by pressing this on the cradle the edges of the stick gripped the cradle while the hollow protected the larva from being crushed. The above are the kind of cell cups most generally in use.

A few years ago a Mr. J. D. Fooshe advocated the use of drone comb for cell cups. This has again been prominently brought to public notice by an able article by Mr. H. L. Jones of Queensland. Worker cells had been much in use before the wax cell cup was used, but the queen cells were so close together when every alternate cell was destroyed that many of the cells were injured when separating the cells. With the drone cells there is plenty of room for removal of the complete cells without injury. The following is how the cell cups are prepared:—A sheet of drone is laid on the table and cut into strips between every alternate row of cells, *i.e.*, one row of cells is left perfect, these strips are laid on their side, and the perfect row of cells is cut down to about  $3\frac{1}{16}$ th or  $\frac{1}{4}$  of an inch deep. The strips are now taken, the long cells dipped in melted wax and placed on a stick in a frame prepared as previously mentioned, where they are held firmly in position. These cups are now grafted, as mentioned, for the wax cell cups. In my work with the bees I find it unnecessary to use royal jelly in grafting cells, in fact, I have had better results where I have not used it. The cell cups should be placed in the queen rearing hive as soon as grafted. In two hours after the cell cups are given to the bees, especially when the drone cell cup is used, all the cells accepted by the bees will be found perfectly shaped, and the larvæ floating in the royal jelly.

The care of a Breeder:—I mentioned that a breeder should be longlived, to breed this trait in bees queens should not be used until "proved" and a choice queen that has kept a colony of workers around her for two seasons is just the queen I would take care of for the next season's breeding. As the life of a queen depends greatly upon her fertility for egg production, if we wish to lengthen her life we should restrict her laying; this is best done by keeping her on a few combs. In order to get plenty of larvae for

our queen cells the breeders should have plenty of bees. To accomplish our object we confine the queen on three or four combs, using a queen excluding division board, removing a comb of brood every now and then from the queen to over the excluder and replacing with an empty comb; if the hive is becoming too populous, several combs of brood are removed from the hive. By keeping a bee thus surrounded by a large force of nurse bees the larvae are extra well fed with white milk food until weaned. It is the larvæ thus surrounded with an abundance of this milk food that I select for rearing queens from, for they are never stinted of food from the time they are hatched from the egg, and are thus just as far towards becoming queens as if they were in a queen cell.

We will now return to the colony of bees we left to build the cells. The larvæ used were selected to hatch queens in from  $10\frac{1}{2}$  to 11 days. Should the 10th day fall on a Sunday, I select larvæ that are a day younger, so that the queens would not be due until Monday evening or Tuesday morning. This requires considerable judgement and experience. Our queens are now nearly due, we must be prepared to take care of them, so we will now make ready a nucleus (a little colony) for each cell. On the 8th day from the time the cell cups were given to the queenless hive select one or more strong colonies of bees, from which take a comb of brood and bees and one comb with honey, some of which preferably unsealed, and one empty comb. Place these in the hive with as many bees as can be spared, put the comb of brood between the other two combs, put on the cover and cover the entrance with a wire gauze screen, made by nailing together 4 pieces of pine  $\frac{1}{4}$  inch square and covering with wire gauze. Prepare as many of these hives as there are queen cells, place them in a cool shady spot, preferably in a room away from other bees. On the evening of 9th day these colonies are to be placed in the position they are to remain just about sundown, and the wire entrance removed. On the 10th day remove the matured cells, separating each one carefully and place it face downwards in a cell box (a  $\frac{1}{2}$  inch hole for each cell being bored through a piece of wood fastened in a small box and covered from sun and cold wind.) Carry the cells to the nucleus hives, remove the cover, separate two of the combs sufficiently to receive the cell which is taken between the 2nd and 3rd finger and held between the combs while the frames are drawn together to keep it in position. Each nucleus now has a queen cell and by evening a young queen will emerge, and in the course of ten days she should start to lay. The beekeeper must now be prepared to meet many disappointments. Continuous rains, cold winds, the absence of a honey flow, birds, bee-hawks, &c., &c., often cause great loss. During September last I only got about 5 per cent. of young queens mated through continuous col-

frosty winds cutting off all honey flow and preventing queens flying or destroying them if they attempted to fly to meet the drone, when only a week before I had a nice lot laying nicely. The scarcity of a honey flow can be overcome with feeding. No matter how much honey a hive may have if no honey is coming in the young queens are not disposed to fly. The Alley feeder I find works well. A conical tin holding four or five ounces of syrup, having a piece of calico stretched across the mouth and held in position with a tin collar. A  $\frac{3}{4}$  inch hole is bored through the cover of the hive and these feeders are inserted in the hole, the bees licking the syrup through the calico. There are other ways of forming nuclei, but the above is the best early in the season. We must now return to the colony which built the cells; they require a queen, select a colony having 6 or 7 combs of brood, put on a queen excluder and place it in the position of the queenless hive, placing the latter over the excluder. In two days place the upper storey below with the queen and the lower storey above the honey board, in 8 days this hive is again ready to start more cells by keeping several colonies going, in this way queen cells can be raised in large numbers, and, by a little systematic management, the lower storey removed to make a hive queenless can be given to a hive from which cells have just been removed.

As far as possible I try to keep nuclei three days queenless before giving a queen cell, in which case it is often convenient to give a virgin queen from an Alley nursery. This consists of a number of provisioned cages made to fit an ordinary frame, in each cage a queen cell is placed. When the queen emerges she has plenty of food and is confined until let loose at the entrance of a queenless hive or nucleus. When cells have to be given the nuclei less than two days queenless the queen cell protector is used, this saves many cells from being destroyed by the bees, but keeping the nucleus three days queenless is the most satisfactory. Six days after giving a cell the nucleus should be examined and if the young queen is missing, a cell or virgin queen should be given, at the same time destroying any queen cells started on their own brood.

#### FOUL BROOD.

The following paper was read at the late Bee conference held at Muswellbrook:—

*A few remarks on foul brood by William S. Pleffler.*

I think all practical beekeepers are acquainted with text book descriptions of foul brood, so I need not repeat them here, my object is to give a few words of advice to those who live in districts where foul brood is prevalent. I think amateur bar frame men do as much to spread the disease as gin case men, who work as much for wax as

honey, the bees consequently, get a clean shift at least once a year. The amateur bar frame man does not like to destroy any combs so tries various remedies, his bees in the meantime dwindle, robbers come, and so the disease is spread. If you have a colony very much affected treat with the McEvoy cure but be sure you burn the brood frames. Don't try to melt wax out of the rotten stinking things, immerse all parts of the hive in running water for two days, on taking them out scrape off any propolis which will now be soft, and leave exposed to the weather for a week or two before again using. If you have a number of colonies only slightly affected destroy the worst queens, and tier up the brood from the others on them. In three weeks time extract the honey, cut out all combs that have contained brood, and melt down for wax; the empty frames are those that contain honey comb, put into hive bodies and immerse in running stream for two days, on removing them dry them in the extractor, scrape off any dirt, and hang up in the sunlight for a week, when they can be again used. And as prevention is better than cure, everything that will minimise infection should be done. Every time you use your smoker, put a pinch of sulphur in it, and wash it and your hands, after manipulating any doubtful hive, before proceeding to another. Once a week when the young bees are flying at mid-day spray them, and around the hive, with a solution of phenol. Keep moth marbles inside the hive. When extracting do not interchange the combs, put them back into their own hives; it is better to leave the bees idle for an hour, and take a few more days longer extracting than to run the risk of infecting them. Do not winter your bees in brood combs, melt them down for wax, give them frames of honey from the supers that have never contained any brood, and in spring give a frame of pollen which you are sure does not contain disease. Watch the queens you procure from another district—a change of climate may not suit them; they are often the first to contract disease although they may come from a place where disease is unknown. If a foul brood act was passed it should only come into operation in any given district on a requisition being signed by the majority of the beekeepers residing there and should not come in force over the whole colony. Of what use would it be to me surrounded by bush bees? Or what necessity would there be for it in a clean district? An inspector would only require to visit where the act was in force. By all means get queens from a clean district, but do not think they must of necessity be disease resisting, or you may be disappointed. I am quite satisfied foul brood can be conveyed by queens. In conclusion I would say, let your watchword be vigilance.

## AMONG THE NORTHERN BEEKEEPERS.

We took the Brisbane mail at two o'clock in the morning contemplating the finishing of our night's sleep in the railway carriage, but instead found agreeable fellow passengers, who pleasantly wiled away the hours till on our right we see the day begin to break, and, we cry, "Hail, Smiling Morn"; then on, stopping at various small stations, the little flower gardens drinking in the early sunshine, the closed doors with curling smoke from cottage chimneys, and the clear sharp air indicating that we were in a clime where cold nights and mornings are the rule, and frost and snow are not unknown visitors. Through stretches of forest and hill and cultivation thus varied we roll on till about nine o'clock we found ourselves at Glen Innes, a scattered town of some 3000 inhabitants, which as we looked down the main street seemed somewhat seedy, and in want of the brightness and business-like look that would betoken a prosperous place. After breakfast we took our seat in the coach for Inverell, 42 miles. The box seats had been previously secured, so we had all the inside to ourselves for a good part of the journey. A few apparently prosperous farms were passed, large stacks of oaten hay being conspicuous beside the homesteads. Several of these farms being close to the roadside were local post offices, the coach stopping to receive and deliver mails. Inverell is some 1100 feet lower than Glen Innes, but there is no magnificent mountain scenery on the road between—the usual monotonous Australian scenery—trees, trees, trees. There were two long descents, at the top of which were conspicuous notices, "Dangerous for bicyclists." One, Waterloo Hill, was two miles from top to bottom, with such a number of twists and turns over culverts that would make a cyclist shudder, unless his nerves and muscles were made of iron. A great percentage of the trees were in bud—white box, white

gum, yellow box. There were also any amount of apple trees. As the coach rolled on, hour after hour, through these monotonous trees and hills, we could not help thinking of the vast extent of the Australian forest generally, what expansion there could be to the production of honey if there were only markets, and the price of it could be kept up.

We arrived at Inverell about four o'clock in the afternoon, it seeming, after the long coach road, like arriving at an oasis in the desert. It a well laid out town, with wide streets and a goodly array of public buildings, churches, shops, &c. It was not long before we found ourselves among the beekeepers, and the guest of Mr G. H. Arkinstall, the secretary of the local association, at whose residence we stayed whilst in Inverell. Before breakfast next morning we had a look round his apiary. This, with his pretty and substantial dwelling, is situated on half an acre of ground on the outskirts of the town. The space allotted for the hives has most of them arranged in a circle. He uses the Langstroth frame, and gable covers, also full-sized frames for the brood chamber, and half supers above. Being by trade a carpenter and joiner, and using a Barnes saw, all his hives and frames are made by himself. His bees are all Italians, very few being mismated, and being not only a skilled mechanic, but a careful reader, he raises all his own queens, not only from the best honey gatherers, but under the best non-swarming conditions. We were very pleased to see his arrangements for foundation making. A large wash boiler, in which is fitted a vessel for holding wax to be melted, with a partition of fine wire gauze, through which the melted wax strains, whence it is dipped into another vessel attached to one in which the foundation board is dipped. The melted wax passes to the latter, which has a hot water jacket, heated by means of a lamp, so that the temperature of the water can be regulated to always keep the wax at the proper heat for dipping. This foundation

apparatus is very neat, occupies little room, and produces splendid foundation at a very minimum of trouble. He is a great believer in full sheets of foundation.

At ten o'clock we found ourselves in the Show Ground. There was a very nice display of apicultural products, unfortunately, however, in two separate pavilions, the two trophies by the local Association being in one, and the rest of the exhibits in another. The Show, generally, for some reason or other, was not so successful for exhibits this year as last, and the bee exhibits were a redeeming feature. We spent the afternoon looking at the different exhibits, the jumping, &c.; among other things being introduced to the local M.L.A., Mr. G. Cruickshank, who promised whenever he could be of service to the industry in his parliamentary capacity he would be most willing to do his utmost. Next morning, we accepted the kind invitation of Mr Pennington, senr., to ride out to his son's apiary, Mr J. Pennington. Mr Pennington, sen., is a native of Yorkshire, England, spent a few years of his life at sea, and can spin a good old yarn. The four miles drive was through grand agricultural country. Mr J. Pennington has resolved to make beekeeping his means of living. He has some 120 hives, made of a size he fixed on before he knew there was a standard frame. His workshop and honey house are well fitted up, he using a Barnes saw, and making all his hives and frames. Unfortunately paralysis or some kind of disease had been at work in his apiary, causing the emptying of a number of hives, but that was getting better now. After partaking of dinner, on our way back to town we visited the apiary of Mr Williams, a gentleman who while carrying on business in town, finds time to devote a great amount of care to about 15 hives. Next morning Mr A. Pigott drove in from his Orange Grove Apiary, some seven miles, to take us out there. It was a very pretty drive, out over the town bridge that spans the McIntyre River, up some steep hills.

ing country, and passing several small farms. Mr Pigott's father settled here about 14 years ago, and with the assistance of his family has truly made the wilderness "blossom as a rose." Mr and Mrs Pigott, senr., lived in Bolwarra about 30 years ago, and we had a very interesting conversation about some of the old residents of that place at that time. They go in largely for producing raisins, and an immense blackberry hedge some 100 yards long, convinced us beyond doubt good blackberry jam can be made in New South Wales. Mr A. Pigott, like Mr J. Pennington, has taken to beekeeping as his living. With a circular saw he has also made all his hives, frames, etc. He has good bees, and we believe, and also most sincerely hope, he will make it a success. After partaking of refreshments we were driven back to town, where we found Mr Pemberthy awaiting to take us to Elsmore. Bidding farewell to Mr and Mrs Arkinstall and their family, and thanking them for their kind hospitality, we went with Mr Pemberthy on the road to Elsmore, making a stop about a mile out at the residence of Mr Thomas Mather. Mr Mather is an old resident of Inverell, during which time he has accumulated a competency, but unlike too many others, he has resolved to stay and spend in the place where he has gathered. His fine two-story mansion overlooks the town, and in addition to other well laid out grounds, he has an orangery and a small apiary of about 15 hives. He also produces some excellent wine. A drive of 12 miles brought us to Elsmore. Here we were among the tin mines, and at Mr Pemberthy's apiaries. Mr Pemberthy is certainly the pioneer beekeeper of the district, and one of the largest honey raisers in New South Wales. It was dark when we arrived at his house, and after horses had been unharnessed, and the exhibits brought from the Show disposed of, supper was very enjoyable, more so as Mrs Pemberthy we found was a native of Clifton, near Bristol, E., her early years being spent there. We had often been

tion never flagged till bed time. Mr P.'s original apiary is some two miles away. The present one has only been established some twelve months. The ground had been cleared of the forest, and in its place a thick wattle scrub had risen, on which the apiary was laid out. It was very pretty, at breakfast time next morning, to look through those wattles at the early sun. They give abundant pollen in spring.

He believes it is the best and strongest queens that get mismated. Weak ones cannot fly so far away, and are caught by the drones in the apiary. Strong ones fly away in the bush and meet black drones. For retaining swarms he considers a frame with pollen is quite as effective as one with larvae. His hives are some foot above the ground, resting on four upright stumps of wood driven in the ground.

The Penberthy family—father, mother five sons and a daughter—came out from Cornwall, England, a few years ago to engage in tin-mining. For a while they were very successful at that industry, but prices of tin came down. The father died about twelve months since. Three of the sons are now storekeeping at the local store, another works the mine, our host is the bee-farmer, and the sister, Mrs. Murray, with her mother, looks after the out-apiary. After breakfast we took a turn in the apiary and honey house. The latter is 18 x 20 feet. It contains three tanks capable of holding three tons honey each, also his wax melting apparatus. Each tank, as well as the wax melting apparatus, has tubes across the bottom, around the sides and across the bottom again above the entrance of the first, connectable with water jacketed furnace outside, i.e., the furnace is removable and adjustable to either of them. So if a tank of honey candies the furnace is connected and lighted, the jacket and pipes are filled with water, and the tank liquified. The same with the wax, only a different shape tank some six feet long, and with necessary strainers. For wax moulds he uses

the same as bakers do for loaves. They pack well, ten cakes fitting nicely into a kerosene box. His hives are arranged in sets of four, each one of the set facing a different way, so there will be no confusion of bees or queens entering the wrong hive. To show us his plan of queen rearing he made up a batch while we were there. He has four dipping sticks to make queen cells with on one handle. He made 16 artificial queen cells, went to a hive and got a queen cell with royal jelly in. With a fine brush he as it were paints the bottom of the artificial queen cells with this royal jelly, placing them upside down so as the jelly in each will not dry quickly. Then gets a frame of young larvae from the queen he wishes to rear from, and with a fine pointed pick transfers a larvæ to the bottom of each of the artificial queen cells, on to the aforesaid painted royal jelly. Having done this, he goes to a strong hive, in which the queen has been confined by a queen excluder to the lower story, selects a frame in the upper story and fixes the prepared queen cells. Looking next day nearly all were accepted. One great quality of a good queen is that she shall be a non-swarmer. To secure this all his queens are raised under conditions as far removed as possible from swarming. When the queen is in the hive, although confined below, the bees are not in a rush to make queen cells, above, and perhaps would not raise queens if queen cells were not given them, and these they leisurely complete, thus raising the very best and longest lived queens. He is a very careful recorder of his queens and their progeny.

For the past three months he in common with the other beekeepers of the district, has had great anxiety with a disease that broke out among his bees. The sealed larvae died and shrivelled up and the young bees that had passed through the larval stage were suffering from it. The larvae shrivelled up like a bit of chalk. Forty hives died out.

Others he united. He tried caging the queens, and was successful to a great extent in curing, but not fully. Found eventually hiving on starters, same as in foul brood, or the entire stoppage of brood rearing for a time, was the effectual remedy. Whatever was the cause of the disease (some kind of pollen fed to the larvae, probably) it was now disappearing of itself, a few hives lately attacked recovering slowly without treatment. Samples of the diseased larvae should have been sent to the Agricultural Department for analysis. As with the other beekeepers Mr. Penberthy makes all his own frames and hives, he adopting the Gallup frame— $11\frac{1}{2} \times 11\frac{1}{2}$ . For 60lb tins he prefers to well clean out kerosene tins. They are stronger than those made by the N.S.W. tinsmiths, he says. Next day we rode to the out apiary—two miles off, and which is also connected with the home one by a telephone, and, by the way Mr. Penberthy is a bicyclist, so that the two apiaries are well in touch. The route lay along bush, which has been well prospected for tin, quite a number of pits being dug to a good depth and then deserted, the holes being left unprotected and very dangerous for careless travellers or night walking. At this other apiary, where his mother and sister resides, are some 60 hives. Also a good honey house containing three more of these three ton tanks. Altogether in the two apiaries he can store about 18 tons of honey. We spent some time looking at the working of the mine being worked by Mr. Penberthy's brother, as well as the Inverell tin mine, where some rich stuff was being puddled, and on Tuesday morning, after bidding good-bye to Mrs. Penberthy and their little daughter May, he drove us to the cross roads at Dodds', where we joined the coach to Glen Innes. That night at eleven o'clock we were in Armidale, where we were met by Mr. Allingham, the energetic secretary of the Glen Innes and Armidale Association, whose show was being held the following days, and

shaking hands with some of the local beekeepers, including, Mr. Pfeffer, Sergeant Evans, and Mr. Cooper. This year has been the worst for honey in this district for nine years, the clover, on which it mostly depends being a complete failure. Mr. Pfeffer is not only a beekeeper, and a successful one at that, but secured first prizes for poultry for export, as well as pumpkins, showing us a splendid specimen weighing 80 pounds. At eleven at night we left Armidale for home by the mail train, having spent a most enjoyable and instructive nine days outing.

---

Mr. Aiken, in *Gleanings*, says:—While speaking of foul brood I may say something of my experience with it. In January, 1894, I purchased an apiary that was diseased. The former owner had transferred some combs, and used them in the extracting-super. These combs had the very first beginning of foul brood in them. In this way he introduced the disease to a nice apiary, and at the end of two years—the time I purchased the stock—I think it was four colonies that were pretty badly diseased, two of them very bad. The first year I had them, four more colonies developed it. The second year, two; the third year, one; while the fourth year (1897) none showed disease. During this experience I have watched it very closely; and, so far as it goes, I am led to believe that the disease does not progress very rapidly at first. I should expect, where slight contagion has been introduced, say in the fall or early spring, that the colony infected might live over that summer, possibly to die the next spring and be robbed out, and so communicate the disease to a number of other colonies in the yard. At this rate, about three years from the introduction of the disease would practically finish an apiary if it were not looked after. Possibly it may develop more rapidly at times; but this is my observation in one of my own apiaries, covering a term of four seasons, every colony thoroughly inspected from four to six

## CORRESPONDENCE.

M. C. Y., Coraki, March 28:—The season with me has been far too wet for the bees to work.

Mr. S. D. Matthews says he has produced as fine honey as ever he saw with paraffine paper and no bee space above.

A. B. McG., Boggabri, March 16:—All my bees are dead, owing to the late dry weather. All the bush bees about here have died out also.

J. S., Spring Creek, Eugowra, April 4: I am pleased with labels. You get them up very nicely. Bees doing a little better this season than last.

F. W. P., Glenmore, March 27th:—Have been busy extracting. Honey still coming in from white gum; white box just coming into bloom. Weather dry and warm.

W. R. jun., Paupong, via Cooma, 7th April:—I have obtained a little over one ton of honey from 30 hives up to date. Never seen the Midzlewood trees bloom so poorly as this autumn. Apple tree continues in bloom.

C. E. P., Kangarilla, March 28th:—Owing to the long dry summer and absence of flowers and bee food my little apiary has gone bung, and there being no prospects of the  $4\frac{1}{2}$  swarms being able to gather enough to keep themselves through the coming winter, I mean to drop the beekeeping till prospects are more lively. I think the *B. B.* is well worth its 5/- to a man of 20 swarms, and should be worth its 25/- to the apiarist with his 100 swarms.

W. C., Wingello:—I have had a very good honey flow this year out of what bees I had left from paralysis which played havoc among my bees this last three years. I am now moving them close to Wingello Station where I have built a large boarding house. Wishing you success with the *Australian B. B.*

Mr. A. W. Littlejohn, Balmoral, 24th March, 1898:—Re those 289 cases of honey you mention in BULLETIN of December last. From enquiries made I learn that the honey in question was shipped at Honolulu and consigned to

London, so that it was only landed at Sydney for transshipment purposes. It may be a relief to some to know that the honey did not go into consumption in New South Wales.

A. J. B., Byrock, 6th April:—I enclose 5/- postal note for my yearly subscription, for though I sold all my bees when leaving, I still am interested in the little creatures. There are none kept here, in fact I've not seen a bee since coming here last January, and I doubt very much whether they would thrive here, as flowers do not appear to be plentiful. Your paper certainly is not less interesting, in fact appears to me improving. Wishing it further success.

Mr. Thos. Hadfield, Glenrock, Grafton 21st March:—Dear Sir, In reply to yours, asking for information re honey sample I sent to England, I regret very much that I cannot send you sample, as I sold all out before this season's flow commenced. But the honey was gathered from iron bark, with a dash of clover and box. I might state it was a splendid honey, thick, mild flavoured, and very clear. In fact no person need wish for a better honey than it was. Mind you, I don't say this because it was my honey, but because I know good honey from bad. And I sent the very best because I had an opinion that the greater part of the honey sent to the London market, from Australia was strong flavoured, and as you know there are tons of honey raised in this colony almost unfit for food.

Gippslander, Fernbank:—I am sorry to say I did not require many labels this season, for it has been very poor all through. At the present time we have a fair flow coming in which will last a few weeks longer, and will give the bees plenty of stores for winter. The days being so short I am afraid the poor beekeeper will have to be satisfied without his share until next spring. Never mind, we know it will come if we only persevere. I hope you had a good season at your new place. Some day I shall come over to see you if all is well, I mean when I

get a good season. The *A. B. B.* comes very regular and is always welcome. Our friends at Bairnsdale have had a very poor season, and there are a few there that deserve better for they take the greatest care of their pets.

R. W. P., Shaw, April 5th:—Among my hives I have a bad case of laying workers. A young queen failed to return from her mating trips, or so I presume, as I did not look for her until she was due to start laying, and then I found that there were a large numbers of eggs in irregular patches, and many in some cells. There was still a large quantity of capped brood in the hive, and according to Heddon that should be a sufficient cure in itself. So I gave them a comb of young brood which were reared, but there was no attempt at cell raising. Next I carried the hive some distance away and shaking the bees off the combs replaced them with the hive on its stand, also adding another frame of young brood. Still no cure! Will there be any danger to the queen of another hive which I wish to strengthen, if I run these bees into it, or had I better smother them.

Are you positive you brushed every bee off the combs when you took the hive away a distance? Try it again before attempting to unite with another colony. Then also cage the queen of that colony for a day or so when uniting.

Mr. H. L. Jones, Goodna, Queensland, writing April 13th, says:—By the time you receive this, I will be "O'er the deep, o'er the deep, where the whale and the shark and the swordfish sleep," en route to Victoria. As I am not the best of sailers yet, murmur a gentle prayer for me as you peruse this, and picture me weak, weary, and sick at heart, gazing wistfully at the dim outlines of sunny Queensland's fast receding shores. Ouch! &c., &c., &c. If you hear of any of my friends becoming anxious as to my whereabouts, you might mention to them that I'm OK and will soon turn up again—right end. I'm sure you will be gratified to learn that I have had a *splendid* season, and my queen trade has been most satisfactory, both exportations and importations. I usually import from

Italy and America, but recently I have sought fresh fields, with most gratifying results, and my latest importation, as you will note from the inclosed clipping, is from Victoria and I must confess, is the Jewel of them all. Hurrah for Victoria and its glorious productions!

We not only wish the voyage a pleasant one, but also Mr. and Mrs. Jones' voyage together through life—long, happy, prosperous, and cloudless.

A. S. B., Molong, 9th. March:—I always receive my copy regularly, and have found many useful and interesting articles in it. One would hardly think that anyone would be so mean as to borrow his neighbour's copy, as reported in last issue, when the subscription is so small. This season taken on the whole is better than last. The dry weather before Christmas no doubt limited the supply of nectar, but the box trees kept things going wonderfully. The honey that I have extracted is the best that I have ever taken. Now a remarkable change has taken place, for that which the bees are gathering is the darkest I have ever seen, and moreover, has a most disagreeable smell and taste. It seems to me to be totally valueless, unless you could call it some medicinal honey, and extol its virtues for curing certain diseases. I am clearing it out as much as possible as I am sure a little would spoil a lot of good honey that may come in latter. I fancy it is obtained from weeds that have flowered well since the last rain. The bees swarmed well this season, but mine kept nicely within bounds. At the present time it looks as if the swarming fever is coming on in rare style, for almost all the frames (no matter how many there are) are full of brood and innumerable queen cells are on the road. On the 6th one swarm come out, and as all mine are very strong, it is difficult to know what to do to stop them. I destroy queen cells but others are started at once.

Give them room—foundation and supers. Try to keep that dark honey. The bad flavour might go out of it with age.

H. Niemeyer contends that May sickness, or paralysis, is caused by a lack of pollen in connection with ensuing abundance. If while the bees are gathering plenty of pollen, a number of days of bad weather ensue, followed by fair weather and abundance of pollen again, the disease appears in from 3 to 8 days after the cessation of the bad weather. A few days only of bad weather do no harm. The violence of the disease is in proportion to the length of bad weather, to the suddenness of the change to good weather again, and to the strength of the colony; the strong ones suffering most. Colonies which are not affected, he has found, are those which have a reserved supply of pollen. Colonies in sunny and sheltered situations have it worse. The disease can occur at any time in the year, though most likely to do in Spring. As a remedy, he proposes to feed liberally during the spells of bad weather with cakes of sugar and flour in connection with the honey.—*Beekeepers' Review*.

Mr. Pettit, in GLEANINGS:—I never witness this inspiring thing—comb-building—without being filled with wonder and admiration; the process moves so smoothly and harmoniously along that the little creatures seem under an inspiration. Now single out one bee and observe how it bites and pinches and builds the new comb. Now see another bee coming with a new white scale of wax in its pincers, touch the first one from behind, which moves right out of the way, and the other takes her place and puts the flake on the jagged edge of the new cell, pinches it fast, shapes moulds, and fashions it into wonderfully delicate and beautiful comb; and very soon another bee with another flake of wax comes along, and in turn takes the place, and so the process goes on over the different points of the new comb.

The following we take from the *Maitland Mercury*. Though not relating directly to beekeepers or honey, still we think it may be of interest to those beekeepers

who are in the habit of sending honey away to commission agents in large centres:—On the 9th instant a case interesting to farmers and producers generally was tried at the Sydney District Court before his Honor Judge Backhouse. The plaintiff, Samuel Foster, of Bowthorne, Hinton, broom manufacturer, sued Denham Bros., of Sussex street, Sydney, produce merchants and commission agents, for £17 13s 10d, balance due for brooms sold and delivered to defendants, the total supply being over £400 in value. Mr. Wilfred Blacket instructed by Mr. A. J. Prentice, of West Maitland, appeared for the plaintiff; and Mr. Pring instructed by Mr. James Baker, of Sydney, appeared for defendants. The defence set up was that the brooms were not purchased, but received on consignment for sale at prices fixed by the plaintiff. Plaintiff gave evidence on his own behalf, and the managing partner of the defendant firm, their manager, salesman, and accountant, gave evidence in support of the defence. The hearing lasted over three hours; and, after much correspondence and several statements of account between the parties had been put in evidence, his Honor called for defendant's books to be produced, and on certain facts being disclosed by the books when produced, at once gave a verdict for the plaintiff for the full amount claimed, and passed some very severe animadversions on the defence set up, and certain peculiar treatment of the defendant's ledgers. During the case the interesting statement was made by one of the witnesses for the defence that the defendants, although only commission agents, were entitled to retain for themselves all profits made on the sales of plaintiff's brooms over and above his invoiced prices, and then charge him commission and trade discount on those invoiced prices, while, if the brooms were sold at less than the invoiced prices, plaintiff was only to receive the actual amount realized less commission and trade discount. This interpretation of a sale as commission agents is certainly a novel one.

## GOSFORD.

J. J. PARRY.

Carniolan says in February number A. B. B., if beekeepers can't score a conviction against some of the city adulterators the best thing they can do is to fix up our honey with glucose before it leaves the apiary. Don't start that game, friends, else we shall have to start a factory here to make it, without you try to produce it yourself, from corn flour and an acid. We don't want to make more of our honey, I think the difficulty lies in getting sale for what honey we have. I believe glucose is made commercially by an acid on corn starch, probable oil of vitriol.

The subject of honey adulteration is of a considerable interest to beekeepers. But to most people not very attractive, but if looked at in the right light will be seen of much more importance than anticipated, and is more deserving of attention by the Government than most people think. Still, on reflection, I arrive at the conclusion that its a very difficult undertaking to trap those who wilfully adulterate honey on account of there not being any simple test by which spurious honey can be distinguished from the real. One of the means of checking adulteration, to a certain extent, would be to fine them for a start who have publicly advertised on their jars and bottles that the honey they were selling was adulterated, so if the fine was very heavy adulteration would cease to be profitable if caught. If the public generally will not look after their health, they should be forced to do so, as it is of a very great importance, so far as health and happiness is concerned, to be supplied with really pure food. I am pleased to hear that the Board of Health has promised to take steps for the prosecution of those placing adulterated honey on the market. And I also hope that the Board will drop down on the chocolate makers with their starch, also the lollie makers with the glucose.

But I suppose the persons offending against the Adulteration Act will be treated in the absurdly lenient fashion. Where the public health is thus exposed to danger, more stringent measures than at present obtained for the suppression of food adulteration by the Act is wanted. As honey is only used occasionally by most people, no one only the producer seems to be interested in it. So long as it is contained in bottles or jars of taking appearance its passed as being alright. "Fashion" never minds the flavor so long as it looks well.

I suppose I hardly need tell you that honey is valuable in constipation, also how easy it is digested compared with fats, starch, and sugar. It is surprising what amount of power is expended in preparing food of any kind to be taken in the blood, so whatever food we can assimilate without expending energy the better for ourselves.

I believe constipation is at the root of most diseases. Honey is also useful for soreness in

the chest, it allays the tickling and irritation in the throat, produces a healthy action in the bowels, gradually expels waste which would perhaps otherwise be spent up in the body, consequence of which the health must suffer on account of the injurious material poisoning the blood.

The beginning of diseases are often very insidious and gradual, slight dérangement of any organ, which at first produces little or no appreciable disturbance in the body, if left to continue, ultimately leads to organic disease.

Its the buying of this adulterated stuff unknowingly that is so detrimental to the pure honey trade, on account of them not receiving the benefit they would receive otherwise.

I am now making a special overall of the bees to see that they will be nice and snug, with plenty of stores for winter. The turpentine is now coming out in blossom, and the swamp mahogany will be out by the end of May. If you have any dark grades of honey you don't know what to do with, put it in your horse feed and you will see what sort of a coat he will get, feed at night it will keep him warm and the bees won't find it out.

## INVERELL BEEKEEPERS' ASSOCIATION.

G. H. ARKINSTALL, Hon. Sec.

The above association held their monthly meeting at the School of Arts on Thursday, the 7th inst. Members present—Messrs. F. W. Penberthy (President, in the chair), B. Pennington, H. Chisholm, H. Jenkins, J. Brown, J. Pennington, and the Hon. Sec. G. H. Arkinstall. The minutes of previous meeting were confirmed on the motion of H. Chisholm and H. Jenkins. Correspondence was read from the Secretary of the N. B. K. Association re matters appertaining to the general well being of the bee industry.

The Secretary announced the arrival of a batch of the *American Bee Journal* ordered some time ago, and distributed among the members present. Mr. B. Pennington said that through there being some protests to consider, the show prizes would not be paid over for about a fortnight.

General discussion then took place. Members report that bees are still storing honey, with every appearance of a good flow from "white box" later on.

Costs in connection with the show amounted to £3 9s. 9d., the Association won both first and second for trophy. Meeting then terminated.

One part alcohol, three parts skim milk, is the latest German lubricant for foundation.

Dr. Miller.—In keeping a record of the colonies I found the ones that are the furthest away from sheds and buildings always put up the most honey.

Much correspondence is now going on in the American beepapers re the new or revised no-bee-way section and fence. This section has the four sides alike, straight. The fence or separator having slots or grooves for the bees to go in or out. It is claimed the bees complete the sections very much better than they do the old style ones or with the way cut out of the two of the sides of the sections. It is in fact a division board made of thin strips with a bee space between, held together by thin upright cross pieces where the sections come together. These sections were introduced some years ago but fell into disuse. The main objection raised to them is there being no protecting corners they are very likely to get injured in handling, and the honey punctured with careless fingering. A Mr. Andrews after several experiments now makes his fence  $3\frac{3}{4}$  inches wide, 4 slats, 3-16th apart. This gives 1-8th at top and bottom of  $4\frac{1}{2}$  section, the cleats 1-6th x 1-4th, end cleats 1-6th x 3-8th, thinking however 3-16th thick would be better. Mr. Aspinwall uses a separator made of tin and immediately opposite the uprights of the sections, oblong transverse slots are cut, reaching within half an inch of each edge of separator. On this edge not cut out  $\frac{1}{2}$  inch stops are fastened, the purpose of which is to separate the separator a bee space from the sections. He claims his comb honey is entirely free from corner holes. With the new idea has also cropped up a section cleaner. Instead of scraping the propolis off the sections by hand as has hitherto been done, a sewing machine treadle working a wonder wheel, four inches wide, covered with sandpaper, or else a band same width, also covered with sand paper or emery, cleans the sections in no time. It also serves for sharpening knives.

Mr. H. E. Hill is now the editor of the *American Bee Journal*.

Gravenhurst favours having swarms on starters rather than on full sheets of foundation.

Bees will not build as thick a comb on a  $\frac{3}{4}$  inch top bar as on one an inch wide.—C. M. BLANXTON.

J. H. Martin, in "Californian Echoes" in *Gleanings* says a person removing bees should be compelled to get a certificate from a foul brood Inspector, guaranteeing the good health of the bees.

If the no-bee-way sections should supersede the old style, cleaning sections by hand will be also a thing of the past, a sewing machine treadle and sand papered wheel doing it much quicker and better.

Dr. Gallup says, A. B. J.:—Honey gathered in the forepart of the season, thoroughly matured and ripened, is the very best kind of stores for wintering; while honey gathered late in the season or at a time when the weather is wet and cool, is not sufficiently ripened or matured, and is not good for wintering.

---

## FOR SALE.

### W. & S. FAGAN

Fruitgrowers and Nurserymen,

**BEEHIVE NURSERY,**

**DURAL, N.S.W.**

HAVE FOR SALE:

A very choice assortment of CITRUS TREES, including the Washington, Navel, Mediterranean, Sweet, Yabba, Homassia, Valencia (late), Common Orange, Lisbon Lemon, Villa Franca Lemon, Emperor, Thorney and Beauty of Glen Retreat Mandarin.

ALL ORDERS CAREFULLY ATTENDED TO.

---

**W. & S. FAGAN,**  
**DURAL, N.S.W.**

## FOR SALE.

**100** HIVES of BEES, First-class Italian, in Munday Hives. Apply, JAMES CAMPBELL, Raymond Terrace.

**W**ANTED to buy 3 TONS PURE EXTRACTED HONEY. State Price, forwarding Sample.

W. R. MANNALL,  
West Maitland.

**H**AS any Apiarist in Victoria a quantity of 2nd HAND BEEHIVES, IMPLEMENTS, etc., which he wants to dispose of, or perchance an apiary for sale.

QUESTIONER.

J. E. Crane uses two saws 19-16th inch apart,  $\frac{1}{8}$  inch above saw table, running the four sides of sections through, leaving edges clean and white. He says the combs are made more attractive and sell more promptly.

D. H. Welsh, in *A. B. J.*, Gives an instance of a broken piece of comb, full of brood, being placed outside a hive and a board placed over to protect it from the sun and rain. The bees took care of it from June 10th to September, and cells being occupied as regularly as if a queen was in possession, although he did not see her carrying eggs nor a queen on the comb.

L. A. Aspinwall in *Beekeepers' Review*: Pollen being soluble in hot water at once commends to us the superiority of sun rendering over either water or steam; the latter, however, is less objectionable, although the high temperature (212° at least), together with the attendant condensation, naturally tends to dissolve the propolis, and contaminate the wax. Being soluble in hot water, particles infinitely small become incorporated with the wax; the presence of which may be recognized by the greenish shade; which also is proportionate with the amount it contains. The contrast is wonderful when compared with the beautiful yellow product of the sun extractor, as is also its texture, which is rendered hard and brittle in the same ratio.

## NOTICE

**S**HOULD any beekeeper have a doubt of the genuineness of any honey sold in his neighbourhood, send a sample to the Chairman Board of Health, Sydney, who will cause it to be analysed, and take proceedings if necessary.

**P**RINTING of every description executed in best style and cheaply at *Bee Bulletin* Office. Honey Labels a specialty.

† Capture the queen to be superseded and cage her in the cage you are to use in introducing the new queen. Allow her to run around the cage two or three minutes to give it her scent. Destroy her and run the new queen in the cage she came out of. Place the cage between the frames and close the hive for 24 hours, at the end of which time she will be out and laying. The bees will not object to her as they smell their own queen's scent, and all is well.—*The Southland Queen*.

Von Rauschenfels introduces queen "neater-fairly" by using a wax cage, which he makes by warming a piece of foundation (doubled if thin)  $2\frac{3}{4}$  inches long and a suitable width, and wrapping it around a lead pencil. The upper end is closed by pinching so as to terminate in a round form; then the pencil is withdrawn, and two or three little holes made with the point in the rounded end, so as to give the queen air and allow the bees to feed her. The queen is then made to crawl in head first. When she has reached the upper end, the lower part is pinched nearly an inch from the lower end, bent at right angles at that point, and the cage fastened to a top bar or in a comb aperture in the centre of the brood-nest, and the next comb carefully brought up close.—*Beekeepers' Review*.