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THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

Vol. 4. No. 38. MAY 24, 1895. PER COPY, 6d

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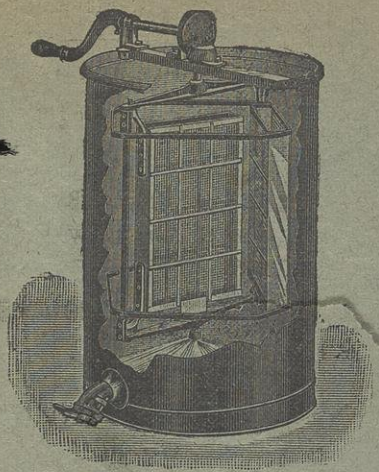

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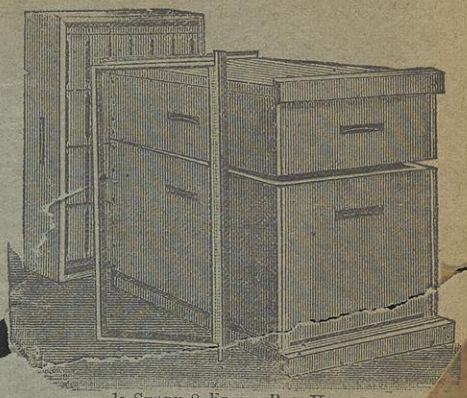

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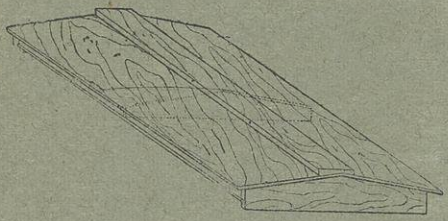

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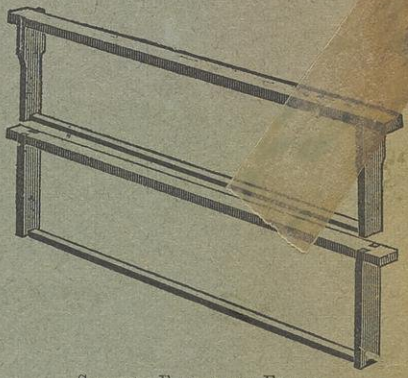

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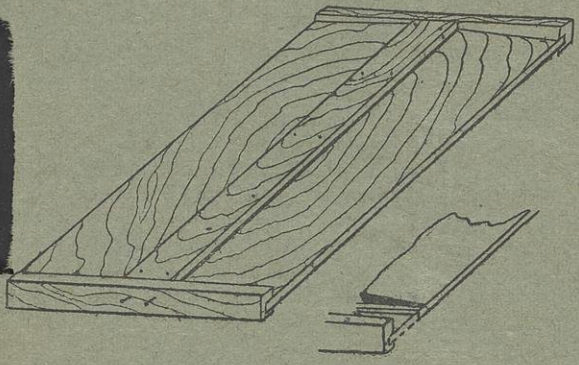

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R. Patten, Binni Apiary, Bolwarra,
WEST MAITLAND. N.S.W.

Hunter River Bee-Keepers' Association.

MONTHLY MEETINGS.

TUESDAY, JUNE 11TH.

C. MANSFIELD, Hon. Sec.

The Australian Pastoralist

AND BREEDERS' GAZETTE.

Monthly Journal circulating largely in Queensland New South Wales, Victoria, South Australia, Tasmania and New Zealand.

Price, 3s Per Annum.

Box No. 5, Woolloongabba,
BRISBANE, QUEENSLAND.

W. A. Selser, of Florida, U.S.—His honey-house which adjoins his apiary is two stories. The second story is where he does his extracting; he runs the honey into a tank, where it runs out at the bottom in a very small stream into an adjoining building, which is covered with glass, the sun shining directly through upon a large frame of material. By a curious device, the honey gradually runs over this and evaporates all water out of it, coming out at the lower end, running into the story below directly into barrels, where they are bunged up and stored away ready to be shipped out.

NOTICE.

All Communications for the *Australian Bee Bulletin* to be addressed to

E. TIPPER,
West Maitland,
New South Wales.

ANNUAL

CONVENTION

OF

BEEKEEPERS.

BATHURST,

Wednesday, Thursday & Friday,

JULY 3, 4 and 5.

FREE PASSES

— TO —

DELEGATES.

WILL be issued by the Agricultural Department through the Hon. Secretary, Mr. H. Rawes Whittell, to whom application must be made IMMEDIATELY, stating

1st—THE NAME OR NAMES OF DELEGATES FROM EACH DISTRICT.

2nd—The name of the Railway Station they will start from.

The Committee of the National Beekeepers' Association have made special arrangements for accommodation of Delegates with the proprietor of Tranor's Grand Hotel, Bathurst, opposite Town Hall, and Rooms will be taken at 5/- per day for each delegate, as their notification of attendance is received, unless they notify that they have made their own arrangements.

The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—MAY 24, 1895.

NOTWITHSTANDING the high price at which honey is retailed in Great Britain—from 8d to 1s 6d per lb; density of population, the want of honey bearing forests; her cry of free-trade, of Imperial Federation—how is it the produce of Australia is so systematically undervalued? A good joint of meat could only come from English fields; a poor one was of course Australian; a sample of arrowroot that had taken gold medals at Philadelphia, Paris, Vienna, and London, besides numerous colonial awards, when placed before an English *expert*, is declared by him to be "rubbish." Our honey is declared to have too much glucose! Glucose is the natural sugar of honey, and the proper term applied by analysts yet to one of the principal constituent parts. But the term has been applied to a base adulterant till the public shun honey supposed to have the slightest admixture of it, at the same time unacquainted with the true scientific meaning of the word; and when honey is said to have too much glucose—its most valuable quality—naturally undervalue it. Our sympathies are with the English cotter who adds to his income by the produce of his hives, in wishing to keep up the price of his honey; with the grazier the price of his meat; but they should remember that they cannot supply the forty millions around them; and if they want Australians to buy their manufactured goods they must take our produce in return. But the man who thoughtlessly depreciates the value of our produce, or as a middleman does it

purposely, to enhance his own profits, at the expense of the colonial producer, though he may shout "God save the Queen and the empire" till he is black in the face, is an enemy to both, and is doing his part to the disintegration of the empire. For be assured, if ever the British empire does break up, it will be the result of actions of men of this class.

A PROBLEM of great interest is very likely to be shortly tested. Notwithstanding that there is a duty of one penny per pound on all honey imported into the United States, and, we believe, all the Australian colonies, Victoria in addition giving a bonus of one penny per pound on all honey exported, no matter where, the Government of New South Wales propose to take off the penny per pound duty now raised in that colony. We will not pretend to prophecy what effect this will have on the industry in New South Wales. There are those who say it will be better for all, and that steps of this character will lead the colony out of the present state of depression it now suffers under. This no doubt time will prove or otherwise. Still it is well to look back to old landmarks, and in turning over the August number of the *A.B.B.* for 1893, we find that in 1891 there was imported into N.S. Wales 414,161 lbs of honey, while 2,381lbs was exported. In 1891 there was no duty on honey imported into N.S. Wales. In 1892 the Dibbs duty of one penny a pound was placed on honey in New South Wales with the following result: Imported, 79,360lb; exported, 7,543lbs. We are very sorry we have no other figures touching on the matter to hand from other places, but *we* fancy it will be a calamity to New South Wales beekeepers if the present duty is taken off.

In America bee conventions ladies form a prominent part. Will they do so in Australia?

We are sorry to be compelled to hold over a very valuable communication from Mr. T. Bolton, Dunkeld.

The N.S.W. beekeepers are greatly indebted to Mr R. A. Price, M.L.A., for the interest he is taking in their legislative requirements.

Mr George Neighbour, of the firm of Geo Neighbour & Sons, large bee-supply dealers of London, England, died recently in London. Mr Neighbour was one of the best known bee-men in Great Britain.

We had a visit during the month from Mr. Colquhoun of Kiama. He had been to his apiary at Port Macquarie, and was returning Sydneyward, intending to visit several beekeepers en route The ti-tree at Port Macquarie had been blooming. He considered it a very fine honey, and was able to get ½d a pound more for it than some other honies. He and his brother have about 170 hives in their two apiaries.

THE LONDON MARKET.

We take the following letter from the *S. M. Herald*:—

Sir,—In recent issues of your journal I noticed information concerning samples of honey sent from Sydney to London as having contained a larger amount of glucose than others imported into Great Britain. I need but say I have sent New South Wales honey to London, England, and Canada last May and June, and the reports sent me were extremely favourable. "The honey was found to be pure, excellent flavour, and equal to the best imported." The honey sent by me came from Mr. Taylor's apiaries, Cowra, and Mr. Seabrook's, Gordon. With your permission I will place before you the analysis of Mr. Taylor's honey, also the average of English and Californian productions, which will show that the Australian honey contains a smaller proportion of glucose (dextrose, levulose)

than the two latter competitors mentioned,

Percentage Composition of Genuine Honeys.

	Water at 110 C.	Ash.	Dextrose.	Levulose.	Cane Sugar.
Mr. Taylor's honey ..	23·23	·04	34·6	38·4	2·3
English honey ..	26·7	·15	36·55	36·60	?
Californian honey ..	26·0	·1	36·00	37·8	?

Dextrose and levulose represent pure natural glucose. Mr. Taylor's honey totals about 72·10 in glucose; English honey, 73·15 ditto; Californian 73·8 ditto. What with the wholesale manufacturing of false honey in the old countries, coupled with vested interests, like other Australian productions pure honey will have some difficulty in getting a hold and proper distribution on the leading markets of the old world.

April 30. I am, &c., J. C. ROUNDING.

NATIONAL BEE-KEEPERS' ASSOCIATION OF N. S. WALES.

A Committee Meeting of the above took place at Messrs Hebblewhite's rooms, George Street, Sydney, on Thursday, May 14. Present, Mr. Abram (in the chair), Messrs Seabrook, Gale, Tipper, Trahair, Bloxham, J. E. Taylor (of Cowra), and H. R. Whittell (Secretary).

Mr. Whittell announced he had received a communication from the Minister for Agriculture (the Hon. Sydney Smith), consenting to be President at the forthcoming Conference; from the Mayor of Bathurst, consenting to be Vice-president; and from the town clerk of Bathurst, that the Conference could have the use of the Town Hall, free of cost.

A letter was also received from the Railway Commissioners relative to the removal of Apiaries from one place to another, to the affect that no reduction could be made on existing rates.

A lot of correspondence was then read. From Mr. H. Lord, apologising for absence. From Mr. Niven (Secretary of the Lachlan Bee-keepers Association), suggesting that each B.K.A. should be represented at the Conference. From W. S. Pender, offering to read a paper on Hives, Locality, Management, and how to produce Honey at the least cost. Mr. Cadden, a Paper on the Scope of a Bee-keepers Union. G. W. Gordon, on the Scope and Functions of a Bee-keepers Union. Mr. Tipper, to read a Paper on Bee Matters generally, and a number of other Bee-keepers announcing their intention to be present at the Convention. Correspondence received and accepted.

Re accommodation for the visitors at Bathurst, it was arranged to leave the matter in the hands of Messrs Gale and Taylor, who were empowered to make arrangements for the visitors at per day, and inform the Secretary, so that when he forwarded their railway pass, he could at the same time give the number of room they were to occupy at hotel.

A resolution was carried inviting Officers of the Agricultural Department to be present, and that Messrs Helms and Guthrie be invited to read papers.

It was arranged that the drawing up of Programme be left to the next Committee meeting, to be held on the 14th June.

Mr. Bloxham moved, that the Railway Commissioners be asked to place honey in the same class of goods as agricultural produce. Mr. Seabrook seconded, and it was carried.

The committee then adjourned to th Legislative Assembly, where in te Lobby, they were met by Mr. R. A. Price M.P. for Gloucester, who introduced them to the Hon. Sydney Smith, Minister for Mines and Agriculture, who invited them to his room. Mr. Price here very eloquently addresed the Minister, reminding him of a promise he had made sometime since, to introduce a Foul Brood Act, and strongly urged on him to do so.

Mr. Smith, in a speech, showing he had taken great interest in the industry, at last consented. If the course of political events permitted it, he would give notice of the bill during the next week.

Mr. H. R. Whittell then reminded the Minister of a promise he had made re passes, stating that free passes had been given to Delegates at the late Agricultural Conference, and asking that the same concessions should be made to the beekeepers, he explained the representative nature of the conference, the business and matters to be discussed at it, and that not only N.S. W. beekeepers would be present from all parts of the colony, but that several were also expected to be present from Queensland and Victoria.

After a few more enquiries, the Minister said free passes would be granted.

Conversation then ensued on the matter of removing apiaries from places where no honey was to good districts where honey flow was, Mr. Gale instancing a case where one beekeeper with 125 hives had only secured 500 lbs of honey, while his neighbour with far less hives had secured several tons by removing them, thus more was secured to the beekeeper and extra traffic in honey to the railways. Mr. Bloxham urged that hives, full or empty, should be put on the same class of goods as agricultural produce.

The Minister said if the request was made in writing he would urge ths matter on the consideration of the Railway Commissioners.

Mr. Price here warmly eulogised the earnestness and energy Mr. Smith gave to his Department, stating he was one of if not the best Minister for Mines and Agriculture, we had yet had in the colony.

HASTINGS RIVER B. K. A.

The usual monthly meeting of the above was held on Thursday, 9th May, the Rev. H. S. Buntine in the chair and a fair number of members being present.

Correspondence was read from Messrs Tipper (*Bee Bulletin*), Gale (Technical College), and Taylor (Mountain Apiary), having reference to the disease now prevalent among the bees in this locality; a long discussion ensued the outcome being a decision to send samples of bees, as found in front of hives, and combs, to Mr Gale for investigation.

By mutual consent the hour for future meetings was fixed at 7 p.m, instead of 8, as heretofore, and the 30th May was the date hit upon for next meeting.

LACHLAN B. K. A.

W. NIVEN.

The monthly meeting of the Lachlan B. K. A. was held in the School of Arts, Eugowra, May 8th.

There was a fair attendance of members present. Mr. N. E. Osberg, President, took the chair.

Minutes of previous meetings were adopted, on the motion of Mr Miller seconded by Mr Wright.

Proposed by Mr Wright, seconded by Mr Smith, that the next meeting of the Association be held in Eugowra.

The members were highly satisfied with the success obtained by two resolutions passed by the Association, and supported by other Associations, being an example of what can be obtained by beekeepers being united. In the first resolution obtained a large reduction on the carriage on less than half ton quantities of honey by rail. In the second resolution, the return of empty honey tins free by rail.

The following subjects were discussed by members in a conversational manner:- Different kinds of hives, that beekeepers should exert themselves to grow flowers to tide bees over bad seasons. Lucerne and pepper trees, were considered to be suitable to this district.

After spending a pleasent and interesting evening the meeting closed.

G. W. H., Bega,—I shall be glad if you will put my name on your subscription list, for which I enclose postal note for sub. to end of year. Although I have only a couple of Italian hives, I like to be abreast of the times in regard to publications.

H. R. A. AND H. SHOW.

The above took place on May 2 to 4. The Messrs. Pender had a very fine display both of beekeepers' appliances and honey. Mr Kelly had an excellent honey trophy. Mr. Munday showed very nice sections. We exhibited a trophy, non-competitive. The base was composed of picture frames containing photographs of apiaries. Then several rows of jars and tins of honey, and the top surmounted by an old-fashioned English straw skep, the whole being further ornamented by boughs of ti-tree, bottle-brush, &c. Mr R. Patten and A. J. C. Vogele were the judges. The folowing were the awards :—

Comb Honey, most attractive display : J. W. Pender, 1. Extracted honey, most attractive display : J. W. Pender, 1 ; Geo. Kelly, 2. Extracted honey, liquid, six jars : Geo Kelly, 1 ; E. Tipper, 2. Extracted honey, granulated, 6 jars ; J. W. Pender, 1 ; E. Tipper, 2. Beeswax 10lb : J, W. Pender, 1 and 2. Leather-coloured queen and her Bees : J. W. Pender, 1. Comb foundation, best three sheets, different grades : J. W. Pender, 1 and 2 Best wire frame, comb foundation : J. W. Pender, 1. Best bee hive suitable to the district. J, W. Pender, 1 and 2.

THE SINGLETON SHOW.

Thanks to Mr T. H. Moore, of Singleton, we are enabled to give the apiarian schedule of the above as follows. The Show takes place on August 28th and 29th, 1895.

The following gentlemen have contributed towards payment of Prizes in this section :— Messrs T. H. Moore, £2 2s ; C. H. Dight, £1 10s ; F. H. Bowman, £1 10s ; J. G. Dight, £1 1s ; John Hayes, 5s ; H. Atkins, 5s.

(The prizes in this section are offered free of entrance fees)

Class 292—Extracted Honey, most attractive display, not less than 50lbs (labels allowed), 21s ; second 10s 6d.

Class 293—Honey in Comb, most attractive display, not less than 50lbs (labels allowed) 21s ; second 10s 6d.

Class 294—Comb Honey, six 1lb sections, 10s ; second 5s.

Class 295—Extracted Honey, (liquid) six bottles or jars, 10s ; second 5s.

Class 296—Extracted Honey (granulated), six bottles or jars, 10s ; second 5s.

Class 297—Extracted Honey (liquid), not less than 12lbs, in screw top glass jars. 5s ; second 2s 6d.

Class 298—Two large frames of Comb Honey, Langstroth size, 5s ; second 2s 6d.

Class 299—Three small frames Comb Honey, half Langstroth size, 5s ; second 2s 6d.

Class 300—Beeswax. not less than 7lbs, 5s ; second 2s 6d

Class 301—Three sheets of Comb Foundation, 5s ; second 2s 6d.

Class 302—Three Empty Combs, 5s ; second 2s 6d.

Class 303—Wired Frame of Comb Foundation, Langstroth size, 5s ; second 2s 6d.

Class 304—Beehive, suitable to the District, 10s second 5s.

Class 305—Queen and Bees in a single Comb Observatory Hive, 10s.

Class 306—Collection of Cakes made with honey as an ingredient (no sugar or icing to be used). 10s ; second 5s.

Class 307—Collection of Fruits preserved with Honey instead of sugar. 21s ; second 10s 6d

Class 308—Collection of Jams made with Honey instead of sugar, 15s ; second 7s 6d.

SPECIAL PRIZE.

One Guinea to the winner of the largest number of prizes in the Apicultural Section—offered by Messrs James Moore and Co., Ltd.

THE HAWKESBURY SHOW.

J. D. G. CADDEN

The 16th annual exhibition of the Hawkesbury District Agricultural Association, was held on the Hawkesbury Racecourse, Clarendon, on May, 9th, 10th and 11th. The weather was beautiful and the exhibits and attendance larger than any other previous year. The entries in all classes being 2434, and about 6,000 visitors on the second day of the show. The Apicultural section being well filled this year, that part was very attractive. Messrs Abram and James were the judges in Apiculture and the following awards were made.

Six 1lb sections, J. D. G. Cadden, 1 ; W. C. Barker, 2. (3 entries)

Not less than 3 frames of honey, in size not less than 90 super inches. W. C. Barker, 1 & 2. (5 entries)

Six 1lb glass jars granulated honey, J. D. G. Cadden, 1 ; W. C. Barker, 2. (4 entries)

Six 1lb glass jars liquid extracted honey, J. D. G. Cadden, 1 ; W. Moses, 2. (5 entries)

Display of comb honey, W. C. Barker, 1 & 2 (2 entries)

Display of extracted honey, J. D. G. Cadden 1 W. C Barker, 2. (3 entries)

Beeswax, yellow, W Moses, 1; W. C. Barker 2. (6 entries)

Best Italian queen with bees in Observation hive, J. D. G. Cadden, 1 & 2. (5 entries)
Best collection of modern appliances in actual use in apiary of exhibitor, W. C. Barker, 1. (1 entry.)

The Hawkesbury Agricultural College made a fine non-competitive display in a number of classes, and in Apiculture showed frames of honey, 1lb sections, liquid extracted honey, yellow wax, candied honey, and a hive of bees under a mosquito net tent, and during the show the apiarist (Mr E. J. Rein) was busy with his pets.

MUSWELLBROOK.

D. GRANT.

Dear Editor.—Our Show has come and gone. You may be pleased to hear, notwithstanding the poor season, the display of honey and bee-products was really splendid, and creditably filled the position of honour it occupied, viz. the centre of the main pavilion. Mr Gale acted as judge, and I am but echoing the general verdict when I say that he is a good, fair and impartial judge as well as a capable one. The awards are as follows.

Class 368. Trophy of Apicultural Products, A. A. Roberts 1; C. C. Paul, 2. (2 entries) Both the trophys were well and tastefully got up.
Class 369. Best Italian Queen and Progeny, (bred by exhibitor,) A. A. Roberts, 1; A. J. Brown, 2. (6 entries)
Class 370. Best 12 1lbs jars extracted honey, Mrs. H. J. Clarke, 1; A. J. Brown, 2. (13 entries).
Class 371. Best 12 bottles extracted honey, A. A. Roberts, 1; Alex. Wiedmann, 2. (5 entries).
Class 372. Best 12lbs granulated honey, Alex. Wiedman, 1, C. C. Paul, 2. (9 entries)
Class 373. 12 1lb sections, C. C. Paul, 1, A. J. Brown, 2. (2 entries)
Class 374. Two large frames comb honey. C. Paul, 1, A. A. Roberts, 2. (2 entries)
Class 375. 3 shallow frames comb honey, C. C. Paul, 1, R.L. Pender, 2. (3 entries)
Class 376. 12 lbs Beeswax, D. G. Grant, 1 and 2. (6 entries)
Class 377. 2 frames comb (built on foundation) D.G. Grant, 1, A. A.Roberts,2. (2 entries)
Class 378. Wired frame of comb foundation, R. L. Pender, 1. Thos Ellerton 2. (2 entries)

The following classes were open only to the members Muswellbrook B. K. A.

Class 379. 6 1lb jars, extracted honey, A. A. Roberts, and Alex. Wiedmann (divided) (10 entries)
Class 380. 6 bottles extracted honey, A. A. Roberts 1, C. C. Paul 2. (8 entries)
Class 381. 6 1lb sections C. C. Paul, 1, D. Grant, 2. (4 entries)
Class 382. Large frame comb honey, D.G.Grant, 1, C. C. Paul, 2. (3 entries)
Class 383. 2 shallow frames comb honey, C. C. Paul, 1 and 2. (3 entries)
Class 384. 3lbs Beeswax, D. G. Grant 1, T. Ellerton, 2. (4 entries).

These numerous exhibits were displayed along both sides of a long table, about 24 feet long, while on a centre stand running the full length of the table were the two large trophys (one at each end), and the observatory hives in which the queens were exhibited. In the centre was a small exhibit (non competitive) of honey in tins shown by E. F. Doyle, Werris Creek, and on either sides pyramids of comb, liquid and candied honey, wax, foundation, etc. Some locally grown chokos were shown, and the straw skep lent by yourself was the cause of some decidedly amusing remarks from the uninitiated. Your two frames of photos of bee-farms also came in for a large share of attention. Mr R. L. Pender had an extra exhibit of leading lines of his bee-supply trade, as did Messrs Lassetter & Co.

The *Muswellbrook Register* says:—The history of the bee industry in Muswellbrook is interesting and worthy of comment. A lecture by Mr. Gale, of the Agricultural Department, given here about four years ago, and a report of which was published at the time, attracted the attention of one resident, and so influenced was he with the earnestness with which beekeeping was advocated as a profitable industry that he went into it with a will, and had the satisfaction of realizing in a comparatively short time that it was a lucrative pursuit. Mr. D. Grant was the harbinger of apiculture in this district, and deserves credit for his forethought and

enterprise. He had previously been an enthusiast in the undertaking and has always been eager by suggestion and explanation, to give others the benefit of his experience. Mr. A. A. Roberts is another beekeeping enthusiast, and many interesting articles on the subject from his pen have appeared in these columns. The local beekeepers have gone the right way to work to further the industry they are engaged in. There is an *esprit de corps* amongst them that in itself is admirable, and prompts co-operation that is individually and collectively beneficial.

Another local paper contains the following:—Inside the pavillion, undoubtly the best show was that made by the Muswellbrook Beekeepers Association. In spite of the fact that the season had been one in which most apiculturists had experienced great losses, the judge (Mr Gale) was of opinion that it was the second finest display he had seen this season. That of Wellington undoubtedly took the palm, but he was of opinion that the honey was the best that was produced in New South Wales. The display was most favourably commented upon, and the two trophys showed to what extent our beekeepers work, and the success of the display is all the more pleasing, considering the conditions of the season.

ROCKHAMPTON A. S. SHOW

To be held on Tuesday and Wednesday, 4th and 5th June, 1895.

Best hive Italian bees with queen, to be shown with observatory hive, 1st. prize, 7s 6d; second prize, 2s 6d. Entrance 1s.

First prize, 5s.; second prize, 2s. 6d. Entrance, 1s.

Best 3-1lb Section Comb Honey.
Best 12-1lb Sections Comb Honey.
Best Bar frame Comb Honey.
Best 1lb Granulated Honey.
Best 6 samples Extracted Honey in marketable form.
Best 1lb Cake Beeswax.
Best Frame Hive for general use.
Best Collection of Appliances.

QUESTION NEXT MONTH

No. 37—What do you do with your spare combs during the winter months?

QUESTION

36.—What kind of cover do you prefer, and what do you place between top of frames and cover?

R. A. TAYLOR.

36.—I use gable covers, with one inch of a rise in centre, and covered with zinc, and painted white. Mat, I use fine bagging, but avoid every particular smell, as it annoys the bees very much.

E. PENGLASE.

We prefer the flat cover ½ an inch over each side of the hive with a quilt made from a clean flour bag underneath. To make the quilt waterproof and stiff paint it with flour paste, or starch and dry before using.

A. F. BURBANK.

36.—I prefer gable covers, and use nothing between tops of frames and lid in good seasons, but in poor seasons when the bees get reduced in numbers and cannot keep up the proper degree of warmth, I use straw matting over the frames.

H. L. JONES. Queensland.

Ventilated gable cover. Have given the cleated flat cover an extensive trial and find it in no way to be compared with the ventilated gable cover, for this colony. I use thick top bar frames, with a scant ⅜ inch space above. This arrangement requires no quilt of any kind.

G. GORDON.

36.—With reference to the question you ask re covers for hives, first in order that I may be understood, the hives that I use are the old simplicity, containing nine frames all brood, with a half story containing 24 sections. I have always used a queen excluding zinc plate on top of frames, and at first when I began to keep bees I covered the sections with American oilcloth under the lids, but for a long time I used only the excluder over the frames and nothing on top of sections, but if the colony is not strong at the end of autumn, I take off the sections, half stories, and spread a sheet of newspaper over the frames and then a piece of clean bagging and shut down the lid. The paper is air excluding and helps to keep the bees warm in the winter. The top of my hives are all flat, and at one time I used to put a small sheet of bark over them to keep out the heat in summer and to break the rain off them, but I got an idea into my head that covers of any kind harbours moths, so I put nothing on them now. I would like to have other beekeepers' experience on this matter.

FRITZ GEEBUNG.

36.—I use the flat cover with a quilt.

W. NIVEN.

36.—The covers we are making at the present time are out of iron bark shingle, with sufficient fall to run water off. The top of frames are covered with bagging.

G. JAMES.

36.—Gable cover every time. It may cost more at first, but if properly made it is everlasting requires no shade boards, or 56s. to keep it on. Bagging of any description on top of frames for summer, with a few sheets of folded paper on top of bagging for wintering.

J. HAYWOOD

36.—I prefer a three board gable cover because common store boxes can be utilized, especially when not convenient to the market (timber), when the holes are filled with putty, and the covers painted with three coats, they will last for years. The three boards are nailed simply on the two end pieces, which fit over the outside ends of the boxes closely. I use up old bags, calico, &c, after washing them for the tops of boxes and under covers.

H. V. WEETA WAA,

36.—I prefer gable covers with ridge board about four inches wide, and made as simple as possible. Gable covers turn the rain better than flat covers, are much cooler in summer time, thus doing away with shade boards are also very handy if one has to feed a colony, the feeder is placed on top of frames, cover replaced and the bees not disturbed. In my opinion gable covers have many advantages over flat covers; the wide ridge board comes in handy to put smoker, knife, super etc., on. I use about four folds brown paper between top of frames and cover, and find it suits well.

H. NANCARROW.

36.—I have in use at present cottage top, with 4½ inches flat, but mostly flat top, and I prefer the flat top. They are easier made, fit top stories better, and in cold weather do not admit of a circulation of cold frosty air to penetrate through the hive. I found last winter that in the flat top hives I did not lose one swarm, but with half cottage tops I lost nine, other colonies in the former were strong and had stored a great quantity of honey during winter months. I use principally American oil cloth for covers. I tried glazed cardboard, but I found the bees will eat it away in a very short time and it does not fit down on frames as evenly as cloth. I think something better than either can be found which would answer far better, such as a thick enamelled felt or cloth. I find the edges of the oilcloth eaten away in many hives and have to replace them with fresh ones occasionally.

REV. J. AYLING.

I have no cover, other than the flat Simplicity or in hives of my own making—just a flat top board, properly secured. I have sometimes thought that a low gable cover would be better, but I have found no inconvenience with mine, and never have a comb give way in the hottest weather. I do not believe in a great deal of shade either. I have tried several articles for the tops of frames, and the very best in my experience is a bit of good corn bagging. If I had a severe winter to provide for I would fold a sheet of newspaper on top of that. I see that my covers are sound, and with the aid of a spirit level give the hive a gentle slope forward, and I find everything right in the spring. I am going to make a small ventilating hole back and front next season, which I think the bees will appreciate.

JOHN SMITH.

36.—Although to use a Yorkshireism I am "top full of small throng," I feel bound to say a word or two about hive covers. as the subject of hives and automatic ventilation thereof interests and puzzles one just as much as as the self-regulating ventilation of houses. Draught is not ventilation. Ventilation may be defined as a means of supplying pure air without draughts or too great or too sudden reduction of temperature. It is a by subject and requires more time than I can spare just at present to go fully into the matter, for the great unsettled question of sealed and unsealed covers and wintering of bees in cellars in cold climates as well as our own frizzling summer difficulties are all bound up in this question. I have experimented with several kinds of covers, but two in particular. First the common gable cover, but with high pitched roof, well made, a thin half inch board is fitted on to the bottom of this, thus making the gable into a kind of box or cold air chamber In the thin board are several two inch holes, these are covered with perforated zinc, then a two inch hole in each end of the gable allows a current of air continually to pass through it. In winter these two holes are fastened up. This answers well enough in its way, but requires someone to look after it now and again. The other cover which I have before alluded to, regulates the ventilation automatically. It is possibly still capable of improvements, but seemed to answer better than anything else I have ever had, it needs no quilt under it in winter, and in summer heat the bees do not loaf about outside as if it was baking day inside. It is a flat, hollow cover made entirely of ⅜ inch stuff with several two inchholes in the underneath portion. These are covered with perforated zinc, the 4in. ridge board projects at both ends to cover the inlet and outlet which are brought down 1½ in. between the bottom of the cover, thus virtually making a sort of wooden syphon of the cover, which always keeps a kind of air cushion over the hive, and the temperature outside, be it hot

or cold, always regulates the supply of fresh air inside. In winter especially the heat cannot all escape from over the brood nest, there is always the inch and half depth of air cushion over them, and if the cover was hermetically sealed the fresh air (just as much as needed and no more) would be supplied as required. In my humble opinion, if our American friends would try this system and make what I call an air cushion cover syphon ventilated (as I have tried to explain) then seal it as fast as they like and remove or lower the bottom board, I think they would find a less per centage of bees die than by any of the other plans now in vogue. Ventilation and sanitation (as regards dwellings have been my hobby for years, and I don't see why somewhat similar improvements should not be applied to the homes of our bees.

ORGANISATION.

A. F. BURBANK.

Most of the Beekeepers' Associations seem to be managed pretty well so far. But I think something should be done to prevent useless discussions, as it is not much use anyone coming from 100 to 1000 miles to a convention to hear a discussion, similar to the one at the last convention, about school teachers keeping bees, &c.

I think subjects should be discussed something after the following:—1st, Organisation, and papers thereon. 2nd, Foul Brood. 3rd, Any other diseases of bees. 4th, Ringbarking. 5th, Adulteration. 6th, Markets for Honey, &c. Any papers treating on hives, and beekeeping in general, should, I think, be left till last. If the time at the convention, should happen to be all taken up in thrashing out the above important subjects, they (the paper treating on hives, &c.,) could be read at the meetings of district Associations, or given to the A.B.B.

ORGANISATION.

N. Z.

"Organisation" is the watchword of present day civilization, and what does it really mean? It means that in whatever calling in life we may happen to have fallen we have to marshall our forces of both capital and labour to fight others following the same calling. It is a continual struggle to get the upper hand. It may be that we fight single handed, or a number of us may agree to combine to overcome a somewhat similar number whom we look upon as our nearest enemies (commercially), but from whichever point we may view the matter we can only conclude when we look deeply into it that there must be something terribly wrong in our present commercial relations when we are compelled to fight each other to the death. However, to come to the practical part of the affair, unless we can organise our forces the chances are we shall get left behind in the struggle for commercial supremacy. Admitting this to be the case, it then becomes a question of the best method for doing so. To tell the truth I have so frequently urged our beekeepers to co-operate in various matters for their own benefit, without any good results being affected, that I have become rather doubtful about it being possible to arouse them sufficiently to accomplish anything in that way.

I need only call attention to the failure of your own efforts to establish a Co-operative Honey Company, to prove how difficult it is to get beekeepers to organise. As a first step towards organisation, try and encourage the formations of Beekeepers Associations. The formation of such institutions is the only road leading to practical organisation among beekeepers, at least that is what my experience leads me to believe.

ORGANISATION

W. S. PENDER

It will be remembered that in July last the Annual Meeting of the N.S.W. Bee-keepers' Union was held, and, after having one year's experience, it was expected that a set of rules would be adopted that would be more suitable than those then existing. Several suggestions were made to alter the existing rules, but as there was no understanding what the objects and work of the Union was to be, nothing practical could be done. I purpose making a few suggestions which I hope will result in having an organisation formed that will assist the Bee-keeping industry. 1st, I consider the organisation required is a strictly business body (not an association), but a union of associations. Associations are for meetings of members to mutually assist one another in Bee-keeking. The Union shall not be in any way a teacher in the art of Bee-keeping but a representative body of the Bee-keepers of N.S.W., to see that proper laws are passed to protect the beekeeping industry. To assist beekeepers when maliciously prosecuted by others to obtain a verdict and thereby get a precedent for future cases. To get reasonable consideration from the railway authorities in freights, &c. To use its influence re indiscriminate ringbarking and thereby protect native trees, and in many ways which will crop up from time to time.

I would suggest that the organization, whatever might be its name, be governed by a council elected by ballot, say one representative from each beekeepers' association, and one or more appointed by beekeepers who are members of the organization but not of an association. A meeting of the council be held when necessary, and each attendant have his travelling expenses (only) paid. The secretary and manager receive

payment for their labour at a fixed rate per day or hour they are engaged in the work.

Funds could be raised by capitation tax on members of associations, and a fixed membership fee from members not connected with association since last annual meeting of the N.S.W. Beekeepers' Union (now the National Beekeepers' Association) have, through the committee then appointed done some good work, which I will here mention to show that there will be plenty of work for such an organization without taking up the work of district associations, viz., a Foul Brood and Bee Diseases Act has been drafted and submitted to members of parliament who have promised to try and have it passed. By being a representative body of the beekeepers of N. S. W. they have obtained a reduction in price honey per rail and the carriage of return empty tins free. Private beekeepers attempted approach the railway department for the same purpose but could not get any consideration, but when placed before them by the National B.K.A. through its large representation consideration was immediately obtained and the above concessions granted. The above will show the need of large representation and the benefits to be derived therefrom. I think I have said sufficient to explain my views but may here mention that I fancy the work of holding conventions would be better left to district associations, and not be saddled on to the representative body, and so permit of a larger number of conventions being held, with the result that though so large a gathering will not be obtained as now a larger attendance as a whole, so many beekeepers cannot afford the expense to travel several hundred miles to a convention.

QUEENSLAND NOTES.

A. F. BURBANK.

The season has been very poor in the districts of Mount Cotton and Upper Tingalpa. No honey all through the summer, but luckily we had a splendid flow from paper barked titree through last month and the bees have stored a good supply for winter. The double hives average 60 lbs and single storied colonies 25 lbs of honey each. I went with my father down to the fruit grower's Conference, that was held at Hobart, Tasmania, in April last, and through not being able to catch the right steamer, we had to go by train from Brisbane to Sydney, and I noticed that ringbarking has been, and is being carried on in an enormous scale in N. S. W. between Tenterfield and Singleton, and I believe it is nearly as bad here in Queensland, in some parts. It seems almost incredible to me that the Governments of the different colonies will allow such wholesale destruction of the Eucalypti forest.

An attempt was made by some of us Queensland beekeepers to form an association a short time ago. We have been waiting to hear from our Secretary, and are beginning to think he has forgotten us.

Honey is selling at a low price in Brisbane at present. First class honey fetches 2d and 2½d per lb., wholesale, inferior stuff will bring ¾d and 1d per lb. When in Hobart I saw some dark brown stuff in pickle bottles called honey marked up 1s per bottle. That is a little different to our 6d per bottle for first class honey.

I lost two double colonies this season, through the sealed honey fermenting, bursting the cappings, and drowning the bees. In different numbers of the A.B.B. I have noticed that Doolittle bees are termed weakly and more subject to paralysis, &c., than leather coloured and hybrid bees. Now I have had this so-called paralysis among the bees, and the first that got it were dark hybrids and they had the complaint worse than any. I found bush bees affected with paralysis before golden queens were brought into the district. White gum trees are loaded with buds in this district.

H. C. N., Cooma,—No honey on Manaro this year ; worst year we ever had. Best wishes for your success.

W. B., Cudgell Creek,—I did not make much out of my bees this year, but I am going to look after them proper next year. I am going to put 20 acres in with corn, sunflowers, pumpkins and melons, so I will stand a good show to do a bit of extracting next year. I have 23 swarms at present, but am getting a couple more before winter.

PARTHENOGENESIS.

THE OCCURRENCE OF PARTHENOGENESIS IN BEES, WITH COMMENTS OF ITS BEARING UPON APICULTURE.

Rich. Helms, in the N. S. W. Agricultural Gazette.

PART I INTRODUCTION.

The remarkable phenomenon of reproduction without fecundation has been known by naturalists to occur amongst some of the lower orders of living nature for over two hundred years, but with such highly-developed insects as the *Hymenopterâ* (membrane wings) it had not been observed to exist, till a comparatively recent time, when the discovery of parthenogenesis amongst the domesticated bee races by Dr. Dzierzon caused considerable excitement in the scientific world as well as amongst beemasters. However, this marvellous communication was at first deemed improbable and based upon false observations, not only by many eminent men of science, but more particularly so by most of the leading beekeepers who could not be brought to believe the statements of Dr. Dzierzon, much less comprehend its scientific bearing. When Dzierzon, in 1851, first published his observations, he proved impirically that a virgin queen bee could not only produce living eggs, but that from such eggs nothing but drones would evolve, and, moreover, that all drones produced by fertilized queens resulted from infertilized eggs, or, in other words, that the queen possessed the power of laying fertilized or infertilized eggs at will. As a natural consequence, it followed that from the eggs of a laying worker, the structure of which prevents coition, nothing but males could possibly emanate.

It is scarcely a matter of surprise that Dzierzon's theory at first met with much objection, but this altered into almost universal recognition when the equally famous beemaster Baron von Berlespch, had, by experiments, come to the same logical conclusions, and declared himself for it, and with the whole power of his equally graphic as well as fluent pen, placed the matter in most convincing arguments before the reading beekeepers of Germany. Although the two foremost thinking beemasters of the day having, by experiments, come to exactly the same conclusions, to them irrisistable, still not satisfied with the proofs obtained by his careful experiments, which in reality left no doubts regarding the correctness of the theory, Berlepsch wished them to be proved scientifically in order to meet all possible objections. For this purpose he appealed to the scientific men, and was lucky enough to interest two of the foremost zoologists of the day in the subject. In consequence, Rudolf Leuckart, Professor at Giessen, and Carl Theodor Ernst. v. Siebold, Professor at München, visited his extensive apiary at Seebach on various dates during the summer of 1855, and by the aid of dissection and the microscope obtained the desired proof. Later on the investigations were continued by these clever zootomists at the larboratories of their respective Universities, which led to a correct knowledge of the internal anatomy of the different members of a bee colony. Besides, v. Siebold devoted a good deal of his time to the investigation of parthenogenesis occurring amongst insects, the interest for which has been specially evoked by these recent discoveries. He discovered the existence of different phases of spontaneous generation amongst a number of the orders of insects, and in other gregarious hymenoptera besides the bees. The impulse thus given induced many other observers to follow in his footsteps and give special attention to this intricate problem, and at the present day every experimenting entomologist gives it some attention, resulting from time to time in new discoveries. The students of other branches of natural history zealously enquired into the subject, and added many new discoveries to the longer known, but in every case these were found to occur within the orders standing below the insects, and no animal standing higher in the scale of development than the bee has as yet furnished an example of parthenogenesis.

The meaning of parthenogenesis is so diversified by the nature of its phases, according to the orders and families of animals among which it has been found, that the broad meaning of it does not satisfactorily convey a correct understanding of the phenomenon. An exemplification of the leading phases of its manifestations is therefore thought to be desirable, more especially on account of the unique character which it has assumed in bees, which form, possessing such exceptional peculiarities, will, when explained and contrasted with the other phases of parthenogenesis, stand out the more in relief.

ASEXUAL GENERATION—SPONTANEOUS FISSION—GEMMATION.

The very primitive forms of animal life, such as the *Amoeba* and other *pootozoa*, which are often mere specks of protoplasm, without a membraneous covering, no sexual distinction exists. The animal merely divides in two, which redivides and so on *ad infinitum*.

The *Gregarinidae*, which are parasitic in certain insects, exhibit a somewhat higher development. They are one-celled organisms of various shapes, and in size differ from microscopic dimensions to in some instances more than one-quarter-inch long. The nucleus (Kernel) within from time to time divides, and in this manner a binucleated cell is formed, which enlarges by the collection of protoplasm round the nuclei. A constriction in the investing membrane takes place, giving the animal ultimately an appearance not unlike the figure eight, which, soon dividing, forms two independent beings. This

mode of propagation is termed "spontaneous fission."

Another form of reproduction may be compared to the multiplication brought about by cuttings, as in the propagation of plants. It is of frequent occurrence among the *Spongia, Plypi,* &c. These colonial animals send out buds, similar to the branching of a plant, which, after constriction near the junction of the main stem, are thrown off and form independent individuals. This form of increase is called "gemmation."

ALTERNATION OF GENERATION.

There are essential differences of character in the metamorphosis, by which the parthenogetically procreated individuals evolve what is termed "alternation of generation," respectively denominated *Metagenesis, Heterogenesis, Pædogenesis.* In every one of these forms the virgins, which are reproductive, are in reality not perfectly developed animals, but only their larva, which either produce living young (*viviparous*) or lay eggs (*oviparous*). The process forms a cycle in the following manner.—Sexual animals produce offsprings, which are different from their parents, that possess the power to reproduce themselves without the act of coition for a number of generations, and then produce sexual animals like their original ancestors.

The first observation on record of this phenomenon is the one occuring among the *aphidae* or plant lice, which was made by the famous Leuwenhoek, of Delft, about 200 years ago—1690—and has since that time engaged many eminent naturalists to the present day. In the early part of this century Chamisso, the famous poet and author of Peter Schlemil—the man who disposed of his shadow to the devil—observed alternation of generation with some *mollusca* (*Salpidae*), but his discoveries were almost forgotten when Stenstrup rediscovered it in various animals, and wrote his interesting treatise as a consequence. Its occurrence amongst plants is frequently alluded to by the quotation of Darwin's discovery of it in the cowslip (*primula*).

As an example of *metagenesis* among less advanced animals than the insects the case of the sheep fluke (*Distoma hepatica*) may serve.—

The eggs of this wellknown parasite are passed out of the body of the sheep with the droppings. When these find their way into the water the embryo develop and swim about till they find a snail, the body of which they enter. Here in the body of their intermediate host they further develop and change into the larval stage, and later on they produce each a number of secondary larvæ different in shape and organisation, which it is obvious are not the result of coition. These second larvae in time leave the snail and attach themselves to a blade of grass and change into a pupa or dormant stage, and when in this way swallowed by a sheep form the young fluke that ultimately enters the bile tubes of the liver, where it matures and produces eggs, to begin the cycle, as described, anew.

Among the insects the *apidae* furnish an excellent example of alternation of generation. Their frequent occurrence in large numbers, and the consequent mischief wrought by them, has probably been the reason that their life history has so often been studied, and is so well worked out with a large number of their species. It has been ascertained that a sexually produced oviparus generation is followed by a viviparous generation that possesses the power to reproduce itself through a number of successive generations, till ultimately they revert to a sexual generation which is oviparous. It is a marvellous phenomena, and well deserving to be considered in detail. We have a pair of aphides formed perfectly in accordance with their sexual attributes, which produce eggs. From these eggs animals evolve that are quite correctly larvae, and consequently immature animals. However, instead of developing into a perfect insect, as it is the rule with most insects in the ordinary course of nature, they stop short in the development after growing a while, and then produce living young of their own character, which power is perpetuated by their decendants. The young are only slightly smaller than the mother, and each one of these may successively produce from eight to ten. They are all and always females, but without sexual organs, yet at a certain period, for still but imperfectly explained reasons, they are able to produce a sexually perfect race, which copulate and produce eggs from which again imperfectly organised aphidae result, which cannot lay eggs, but bring forth living young like themselves. This is the general rule of the cycles of alternation of generation, as it has been observed to obtain with many species of aphidæ. However, there seems to be no fixed rule regarding the number of successive parthenogenetic generations, which is not only found to differ among the species, but also frequently in the same kind.

Some species of white ants (*Termites*) are suspected to multiply by alternate generation like the aphidæ. The extreme difficulty with which the observations of these animals are beset is too well known to allow the existence of some uncertainty of their life-history to be a surprise. It is as well to mention that these insects are not ants, but belong to the order of *Neuroptera* (nerve wings), of which the dragon-fly is a well-known type.

A true case of *Heterogamy* is found with the root lice *Phylloxera*, which are classed with the aphidæ. *Phylloxera vastatrix* has for years been the dread of all vine-growers; but there are other species predaceous upon the oak. This insect produces a series of generations of females (winged and apterous) which successively produce *eggs* parthenogenetically, and at certain intervals lay eggs from which males and

females hatch, somewhat smaller, but of a more highly organised structure, besides the sexual differentiation.

An interesting case of parthenogenic reproduction, which was first observed by Nic. Wagner, occurs with a *larvae of Cecidomya*, a genius of flies. This larvae produces living young that will develop into the perfect flying insect. This peculiar aberrant multiplication has formed matter for discussion to many scientists. Some of these have set up the hypothesis that the larvae has acquired a rudimentary ovary for the purpose of reproduction, on account of which this form of alternation has been termed *Paedogenesis*.

True alternation of generation has of late years been observed among gall-wasps. Through careful observation it has been established that, in quite a number of cases, different looking insects, which have long been known to science and has been described as different species, and mostly were placed in distinct genera, were found to be the same insect under different forms of their life-history.

(*To be continued in our next.*)

STRONG COLONIES ALL THE YEAR ROUND.

By David Fisher in Australian Farm and Home.

I have kept bees here for seven years, and until last season my bees never paid me actual cash out of pocket for queens and foundation, let alone anything for hives and labour, and I had spent considerable labour on them, and had tried to manage them on the most approved methods. Last season I finished up with 4½ cwt of honey from 22 colonies, and as I had only spent 12s 6d on foundation in that season, I had something for myself after paying the season's expenses. I happen to live in a poor honey district, and as the timber is being rung and scrub cut and burnt, the source of honey supply is gradually being reduced. Our winters and springs are usually long, wet, cold, and until after the peaches blossom the bees cannot average more than one day's work per week. I keep bees to fertilize my fruit blossoms, and if I can also make them pay so much the better.

When about to do the final extracting I carefully examined each colony for foul brood, and finding two hives affected I at once killed them by burning sulphur, and thoroughly boiled all their belongings, and having extracted the 4½ cwt., I left each colony about 25 lb of stores, my previous experience having satisfied me that less was not enough, for although I never had a colony actually die from starvation, I have been very near it. I then had twenty-two colonies, left, and their probable increase in the next season would give me more colonies than I can find time to attend to. I then considered how best to keep down numbers of colonies without sacrificing any bees, and, also, how best to increase the strength of colonies and get swarming over earlier in spring than I had previously done.

I had noticed that a colony going into winter quarters of normal strength were so weakened by deaths in our long, cold winters and springs that strength increased very slowly, as the old bees died as fast as the young ones hatched out, and on that account swarming did not usually take place until the latter half of November and up to Christmas. I also noticed that honey seemed most plentiful during this period, and about the the same time that swarming ceased the honey flow ceased also, and this accounted for the little or no surplus honey I secured. I thought that if I could get the swarming over earlier I might stand a chance for some surplus. I had previously satisfied myself that stimulative feeding in spring had little or noeffect in hastening brood rearing and swarming, and I concluded that what was wanted was more old bees in the hive to cover the brood. The bee books tell us that in the honey harvest we want as many bees as possible in a hive, at other times as few as possible. I don't believe in that doctrine. I think we want as many bees as possible in each colony all the year round.

How are we to get the colonies strong for an early honey harvest unless there are plenty of bees already in the hive to cover and keep warm the brood? It takes a much stronger colony to rear brood in cold weather than in warm, and although food in the hive is essential to the rearing of brood, it is not the only essential. Plenty of bees is just as essential as plenty of food, and a weak colony can only rear brood slowly even if they had tons of food. Believing this, I proceeded to unite each two adjoining colonies directly I had finished extracting, all except four colonies that did not stand in convenient positions for uniting, and I left them in the single stories for purpose of comparison. In uniting I killed the least valued queens and put brood in lower stories and honey in upper, with excluder between. Some were in 8 frame and some in ten frame hives. I left these top stories on all the winter, and did not have occasion to feed any in the spring. Early in spring I examined them, and found those not united with from three to five frames of brood, whilst those united and in two stories had from seven to ten frames of brood, right to the outside of the outside frames. A ten-frame colony swarmed first on the 25th of September, and others quickly followed, and I soon had the extractor at work. The four single colonies increased strength so slowly that I lost patience, and united them with colonies from which a swarm had just issued. I sold two colonies, and I now have eighteen, and I am about to unite them by two as I did last year.

Until this season I never extracted an ounce of honey after the new year. This season

I

extracted fourteen 60lb. tins before New Year's Day, and only three tins afterwards, and those three early in January, and I am satisfied that if I had not united them as I did I shonld have repeated my previous experience of little or no surplus. Up to date I have not seen a trace of foul brood in my hives since I sulphured those two colonies a year ago. Seventeen 60lb tins is no great quantity judged by the yields obtained in better localities, but judged by my previous experience it is phenomenal. Objections may be taken to leaving the top story on all winter, but I could see no ill effect.

I mentioned this to a prominent Victorian beekeeper, and he wrote me, "This season's experience more than ever satisfies me that those colonies given plenty of room come out better in spring than the others, snug and all as they are supposed to be." For the future my motto is, Strong colonies all the year round.

BEST ITALIAN QUEEN.

W. ABRAM.

The endeavour of the Wellington Beekeepers Association of offering a prize for an exhibit of the best Italian Queen with her bees, appeared to me to be a good idea and worthy of support, so I decided to enter in competition, believing at the same time that the competition would be pretty keen, but also, that competent judges would be secured, and as I could not take my exhibit there I asked a gentleman in Wellington to place it in for me, which he kindly did. The competition, however, was limited, and the prize awarded to another exhibit, and my queen returned. So far so good. I am not idiot enough to think that no queen could be better than mine. But I am informed by letter that the judge said: For beauty my queen would have the prize, but for usefulness another was superior. This statement of the judge puzzles me, and I want to know by what means Mr judge ascertains the usefulness of a queen in a show case. He must be a clever man, that judge. Apart from the monetary question, my queen and her bees gained first honour, in spite of the judges' decision: others have some knowledge of the subject, and their verdict contravenes his. Therefore I gained the point, *To show the best queen.* But what about the Association? Have they gained what they desired for their offer? That is a question of far reaching importance to them. I will hope that they are satisfied, though there are indications to the contrary. Anyhow, it is not encouraging to exhibitors to enter into competition when a judge supports his decision with such contradictory remarks as the one at Wellington did.

IMPORTED DISEASES

W. ABRAM.

I note that some Americans are down on some Australians, who warned against importation of queens from countries where diseases prevail, and after thinking over the matter twice —thanks— I came to the following conclusion. That the Americans admit "there may be little reason in fearing such a thing as importing diseases with the new bees." So I believe, and it is just the "little" that is dangerous and requires careful guarding to be detected; but if not detected, the little soon multiplies, and what then? There are instances in proof of this. The codlin moth came here by little; now we have enough for export. Bee paralysis sneaked in by little; it has grown immense since. Had it not been imported from countries infected with this disease, would bee paralysis be known here? I doubt it. And would some Americans deny that they have sent out queens after they lost up to over 25 o/o of stock in less than six months. Is a loss of 25 o/o normal? Or do some Americans detect the appearance of any new disease immediately, and stop their queen trade before they know the cause and effect of any malady? Besides the views of some Americans must necessarily differ from those of some Australians in matters of this kind. But to say that "had some Americans reasoned in the past as a few Australians are now reasoning, etc.," that is no argument to the point. Or do some Americans labour under the conclusion that if they

cannot land their queens in Australia, then we would not possess the Italian? Anyhow, as a matter of fact the Italian bee was established in Australia fifteen years ago, and ever since I (and others) imported queens now and then from reliable beekeepers from abroad, giving them instructions how to pack them, and mine arrived all alive and healthy, some living for nearly four years after I got them. A consignment of six stock hives from America however arrived diseased with foul brood. The problem of sending queens from Europe has been solved before some American thought of sending them here, and the Italian bee with all its great advantages is established, whether from America any arrive or not. For this reason we can afford to be without queens from countries where we know diseases to prevail, and if importation continues, then they may be quarantined.

In conclusion, I wish to express a desire, which, no doubt, many Australians will share with me, namely: Now that some Americans have contributed valuable information on trade matters, will they kindly give us information on beekeeping in general? With kind regards, etc.

SPECIAL WORK FOR MAY N.Z.

We have now arrived at the time of year when the bees and their hives should be prepared for the winter months so that they will not require any more fussing with until some time in August at the earliest, unless of course something unforseen occurs. Nothing can be more detrimental to the welfare of the bees than to open hives in cold weather, and there should be no occasion to do so in the ordinary course of things if they are looked after at the proper time. This month everything should be done that is necessary, instructions for which follow.

UNITING.

One of the most necessary conditions of successfully wintering of colonies is that they should be strong; weak colonies, even if they survive the winter, are nearly certain to succumb in early spring. This should therefore be avoided by uniting two or more colonies together, and in the spring it will be in its normal condition for brood rearing, and will be enabled to take advantage of an early honey flow.

Should the hives which are to be united stand a distance apart they should be moved towards each other gradually, a few feet every evening until they are close together.

The most valuable queen should be placed in an introducing cage in the hive in which the bees are to remain, and the other one removed and saved for a few days in case she is wanted. Towards the evening, just before dusk, both hives should be smoked and the combs from the weaker colony inserted with adhering bees, alternately with those in the stronger hive, or both lots of bees may be shaken on to a cloth in front of the hive and allowed to run in together. A strong dose of smoke will put a stop to any disposition to fight. After carefully disinfecting the spare combs they should be put away. The next matter of importance is to see that the bees are well supplied with winter stores where colonies are found to be without a sufficient supply to carry them through the winter. Food should be given at once.

FEEDING.

The best food that can be given at this time of the year, is, without doubt, sealed combs of honey; when these are not at hand, sugar syrup will answer the purpose. This should be poured into the empty combs and hung in the hives towards evening. In the southern part of New Zealand a somewhat lower temperature prevails during the winter months, and renders the use of syrup impracticable.

CANDY.

may be used instead to supplement the food supply for the winter. The following recipe for making it is taken from

The Australasian Bee Manual:—"Take say 10 lbs of sugar, put in a little water (about three half pints), mix well and boil, keeping it well stirred to prevent burning. Boil until ready to sugar off. You can determine when this point is reached by testing it as confectioners do by dipping the finger in a cup of cold water, then in the candy, then back into the water again. When it breaks like egg shells from the end of the finger it is just right. Take it off the fire at once, and as soon as it begins to harden round the sides, stir it till it gets quite thick. Very great care must be taken to prevent the food from burning, as burnt sugar is said to be poison to bees. The candy can be made into cakes by pouring it into shallow plates, previously greased, or it may be poured into a frame by fastening the latter down on a flat board on which a sheet of paper has been spread to prevent the candy sticking to the board. The frame should rest on the board closely all round to prevent the candy running underneath it. A Langstroth frame will hold about 8 lbs ; if made according to the above directions, it will be firm, dry, and opaque when cold, and will stick to the frame, so that it can be suspended in the hive like a frame of honey. It should be warmed a little in cold weather before placing it in the hive. Cakes of candy should be placed on top of the frames under the mats, care to be taken not to leave the bees uncovered. Another very good method of feeding is with the use of Simmins Dry Sugar Feeder. It is really a hollow dummy or division board holding about 4 lbs of sugar and is suspended in the hive next to the cluster of bees. The bees moisten the sugar and store it in their cells in the shape of syrup. Brown sugar known as No. 3. should be used.

DIVISION BOARDS.

Division boards for the Langstroth hive can be made out of a 9 inch board; it does not matter about the thickness, whether three quarters of an inch or an inch, the width should be 8¾ inches, and the length 18¼ in., an ordinary top bar should be nailed on one edge, and the projecting shoulders should just rest on the tin supports to keep the board in position. If the ends and bottom are bevelled it will make the board handier for fixing in the hive and prevent crushing the bees. In spring, when breeding commences, and it is so necessary to keep up the heat of the hive, nothing will tend to that end so much as crowding the bees together. A cool evening just after sundown is the best time to put in the division boards, as the bees are crowded together and none running about in the way.

MATS,

Extra mats should now be in readiness so that if by any chance those on the hives get damp, dry ones can be put on in their place.

Entrances to hives may be contracted as the cold weather sets in, and an extra mat or even two may be put over the frames.

CAPPINGS.

From Gleanings, American Bee Journal, Review, Apiculturist and other Bee Journals.

Professor Cook says :—In feeding, the most rapid way to get over a large number of hives was to pour the feed into empty combs and place them in the hive after dark.

W. McNeill says—For putting in foundation, a piece of common window glass and a cup of hot water suits me very well ; occasionally dipping the glass into the water, then pressing it against the wax before cooling.

Another New Swarmer.—A Louis Anderson places an empty hive with frames and foundation beside the hive expected to swarm. Then a connecting contrivance with perforated zinc, so as the swarm issues the queen cannot get out but goes along the alighting board to the empty hive where the swarm rejoins her. Take away the old hive, and the whole of the working bees go there too, making a strong hive for getting honey or sections.

Miel de Narbonne, or Narbonne honey, which sells in Paris at 60c. a lb. Baist, in *Noerdlichen Bztg.* says, is a white honey from apple-blossoms. Phin's dictionary says, chiefly from rosemary.

Finding Queens.—If you have a queen that is wild and difficult to find, and you are anxious to interview her, instead of shaking the bees out on the ground and straining through perforated zinc, place in the hive a queen cage that has lately held a queen. In about an hour, or a little less, open the hive, and nine times in a dozen you will find her "adel" highness in the cage looking for a supposed rival.

An odd device practiced successfully by the apiarists of Florida is a box 14 inches long, 8 inches wide, and 4 inches deep, placed on the end of a pole, placing in it a queen with a handful of bees and hanging it out every day during the swarming season. Clipping the queen's wings throughout the apiary the bees in coming out to swarm will cluster around this box, sometimes hanging in immense clusters 7 or 8 swarms together. The apiarist going through the apiary and looking in the grass, destroys the queen, and forms one new immense swarm from those around and in the box.

Mr R. S. Russell says, speaking of basswood or linden :—My own experience prompts me to advocate object lessons as the very best step to be taken, and no person will ever regret having tried the experiment. I will tell why I know so. Just three years ago I put out 80 rods of very thrifty trees, 15 to 18 feet high, and 33 feet apart, in a straight line, for partition fence between my woods, pasture and cleared land; also a few nice ones in the front yard, orchard and barn lot. The next year a lot more were put in in vacancies in my woods, and this year another fence, and some nice ones in my lawn, and I must say the result is most beautiful to behold, both in spring and summer, and is the admiration of the neighbourhood. The first planted trees are from 3 to 4 inches thick at the ground, and over 20 feet high. Their straight, well sloping, heavy bodies, and small neat tops, make them just right for fence posts, and make good shade for stock in summer, and windbreaks in winter.

Charles Dadant, in speaking on the sizes of hives, says :—If queens can lay 3,500 eggs per day, how many cells will be needed to contain the brood of the colony, during the spring breeding, previous to the honey crop? The egg is not usually changed into a worker-bee in less than 21 days, from the time it is laid in the cell. Then we need a number of cells equal to 3,500 multiplied by 21, or 73,500 cells, in addition to the cells that contain the indispensable provisions—honey and pollen—which cannot be less than 20,000; especially when we think that some cells must of necessity remain empty at times, as the queen can surely not find empty cells every day. This gives us 93,500 cells as the number necessary for a good queen in a good colony. We use a hive with large Quinby frames containing 180 square inches each, which, at the rate of 55 worker-cells to the square inch, giving us 9,900 cells to each frame, or 99,000 cells for the ten combs. This, from experience, we find is a good size, and if we had to change it we would rather increase than decrease it; for a strong colony needs more room for honey and pollen than a small colony does. If we now figure the number of cells contained in a standard Langstroth frame, we find 7,800 cells to each comb, or 78,000 cells for a ten frame hive. Deducting 20,000 cells for honey and pollen we must have 58,000 cells left for the queen to breed. She is therefore compelled to limit her laying to 2,800 eggs per day, or a little less. The reason why so many people favour small hives is that they have never tried large ones; most beekeepers having considered the ten-frame Langstroth hive as a large hive; while it is what we call a small one.

For spring feeding, reserve extracting combs can be filled quite rapidly and satisfactorily by pouring the syrup from the spout of an old coffee pot held one or two feet above the comb, and using syrup when about milk warm. The combs can be held slanting during the operation, so that the syrup will flow down, filling the cells as it runs.. Do it over a large tin pan, to catch the syrup that overflows and runs off the combs.

J. A. Golden commenced with hives containing eight frames each 11 x 15½ inches inside measurement, had rousing big colonies, and took as high as 120lbs of comb honey in sections from one hive. As it was not a standard frame and he was led to believe was a great barrier in selling bees, he slashed them out and transferred them to the Hoffman frame, Langstroth size, and then began to have winter losses, never having lost a single colony while using the larger and deeper frames.

A Mr Aspinall has a device to prevent swarming—a wooden comb split through the centre—boards really half of wooden combs, but with no septem. The theory is, that swarming results from a crowded condition of the brood nest, and the introduction or these wooden combs, or half combs, doubles the standing room in the brood nest. Besides this, it has been claimed that bees do not swarm when there is storage room in the brood nest, and it is possible that the bees look upon the half wooden combs as unfilled cells, but no honey is stored in them because the cells have no bottom,

Clipping the Queen's Wing.—R. L. Taylor says:—When she is found let the operator, being provided with a sharp pair of small scissors, sit down, and, carefully seizing the queen by the wings with the thumb and forefinger of the right hand, let her seize the clothing on his knee with her feet, then holding her gently but firmly by the head and shoulders to the knee with the thumb and finger of the left hand, and taking the scissors in the right hand, clip off about two-thirds of one of her large wings. I like to take the clipping from the inside of the wing, leaving a large part of the rigid outer edge of the wing. In this way she is much less disfigured. By clipping the right wing of queens hatched in even years and the left wing of those hatched in odd years, the age of almost every queen can be determined at a glance.

A Mr Swan relates an experience of bees removing eggs. He says I had a drone layer, but found it out before it was too late, there being about a quart of bees left, and a worthless queen, which was very little larger than a worker bee. I killed her at once, and put in about three quarts of bees from another colony that had them to spare, and let them alone two days, when I examined them and found they were building queen cells over drone brood, so removed all the drone-brood and gave them empty combs that did not have any eggs in. Cut out a hole in one of the combs about three inches square, and fitted into it a piece of comb with eggs in every cell, and closed the hive. In three days I opened it, and found queen cells built just above the piece of comb fitted in on the large comb, and each cell evidently had an egg placed in it by the bees, as there was not an egg in the hive except in the small piece of comb mentioned above. There was a larva in each cell, and the eggs were gone from the piece of comb. Wondering what they did with all the eggs, I examined a little closer, and found there was larvæ in the cells above the queen cells. Being satisfied I closed the hive again. Then in eight days I opened the hive, and found the queen cells sealed over, and in 12 days I found the few cells of worker brood sealed over. Finding things all right I closed the hive again, and waited for further development. On the 16th day I opened the hive again, and found the queen cells partly torn down, and looking further I found a beautiful young queen. I closed the hive again, and waited eight days longer, then opened it and found that my queen had mated, and had filled two combs nearly full of eggs. She proved to be as good a queen as I would wish for.

A Mr. Theilmann writes :—I do not paint my hives because paint will hold the vapor of the bees in the hive, while nearly all, if not quite all, will escape through the pores of the wood, if not painted. This is a big consideration for the health and welfare of the bees, especially in winter. The lumber for my hives is planed on one side only (the inside) the outside is left rough, which prevents reflection of the hot sun in summer. It also prevents cracking and warping the wood and is more durable. From the experiments I had with painted hives I would not use them if I were to get all my hives gratis, and a dollar per hive in cash besides. I don't keep bees for looks, but for the pay there is in it. A more shallow or painted hive may, for one season, give as much surplus honey, but for a long run of successful beekeeping, my hive has stood the test over all others in Minnesota, when properly conducted.

BLENHEIM, N.Z.

E. A. B.

This is hardly a beeman's paradise, although a few suitable spots for a bee-farm are to be found several miles away, yet none has taken up bee farming as a business. Our township is situated on a plain, from which nearly all indigenous growth has disappeared, to be replaced by that which follows cultivation. Our honey season dawns with the flowering of the weeping willow in August, and that is followed by peaches and other fruit trees, dandelion. garden flowers, hedge plants, &c. ; but there is no surplus honey until the clover flowers in October, lasting in a fairly good season until February. Our winter forage is eucalyptus (of different kinds) wattle and gorse, each of which grows in very limited quantities. March and April are our worst months, there being very little blossom of any kind for the bees to work on. They are now working on gorse, and will continue to do so on fine days right through the winter. Our worst enemy, and indeed I might say our only enemy is the box hive man, who is to be found everywhere with his boxes and foul brood. In assisting a friend to rob a few colonies in February I noticed unmistakeable signs of foul brood in two or three of them, and on the floor of another, which had stood two seasons, was an inch of dead bees of all ages mixed with moths and their larvae, and the combs were completely riddled. Another colony seems to have run itself on the long idea principle. Their box was a gin case, one end of which, from top to bottom, was used for brood-rearing. whilst the other end, with cells built deep, was filled with beautiful slabs of honey, and it is remarkable that this box gave the greatest yield. Of course I do not say this result was the outcome of the long idea lines. My own hives have two stories, 20 frames in all, with zinc honey board. This board might increase the tendency of swarming, but I certainly like it, because it is such a treat to have the frames free from bur combs, to know exactly where the queen is, to have the surplus chamber free from brood and pollen, and to do away with the necessity of meddling with the brood chamber, except for an occasional overhaul. Next season I shall use the honeyboard until the surplus combs are built out deep, and then try without it. The first half of the past season was very good, but only a little surplus was stored after Christmas. 70lb or 80lbs per colony is considered a good return here. The largest take I have heard of was 140lbs from Germans a few years ago. I have the only colony of Italians in the district. Although several Italian queens have been imported, yet no one tries to raise this breed by early spring forcing, so they soon run to black. The modern hives in Blenheim do not total more than a hundred. Several young men have lately taken the bee fever, but at best we are only dabblers, although your journal lets in a gleam of intelligence upon our dabbling, and increases the pleasure we take in our pastime by making it a more thoughtful one. Honey is sold at 6d.

per lb, with a good market for the present output, which is very small, and principally strained honey. I have often been asked the difference between strained and extracted honey, but I never knew how great that difference was until assisting my friend to rob his bees. I drove the bees, took out the side of the box, and divided the brood and bee bread from the honey. He explained that he always put the lot in the strainer together. I now know the difference. Ugh!

SPECIAL WORK FOR JUNE N Z

We can now reckon that winter has fairly set in, and all apiary work directly connected with the bees should be finished with; where the instructions given during the past month or two have been properly carried out, the bees will now be nice and snug in their winter quarters, and will need very little further attention till about the beginning of August, unless something unusual should occur in the meantime. An outward inspection of the hives should of course be made three or four times a week, and any morning after a stormy night; the entrances of the hives should be noted, for if anything is wrong it will generally be indicated there. Covers which are not secured by some special means are liable to be blown off by the high winds and should this happen on a cold wet night, it would propably mean the loss of the colony. Where the hives are in an exposed position the covers should be fastened to the bodies of the hives during the winter and early spring months, a small hook and eye, the former screwed into the body of the hive, and the latter into the cover, on back and front is a capital contrivance; these can be obtained at the rate of about 1s a dozen and will last many years.

DAMP MATS.

After a lengthy storm of rain it is as well to raise the covers of the hives and examine the mats to ascertain if any rain has got in. If so, the damp mats should be at once removed and dry ones substituted. This operation may be performed with very little disturbance to the bees; if any of the covers are found to be leaking they should be at once repaired as dampness in the hive is most injurious to the health of the bees. It has the effect of souring their food and so causing dysentry, it also causes the combs to become mouldy, which, when discovered, should be at once removed. Hives which have to be placed where the rays of the sun cannot reach them are very liable to become damp and mouldy inside; such situations should be avoided, and in case of hives becoming excessively damp inside, it will be best to shift the bees and combs into clean dry hives, taking care to keep the entrances enlarged to five or six inches to allow of free ventilation.

SHELTER.

A good shelter round an apiary will greatly conduce to the successful management and well being of the bees, during the winter months, by sheltering the apiary from the high winds. When well sheltered the bees winter much better and come out stronger in spring as compared with those in an exposed situation; it is also of advantage to the apiarist by enabling him to manipulate the hives should he have occasion to do so. I speak from experience and know that the bother and worry of attending to an apiary during the winter and spring months in an exposed situation is very disagreeable, to say nothing of the poor condition of the colonies in spring, and the bad effect on the season's output of honey. In commencing bee-keeping, or enlarging an apiary, the position and shelter should be two of the first things considered. By a careful selection of the former the latter may often be obtained with very little trouble. Under the modern method of placing hives near the ground, advantage may be taken of any slight undulation to afford partial shelter, and which may be im-

proved by planting suitable quick-growing evergreens, such as Erica Arborea, and the large kinds of privets and other shrubs, to be found in most nurserymen's catalogues. The Erica Arborea is preferable to any other in so far as it affords good forage in early spring, and is at the same time ornamental. No tree or shrub for shelter or other purposes near the apiary should be more than about ten feet in height, as it is very inconvenient to have swarms which may settle a great height from the ground.

PLANTING.

June is a very suitable month for planting evergreens, as they stand shifting better at this time of the year than in spring. They should be removed in such a manner always that they will receive as little check as possible, and if the operation is performed carefully now the growth will not be affected in the least; on the other hand if left till later on they scarcely have time to recover before the dry weather sets in; this is certain to interfere with the growth, and will propably throw them back for a year or two. When planting trees or shrubs the ground for some distance around them should be properly cultivated. Bone dust is the best fertilizer to use, and the ground should be well dug about six feet wide along the line of the hedge before planting. This line should be kept clear of weeds and occasionally hoed until the plant have made good growth. It is a mistake to think it sufficient to make a hole just large enough to admit the roots of the plant and after sticking it in, to fill in the hole; this method of cultivation results in stunted plants which is very unsatisfactory to everyone concerned; it is astonishing the difference a little attention to the proper cultivation of a hedge plant will make. Spare combs should be occasionally looked over, and if there is any indication of the bee moth larvæ, they should be fumigated with sulphur.

Timber for making into hives should now be getting well seasoned, and all small material, such as frames, section boxes &c., should be obtained from the manufacturers, in readiness for putting together.

The apiary should be kept free from pools of water.

CAPE COLONY.

F. T., Baltrana,—Our past honey season has been very bad, and indeed the drought has seriously affected all farming. In parts the crops have been quite a failure, causing much distress, especially amongst the poorer farmers. The stock have suffered much too. We had an Agricultural Show in Graham's Town last month, at which a young Englishman, who is trying to get the bee fever into the people, held a small bee show, which was very well attended. I have been using W. T. Falconer's hive, with outside cover (only made somewhat thicker), this year, and all through most blazing hot weather these hives were beautifully cool. I like them very much.

SONG OF THE BEE

From the *Beekeepers' Manuel*, by Henry Taylor, Revised by Alfred Watts.

We watch for the light of the morn to break.
And colour the eastern sky
With its blended hues of saffron and lake;
Then say to each other, "Awake, awake!
For our winter's honey is all to make,
And our bread for a long supply."

Then off we hie to the hill and the dell,
To the field, the wildwood and bower;
In the columbine's horn we love to dwell,
To dip in the lily, with snow-white bell,
To search the balm in its odorous cell,
The thyme and the rosemary flower.

We seek for the bloom of the eglantine,
The lime, pointed thistle, and brier
And follow the course of the wandering vine,
Whether it trail on the earth supine,
Or round the aspiring tree-top twine,
And reach for a stage still higher.

As each for the good of the whole is bent,
And stores up its treasure for all,
We hope for an evening with heart's content,
For the winter of life without lament
That summer is gone, with its hours mispent,
And that harvest is past recall!

PORT MACQUARIE.

J. J. DICK,

You dont seem to get much from this place, yet still some of us are pushing on with our bees. We have had a splendid season, honey fairly rolling in, and had it not been that foul brood prevented some of us from getting swarms or dividing in the season, the yield would have been enormous. Our heath flowers were in abundance in the spring; the box trees followed about November when a splendid flow set in; rain then set in and we got 50 inches straight off; the ti-tree and a bush since blossomed, also the bloodwood in February. The former has kept on right up till now and is at present white with flower. The blackbut and swamp mahogany is now blooming and shews for a enormous crop of bloom. I have only 20 colonies, Italians and Hybrids, but the combs they turn out is something grand. They are free from disease which I attribute to breeding from prolific queens. I had a run out to Mr Buttens, Coolenbung Apiary, to see him extract yesterday. He has 4 colonies Hybrids and one Ligurian. He got a nice lot of honey, but my word there is four gallons of bees in each hive, and rolling in honey. That is the apiary I advised the owner of to burn up a good colony of blacks, hives, frames and all, (*vide* the Hastings River B. K. A. Secretaries report) consisting of less than a quart from which the owner did not get a lb of honey in twelve months. I also visited Mr Herbert of North Shore to-day. He informs me 75 o/o of the pupæ died in the combs in the spring. They appeared good colonies of blacks and turned him in 800 lbs of honey the last month from 20 hives, and are now fit for the extractor again. The weather is dry and from appearances will go on till June.

W. G., Aberdeen.—I enclose my subscription for the BEE BULLETIN. I am well pleased with it. My bees are all right and doing well.

VICTORIAN HONEY.

From the Australian Farm and Home.

Up to the present time some 50 tons of honey have gone forward to London and other ports, besides which a good many tons have been shipped, apart from the Goverment supervision. The quality which has been offered for shipment under the bonus conditions has been very varied, ranging all the way from excellent to sheer rubbish. This clearly shows the great necessity of careful supervision. A good deal of box-hive honey was offered, most of which was badly taken, and full of impurities and of bad flavour as a result. There were, however, some notable exceptions, showing that with proper care honey taken from box hives may be made presentable. Honey so taken usually has the advantage of being quite ripe. In this particular some of the extracted honey came badly to grief, through being unripe, and of raw flavour in consequence. Of course owners of rejected honey were loud in denunciation of the experts, and they naturally came in for a good deal of abuse; but they can stand it with a clear conscience of doing the best for the bee keeping industry. Other shipments will go forward shortly, as there is still a great deal of honey in the depot to be recanned and cased. Advices are also to hand of more to arrive. The quality of that which has been forwarded is on the whole first class, and should meet with ready acceptance. The main difficulty we have to meet as producers is the opposition of those who control the market, and who for their own purposes bear down the market in every possible way. It is noticeable that the old cry of "eucalyptus flavour" is no sooner silenced than another takes its place of "too much natural glucose." Appearance is nothing, flavour is nothing, demand is nothing, if first handlers can but keep prices depressed and themselves make large profits in distributing. Throughout the United Kingdom honey is a luxury, and sells usually at 9d. to 1s per lb. Plenty of our Australian honey has been sold at that price through individual effort, and sold readily. All who taste our honey declare the quality and flavour to be first class, and certain to meet with ready approval, yet, notwithstanding, the "market" (save the word), will keep prices depressed if possible. However, we hope by persistently sending forward we shall be able to procure payable prices.

M. C. S., Kerang, Victoria,—I think the A. B B.. an admirable little work and eminently useful to beekeepers, whether professional or amateur. It is better to add weakling swarms to strong ones, than to put two or three such together.

ANOTHER DISEASE.

Mr Ayerst informs us a new disease has broken out among the bees in the neighbourhood of Minmi. It it not foulbrood, or paralysis, chill, or starvation. They are well-acquainted with the two first. Mr Ayers himself uses flat covers, with corn sacking underneath, aud there is no scarcity of honey in the hives. In the mornings the bees are dead in heaps, not only outside the hives, but in the hives, seeming to have fallen dead off the combs. There is no swelling of the body, rather shrivelling up; could not detect anything wrong in the flowers around—nothing beyond the ordinary weeds that flower from year to year. He had tried sulpher, carbolic acid, and solutions of turpentine and even pain killer, without avail. Mr King, of Singleton, informs us of the existence of something similar there, and the dying ceased after about nine in the morning. Was positive it was not chill or starvation. Mr Pyman, of Rothbury, had his attention drawn to a neighbour's bees, similarly affected, and had effected a cure by spraying with eucalytus essence. We shall be very glad with further communications on this matter.

ANTS.

Mr. C. B. L., Inverell, says that—If J. Mc K. is very anxious to get rid of "Red Ants" which he says are troubling him, he can easily do so as follows,—Get a small quantity of "*Bisulphite of Carbon.*" After finding the ant's "nest mound," pour a little of the chemical down each of the entrances to the nest, and put a lighted match to each entrance. The poisonous and inflammable fumes will not leave many of the poor ants to tell the tale. Care must be used in handling the Bisulph of Carbon and keep the bottle where there is no chance of a light getting near it.

Mr Charles Horing, N.Z., wishes to thank, through the A.B.B., those Australian beekeepers with whom he was in correspondence in the early part of the season for their kind information.

A. J. P, Duri.—Mr H, Pambula, asks if quince jelly can be made with honey instead of sugar and in what proportions it should be used. Quince jelly can be made with honey, one half pint of honey being used to every pint of juice.

C. H., N. Z.,—Owing to bad eyesight during the late summer I could not look after my 10 hives of bees very well, result 140 lbs of honey from 10 hives. In conclusion let me say that I like the A.B.B. and that it contains information worth a great deal more than 5/- a year.

T. A., Springhurst,—We have had a very good honey season here this year. I have extracted over two tons from 18 hives. I am using the eight frame Langstroth hivs which I have made myself. I have also made a honey extractor, two wax extractors (solar and steam) uncapping can, smokers and uncapping knives, in my spare time after doing eight hours' work every day on the railway.

Rev. J. Ayling.—On 24th February I commenced my extracting; had done nothing for ten months. But this season was a splendid box bloom season. The weather kept very dry, so however bad for some folks, it suited beekeepers well. The yield was very good, and the quality superb. Domestic cares hindered me a good deal, so that I did not extract so close as I should have done. But there will not be any feeding required this season.

J. F., Erina.—A question for next month: "Do bees when they rob carry the box a quarter of a mile, transfer the combs and leave box in the bush moonlight nights. ?"—I am trying the big dog cure. I always look forward to your paper coming and wish it the success it deserves

Our readers no doubt, have known bees take up their abode in many curious places, even hotels are not exempt from their hospitality, for in Bega a hive of bees took possession of a portion of the Imperial Hotel, two years ago, and are there unmolested working away, storing honey between the weather boards of that building. The landlord we hear, believes, that the place will never be burnt down while the bees are there, (true if no fire ever touches the place).—*Communicated.*

H. V., Weeta Waa.—Things apicultural are indeed dull in this part. Not a soul has any idea of the pursuit, and to crown all some will laugh at you if you attempt to tell them anything ont of the usual line of felling trees, destroying the bees and then taking what *some* call *honey*. Only the other week I heard one man telling his friend that drones carry water to the hive, and the bees are all queees. I often have a quiet laugh when I hear some of the folks discussing bees.

J. H., Pambula asks— When there are not sufficient bees at this time of the year and later to fill both stories, do you think it a good plan to cover the top of the zinc excluder, (or under it), with calico, leaving about an inch all around the box for access to the top box? I have done this this week, with the view of keeping or confining the warmth in the breeding portion; or would it be better to keep all the bees below during winter?

(It may be better to confine the bees to one story during the winter.

Dr. Miller, Marenga, U.S.A.—Seeing what is said in BULLETIN for Jan. concerning laying workers makes me think some of your confreres might want to try my plan with them. I give to them a young queen just hatched. That's all. Just put her on the comb without caging. I don't warrant the plan, and it may fail the very next time it's tried, but it has succeeded perfectly each of the few times I have tried it. In reply to your question on page 222, I had some years ago a queen whose eggs never hatched. That was the only case of the kind I ever had. The queen was a fine-looking one, and laid well, but never an egg hatched. I dont know why.

J. D., Mildura.—That you may be the better able to answer T. W. as to the quality of mallee honey, I forward you by this mail a sample, marked J. D. from the very centre of a mallee district, and which sample I know has been gathered from red gum and mallee bloom. I should be pleased, if you would favour me with your opinion of the flavour through A.B.B. The Mildura people think highly of it; but perhaps they have cultivated a mallee taste and so are not competent to judge. However if the quality be alright, judged by last seasons yields T. W. will not do wrong in selecting a site in the mallee, especially where box, ironbark, and other trees abound. We have just formed a beekeepers' association at Mildura with 15 members for a beginning.

The sample arrived safe. A nice light color, density very good. Flavour very fine.

J. F. Teel says:—I claim the germ that produces foul brood is in every young bee while in a healthy state. If any one wants to try the experiment, here is the formula: Take a quantity of young brood just sealed (drone brood is the best, but take some of both, say five pounds or more would be better), put it out some cold night or put it near ice if the weather is not cold. Let it stay one night, then put it in a warm place, about one-third or one-half of the bulk covered in water. Keep it moist and away from bees for three weeks. By this time the germs of foul brood will have developed. The mass of brood must be kept in bulk, and kept moist in a warm place after the first night. If it dries or freezes the most of the three weeks, bacillis alvei would not be developed from the germ.

This should be read in connection with Mr. Helms' paper elsewhere.

E. P., Fernbank, V.—In reference to par on page 20, April No. A.B.B.—I would advise T.W. to come to Gippsland.

Red Gum honey is a light colour here, but stringy bark is dark. Have you ever used the foundation'press? It makes good foundation and you can use the last pound of wax. Give your opinion on the enclosed sample. Sometimes our Governments find things out when it is too late. Over here they are giving a bonus of a 1d per pound on honey, but are leasing the land in 1000 acre blocks to selectors. When the selector gets his lease he starts ringbarking. Hardly a tree escapes his axe. By and by they rejoice because they have destroyed thousands of pounds worth of timber and got a few more blades of grass. A good deal has been said lately about golden beauties and Liguriaus. We have had both and can't see how one should be more subject to disease than the other. Good deal depends on the man sometimes. Very dry weather over here. No rain this autumn to speak of.

The sample foundation to hand, and is really very good.

G. G., Jamberoo.—I may say in passing, that I am quite disheartened with my bees. I have had nothing but disaster and disappointment with them for years. The first two years I thought I did very well, I got a little over half a cwt of honey per hive, but for three years I have not got a single pound of honey from them. Last year I had 20 colonies and I lost every one, although I fed them liberally. The bee paralysis did the work. I got some fresh stocks and started afresh. We overhauled them at the end of March to see if we could take honey from them, but I was satisfied that they could not spare a pound, although I think they have enough to unite them with. I think the cause of my failure is the continual cutting down of timber to make way for settlement. I am quite satisfied that there is not food sufficient to make apiculture a profitable industry in this district. All the people for miles now are in just the same plight as myself. Its vexing, after spending a lot of money in getting a plant together, and now having it thrown on your hands idle. Hoping the *Bee Bulletin* is still extending its circulation and monthly becoming more profitabe to its enterprising proprietor, &c.

A. J. G., Bando.—Last month one of my hives, from some cause or other, became queenless, and as the bees appeared unable to raise a queen, I sent away for one, which duly arrived, and was safely introduced and all went well. Judge my surprise when going to the hive last week, to find an empty queen cell on one side of a frame with my wing clipped Italian queen, whilst on the opposite side of the frame was the young queen. The bees made no attempt to interfere with either and when I placed both queens together they were friendly. Can you explain this. I am only an amateur bee keeper, and have ten hives which are doing well. I believe in the Italians, as they are very quiet to handle and are good honey gatherers. I obtained 200 lbs section honey from my best hive this season, but all others were under three figures as they were too small. Although we have had several frosts, I notice two of my queens are still laying, and the bees are working well during the warm hours. The dry weather here prevents them from storing much honey, though I do not intend feeding during the winter as the bees have apparently plenty to carry them through. I have left each hive five deep frames of honey. Do you think this sufficient to carry them through the winter? Your A. B. B. is much appreciated.

You had very likely a mother and daughter, who generally agree together, till the mother, (probably an old queen) dies. You have left them plenty of honey for the winter.

M. C. S., Kerang, Victoria.—1. Will you tell me how to use the lysol as a disinfectant? How much should be given? 2. Is there any means of preventing honey from becoming candied? 3. I observe that carbolic acid is spoken of as being very effective for *preventing* foulbrood. How would you use it so as to have it always in the hive? As regards the honey from the mallee, it is first-class in this district—the same that your Pyramid Hill correspondent enquires about.

The red gum and box honey grown here is also very good. As for the ti-tree I have had no experience of the honey from it. Can you tell me if the neighbourhood of Perth, Western Australia, is a good honey-producing locality?

Re Lysol as a disinfectant, beyond the paragraph in last issue copied from an American bee journal, and that it is a product of coal tar, we do not know how it is applied. It has occurred to us that if the bottom of hives are given a coating of coal tar, a triple purpose will be served, viz :—Preserving the wood, keeping spiders and vermin in check, and at the same time acting as a disinfectant. What think you? Thanks for your information re mallee and box and red gum houey. We cannot speak of the neighbourhood of Perth, Western Australia, as a honey producing country, but as the colony is not populated to any great extent there should be abundance of places well supplied with bee fodder. The only way of preventing honey becoming candied, or bringing it back from the candied condition is by immersing the vessel containing it in hot water, not boiling. Re using carbolic acid, you may place it in a small bottle, at the back of the hive, with say a wisp of grass or straw as a stripper, so that the fumes will gradually escape. We have heard of beemen who have used a sprayer containing carbolic acid instead of a smoker. Or you may spray the tops of the frames with same before putting on the cover.

C U.T., Bourke.—Each issue of your journal shows a vast improvement and I consider it a boon to the apicultural world. G. W. G., Jamberoo, in your last issue, flatters himself that my two "ticklish questions" were quite simple to a man of his intelligence, but I am sorry to say he jumps too hasty at conclusions, and must know if he reads question 1 over again that he is decidedly wrong. He reckons I overlooked a queen cell while putting hatched brood back of queen excluder. I ask him how is it possible for a pure Italian queen to throw a pure black queen. (I put this same queen into a hive and she throws pure black bees.) No, sir, you are decidedly wrong. Try again Question No 1. With regard to question No. 2. he is partially right, but did not give me the answer I wanted. This Italian queen was only about 4 months old, and after laying well for a while she stopped suddenly laying altogether, and the bees superceded her. My way of thinking is that she must have been injured in some way. He disbelieves my statement re bees bringing in pollen one entrance and honey in the other entrance with the long idea hive I use. I ask him has he used the above hive on the same principal as I use it, to be able to give experience. A beekeeper in Orange, 30 miles distant from here, while talking to me about his bees, I remarked that some winters here the bees carried pollen in all through the winter. He did not believe me because his bees did not do the same, and his apiary only 30 miles off. I told him my bees had better brains than his, which made the difference, and I so reply to G. W. G., Jamberoo, that my bees have better brains and intelligence than his and find that the side entrance is a shorter cut to the honey chamber than going in at the front entrance. Of course the reason bees don't carry pollen in throughout the winter in Orange is that it is a lot colder there than here. In fact very much so. Some beekeepers remark that bees do not build back in the bush but rather upward. I find they build anyway. All they want is a good roomy hollow in a fairly sound tree. One nest I took this season in the bush, the bees went in a hollow high up and worked downwards to the extent of about 10 ft. The limb they were in was in a horizontal position, just on the principal of a long idea hive, and I got two good large tubs of combs and honey from this nest. I note some say that drones from an Italian-hybrid queen are not pure. I give my little experience in the matter. I have two such hybrid queens, one throws all good Italian drones, while the other throws all sorts, some yellow, some black, or blacker than the usual black drones. So I think there is something in it that should be well thrashed out. Talking about 1 and 2 banded bees, I have yet to see them. Any bee that has one yellow band has three. Fill the doubtful bee with sugar syrup and the three bands will be brought to light. I have seen odd races of black bees that

seem to have a reddish kind of ring on their bodies. Now I will finish, Mr. Editor, with the robbing propensities of the Italian or Ligurian bee. One of your subscribers says they are very determined pilferers. I endorse his opinion. While hives are strong no robbing of any consequence will take place, but my Italians visited my neighbours black bees nearly a mile away and nearly cleaned out one of his colonies. So I will conclude that the Italian or Ligurian bee is an alright bee to spread diseases, if any exist in a radius of one mile from where an Italian apiary exists. In one of your back numbers one of yonr subscribers wished to know how the bees built in the old loose hives. I have robbed a good many of the kind and usually found the brood in the middle of the box but combs were always built diagonally across.

A.S., Mandemar.—It has not been a good season for honey here, we got about 2½cwt off 13 hives; another 5 we did not take any off. They have all got plenty of stores for winter. My mother says we will have to keep on the *A.B.B.* as she won't do without it.

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