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West Maitland, N.S.W.: E. Tipper, July 24, 1895

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THE AUSTRALIAN

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A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

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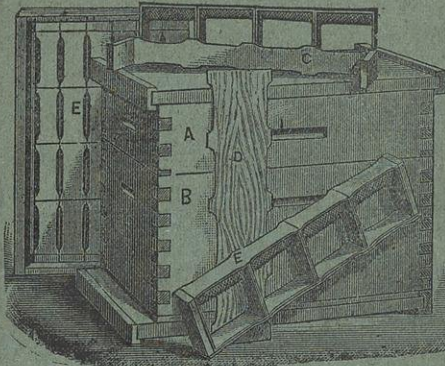
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OUR PRICES FOR 1895.



10 per cent. discount allowed off these prices during August for Cash only.



13 STORY DOVETAILED HIVE.

We are now preparing a new Catalogue for the coming season, but as it will be some time before it is ready, we have pleasure in handing you a few of our prices. Should anything not quoted here be required, we will charge at the new prices. We are now dovetailing all our hives, having just imported a machine for that purpose. When ordering you need simply give us the No. of hive required. We will supply flat covers in place of the Higginsville if preferred.

- No. 1—8 Frame Dovetailed Hive complete (single story) includes one body with 8 R. Hoffmann Frames and follower, one bottom board and one Higginsville cover.
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- No. 3—8-frame Dovetailed Hive complete (one-and-a-half storey) similar to No. 2, with 6 section holders instead of 8 shallow frames.
- No. 4—8-frame Dovetailed Hive (two-storey) includes two bodies, 16 R. H. frames, 2 followers, bottom board and Higginsville cover.
- No. 5—10-frame Dovetailed Hive, similar to No. 1, made to take 10 frames without follower.
- No. 6—10-frame Dovetailed Hive, similar to No. 2, made to take 10 frames without follower and 10 shallow frames without follower.
- No. 7—10-frame Dovetailed Hive (two-storey) similar to No. 4, made to take 20 frames without followers.

	One Nailed up.	In the Flat.			
		1	5	10	25
No. 1 Dovetailed Hive ..	6/3	5/9	5/3	5/0	4/9
No. 2	8/3	7/9	7/0	6/9	6/6
No. 3	8/3	7/9	7/0	6/9	6/6
No. 4	9/3	8/9	8/0	7/9	7/6
No. 5	7/-	6/6	6/-	5/9	5/6
No. 6	9/-	8/6	7/9	7/6	7/3
No. 7	10/3	9/9	9/-	8/9	8/6

HEDDON HIVES. We are now supplying these dovetailed. This hive (4-story) contains the same capacity as a 10-frame hive. Price (4-story) nailed-up 12/6; 1 in flat, 11/-; 5 at 10/6; 10 at 10/-; 25 at 9/9. Price of slotted wood-zinc honey boards for same, 1/6 each, extra.

PENDER BROS. (Late R. L. Pender),
MANUFACTURERS OF BEEKEEPERS' SUPPLIES
WEST MAITLAND.

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10 FIRST PRIZES

GENTLE GOLDEN QUEEN

Tested 10s. each, Untested 5s.

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WEST MAITLAND, N.S.W.

QUEENS, QUEENS, QUEENS

From Australia's Largest Breeder.

If you want a fine strain of Italian bees, the result of twelve years careful breeding, send along your orders and see what beautiful queens I can furnish. Remember I am so situated that I can ship queens any day throughout the year, and guarantee satisfaction, and safe arrival to all parts of Australasia. My Home yard is stocked with over 200 colonies of as fine Italian bees as were ever grouped in a single apiary, while Carniolan Queens are raised in my out-apiary, from Imported Mothers and mated to Italian drones.

	one	three	five	ten
Untested Italian Queens ..	5/-	13/-	20/-	39/-
Tested " " ..	8/-	22/6	35/-	67/6
Select Tested Breeding Queen	15/-	42/-	65/-	—
Carni-Italian Queens ..	5/-	13/-	20/-	39/-

"Untested Queen I got from you is doing splendid work, in fact she is the most prolific queen I have yet seen. To-day I was looking through and there were nine frames below regular walls of brood, and she was upstairs with six more frame of brood in all stages. I do not know what the eight frame men would say to this. I am now breeding a few queens from her, although they are not the brightest I have, they are miles ahead for work. A. Baker, Deep Creek.

"Re your queens I must say that although I have had different strains from three of our most noted queen breeders, as well as daughters of imported queens, I have had none that were more prolific, or produced quieter bees and better honey-gatherers than those I raised from your queens. One of the untested queens I got from you is also a long way above the average. From her colony this season in a moderate flow I have extracted 300lbs. of honey. Alfred Brown, Leaford Apiary, Parkville." Send for 50 page Catalogue which contains much useful information, and is sent post free.

H. L. JONES,
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The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W. - JULY 24, 1895.

THE two Conventions are now over, full reports of both appear in our pages. They should be read through carefully. Good work has been done in both colonies. Both have good executives and secretaries. In some things one colony is ahead of the other, in others vice versa. Both are striving to secure outlets for their surplus honey, the Victorians, either by an earlier start, or the advantage of a bonus given by the Government, having made the greatest gain in this direction. There is also plenty of room to increase the home consumption. It should be the duty of every beekeeper to assist by becoming a member of the Association in his colony. Good secretaries they both have, and good committees have been appointed, consisting of town and country members. The country members that have hitherto acted on those committees have done so at their own expense, and are seemingly willing to continue to do so. No doubt they will be gainers by all the advantages they succeed in obtaining for others. But for the OTHERS, who also reap all the same advantages without effort or expense—advantages of better markets and prices for their honey, railway concessions for the carriage of their honey, etc., etc.? Surely no beekeeper will be so mean as not to contribute his yearly mite towards assisting to benefit himself as well as others! We pen these lines because there are by no means too many members of the National Beekeepers' Association of N.S.W. We hope it is not the same way in Victoria.

The excellent feeling displayed between the two conventions of Victoria and New South Wales both colonies may

be proud of. The same people living side by side, having both the same objects to gain, the popularising of our health giving product, and a comfortable living for all engaged in the beekeeping industry, by the opening up of local and foreign markets. May the day not be far distant when no fiscal barriers and different sets of laws shall keep them asunder; and the united cry of beekeepers as well as every other inhabitant of this great continent be "Australia for the Australians."

We feel we have a great duty to perform, to thank the Victorian Beekeepers who at the recent convention made this Journal the official organ of the Victorian Beekeepers' Association, and to Mr L. T. Chambers, the excellent secretary, for the kind language in which the intelligence was conveyed to us. We have got to love our bees and the work of this journal. The work has been a labour of love, helped as we have been by so many kind friends, who have never spared their experiences and contributions for the benefit of their fellow beekeepers. To those contributors and friends is due a very large share of the honour thus conferred. Such honours conferred our contributors as well as ourselves feel to be like a supply of oil to the bearings and fuel and water to the engine—the engine that our united aims and wishes have been should do its little part to push the bee industry of Australia on to prosperity. What we have done in the past shall we not all try to do better for this grand compliment in the future?

A lot of good copy unavoidably held over till next issue.

Germany has recently imposed a duty of about £15 a ton on honey.

We acknowledge receipt of a new beekeeping work by Mr Angus Mackay, F.C.S., entitled, "Beekeeping as a business in Australia." The publishers are Messrs. Batson & Co., Limited, Sydney.

It contains a concise and well-written epitome of matters relating to beekeeping from an Australian standpoint. No beekeeper can read it through without feeling interested, or seeing some well-known idea dressed in different language, making it more impressive than it had seemed before. Every beekeeper who wishes to succeed cannot do without a good library of bee literature, and this little work of Mr Mackay's should undoubtedly find a place among such.

In a private communication from Mr L. T. Chambers, he says:—"By the way it now transpires that the honey which was reported by cable in the published newspaper reports was a lot of rejected rubbish which was sent forward to save the agents who had engaged space. Our honey is now reported as good, and selling at 28s. We're getting on. Keep on kicking. I am just placing a lot of half-a-ton for Aden, and last week sent sample case to India. Plenty of ports beside London, and if we are at all clever will soon be able to extend operations."

Since the Convention we had a visit from Mr T. M. Pemberthy, of Elsmore, on his way home from the Convention. He had been making enquiries in Sydney about the market for honey. He informed us that in Sussex street he was told that one 60lb tin of honey would be before reaching the consumer become three tins. He has a great notion of the long-idea hive. In his district the yellow box comes regularly every year, never varying more than about a fortnight. When that commences to give its honey the queen ceases to lay and the bees throw all their energies into honey gathering. This year he got fourteen tons from 145 hives. He has an idea that tin would make good base for foundation.

SPECIAL WORK FOR AUGUST N. Z.

The present winter in New Zealand is the wettest we have had for several years. Since about the beginning of June, we have scarcely had a day in

Auckland without heavy downpours of rain, and where the bees did not get the proper attention in the autumn there will be heavy losses. There has been however occasional periods of sunshine, but these have not lasted long enough to be of advantage to the bees.

At present there are no signs of a favourable change in the weather, though surely the rain cannot last much longer.

SPRING MANAGEMENT.

The time for making preparations for the coming honey season has now arrived, and not a favourable day should be lost. The hives should be gone through so as to ascertain the condition of the colonies. In case any should be found short of food the matter should be attended to at once, by giving a supply of honey or sugar syrup. Mouldy combs, which are likely to be found in some of the weaker colonies after a spell of wet weather such as we have had, especially where the hives may have become damp, should be removed, and when necessary a clean dry hive should be substituted.

The mats, if they have become damp, should also be removed and replaced by dry ones; an extra mat, or even two placed on the frames tends to conserve the heat of the hives as much as possible, which is necessary at this time of the year for the healthy development of the larvae. The bottom boards should be cleaned by scraping them, and while doing this the hives should be placed on a spare bottom board alongside. I must once more impress upon the minds of beekeepers the importance of contracting the hives by the use of division boards.

It is a great mistake to allow a small stock of bees to occupy a full hive, more especially after breeding has commenced, as it is impossible for such a colony to keep up the necessary heat required for breeding purposes.

On the other hand, if the bees are crowded together by contracting the hives they will be almost as snug as a full colony would be. On a cold evening division boards should be put into the hives where the bees do not cover

more than four or five frames. By this plan weak stocks have frequently been worked up into fairly strong colonies before the honey season has set in; in fact I look upon division boards as indispensable to the proper management of bees in winter and early spring. When going through the hives it is as well to carry a pencil and note down in a memorandum book or on the cover of the hive the date and condition of each colony; this will save a lot of trouble and annoyance by being able to refer to the note any time.

QUEENLESS STOCKS.

A close watch should be kept for queenless colonies, as they are frequently to be found at this time of the year. My own method when going through the hives, is to look out for larvae or eggs, if neither are found a search is made, and should she not be found the hive is marked as "doubtful." After a day or two another look is taken and if without success then I conclude that the hive is queenless and act accordingly, that is steps are taken to unite it with another that has a queen. The bees of a queenless stock may be found very serviceable at this time of the year in strengthening another colony, whereas if left to themselves they would quickly dwindle in numbers and eventually die out.

FEEDING.

Too much attention cannot be given to the food supply. Where colonies are found to be short, this should be seen to at once, or breeding will be checked. Every care should be taken that breeding goes on steadily from this time forward, in order that there may be young bees to take the place of the old ones, that will now commence to die off rapidly. Sugar Syrup is as good food as can be given, and empty combs make the best kind of feeders. The Syrup is made by adding in the proportion of, say 10 lbs of sugar, to five pints of water, and an ounce each of vinegar and salt—and as it is always advisable when feeding in this manner to give medicated syrup—add a quarter of an ounce of absolute phenol. Put

the whole in a saucepan and boil for a few minutes, taking care to keep it stirred to prevent burning. The best method for filling the combs is to lay them on a thin board a little larger than the frame and place both into a shallow tray. The syrup should then be allowed to fall on the comb from a perforated tin or bowl, held above it. This will force the air out of the cells, when the syrup will take its place. The thin board on which the comb is placed is to assist in turning the latter and should be lifted with it until the comb is in an upright position, when the board should be placed on the other side while filling the empty cells. After both sides are filled hang the frame in some suitable receptacle to allow it to drain, after which it can be placed in the hive near the cluster of bees.

Another very good method of feeding is with the Simons dry sugar feeder. It is really a hollow dummy or division board, holding about four pounds of dry sugar, which is suspended in the hive next to the cluster of bees; the bees moisten the sugar and store it in the cells in shape of syrup. This is a simple and effectual way of feeding without risk of robbing. Crystal sugar known as No. 2 should be used

HIGGINSVILLE COVERS.

L. T. CHAMBERS.

About seven or eight years since I took pretty much the same line of argument as A. I. Root Co. in the matter of construction of covers, and made myself about 200 covers on the exact pattern of what is now catalogued as the "Higginsville." This I soon found to be a vital mistake. They shrunk at the joints, and twisted and warped so in one season, as to be perfectly useless. And ever since I have stuck to the panel board, which after all is the very best form of cover, and more reliable than a joined or constructed cover.

There is nothing better for either cover or bottom board than 16in. Californian Red-wood. Did anyone ever see a rotten piece of Red-wood?

REPORT OF CONVENTION

OF THE

BEEKEEPERS' ASSOCIATION,

Held at the Melbourne Town Hall, July 4th & 5th, 1895.

THE third annual Convention of the Beekeepers Association of Victoria was held in the supper rooms of the Melbourne Town Hall on July 4th and 5th.

R. L. J. Ellery, the President of the Association, was in the chair. There was a good attendance of members.

After a meeting of the committee, the President in opening the Conference said that there had not been a meeting of the Association for two years. The committee had taken into consideration the future of the association and drafted a few rules for its government. The members would recollect that the association had risen from the ashes of an old association called the Beekeepers' club which fell off, and at the suggestion of Mr Chambers the beekeepers determined to form themselves into the present association. Since then there had been no rules for its guidance.

The following rules were adopted as the basis of membership, upon the motion of the President, seconded by Mr Bennet.

RULES.

That this Beekeepers Association of Victoria shall consist of persons either directly or indirectly engaged in apiarian pursuits.

That all persons coming under the above category may become members by paying an annual subscription of two shillings and sixpence, which shall become due on the 1st of May in each year. The Central committee having power to refuse admission to any applicants who in the interests of the association should be thought by them to be undesirable members.

The association shall be managed by a central committee, consisting of President, two Vice-presidents, Treasurer and Secretary, and two

ordinary members of the association, which committee shall be elected at the annual meeting of the Association and hold office until the appointment of their successors at the next annual meeting.

The committee shall hold its meetings in Melbourne as occasion requires, and at least twice a year. The Association shall be called together annually in the month of May or at any other time of the year as may be agreed at the annual meeting.

Upon the motion of Mr Russell, it was decided to hold the next Convention about the middle or end of May—Carried.

The minutes of the last meeting in Conference, held 31st August, 1893, were read by the secretary and confirmed.

REPORT OF COMMITTEE

Of the Beekeepers' Association of Victoria presented to Convention held in Melbourne Town Hall, July 4, 1895.

The matters which were entrusted to this committee by the resolution of members of Association sitting in Conference on August 31, 1893, as per minute now read, were

Foul Brood Bill
Adulteration of Honey
Honey Exportation
Railway Freights
Registered Label

These matters we beg to report in the order in which they stand.

FOUL BROOD LEGISLATION.

The attention of our legislators being so continuously occupied with matters of finance and other important and pressing questions of the day, the opportunity did not occur to present any Bill on this subject, with the remotest chance of having it considered. Other bills of kindred nature, notably the Insects Pests Bill, which is by far a more important measure, has been held in abeyance for want of opportunity. It is worthy of note that the ravages of Foul Brood have greatly modified during the past two seasons, and we have cause to think this is owing

to the continued introduction of Italian bees and to better management. We beg to refer this subject back to the present Convention for further direction.

ADULTERATION OF HONEY.

This matter has received frequent attention. It does not appear at the present time that there is any great amount of adulteration being done in Victoria, possibly from the fact that honey is now so abundant and cheap that no margin exists to profitably adulterate it; still the matter is not entirely dead, and may revive when a suitable opportunity occurs.

It will be necessary for us as an Association to safeguard our exports from adulteration more jealously than our home consumption, so that we shall not be exposed to the possibility of losing our markets through the fraud of any.

EXPORTATION OF HONEY.

As seen by the minutes of the day just read, the Minister of Agriculture (Mr. Webb) granted our request that a bonus of 1d per lb. should be paid upon exportation of 25 tons or thereabouts. The amount of £250 was passed in the supplementary estimates of 1894 for this purpose, but as the honey season of that year was such a poor one, it was thought not desirable to take any action in the matter of exportation until such time that more of our beekeepers were able to participate in it. The Secretary was instructed to see that the promised sum was revoted the following year and made available for the ensuing season. This was done, and as matters progressed an enlargement of the amount of bonus was granted by the present minister, so as to embrace all the honey sent into the depot up to the end of June. This matter will be further reported during the Conference.

RAILWAY FREIGHTS.

Acting upon instructions from the Committee, your Secretary has been in frequent communication with the Traffic Department, and has been able to procure some concessions which have been of value to the members of our Association.

While the general tonnage rates for honey carried by the Victorian railways are much too high, in view of opening up an export trade, the acting Commissioners have been pleased to reduce the fares for truck loads of honey very materially, so that a little amalgamation of near-by fellow bee-keepers to make up truck loads may result in a saving of about 30 p.c. This matter however needs further ventilation, seeing that while we are having our honey carried from Port Melbourne to London for 35s. per ton it costs twice that amount to have it carried an average distance on the Victorian railroads.

REGISTERED LABEL.

This matter can only follow in the wake of a registered company, or become the property of some one individual. We beg to refer this matter for further discussion if thought necessary by this Convention.

In addition to the matters which you entrusted to this committee many minor matters have arisen which required attention, in which your interests have been carefully considered.

It will be patent to any observer of the signs of the present times, that amalgamation and co-operation are necessary measures for the protection of producers, so as to cope successfully with the united action of those controlling markets. It is earnestly to be desired that all those at present occupied in producing honey should work in unity in the disposal of it, and not subject themselves to unnecessary competition one against the other to the general loss of all.

The extension of this Association until it embraces all beekeepers is a matter which should engage the attention of every present member of it.

THE PRODUCTION OF BEESWAX.

Seeing that the price of this product steadily advances and that the market is always active, it behoves us as beekeepers to turn careful attention to the production of it. Recent English advices quote good beeswax up to £3 5s per cwt. At this price it must be clean and of good colour. The appliances necessary to fill these conditions are with the frame hive man rather than with the box hive man or bush scraper. In view in the probable fall in the price of honey and of the gathering of quantities of honey of low grade and inferior flavor and consequently of little value for food, the question arises, may not such honey be turned into beeswax, or at least a large proportion of it, to the profit of the beekeeper. Honey taken from box hives yield about 112 lbs to the ton and this with wastful methods. The proportion of wax thus produced is about one-twentieth of the honey; this is verified in the production of comb honey. A pound of honey in section is carried in about one oz of wax (including cappings) which will probably net one-twentieth of the total weight when melted. The question is, might not the production of wax be largely increased by the adoption of special methods of manipulation so causing the conversion of honey into wax. The production of honey is stimulated by the use of the honey extractor, might not the production of wax in like manner be stimulated by repeated drafts upon the hive. Taking the relative value of these two products in London as 1/3 per lb for wax as against £20 per ton for honey it may be noted that the expense of handling the last named will amount to fully £7 10s per ton to place it on the market of London in good and saleable shape, consequently the apian value of the honey as produced will be about £12 10s per ton. If by methods in manipulation we can succeed in producing two cwt of wax and half a ton of honey, in place of 1 cwt of wax and 1 ton of honey, the relative value of the crop when marketed will be in favor of the larger production of wax, thus,—

One cwt of wax ..	£7 10 0
One ton honey..	12 10 0

£20 0 0

against

Two cwt wax	£15 0 0
Half ton honey	6 5 0

£21 5 0

The great advantage in the production of wax lies in the fact of its being at premium while honey is at a discount. Wax is convertible into gold at call and its remittance to England is as gold at premium, hence the expense of its transit is covered. Advances up to its value are readily procured. There is no risk of leakage as with honey, and little expense needed to pack. The apiarist who has reached the limit of his working capacity may turn his surplus stock into wax and so regulate increase. I beg to submit these propositions to our numerous beekeepers for consideration and discussion.

L. T. CHAMBERS,
Brighton.

9/7/95

Mr C. Fulwood moved the adoption of the report and said that in doing so he must refer to a matter in relation to the export of honey. It was important that honey exported should be of the finest possible quality. He called attention to the report cabled that the quality of honey sent from Australia was fairly good in flavour, but bad in colour. Mr Chambers might know from what locality it came. He said that the appearance of the honey should be good, otherwise it would not sell well; that the flavour should also be acceptable to the palates of the people of the old country. The Australian market being limited the beekeepers should make the best use of the foreign markets. They must encourage the exportation of the very best article.

The Chairman said that the colour of the honey was not against it. If they were to send home good honey it would get its own price. The other day he saw some honey gathered from the coast of Gippsland, but it was spoiled from honey gathered from some wild flowers that grows on the sand between the sea and the tie-tree. This flower was of the same tribe as the cape weed, and the pollen was taken into the hive and spoilt the flavour of the honey. Honey

gathered from such sources should be avoided as an article of export.

After discussion of items as follows the report was adopted.

FOUL BROOD BILL

The Secretary said he would move "That this association proceed no further in the matter of this bill, as its enforcement needed machinery, and machinery meant expense." Mr Bennet seconded this motion. An amendment was moved by Mr Bolton "that the consideration of this matter be left for consideration till the afternoon sitting and not dropped from the notice paper. There was a way of dealing with it without expense, and it should be left an open question. Amendment seconded by Mr Wilson. After discussion the consideration of this matter was left for next day.

ADULTERATION OF HONEY.

The Secretary said they would have the advantage of legal opinion respecting the existing Adulteration of Food Act, which would give them a clear idea of its scope.

In reply to Mr Ellery, the Secretary said that California had largely destroyed their export trade by adulteration. It was acknowledged that most extracted honey sold in that state was adulterated. It was suggested that the Government be asked to supervise the export of all honey under expert control. Mr Chambers considered that up till now they were perfectly safe in the hands of the Government. Once or twice during the time he was supervising the export of honey, some which was rejected was sent to London, and when this was pointed out it was thought possible that the shipping firms might be induced to refuse such consignments.

Mr Wilson said that no honey should be received except up to standard, and carrying the Government stamp. It should sell better in England than if carrying no guarantee.

The Secretary said that he had been particular that all packages passed by him bore the Government brand, that

was the guarantee. A voice: "How can the consumers know if it has received the stamp or not?" Mr Chambers did not know what control they had over adulterated honey which was exported, but that they would know after hearing legal advice.

Mr Ellery having to leave at this point Mr Fulwood took the chair.

Mr Bolton said that in consideration of a low price ruling for honey this association should endeavour to get some concessions from the Railway Department for the carriage of tinware. This Department had told him that they could not make any reductions. The Secretary said that he found no difficulty in approaching the Railway Commissioners in the matter of concessions. The matter was referred to the committee, upon the motion of Mr Bolton seconded by Mr Beuhne. Mr Bolton thought that it was advisable that the committee wait upon the acting Commissioners, regarding freight on honey and packages of empty tins.

REGISTERED LABEL.

Mr Greenwood thought that a great advantage would be gained if a registered label could be used as a guarantee to the English buyer of the purity of the honey. Mr Chambers said that at the present time the Government seal takes the place of a registered label. This is the Government guarantee that our goods are of good value. He did not see that the recommendation of last year's conference could come into operation and moved that the matter be dropped. Seconded by Mr Bolton and carried.

SECOND SITTING—2.30 p.m.

VICTORIAN HONEY RESOURCES.

A number of exhibits were shown. The secretary said that at the previous conference very little information could be given regarding Victorian honey resources, but now something more positive was known of the sources of honey and the time it was yielded, and gave the result of his own observations of the samples received from various sources during

the past two years. He found that the yellow box trees produced a good flavored light colored honey, which he placed at the head of our resources; next to that the grey box produced a somewhat darker honey than stringy bark, which produced a still darker honey, but a very palatable sample. The friends from the western district would speak of their resources. They exhibited samples of nice light-colored, from what source he did not know. His experience showed that the southern coast of Gippsland produced ill-flavored dark honey, while up in the ranges a deal of undergrowth exists, which imparts a bad flavor. That part of the colony did not produce as good a sample of honey as that of warmer districts. He found that South Australian and Victorian honey was closely allied in flavour. Mr H. Russell showed two samples, one from yellow box, one from red gum. He thought these gave the largest supply. The yellow box honey was gathered when the gum had almost finished flowering, and he gathered from this source nearly all summer. This he placed at the head of supply, for both volume and quality; red gum he placed second, and gave third place to grey box. His smallest yield was from grey box. Treetree honey was dark and very strong in flavour, but was easy to extract when new.

Mr Bolton (Dunkeld) said he brought samples of yellow box and red gum—the latter was his principal source. He placed it first. The trees bloomed every second year. Messmate came next, but was a shade darker than red gum. His sample was mixed with thistle, and was therefore not a pure one. This season messmate was a failure. Both these varieties of trees yielded honey for about a month only. After messmate came manna gum, which bloomed from September to March, and yielded honey almost as well as red gum during warm weather, and was quite as light in color. However, he could not obtain a sample without having it flavoured with pennyroyal. It had a decided flavour, but was

equal in colour to red gum. Every alternate year he had a honey flow from April right through the winter. He placed his resources in the following order—Red Gum, White Gum, Mesmate, Manna Gum. During spring he had honey from heath and a variety of scrub flowers which however did not give much surplus.

Mr Ballanger (Nurrabel) exhibited a sample of white gum mixed with yellow box but mostly of white gum. White gum bloomed only every second year. He placed white gum first yellow box second, and black box third.

Mr W. S. Mackay (Lereton) placed yellow box first, after that blue box, which bloomed about October—then red gum which bloomed about Christmas—then apple box which bloomed about November, then stringy bark. He placed yellow box first as regards volume, red gum second, apple box third. He had more surplus from yellow box than from red gum.

Mr Symes (Lake Rowan) said the first they had was from yellow box, that the red gum blossomed about the same time, after that he placed grey and black box, which blossomed from February all through the winter. The difference between the grey and black box can be noticed in the bark, the grey box having a larger leaf. His best honey was gathered in Jan. and Feb., from yellow box and red gum. He considered that the later the honey the poorer the quality.

Mr. Bennett (Bendigo) agreed with the last speaker and placed them as follows: yellow box, first; red gum, second; grey box, third; white gum, fourth. For volume and quality he said that grey box was the most reliable source and considered it a superior flavour, but of rather dark colour.

Mr. Wilson (Teesdale) said his chief sources was fruit bloom and spring flowers; second, redgum blooming about November and lasting till after Christmas; next, manna gum. He placed red gum first for quality, manna gum

second, but preferred the gums for flavour before fruit blooms.

Mr. J. T. Adams (Mooroopna) said their samples were three in number. First, yellow box in spring, the younger the tree the earlier it blossomed and was a certain crop every year. This source was, however, being destroyed by the village settlers. It blooms from the beginning of October until Christmas. Next, red gum. Its uncertainty placed it behind the other. Next he placed grey box, which produced, in his opinion, the lightest honey. In placing yellow box first, red gum second, and grey box third, he said he was limiting them to the amount he had at command, but that with a fair forest the position might be reversed. His amount was limited to a few fringes along the Goulborne.

Mr. C. Bamford (Benalla) exhibited a sample from red gum which he placed first; stringybark second. For quality he placed red gum first, but the supply was limited. There was any amount of stringy bark.

Mr. H. Sunderman (Gippsland) said his sample was from white box, by some called grey box, but he had seen this variety nowhere else but in his district. The honey was very clear. White clover he said was a failure. His third was apple box, a good yielder but of poor flavour.

Mr Hollis (Bacchus Marsh) had both lucerne and boxthorn in his district. They had but a little red gum in the district, but had some mallee a few miles away which produced a good honey. Grey and red box gave the best supply. He thought that rain made a difference to the colour. He thought lucerne did not yield much, for when every paddock was in flower it did not appear to make any difference to the honey flow.

THE CLASSIFICATION OF HONEY.

The Secretary said that all Spring honey needed to be very carefully put upon the market, as it usually contained an excess of moisture, and granulated very quickly, and seldom was as full flavoured as the later honey. Mr Ellery

thought that there was no fault to be found with honey on account of crystallisation, that all honey was pure in that state. He thought that the cause lay in the constituents of the plants. Mr Chambers said the recent discussion tended to show that yellow box came first both for volume and flavour, and that red gum came close to grey box for second place, while the grey box had the better flavor. He suggested that honey be classified as Light, Medium, and Dark. The Chairman suggested that they be classified according to their sources. This subject was left to the committee to deal with.

PROSPECTS OF THE EXPORT TRADE

Report read by the Secretary regarding what has been done during the past session.

REPORT UPON HONEY EXPORTATION.

On January 25th of this year I issued to the Members of Committee, and to several other of our prominent beekeepers, the following suggestions for approval or otherwise, as the basis of conditions upon which honey should be exported under the bonus conditions. With two dissenting voices these conditions were adopted by the whole committee. The local committee was then called together to receive these votes, and it was agreed that the conditions named should be recommended to the Department of Agriculture for approval. In due course the Department issued a printed notice to intending shippers of honey, embracing the recommendation of your committee, and adding further Departmental conditions—this of date March 15th. Messrs L. T. Chambers and F. K. Barnes were named as expert judges.

The first lot of honey which came into the Depot for approval was a mixed lot of inferior honey, which with exception of one lot was at once rejected. The agents offering it, however, having become responsible to the shipping firm for proposed export, sent it forward to London, nicely branded as Victorian honey, a sort of advance guard. This was shipped by the Aberdeen. Some other lots which had been rejected also went forward to London in regulation cans and cases, branded "Victorian honey," but of course in these cases the Crown brand of the Department of Agriculture was missing. This is mentioned to show the possibilities of misrepresentation. Outside of the bonus regulated export, quite a brisk export trade sprung up, so as to be on top of the wave. Notwithstanding that the season was fast shortening, honey came in but slowly, and the second shipment went forward by the "Australasian." Towards the end of April, and first week

in May, honey began to arrive freely and mostly required re-canning. Before the middle of April, however, the experts had received notice of fully 2½ tons coming forward (the limit of the original bonus), so the Secretary of Agriculture was communicated with regarding further lots. The Minister of Agriculture then decided that these further lots were to be received. (Letter attached.) Another shipment of about 20 tons was ready to go forward by the "Ninevah," but as this vessel broke down at Sydney, and somewhat threw things out of gear, the balance of the honey in the depot and a few tons which came in later, laid at the depot awaiting shipment until the 26th of the present month, when it all went forward by the "Damascus"—about 700 cases. The Department of Agriculture, who made all shipping arrangements, were responsible for this delay, in that they had made contracts with the shipping firms which were not carried out. It should be stated, however, that the saving in freight by the arrangement of the Department was considerable, the rate being reduced to 35s ton. Doubtless in consequence of this delay the conditions relating to account sales returnable by Aug. 20 will be modified. It will be advisable that this meeting moves in this matter.

Rejecting honey of unpleasant flavour, and a good deal that was improperly taken, and impure in consequence, there was not a very great variation in sample. Now that we have gained more experience of the sources and flavours of our Victorian honey we should adopt some system of classification, either by name of source or by shade of colour. For export trade the latter by preference. Say light, medium, and dark. Possibly a sub-committee could deal with this matter and the samples now submitted, and bring up a report. The flavour was fairly good all through, and impartial judges from other parts declare that our honey will compare favorably with any honey of the world. With a little care there is nothing to fear for our exports on this score. I desire to call attention to the fact that some of the honey presented had been extracted too soon, and consequently had a raw, unpleasant flavour. If it is necessary to extract before honey is fully ripe it will be necessary to adopt means to complete the ripening process by artificial means. The presence of abundant moisture was shown in the fact that the honey re-canned at the depot showed a loss in weight amounting in some cases to 80lbs in the ton, and this at a heat of about 100degrees. These figures could not be checked quite accurately in consequence of leakage from cans and consequent loss, from which few consignments were free. The ready granulation of honey is a pretty sure sign of the presence of too much moisture. Perfectly ripened honey will granulate but slowly.

The facilities at the depot for handling the various consignments were rather imperfect and

led to much unnecessary handling, but it is probable that better arrangements will be made for next season.

The honey, as shipped, was divided amongst five or six firms having local agents. Where all charges were paid by the producer, the Department of Agriculture accepted bill of lading, and will appoint a London firm to dispose of it upon arrival. There is nothing however to be gained in this method over any other.

During the present half year, January to June, shipments have been made from Victoria to all ports of 86 tons. These figures supplied by the Customs Statistical Branch

The result of our endeavour will remain to be proved. We have just begun to fight our way forward, and we will meet with many difficulties, and we shall need, patience, tact, and perseverance to overcome obstacles purposely placed in our way. This may only be accomplished by hearty co-operation and associated effort.

L. T. CHAMBERS.

The Secretary said that there was nothing the matter with our Victorian honey, the talk regarding the Eucalyptus flavour was not to be taken seriously. The total shipments from the colony had amounted to 85 tons, of which 70 tons had been shipped by the Association. The question should be not how much per lb they were to get for their honey, but how much they could produce and ship to other markets,

Mr. E. Meadows, of Trengrouse & Co., London, who attended by request, regretted that he had not at that time received an answer to enquiry he had made by cable as to the present prospects of the London market. When in England he had received shipments of honey from both Victoria and South Australia which was put up in old kerosene tins neither graded nor classified. This should be avoided in the future. The flavour of Australian honey was different from that of California and Jamaica, from which large supplies reached England. The price a few years ago was 56s to 60s per cwt. What was needed was a regular quality and at a price to suit the public. His past experiences of Australian honey were rather unfortunate, for after selling a few cases to dealers he was unable to quit any more in that direction on account of bad flavour, and had to sell the

balance to the blacking manufacturers. He thought that there should be three regular grades of honey sorted as to colour and flavour. If the honey were put up in England in small packages it would probably sell well. For medicinal purposes the colour was not of importance. Replying to the question if honey was used by the working classes at home, he said it was regarded as a luxury and the retail price usually paid was from 9d to 1s per lb. They need not be discouraged by all they saw in print. It did not much matter whether the honey was candied or liquid. If they traded with this Company there would not be any intermediate handling.

Mr. G. Macdonald remarked that he had experience of the retail trade in Scotland. He thought that the principle competition was with jam, which was sold by the grocers at from 7d to 10d per quart jar, jars returnable, and were charged 1d deposit. If the honey were put up so as to be sold at 6d per lb jar a large trade might soon be built up.

Mr. Chambers said that he had shipped to South Africa and the honey sold freely. He had had also sold to France and Germany and had an offer from Germany to supply regular quantities monthly, but an import duty of nearly 15s per cwt. has recently been imposed. This would possibly stop trade, but it was an indication of the state of other markets. He advised that the distinctive name of Victorian honey should be retained.

THIRD SITTING. -7,30 p.m.

Rev. J. Wilson in the chair.

BLACK V YELLOW BEES.

Mr. Chambers remarked that breeding for colour had ended in failure. To a large extent the working qualities of the bees had largely been sacrificed for the mere idea of prettiness. It has been averred that the black bees were not as good honey gatherers and were more inclined to swarm than the yellow races. Mr. Beuhne stated that black bees were quite as industrious as the yellow bees but were not so prolific. They were, however, better adapted to stand cold

and wet. The hybrid combined most of the desirable points required, being both prolific and hardy. Black bees built better looking combs than Italians.

Mr. W. Symes said that his earlier experiences had been with black bees but found them subject to foul brood so much so that he almost despaired of getting rid of it, but since he introduced Italian bees the disease has gradually disappeared and now ceased to trouble him.

Mr. Bolton agreed with the last speaker regarding foul brood.

Mr. Russell preferred the hybrid bee. They could be handled easily and quickly, and were not so difficult to get off the combs as the Italian. The black bees were without doubt more liable to disease than Italian or hybrid.

Mr. J. T. Adams preferred hybrids for honey gatherers, but drew the line at the first cross.

Mr. Bennett bore evidence to the superior qualities of the yellow bees in resisting disease, giving the result of some experiences in endeavouring to innoculate Italian bees by feeding with honey taken from foul-broody colony.

At this stage a congratulatory and fraternal telegram from the conference of beekeepers sitting at Bathurst was received with expressions of great pleasure. To this an answering wire was sent conveying the congratulations and good wishes of this Association to our distant friends.

It was agreed on all hands that the points of excellence in the matter of resisting disease were with the yellow race of bees, giving them therefore a superior place.

Mr. T. Morris, one of the authors on the Standard Work on the Health Acts of the Colony, read a paper having the subject "Adulteration of Foods from a legal standpoint." Section 40 of the Public Health Act of 1890 was quoted as bearing upon the adulteration of honey. He said that in law it was no defence that the seller did not know that the article sold was not of the substance

demand. The seller should make himself acquainted with the goods he sold. In selling goods adulterated with non injurious ingredients, it was legal to sell the mixture by making use of a label setting forth in plain, easily perceived letters, that the goods offered were a mixture; as for instance, "coffee and chicory," "honey and glucose," but the lettering of the label indicating the mixture should be equally plain of perception.

Replying to a question, he said that in the case of a warranty being procured from a wholesale dealer, the retailer would have recourse if convicted of selling spurious goods, providing he sold the goods in the same state as received. It was necessary to prove guilty knowledge before a conviction would stand.

The Secretary stated that little adulteration was at present carried on in Melbourne, but the main thing to consider was the possibility of honey being adulterated for export.

Inquiry was made by a member regarding bee moths, which had been a trouble. Specimens were shown, but were said not to be the true wax moth, but the larva of some other moth. In any case the remedy was to be found in the introduction of Italian bees, which would not tolerate the presence of moths or grubs in the hive.

Reports of apiaries was called for, but some members objected to making public what they regarded as their private business, so the matter dropped, and the sitting closed.

SECOND DAY, JULY 5th.

The President in the chair.

THE PRODUCTION AND PREPARATION OF BEESWAX.

The subject was introduced by the secretary reading quotation of the beeswax market of London and Liverpool, showing that there was and had been a steady rise in the value of this product year by year, and that there was every probability that the market price would rise still higher, as there was a growing

demand for its use in many trades as well as in art, and for use in the churches on the Continent. He advised that experiments be carefully tried by members of the Association during the coming season. At the present price of wax, and the possibility of our honey selling at low prices in the markets of the world, the margin of value was with the wax. Referring to the preparation of wax for sale, he showed a sample of wax which had been spoiled by over heating, which would consequently bring a low price in any market.

Mr. Russell said that the colour of wax largely depended upon the locality and colour of the honey. Some wax was naturally very dark, and other pure white, but became a little yellow after being melted from the combs. Mr. Bennett thought it took quite twenty pounds of honey to produce a pound of wax. Mr. J. Cambell said that in taking honey from box hives he found that the average yield of wax was 112 lbs. to the ton, or thereabout. This was his estimate, gathered from years of experience.

Mr. Chambers pointed out that beeswax being so much more easily handled than honey, and having ready sale, a great advantage lay in the production of it as against honey.

Mr. Beuhne said that he found that the average production of wax from combs of two years old to be about two or two and a half ounces per square foot, and that it took seven frames of old comb to give out one pound of wax.

Mr. Bolton found that it paid to boil old combs over a second time. He found it a disadvantage having wired frames, as they were an obstacle in wax production. He thought that it was a good plan to cut out two or three combs after each extraction. He had an idea that with proper appliances, and by an understanding of the principles of inversion, a poor honey flow might be turned to good account for wax, and pointed out that the one who could produce wax to the best advantage was the man who had his apiary full, and could then afford to turn his surplus bees into wax.

Mr. McFarlane agreed with Mr. Bolton.

The Chairman pointed out that wax should be put up in more marketable shape.

Regarding the local market Mr. Chambers said that while wax was quoted nominally at 11d to 1s per lb., it would be difficult indeed to go into the market and buy anything like a quantity, as the public generally had little chance of getting hold of it. There was a lively trade being done by those who were able to get hold of it and ship to other parts.

FOUL BROOD REPORTS.

Mr. Beuhne stated that foul brood had ceased to trouble him since he had kept the Italians.

Mr. W. D. Russell said that provided one could get into a clean district, there would be little difficulty in keeping clean with Italian bees. The trouble was with unclean neighbours who threw out bad combs for the bees to clean up, which spread the infection far and wide.

Mr. Wilson testified to his ability in cleaning up diseased stocks by the usual methods, but the trouble was to keep them clean.

Mr W. S. Mackay stated that he was now free from disease, owing no doubt to the introduction of Italians. Mr. Bennett was of opinion that foul brood was not spread by infection. Mr. Russell strongly dissenting, but at the same time thought the remedy lay in the introduction of Italians.

The Chairman pointed out that while the cooler and moister parts of the colony suffered most, the warmer parts were comparatively free from it.

Moved by Mr Chambers "That the proposed Foul Brood Bill be allowed to drop, and not be proceeded with." Seconded by Mr. Bennett.

Amendment by Mr. Bolton, "That the utmost efforts of the Association be put forth towards the attainment of some simple law having the purpose of checking the spread of Foul Brood," was seconded by Rev. J. Wilson and carried.

THE ESTABLISHMENT OF COMMERCIAL RELATIONS TO CARRY FORWARD THE EXPORT OF HONEY.

The Secretary pointed out the desirability of members of the Association and beekeepers generally coming into closer relations by means of agreement as to plan of action and price of goods, and united action in the matter of shipments of honey. A representative agent was needed who would collect information, and advise all interested regarding matters of common interest. A company might be formed and held together by simple common interest, and governed by moral suasion, or as a trading company under the Limited Liability Act. But in his opinion this would provide too much useless machinery and consequent expense.

Mr. H. S. Cole, the Hon. Legal Adviser to the Association, pointed out that 20 or more individuals could carry on business for the purpose of gain, but must be registered as a company and subscribe to the provisions of the Act. Any Association which traded for gain must be registered, but a number of persons could be banded together and represented by an agent without such registration. A long discussion followed, but was discontinued at 1 o'clock and resumed at 2.30.

AFTERNOON SITTING.

Mr. W. D. Russell moved "That a Limited Liability Company be formed by members of association to deal with the distribution of honey." Seconded by Mr. Mackay. Amendment moved by Mr. Chambers, that in place of such a company a voluntary association be formed for this purpose, and sketched a plan which he said he was prepared shortly to submit to the members interested by which the distribution of our honey could be carried on through the medium of an established firm having all requisite machinery at command and an established connection. This amendment was seconded by Mr. Macdonald, and after considerable discussion was carried. The Secretary to report in due

course. At this point a cablegram was received from Messrs Trengrouse & Co., of London, in answer to one which had been sent making enquiry regarding the prospects of the honey market, which said: "Sample of honey fair, market overstocked at present." The Secretary thought that this was reassuring, because we have been so repeatedly told that our Australian honey was of inferior flavour and not likely to please the English taste. The matter of an overstocked market simply spoke of the need to do something practical towards opening the market and widening its range.

THE FARM AND HOME.

Mr. Beuhne moved that for the future the *Australian Bee Bulletin* be the official organ of this association, seconded by Mr. Bolton. Amendment moved by Mr. Wilson, and seconded, that the *Farm and Home* be retained as the official organ. Motion carried.

ELECTION OF COMMITTEE FOR CURRENT YEAR.

On the motion of the Secretary, Mr. Ellery was unanimously elected president. As vice-presidents, Messrs McFarlane and C. Fullwood. Members of Committee: Messrs F. K. Barnes and G. A. Sankey. Secretary and Treasurer, Mr. L. T. Chambers. Moved by Mr. Russell, seconded by Mr. Falkenberg, that this association tender its thanks to Mr. Chambers for the excellent work faithfully done for the association in the past. Responding Mr. Chambers said he was well repaid in seeing that the association flourished and justified its existence by adding to the wealth of the colony in the shape of exports, failing that it was not worth considering. He would be pleased to serve the interests of all beekeepers to the best of his ability. He suggested the appointment of an advisory committee of country members with whom he could communicate and gain an expression of opinion regarding matters of importance to submit to the central committee.

On the motion of Mr. Wilson, seconded by Mr. Bennett, the following

committee were chosen to act in that capacity: Messrs Hugh Russell, Thomas Bolton, J. Bennett, W. S. Mackay, H. Wilson, R. Beuhne, J. Dundass, C. Willyan, D. Fisher, J. T. Adams, H. Pye, C. Bamford. A vote of thanks to the chairman was carried with acclamation, as was a special vote of thanks to His Worship the Mayor for the use of the room free of all charge, the President undertaking to convey the opinion of the meeting to His Worship.

SOCIAL EVENING.

Most of the notice papers being disposed of with exception of sundry items of management which were discussed in general terms for the education and help of those of inexperience the remainder of the evening being devoted to sociability. Mr. Ellery brought along his polariscope and showed its use in determining the rotation of various sugars, also a powerful microscope and exhibits of bee anatomy. He also exhibited diagrams of the tongues of various insects in enlarged form.

Mr. Frank Baker, of Messrs W. Watson & Sons, Opticians, also exhibited a large number of interesting slides under two fine microscopes.

A grand recitation, "Govets Leap,"

was given by Mr. H S Cole with tragic effect, and the old, old favourite "Curfew must not ring to-night," was rendered by Mr Morgan with excellent taste.

Exhibits were shown by the Beekeepers Supply Co. of longitudinal hive with self spacing frames, also a Reische wax plates for making foundation. Mr. Farquhar also showing specimens of foundation made on one of these plates, which were greatly admired, he also explaining the methods of using this machine. He also showed his idea of a bee brush, made of hemp fibre inset into a saw kerf in a turned handle, supplying a brushing surface at each side. A long bladed cap knife, made from a saw blade, screwed on to a wood back, with handle, was also shown by him, and their merits or otherwise fully discussed by members present.

The various honey exhibits came in for the greatest share of attention. The beekeepers assembled just stuck round them like swarms of bees, each anxious to know something of the flavours of other localities.

So came our third Conference to an end. The working out of the result lies with the Committee and the Hon. Sec.

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THE BATHURST CONVENTION.



The fourth annual Convention of the New South Wales beekeepers is now a matter of the past. Through the generosity of the Government 107 free passes were granted to delegates, and some 70 more applied for and obtained passes at half the usual travelling rates. On Tuesday morning, July 2, there was quite a swarm of beekeepers at the Redfern Railway Station. The Railway Commissioners had a couple of carriages set apart with the word "Engaged" on each for their accommodation. The trip over the Blue Mountains was very enjoyable, those who had travelled on them before pointing out the particularly nice scenes as they were passed, or tantalising their travelling companions by talking of the more picturesque scenes that were within very short distances. Of the famous Zig Zag one gentleman in our company said the pictures published did not convey a correct idea of its grandeur. And as we first looked down the great gorge, with the little roof at bottom, and on which a missile could be dropped almost straight, which we ultimately found to be a passenger shed, and we zig-zagged the side of the mountain down to same, we felt he was quite correct. And many a regret was passed that the utilitarian spirit of the age spoke of its supersedure by a tunnel. We arrived at Bathurst about half-past five in the evening. Mr Trahair, the treasurer of the N.B.K.A., and Mr John Halsted, a local beekeeper, had made all necessary arrangements, and with the assistance of the energetic secretary, Mr Whittell, who arrived with us, very soon every one knew the room allotted to him at Trainor's Grand Hotel. After the cold breezy mountain air, a well-prepared evening meal was most enjoyably discussed, not the least important item being the excellent locally-produced honey. A word

must here be said for the completeness of the hotel arrangements. Notwithstanding 75 beekeepers were located at this hotel, and three or four allotted to nearly each room, every one seemed pleased and satisfied. Host Trainor, his family, and an efficient staff of assistants, were obliging and courteous, and gave the greatest satisfaction. During the night and next morning other beekeepers arrived, both from Sydney and the surrounding district, most of whom were accommodated at the Royal Hotel close by. In a shop adjoining the Grand Hotel Messrs. Hebblewhite and Co. had a large collection of beekeepers' appliances. Mr Seabrook's long-idea combination hive was also here. Also various samples of honey, including some of excellent quality from Mr Halstead's local apiary, and strong-flavoured broad-leaved ti-tree honey from elsewhere. A room adjoining Messrs. Trahair and Whittell used as an office. In the School of Arts, where the meetings were held, the Messrs. Pender had specimens of the Heddon hive. Mr Allport had also several hives of different patterns on the stage. We had three large picture frames filled with photographs of apiaries, &c., a sample book of honey lables, and on the table were some beautiful samples of honey furnished by Mr T. Halloran, of Wagga, Mr Nancarrow, of Wellington (scrub box), Mr Roberts of Muscebrook (ti-tree), Messrs. Pfeffer, of Armidale (yellow box), and Mr J. S. Cotterell, Auckland, N.Z. Among those present we noticed Mr H. L. Jones of Goodna, Queensland, and Mr J. S. Cotterell, of Auckland, New Zealand.

Early next morning many of the visitors were out to see what the town was like, perambulating its wide well-planned streets, and gazing at its handsome public and private buildings. Here we may well mention the exceeding kindness of

many of the townspeople to the visitors during their stay. Mr Johnston, the esteemed postmaster—postmaster for 35 years and his father a like period before him—hon. sec. of the prosperous local agricultural association, conducted to the magnificent Show grounds, about the most complete in the colony, and patronised at its last show by 20,000 visitors. Through the courtesy of Mr White, of the local press, a number were shown by the caretaker over the costly built and very complete law courts. Mr Stacey, the courteous and obliging Governor of the Bathurst Gaol, led a number of visitors through the vast pile, showing the various industrial occupations the unfortunate inmates were engaged in, by no means the least interesting being the sawing and polishing of the beautifully marked marble obtained in the neighbourhood, and samples of same that had been exhibited at various shows.

Previous to the departure of the beekeepers the officers of the Bathurst Progress Committee gave them copies of a beautifully bound and printed Bathurst Guide, the illustrations in which of the various views of the town are really choice works of art, and we have no doubt will be long cherished and valued by the lucky possessors.

Two excellent photos were taken by the local Romney Fine Art Co., one a group of 110 from the Court-house steps, and the other twelve of the officers of the N.B.K.A., from the steps of the Telegraph office.

Dr Pritchett Bassett, Mayor of Bathurst, must not be omitted. Owing to the political developments in Sydney at the time, the Hon. Sydney Smith was unable to fulfil his promise to be present and preside. Dr Bassett ably filled the gap and opened the Conference with an excellent address. On Thursday night most of the schoolteachers attending had to leave in order to be at their respective posts on the Monday following. Many also left on the Friday evening. Friday morning the thermometer stood at 21° in the Telegraph office, and everything was covered with a dense hoar frost,

giving a most fairy-like appearance to the scenery around. Thanks are due to the Bathurst press, the three daily papers each giving lengthy reports of the proceedings, which has helped us much in compiling our own reports.

The proceedings opened at half-past ten in the School of Arts. The Hon. Sydney Smith had promised to preside but sent the following telegram:—"Deeply regret that in consequence of important meetings at Cabinet and Executive to-morrow I shall be prevented from attending the first meeting of the Conference, but hope to be present at one of the meetings. Convey to Conference my heartiest wishes of success to their deliberations."

Dr Pritchett Basset, Mayor of Bathurst, who had consented to act as Vice-president, opened the proceedings. He said that all present would agree that Hon. S. Smith deeply regretted his inability to be present, especially as he had always evinced a great interest in agricultural matters, and had been foremost in this year's Convention held in Bathurst. It was also owing to Mr Smith's efforts that free railway passes had been obtained for the members of the Convention. The Mayor also apologised for the absence of Hon. J. Cook, Mr J. Haynes, M.P., the Mayor of Sydney, and Mr Ellery, President of the Beekeepers Association of Victoria. Although he was not well versed in apicultural matters, he understood that this the 4th Convention of the National Beekeepers Association was far and away the most successful yet held. At the first Convention held in Maitland in 1892, 50 delegates were present; in 1893, in Sydney between 70 and 80 delegates attended; at last year's Convention also held in the metropolis about the same number were in attendance; while in connection with the present Convention, it was a matter of great congratulation that 150 delegates had forwarded notifications of their intention to be present. (Applause.) The Conference had been inaugurated to forward the social and

personal intercourse of lady and gentlemen apiculturists, and what was most important to spread a knowledge of bee-culture. One of the main objects of the Conference was a political one. Legislation was required in four different directions: First, adulteration of honey must be prevented, and for this purpose it was proposed to amend the Adulterated Foods Act. He understood that a bill was to be introduced by Hon. S. Smith to deal with foul brood, and to protect beekeepers who kept their hives free from pest, from danger. The members of the Beekeepers Association also proposed to ask the Government for certain concessions in the way of railway freights. In the United States the railway freights were so arranged that beekeepers had no difficulty in following occupations what the president of this Conference said was known as the 'flow of honey'; that was changing from one district to another in order to more successfully carry on the bee industry. For instance, at Cowra last year excellent honey was obtained; this year the industry was not so successful, and, therefore, some beefarmers had come to the Bathurst district, and had started apiculture with fair prospects of success. Another great object of the Convention, and one fraught with great importance, was the placing of Australian honey upon the English market. It was important to the community that the business of apiculture should be more widely understood. To initiate bee farming did not require a large amount of capital, or any special education; and women as well as men could successfully engage in this occupation. One of the most successful queen breeders was an American lady. On behalf of the citizens of Bathurst he expressed pleasure at seeing such a large number of visitors to the town, and sincerely trusted that the conference would be productive of great benefit. He also trusted that the members of the Association and of the Convention would thoroughly enjoy their visit to Bathurst (applause.)

The Secretary (Mr H. Rawes Whittell) before reading his report explained that in the past there had been no bond of Union between the Beekeepers Association and the Horticultural and Pomological Society and the desire of many members of the conference was to create an interest between these two bodies. Their association had been accused of doing little or nothing in the past, but during the year, amongst other things he had endeavoured to show that something practical in the way of experiments had been done. He had shipped consignments of honey to India, Bombay, the States and London. When sending to the brokers or agents he had been careful to send similar quantities of the same honey to some of the principal hotels with the request that the proprietors would have it tested at their tables. The reports from the agents were almost invariably adverse. There was either too much glucose or colouring in the honey, and in one instance in a quantity which had recently been carefully prepared the agent said there was too much wax in it. On the other hand the reports from the hotel keepers were quite opposite and the universal opinion was that the customers liked it and asked for it.—Applause.—The fact was that those to whom it was sent for sale did not want to sell it, while those who wanted it were unable to get it. The middlemen was the difficulty in the way, and it was one object of the Conference to show how this difficulty could be overcome. There was a double reason for placing the report in such a prominent position on the programme. The committee of the Association were desirous that all who attended the conference would attach themselves to the Association, and it was that they might better understand its objects, and see the good it has done that the report was read at so early a stage in the proceedings. He then proceeded to read the following.

ANNUAL REPORT OF THE COMMITTEE OF THE
NATIONAL BEEKEEPERS ASSOCIATION.

In presenting this report the Committee wish to point out that some important progress has been made during the past year, although much more could have been done had the beekeepers of the colony given the loyal and hearty support they are now tendering to the officers they elected to look after their interests during the past year. The first committee meeting was held in September last, and work was begun in earnest. A bill to deal with diseases in bees was drafted and presented to the Hon. the Minister for Agriculture, Mr Sydney Smith, who promised to use his best endeavours to have it brought into force as soon as the state of public business permitted it. October again saw the committee at work, urging the introduction of the bill and pressing the importance of restricting indiscriminate ringbarking upon the Minister for Lands, who also said that the representations made to him should receive every consideration. Between that time and March active correspondence was kept up with kindred associations throughout the colony, which resulted in the Lachlan Beekeepers, the Wellington Valley Association, and others asking the assistance of the National Association in obtaining returned empties free, and alteration in regard to freight as already published. The committee secured concessions from the Commissioners covering almost entirely all that was asked. At this meeting, also, preliminary steps were taken towards organising the present Conference of which I am sure everyone both outside and inside our Association can justly feel proud. No further meeting was held till May 23rd, on account of the Hon. Secretary being absent at the Australasian Conference of Fruit-growers, held at Hobart. At the May meeting some most important results of work done was announced as finally accomplished. The Hon. the Minister for Agriculture, accepted the position as President of this Conference; His Worship the Mayor of Bathurst accepted the position of Vice-president: the use of the Town Hall was granted to the Conference free of charge; communications from the Railway Commissioners granting the returns of empty tins in boxes free of charge, and notifying the final arrangements as regards small packages of honey were received; and what is perhaps the most important concession of all is the one granted by the gentlemen whose sympathies you have enlisted, as shown by his intended presence here at this important gathering, we allude to the concession of free passes over the railways of the colony. The policy shown by the Hon. Sydney Smith and his colleagues of assisting agriculturists, fruit-growers, miners, and now beekeepers to meet together for the purpose of improving their industries is, in the mind of your committee, an indication of the sincerity of

the professions of the Government when they say they wish to act for the benefit of the whole community. For the past three years this association has in a fitful way tried to get the concessions pointed out with success, but this year we have carried them through by a little care and intelligence, backed by any amount of energy and determination to remove the stigma hurled at our executive head each year that nothing had been done. But so far we have only touched upon the fringe of the difficulties and drawbacks which beset our industry, in common with many others, much wider and deeper pitfalls lay before us to be bridged over. Many larger questions must be taken in hand, more difficult to overcome. These must be bridged over and beaten before our industry can be said to be on sound lines. The principal gap to be bridged lies between the producer and the consumer. Our greatest difficulty to overcome is a mountain of stupid prejudice, and to meet them at all with hope your committee see nothing for it but long, strong and determined unity of purpose. As certain papers and resolutions are to be dealt with bearing on these matters by the full conference your committee refrain from further comment. The thanks of the committee are due to the public press and the members of Parliament who have assisted the association, and foremost amongst these must be placed the hon. the Minister for Agriculture and Mr R. Atkinson Price, M.P., who have done all in their power to aid the industry we represent. Foremost in the press we must place our own paper, the *A.B.B.*, whose whole energies are directed towards the welfare of our industry, and which should receive the support of every beekeeper in the colony, being the only paper in Australia devoted entirely to the apiculture industry. Also the thanks were due to Hebblewhite & Co., for the use of their rooms for committee meetings. Our thanks are also due to the daily and weeklies—*The Daily Telegraph*, *Herald*, *Sydney Mail*, especially, and the *Town and Country Journal*. Space and time are scarce with them, but your committee have always received attention, courtesy and support for the industry from them. In conclusion, the assistance rendered by the various Governments, through the Agricultural Department, has been in the past and must continue to be the loadstone, next to our own endeavours, upon which our future welfare will depend. Let the Legislative assistance, sympathy, and attention of the Government be indifferently given, the rise of the industry will be made proportionally difficult. We have proof of that in the ravages diseases are making in our bees, fruit, and other things unchecked. With these remarks your Officers and Committee hand over the trust reposed in them, with the conviction that they have done their best, whether great or small, and hope the next you elect to fill the vacant offices will do better.

The Rev. J. Ayling proposed a vote of thanks to Dr. Bassett for presiding.—Applause.—It was only right that honor should be given where honor was due. Dr. Bassett had readily consented to act as chairman when it was found that the Hon. Sydney Smith could not attend. He hoped to see Mr. Smith during the Conference, and expressed the hope that the work he and his colleagues were engaged in would be successfully carried out.—Applause.—He (the speaker) had always taken a great interest in beekeeping. They were always hearing a great deal about want and distress amongst the masses but this was caused through their own neglect. There was no need for Australia to be in the position it now was in—hear, hear—and it would not be so if people only took care of the little things.—Applause.—He believed in men enjoying themselves, but he objected to them wasting what God had given them. He was strongly opposed to the indiscriminate system of ring-barking and pointed out the serious results which had followed in Spain and other countries. The object of the Beekeepers Association was to cultivate a taste for apiculture, and while a great amount of capital was not needed, it was necessary for them to exercise a good deal of gumption if they wished to succeed.—Applause.—He congratulated Bathurst in having as its Mayor a man who took an interest in the city, and the Conference in having secured him as their chairman. Applause.

Mr. J. T. Wiltshire, President of the Horticultural and Pomological Society of New South Wales, seconded the motion, and said that the organisation which he represented were anxious to work hand in hand with the National Beekeepers' Association for their common benefit.

Mr. Abram supported the resolution, and in the course of his remarks said their are honies produced in Australia that could not be beat in the world, but we must take the marketing of it in the old country in a way that would be beneficial to ourselves not the middleman.

The resolution was carried unanimously.

The delegates then retired and shortly afterwards had their photographs taken in a group, the work being carried out by the "Romney" Photograph Company.

AFTERNOON SESSION.

In the afternoon the Rev. J. Ayling (President of the Association) occupied the chair.

Mr. G. W. Gordon (Jamberoo) read a paper on "Functions of a Beekeepers' Union, its objects and aims." The paper dealt with the necessity of agitating for the passing of acts to deal with foul brood and an amendment of the Adulterated Food Act. These acts might be administered by a board of nine beekeepers, dividing the colony into nine districts, each one appointing a member to the executive. An honorary inspector could be appointed to travel throughout the colony to report on any disease breaking out. The expenses could be met by a tax of 1d per hive to be levied on all beekeepers, the return to be made up in July. The question of uniting to obtain concessions in regard to freights and arranging for an export market, guaranteeing the purity of the article, could be dealt with. The aid of the press should be sought as being an important factor in making the industry a success.

Mr. Whittell read a paper on "Organisation." It referred to the fact that at these meetings for the past three years the cry had been that little or nothing to benefit the industry has been done. This was simply because little petty jealousies were allowed to stand in the way and prevent any organisation whatever. The concessions and improvements brought about by the committee during the year must mean a saving to every beekeeper in New South Wales of from three to twenty or more pounds during the next year, and the least they could do in return would be to become members. Within a few weeks it was likely that honey would be carried in the same class as butter, etc. Free passes to the annual conference had also been obtained. Now the time had arrived to unite in one great body and grapple with

the question of marketing their products. The consumption of honey per head of the population is almost nothing. The great market of the world was utterly untouched. They must co-operate. If one thousand beekeepers joined the National Association at one pound per annum this would raise a fund that would enable the committee to buy up at least four tons a month, ship it to large provincial centres in Great Britain and Europe, and to introduce it to the consumer without the intervention of the middle-man. They had only to band themselves together to conquer. Let their motto be "unity is strength."

Mr Abram read a paper on Constitutional Conventions. He alluded to the unsuccessful attempts hitherto made to organize the beekeepers, and urged the formation of a proper and methodic organisation, that would draw every beekeeper and make it worth his while to belong to it, and the attention of the general public forcibly to our industry. As these gatherings would increase year by year, should they meet free from any regulation or under a constitution? Exhibitions of products should also be combined with these conventions. He alluded to a beekeepers meeting in Germany some years ago, which was attended by 68; a union was then formed, which now embraces Austria and Hungary, and last year's conference was attended by 1000 delegates, and thousands visited their grand exhibition. Re matters of detail, the executive should consist of good men who should not be out of pocket, for their expenses should be paid out of the subscription fund.

Mr. Gale made a statement. He had carefully collected statistics from all sources, but found that our own colony exceeded the yield in any other part of the world. He knew of one beekeeper near Orange, who had obtained between last October and April, five tons of honey from 26 colonies of bees. At Wattle Flat four beekeepers (three of whom were amateurs) last season had a net income of £991. Mr. Petersen at that place realised £602 last season; while

during the last four years the most fortunate digger in the same locality only netted £330 in his best year. Regarding relative honey value of districts, Mr. Seabrook (St. Ives, near Gordon) last season from 130 colonies realised five cwt.; while a pupil (Mr. Nancarrow) came to the Bathurst district with 100 colonies, and obtained a yield of 12½ tons.

Mr. Tipper hoped the subscription would be fixed as low as possible in order to induce beekeepers to join.

Mr. Whittell said they should consider whether their present machinery was sufficient to work the association.

Mr. Halloran said that foul brood was the most important matter. His district (Wagga) had been infected for several years, and careful beekeepers were at the mercy of their neighbours, who simply turned their boxes over when they became infected and allowed the disease to be spread broadcast. Beekeepers should tax themselves in the same manner that stockholders did to keep down the marsupials and rabbit pests. There should be no exemption, as small beekeepers were often the most dangerous.

Mr. Meiklejohn spoke in favour of beekeepers sending to England samples of their honey at their own expense and distributing them free of cost in order to introduce the article and create a demand. Last year he forwarded 4 cwt. to Scotland, and paid all expenses, and hoped to be successful. They should make a little sacrifice.

Mr. Whittell said their principal need was organisation, by which they would obtain greater results than by individual effort. Their Association had only about 20 members, but had accomplished a good deal. Assuming that they had the machinery, all should join the Association. Then, to further strengthen their hands, he suggested affiliation with the National Horticultural and Pomological Association. They could do this without forfeiting any of their own privileges. That Society had always rendered valuable assistance, and at their shows devoted a special section to api-

culture. He moved, "That in the opinion of this Conference all present should join the National Beekeepers Association at once, and the committee be empowered, if they consider it advisable, to affiliate with the National Horticultural and Pomological Association."

Mr. Newbery seconded the motion.

Mr. Ward approved of the motion, but as most of the beekeepers belonged to local associations, he thought these should pay a capitation fee to the central body and thus constitute membership. They wanted a strong central body.

Mr. Gale favoured the proposal.

Mr. Patten considered that they should be organised for trade purposes and their added influence gained through affiliation must work good results.

In reply to a question, Mr. Whittell stated that in any affiliation with the Horticultural and Pomological Society neither society was liable for the debts of the other.

Mr. Abram was opposed to the motion. He believed that their own association should stand alone.

Mr. Taylor considered that there was no necessity for the resolution.

Mr. G. W. Gordon was opposed to it.

Mr. J. D. Richards thought that by affiliation they had all to gain and nothing to lose.

Mr. G. Gordon hoped that the meeting would evolve some scheme. He favoured a capitation tax.

Mr. Dight supported the motion. Affiliation would strengthen their hands in many ways. They could suggest to their new committees a course of action.

Mr. A. Ayling suggested that they should wait till they had elected their officers.

Mr. Pender thought the resolution premature.

Mr. Whittell thought that unintentionally a wrong construction had been placed on the latter part of the motion. It did not bind them to anything. Both societies had a common interest, and they should help each other if they could.

The mover then withdrew the latter

part of the motion, and it was carried almost unanimously.

The draft of the Foul Brood Act was then read by the Chairman.

Mr. G. Gordon moved, "That the Act be approved of by the Conference and such approval be forwarded to the Minister."

Mr. Ward seconded the motion.

Messrs. Tipper and Trahair supported. Carried unanimously.

EVENING SESSION.

Mr. Helms read portion of a paper he had prepared, in which he stated chilled brood was a dead organism, and readily attacked by the organisms that attack all putrid matter, and it can never turn into foul brood. Starved brood had also been confounded with chilled brood. Starved brood never developed into foul brood. The cause of foul brood was not known long. A Dr. Schomfield was the first to discover that the origin of foul brood was due to a microbe organism. It is a true bacillus, a Latin word meaning a little stick, which the bacillus appears so much like. The bacillus multiplies by fissuration, when full grown it breaks through the middle and forms two complete bacilli, this it will do every 20 minutes as long as there is sufficient nutriment in the substance to support it—a terrible rate of multiplication. When the nutriment of the substance in which it is living is exhausted the bacillus takes another form, viz., the spore stage, and in this stage remain for an indefinite time, until it finds itself in a suitable medium to again develop into a bacillus. It is in the spore stage that it is the most dangerous to beekeepers, for in this stage it will stand considerable heat and intense cold, while the bacillus will not. It is a bacillus that can be derived from nothing else than foul brood bacillus. It is extremely small, so much so that it cannot be conceived by human minds, 1-6000th part of an inch in length and 1-40,000th in width—a terrible rate of multiplication. Within twenty-four hours an in-

conceivable number of descendants will result. In eight hours the increase would amount to 8,585,200 from one single individual. In twenty-four hours it would be in the 72nd generation, and would reach such a number that would take 22 figures in rotation to express it. Its smallness would enable it to enter anywhere. A single touch of the finger would spread thousands. There are certain poisons always developed by these bacilli, which are destructive to the organisms themselves. Mr. Helms gave an account of Mr. Mackenzie's experiment, showing it took over two hours in water at boiling point to kill these spores. Intense cold leaves its vitality entirely unchanged. Honey comb containing it had been placed for a winter 25 degrees below zero. When in the following spring it was placed in an experimental nucleus it gave them the disease. Tar does no good, it is the carbolic acid in it. Pure carbolic is entirely odourless. The spores were more or less sensitive to light and air. They thrive best in darkness. Exposure retards their development. As soon as exposed to atmospheric air they die—36 hours exposure to the atmosphere kills them. He objected to M'Evoy's idea that there was no need for disinfecting hives, because we do not know how long the spore lives. Cold will not destroy it, great heat will not, and there is a great chance that a number of spores are embedded in the wax and propolis. Suppose in a future time you scrape the wax. Berlepsch states that foul brood developed in a hive that had not been disturbed for two years. As to remedies, most of them had heard about the starvation theory. Was it worth while to go pampering them six or eight months? The bees only lived a few weeks. You need not be afraid of eating the bacilli. They would not hurt you. You may apply them to wounds and they would not do any damage. If the disease was only in a few hives it would be best to do away with it *holus bolus*. The only way is to save your bees and start afresh. If he had the choosing of a remedy that is what

he would adopt. It does not require so much attention as the German treatment. The salicylic cure was entitled a safe one, but the starvation cure was the very best. To starve, keep the bees in a cool place till you see mortality setting in, then place them in another hive and let them breed away. M'Evoy placed them in another hive and gave them starters. He did not believe in that M'Evoy was no scientist. It was a regular fallacious idea that you need not clean your hives. The spores may lie there for years and years. Everything that has been in contact with foul brood must be disinfected. There are mild and virulent types of foul brood. That was a matter that would cover two, three, or four lectures to thoroughly grasp it. The disease is more virulent either as attacking a number of individuals or a single individual. There are conditions in nature that will make a number of things subject to it.

In reply to Mr. Bloxham the disinfectant most powerful was carbolic acid. It was far better to use the odourless disinfectant than one that smelt strongly. He had tried the oil of thyme. The purer the disinfectant the better for the bee, so as to make it as comfortable as possible for the bee. One remedy was bichloride of mercury, but it was a dreadful poison. The cheapest and most harmless is Condy's fluid. Another disinfectant is fire. The boxes are very readily treated, frames are hardly worth treating they are so cheap. Mr. Maclain's was the most absurd of all treatments. Bees that survive after starvation are bees that have not been attacked or are constitutionally strong. In reply to Mr. Taylor, anything scraped out of the hives should be burnt. There are certain bacilli that throw off spores that float in the atmosphere, but they are not *Bacillus Alvei*, therefore there is no danger. The danger is with these that adhere to something. Spores do not float in the air. In reply to a gentleman as to whether there was danger in purchasing comb from foundation makers, he said he was quite sure foundation had

been the means of spreading the disease on many occasions. He explained the symptoms of foul brood in all its stages. The test of it was the microscope. It has always a peculiar rotten gluey smell. It was always in the first stage brown, the whole tint of the larvæ gradually got darker and darker in colour.

Mr W. S. Pender said the wax for the foundation they supplied was left six hours at boiling point to purify.

A number of questions were put and answered, and on the motion of Mr. Buttsworth, seconded by Mr. J. E. Taylor, a hearty vote of thanks was accorded Mr. Helms for his extremely interesting and instructive lecture.

SECOND DAY.

MORNING SESSION.

The proceedings were opened with the reading of a paper by Mr. R. Patten on "The Advantages of a Co-operative Honey Supply Company." He stated that the average number of hives in the colony for the years 1890 to 1893 was 44,195; in 1894 the number had decreased to 35,685—a decrease of 8510. The production of these hives was—1893, 1,046,528 lbs; 1894, 1,135,128 lbs.—an increase of 88,600 lbs. The honey produced in the colony per head of the population in 1893 was 14.4 oz., while, notwithstanding the increase in population, in 1894 the amount had only increased to 14.5 oz. The average amount per hive for 1893 was 24 lb, while for 1894 it was 31.8 lbs. The honey imported into the colony in 1893 was 189,165 lbs. (3oz. per unit), and in 1894, 45,177 lb. (9-16oz. per unit.) During 1893 the exportation was 3,236 lb. (1-25oz. per unit); in 1894, 13,241 lb. (½oz. per unit). The statement appeared in a Sydney paper that 94 cases of honey were opened in London without receiving a bid. In contrast to that he found that last year 40,224 lb. had been exported to the United Kingdom. The whole production of the colony for the past year only averaged 17½ oz. per head; while the

consumption, on the same basis was only 15oz. The importation of glucose in 1893 was 12,870 cwt., but it fell next year to 7400 cwt. Although the importation of this commodity had decreased, the honey consumption had also decreased; while prices, which were low last year, are now almost nothing. They had too much individualism in their operations, each one working with a selfish desire for himself alone. They wanted co-operation. On the supposition that only 500,000 consumers were obtained out of the total population who could be induced to take 2oz. per week, it would require 1456 tons per annum to meet the demand. The present consumption was only 142 tons. All they required was a systematic canvass. Why need they look so much to export when they had their own market almost untouched? Taking the large centres of the colony, if 190,000 out of the population (only one-fourth) were induced to use 2oz. per week, it would require 546 tons—40 tons more than they produced in the colony—to meet the demand. On the basis that only half the inhabitants consumed 2oz. per annum, the principle towns of the colony would require as follows:—Newcastle, 75 tons; Goulburn, 16 tons; Maitland, 14½ tons; Bathurst, 11½ tons. Efforts had been made last year to start a direct supply company, but only 54 shareholders had applied for 220 shares. They should have 1000 shares appropriated before they began operations in order to make sure of success. They proposed to send carts round regularly and make a systematic canvass to encourage the consumption. The scheme would be reproductive from the start, and he hoped the company would be an accomplished fact.

Lists of application for shares were handed round, but only 99 shares were taken up.

Mr. Halloran (Wagga) congratulated the reader of the paper for his effort, and referred to grading. Honey with bad flavor should not be received. They required a competent man to act as grader. At Wagga last year their honey

was bad and not fit for market, while this year the product was good.

Mr. Dight (Singleton) came to the conference with a desire to see the Honey Supply Co. started, and hoped all would join in making it a success. He thought every beekeeper should interest himself.

Mr. Ward (St. Mary's) approved of the formation of the company. He found by experience that the colour of honey did not weigh very much with customers. What was required was a pure article. He referred to the danger producers had to meet in underselling by competitors to obtain custom. For this reason they should support the company.

Mr. Gale found that agents preferred dark honey to light because it permitted the use of glucose. He found by experience that in the hotels honey was coming more into use. New arrivals had told him that our honey was superior to anything they had in England.

Mr. J. Halsted (Eglington) desired information as to how consumption could be increased in Bathurst if all the local honey was sent to Sydney. Beekeepers here held aloof from the association, and understood each other. The prices this year were $1\frac{1}{2}$ lb. lower than last.

Mr. Potter replied that an increased consumption would mean advanced prices.

Mr. Newbery (Armidale) said they could send their honey where they got the best returns.

Mr Taylor (Cowra) said that, comparatively glucose was used less for adulterating honey than other things. He would like to know if the protection duty had anything to do with the fall in imports. Regarding the colour of honey he favoured the dark honey, although he produced the light article himself.

Mr Streatfield (Benerie) said that they could not command the colour of honey, as the bee produced at one time light, and another dark. Neither could they command the taste. The grader of the company should attend very carefully to the distribution. A combination must have power, and the co-operation of members producing a first class article would stamp out an inferior.

Mr Patten in reply, said that he had been informed that it was possible to invent a machine capable of testing honey. He did not intend to be able to state how far duty effected importation.

A hearty vote of thanks was accorded to Mr Patten for the delivery of the paper.

The Chairman moved, and Mr Whit-tell seconded—"That the congratulations of this conference be transmitted by wire to the Victorian Conference now sitting."—Carried.

AFTERNOON SESSION.

The President (Rev. J. Ayling) occupied the chair.

The business of the meeting commenced with the reading of the annual report of the N. B. K. A. On the motion of Mr. A. Gale, seconded by Mr. Newbery, the report was received.

The President said that although he had not, during the past year, been able to attend very closely to his duties in connection with the association, it was not from any want of interest in its affairs. He would like that, before the Convention closed, they should establish the association on a very sound basis, so that they would be able to do more useful work next year. He claimed no credit to himself for what had been done during the past year; such success as had attended their efforts had been very largely due to the energy and activity of their valuable secretary. He was certain they would not get another man who would devote as much time, energy, experience and zeal to the discharge of his duties. (Hear, hear.) Good work had been done, and done in such a way that they would reap the benefit of it in time to come. He hoped that a vote of thanks would be passed to the officers of the association, who had so ably performed the duties laid upon them.

Mr. Halstead moved, Mr. Streatfield seconded, and it was carried, that a vote of thanks be tendered to the retiring officers for their co-operation in furthering the interests of the National Beekeepers' Association.

The election of officers was then proceeded with, and resulted as follows:—President, Rev. J. Ayling (re-elected); Vice-presidents, Messrs Wilshire, Gale, Patten, and Taylor; Treasurer, Mr. J. Trahair (re-elected); Secretary, Mr. H. Rawes Whittell (re-elected); Committee Messrs Tipper, Pender, Abram, Seabrook, Nancarrow, Cadden, Lord, Bloxham, Streatfield, Richards, Ward, and G. Gordon.

Rev. J. Ayling was elected the position of President much against his own wishes, and he said he would far sooner see another man chosen as, during the past year, he had been unable to attend to the duties of the position; but as it appeared to be the general desire that he would accept the honor he eventually consented to do so. Mr. Whittell in returning thanks for his re-election as secretary said that during the past year he had given a great deal of his time to the duties appertaining to the position, and intimated that he did not think he would be able to spare so much in the ensuing year.

The proceedings terminated at half-past four.

The evening was occupied by Mr. Guthrie in the reading of a paper on "Adulteration of honey." He illustrated the same by a number of experiments, which were watched with the greatest interest. This paper, we shall publish in a future issue.

THIRD DAY—FRIDAY.

The proceedings commenced by Mr W. Shaw, of Mudgee, reading a paper on "Swarming."

Mr Whittell read a telegram received by the President from Mr J. R. Ellery, President of the Victorian Beekeepers Association, thanking their brethren of New South Wales for their kind wishes, and most heartily reciprocating them (Applause.)

Mr G. Bloxham read a paper written by Mr Lord, of the Technical College, Ultimo, on "Swarms."

Mr W. S. Pender, a paper—"Hives, Locality and Management."

Mr Helms read a paper showing the vitality of the bacillus of foul brood.

Mr Tipper read a paper on beekeeping generally, which with the other papers read this morning we will leave over to next issue.

Discussion followed on Mr Lord's paper in which the Rev. President, Messrs Rhodes, Want, Gale, Pender and Taylor took part, during which it was stated a person had a perfect right to follow a swarm over hedges and ditches, but was liable for any damage caused by his doing so.

Mr Taylor gave an amusing instance of where he had followed a swarm, a person objected to his taking them, but he quietly caught the queen and put her in a match box.

Mr Ward, referring to Mr Shaw's paper, objected to clipping the queen's wing.

Mr Pender believed in clipping in home but not in out apiaries. He called attention that in Maitland a cordial factory was working in an open shed without protection, and they destroyed bees by the bucketful by smothering them. About 100 hives had been destroyed in this way during the past season.

Mr Gale said the same thing was happening round Sydney. They should be protected against such.

Mr Rhodes gave an instance of where the bees took possession of a factory for a whole day.

Mr Gale said that if it had not been for the bees they would not have fruit to make syrup.

A conversation took place on the use of old combs. Messrs O'Halloran, Walker and Ayling junr. took part. Spraying fruits when in bloom was also talked of by Messrs Rhodes, Bloxham, Dight, and it was considered unnecessary to spray with paris green at that time.

Mr Whittell said the credit of sending honey to different parts was due to the

Pomological Society. £64,000 was last year given to different societies, and if a resolution was passed by the conference asking the Government to continue a share of this assistance to the Pomological Society it would assist the next Minister.

Mr Matthews of Wellington moved that the Government be asked to place on the estimates a special grant of £250 to extend their experimental work. Mr Nancarrow seconded the resolution.

Mr Trahair supported it. We were receiving great assistance from the Pomological Society. They had been to considerable trouble and were money out of pocket. It was the duty of beekeepers to pass this resolution.

Rev. Mr Ayling said they owed very much to the Pomological Society and should strengthen their hands as much as they could.

Carried unanimously.

Mr Whittell asked for an expression of opinion as to the desirability of the beekeepers affiliating with the Pomological Society. The two associations should pull together for their mutual good. It would be a guide to the new committee.

Mr. Dight seconded, Messrs. Walker, and O'Halloren supported the motion, which was carried unanimously.

Mr. Wilshire, as president of the National Pomological and Horticultural Society, expressed his appreciation of the resolution just passed.

A meeting of the Honey Supply Company now took place.

It was announced that 343 applications for shares had been made. It was resolved that the limit of shares to be taken up by individuals be extended to 25, and that the company be floated when 500 had been taken up. Some slight alterations in the prospectus were made, after which shares were taken up in the room sufficient to make the 500, and the company declared started.

The A.B.B., the Official Organ of the Victorian Beekeepers.

After the close of the business on Friday we received the following telegram from Melbourne:—

"*Bee Bulletin* adopted as Official Organ of Victorian Association."

Subsequently the following letter arrived from Mr. C. Chambers:—

THE BEEKEEPERS' ASSOCIATION OF VICTORIA.

Memo. from The Hon. Sec., L. T. Chambers, Franklin Street, Melbourne., To Edwin Tipper Esq., *Australian Bee Bulletin*, West Maitland, New South Wales.

Dear Sir,—As advised by wire at the Conference of The Beekeepers' Association of Victoria a resolution was carried adopting the *Australian Bee Bulletin* as the official organ of our Association.

I knew all along that our interests would be best served by association with you, and so help to make at least one presentable journal for our colonies. I don't think, however that any thanks are due to us for our change. To you alone belongs the credit and from us should be the thanks that we are able to participate in the advantages offered by others.

I will send you the full text of our convention in due course, but expect that you will be pretty full of copy for some time to come. With this you have Committee report to Conference and export report which was also presented at that time. Regarding future shipments we agree to associate interests by voluntary arrangement. To have all honey graded and branded, to be put up in retail packages in the London market and distributed by an established firm.

A motion was discussed to form a Limited Liability Company with the idea of sending an agent to England to push the sale of our product, but after consideration it was thought not practicable. We received a cable during the Conference from London reporting our honey of fair value, but market overstocked. Both these items have their value. The first gives an unbiassed opinion of our good when placed along side the markets of the world and the last item points to a state of market which will sooner or later work its own cure and in doing so will advertise our goods. This is precisely what has happened in other markets over and over again. A full market is always a notice for somebody to get to work and find buyers. Once we get a footing and a standing in London markets we shall be alright. They will sooner or later see that they have to reckon with us. Other matters of interest filled up the time, which was all too short and was well enjoyed by all attending

and to the assistance of many. In spite of the evidence forthcoming in all directions regarding the possibility of getting rid of foul brood by method of breeding, the committee was instructed to push forward the matter of a foul brood bill at an early date. It would be well if we joined hands in this matter and presented such a bill at both colonies at the same time and of same agreements. I should suggest that your committee would draft conditions for consideration or allow us to do so.

The production of beeswax will engage the attention of many members in the season which lies before us. There appears to lie great possibilities in this direction for all crops of off value as food samples and there is plenty of such.

I will post you my book of members' names from which you can take a copy and return.

Yours faithfully,
L. T. CHAMBERS.

AFTER THE CONFERENCE.

Of those who remained in Bathurst after Friday night some gladly availed themselves of a trip to Wellington, one hundred miles away, where a wallaby drive had been arranged for by the Messrs. Cureton. Among the visitors to the Conference we had the pleasure of spending a very pleasant hour with was Mr Petersen, of Wattle Flat. He strongly advised us to pay a visit to his place, but understanding we would have to return by a four hours' mail coach ride before breakfast time we decided to defer our visit to a more reasonable time of year. Mr Petersen has since written us he had made arrangements of a more pleasurable kind, and we feel sorry we were not able to avail ourselves of same. However, on Saturday morning, in company with Messrs H. R. Whittle, J. E. Taylor and G. Bloxham, we started off to Peel, twelve miles from Bathurst, where the Messrs. Bloxham have established themselves. Peel was once a lively mining township. It lies on the main road to Sofala, Hill End, and other noted mining centres. Formerly it possessed three public houses, at the present time none. But it has now three places of worship. One of these erstwhile public houses was afterwards a Bible Society Depot. Now it is the residence, with apiary of some 120 hives on adjoining ground, of Mr J. Bloxham. A wallaby drive was on in the

neighbourhood, so we hurried on to the residence of Mr Schofield, a farmer of many years' residence here, and who, with a sturdy family of sons and daughters, sons and daughters in law, and grandchildren, bids fair to become a veritable patriarch of the district. But the hunters had started. So after a hasty partaking of the good wife's hospitality we followed on foot in the direction they had gone. A rough mountain tramp of several miles brought us within sound of the guns. Altogether with our own party some 12 guns and as many beaters on horseback were at work. Four drives took place after our arrival, resulting in some fifty wallabies being slain, together with three hares and a native cat. The wallabies were skinned, the carcasses being left to rot. The hares scalped. We got back to the Messrs Bloxham's soon after dark, having tramped as near as we could calculate some twelve miles, and we did enjoy the warm log fire and the excellent meal prepared by Mrs J. Bloxham. Next day we paid a visit to Messrs Bloxham's apiary at Cheshire Creek. Going along the main road, over a big hill, some four miles, we turned off into the bush, making our way to the foot of the mountains. Surely here was a bee-keeper's paradise—hills covered with box, white and yellow, rising on all sides. On a level spot some thirty feet or so above the creek were the remains of a building that had once enclosed a five-stamper battery, adjoining which was a hut occupied by the bees' caretaker. Here the Messrs Bloxham have some seventy hives. The caretaker is a veritable hermit. Except when Mr Bloxham brings his rations, or two gold diggers, who are subsidized by the Government to sink a shaft for gold a short distance away, his life is a solitary one indeed; tobacco and newspapers are his solace. Returning, we were shown where the Messrs. B. have planted a dozen hives half-way between the two larger apiaries. As there are other apiarists in the neighborhood, there does not seem much chance of any quantity of nectar going to waste here. We might here remark that Messrs Bloxham use

10-frame hives. Last year they used half supers, but will discard them this year, as when the honey flow sets in it speedily fills up the full ones. They also leave spare combs on the hives all the winter. Some seven miles drive brought us to Clear Creek, where Mr J. L. Taylor has established an out-apiary of about 80 hives. As at Cheshire Creek, we had to leave the main road, and drive some four miles through the forest till we came to the foot of the hills. It was another bee-keepers' paradise. In addition to the usual box and gum trees there was a great quantity of white thorn along the banks of the creek. This, we have been informed, yields here a most delicious light honey. The property was previously a farm on which a quantity of tobacco was grown. Several gold diggers live close by, working on alluvial ground, a number of pot-holes being in the neighbourhood. A young man from Mr Taylor's apiary at Cowra is in charge. A pleasant drive of about 2½ hours brought us into Bathurst. Next morning we were called at half-past two to take the train to Cowra. It was bitterly cold, and our breath froze on the window panes. 65 miles, about half of it in a mixed train, brought us to our destination about half-past eight, when we were delighted with the appearance of this prettily-situated town. We arrived unexpectedly at the residence of Mr J. E. Taylor, situated in the higher part of the town. It was not long before Mrs Taylor and her daughters had a substantial breakfast ready. That and a warming before a good log fire made us feel very comfortable. Mr Taylor took us first into his—shall we call it workshop or museum? In his absence Mrs Taylor, who we may say is one of the few Australian ladies who are thorough beekeepers, had been melting wax into moulds of 4lb each, to form part of a ton he is sending to England. He here keeps a visitors' book, and after seeing some very distinguished names in same, we modestly added our autographs as well. He has quite a collection in this room of bee appliances, that have been

recommended from time to time in America and elsewhere. He freely gave us his opinion of the value or worthlessness of same. In the garden at rear and side of the house are situated some 120 hives; there were more, but starting the Clear Creek apiary had drawn upon them. His hives are all on brick stands; combs are left on all the winter. Some of his hives were placed according to an idea of Root's, in sets of four, with entrances of each in a different direction to the other, but he was giving it up as not of any appreciable benefit. He shewed us two long-idea hives, 28 frames each, the sides being high enough to place half frames on top, so they were really equal to 42 frames; he uses them for queen rearing, and they ought to be good ones. Mr Taylor fully believes in making beekeeping a specialty, not a side issue, feeling confident that as such it always pays. After a substantial dinner, Mr Taylor drove us to his two out-apiaries, one at Cootah Creek, four miles this side, the other the same distance the other side of the town. The latter has the advantage of a large area of country, covered with Scotch thistles. There is not very much dense bush around Cowra, nothing equal to that at his apiary at Clear Creek. Remarking this to Mr Taylor, he said he could raise more honey with his hives and management in Cowra than others could in far better districts. A hurried tea, a well made up sandwich slipped into our pocket, a chat on politics, and the 5.40 p.m. train carried us on our journey to Sydney, which we reached in twelve hours' time, to resume our journey to Maitland after a spell.

THE PROPOSED N.S. WALES FOUL BROOD ACT.

An Act to prevent the spread of Foul Brood and other Contagious Diseases among Bees.

Whereas it is desirable to prevent the spread of and to eradicate contagious diseases among bees—Be it therefore enacted by the Governor of the Province of New South Wales, with the advice and consent of the Legislative Council and

House of Assembly of the said Province, in this present Parliament assembled, as follows:—

1.—Every person who shall have in his possession, or under his care, any colony, hive, or swarm of bees affected with foul brood or other contagious disease, shall forthwith report the same to the Department of Agriculture, and take such steps for the eradication of such disease as the Department may direct.

2.—Any person who shall, after one week's notice in writing having been served upon him by the Department or person appointed or authorised under the provisions of the next clause, knowingly fail to observe the foregoing section in any particular, or shall knowingly have on his premises any comb affected with foul brood, or other contagious disease among bees, shall be guilty of an offence under this Act, punishable on summary conviction, by a penalty of not less than five shillings or more than ten pounds.

3. For the purposes of this Act there shall be appointed by the Governor one or more bee-experts to carry out the duties necessary for the administration of this Act, and the Governor may, from time to time, make such regulations as may be necessary.

4. Any Inspector, or person appointed or authorised by the Department of Agriculture for the purpose of this Act, may, with such assistance as he may think fit, enter upon any land or premises where bees are kept, and inspect all bee hives and materials used for beekeeping thereon.

5. This act may be cited as the "Contagious Diseases among Bees Act."

A. S., Blayney,—It was a very poor honey season in the Blayney district this last year.

J. F. O'C., Moruya,—I got about half a ton of honey from 15 colonies and no increase and left them plenty for winter. Accompanying this I send you a photo. of my apiary and I hope the next time I send one to you that I will have a few more hives to show. I am going to try the "Golden Beauties" next year.

The photo to hand and is a very nice picture. There is evidently plenty of bee fodder around.

A correspondent from Shepparton, Victoria, asks:—Could you ascertain what class or flavoured honey *Eucalyptus Amygdalina* (known in Victoria as Peppermint) and *Eucalyptus Obliqua* (Messmate) produce? I understand the *E. Obliqua* is called Stringybark in Tasmania. A gentleman who understands honey thoroughly, states that the honey from

E. Obliqua (Messmate) tastes like castor oil and is unfit for human consumption. Is this the case? If so, would storing for some months cause the flavour to disappear.

(Not being acquainted with these honies ourselves, will some of our many friends furnish the above information.

T. H., Cooktown.—I have to thank you for the regularity of the *Bee Bulletin*. Last year my hives averaged about 25lb per hive; this year from 68 colonies I extracted 3 tons 8 cwt., and about 400 lbs of comb honey in sections and half storey frames I have found no brood in the half storey wide frames this year. I prefer two half stories than one whole, and also to give the queen full control of the hive. Paralysis troubled me a few weeks back, but the sulphur cure soon put all to rights again. The Pastoral and Agricultural Association held a show here on the 22nd and 23rd May, and awarded 1st prize and silver medal to me, the only exhibitor of bees working, honey in comb, extracted honey, wax candles, shaddock marmalade preserved with honey. The average price of honey here is 5d per pound. I have on hand at the present time about 15 cwt. of honey, but I feel sure that before September it will be all away to make ready for the new.

P. A., Narre Warren, V.—I have received several copies of your A.B.B. and I am very pleased with them, every beekeeper should take them as they contain pounds worth of knowledge. I request your advice and reply to certain matters that are troubling me. I will try and explain briefly, I have about 20 hives of bees, but being surrounded with box hive men I find it impossible to keep clear of foul brood. I do not get it bad so as to have frame after frame filled with it, but only get a few cells in every hive. I was thinking that if I drummed the bees off the frames into an empty box, and cut out all the cells affected and then fumigate the frames or spray them, it would be just as well as cleaning them out afterwards when they are sprayed to empty the bees back again. Your ad.

wise on this matter will greatly help me. Kindly reply to the following:—1. What is best to spray frames affected with foul brood? 2. In feeding bees what is put in the food for those affected with foul brood? 3. What is the best to fumigate frames with?

The best to spray them with is carbolic acid or Condy's fluid. It is no use playing with foul brood. The only way is to put the bees in fresh hives with starters. The old hives with frames should be set alight to. When combs are melted down and hives and frames well scorched, if not burnt too much, expose the latter to the air for a few weeks, when they should be safe to use. The comb and brood should be thoroughly burn up. Read Mr. Helms' paper at N.S.W. Convention.

We are indebted to Mr. Geo. Maxwell for the following:—The attached extract, clipped from the *Ballina Pilot* (Richmond River) of a recent issue, is an amusing instance of the general ignorance of the methods of working the honey bee. That such a paragraph should be allowed to appear in the columns of even an up-country newspaper (except as a huge joke) appears to me incomprehensible, and is a sad comment on the boasted educational influence of the Press:—“Apiculturists will be interested to know that a Macleay beekeeper seeking a means of retaining a queen bee in the hive in the face of the attempts of the workers to dethrone her, preliminary to re-swarming, conceived the idea of clipping one of the wings of her majesty. Thus, when the workers were anxious to swarm from the hive and sought to send the queen out first, the queen, unable to fly, refused to quit. In consequence the workers remained, and the honey-yield has been proved in such cases to be greater than where the bees spend so much of their time in re-swarming. It remains to be seen whether ‘winging’ the queen has any detracting influence on her progeny.”

J. B., Palmer's Island, asks:—I am going to get an extractor and as I have never done any of it nor seen it done I should like you to explain how to proceed after the frames are taken from the box. I have a good knife, I made it out of a trowel. I went up to Brush Grove

last Sunday week to see Mr. Spencer's extractor. It is one of A. I. Roots reversible and it appears to me to be a splendid article. Will you let me know by first post if you think the Cowan is as good as Root. I am enclosing stamp for reply and I have sent extra 1s for postage of back numbers of A. B. B. I was thinking of getting a good Italian queen from some of those breeders advertising in the A. B. B., and if I get one when will be the best time to start breeding from her. I would like to try my hand at it. I have four good hybrids and all the others are black and I should like to replace them with good Italians.

(After taking the frames from the hives you have simply to uncap and place in the extractor. The Cowan reversible is a very good extractor, equal to anything. Re getting an Italian queen I don't think you can do so till September or October, the bees not feeding sufficiently till then but you can book your order with any queen breeder.

J. H., Rockhampton, Q.,—I would be very much obliged if you will give me a little bit advise through your paper? I have one colony very nearly dead with paralysis, I thought first it would get all right by itself, but there is no show, heaps of swollen bees on the landing every morning. What cure do you think is the best? 2. In case this colony dies clean out, is it safe to put the combs in other hives, or will they effect the healthy hives? 3. I have bees dying in couple of other hives quite in alarming extent; it dont look like paralysis. The bees are not swollen and fluttering about, but quite dead and small. Do you think it is paralysis in a different form or some other disease? Honey yield was very poor in our locality this year, I only got about 50lbs per hive, and what is worse still I can hardly sell that if I dont want to give it away half for nothing. Storekeepers are retailing extracted honey for 3d. per pound.

[Sulphur is recommended by some. Lately, Mr. Ayerst cured all his hives by uncapping a frame, smearing it with pain killer, and putting it in middle of brood nest. We should think it was paralysis in some form or other. From all we hear we cannot think the frames contagious.]

QUESTIONS.

37.—What do you do with your spare combs during the winter months?

H. W. J. TAYLOR.

37.—As my apiary is situated in a very warm place where little or no frost reaches, and well sheltered from winds, I am seldom troubled with many spare combs, as I leave them on the hives for the bees to take care of, but this method would not suit in all districts.

I will try and explain a way in which I think combs may be kept free from moths, etc., through the winter months, but I have only a limited experience in keeping combs through the winter in the way I am about to describe. For a place to keep your combs choose a cool one on the shady side of a building, where the sun does not shine any hour of the day. Make a stand to set your boxes on, a foot or two above the ground, two poles will do very well for the stand, place your combs about one inch apart in the super boxes, you can place half a dozen or more boxes one above the other on the stand. If you have no cover over the place where your combs are to be kept, put the cover on the top box. The boxes are placed on the stand without any bottom so that the cold air can go up through the combs. Should you notice any moth about the combs, fumigate with sulphur. A pan with a long handle such as an old frying pan is handy for fumigating the combs. Put the sulphur in the pan, light it, and hold it up under the boxes. The smoke of the sulphur will soon cause the moth to rush out or fall in the pan. I find the most important point in keeping combs is to keep them in as cold and airy place as possible.

D. G. GRANT.

37.—I have kept my combs almost perfectly free from moth on a rack made of 3 in x 1 in battens on edge hung by wires to the rafters of a large shed (my workshop). As long as the frosty nights lasted, the combs kept splendid, but with spring the trouble began. However, by watching closely and sulphuring them in batches, I did not lose 5 per cent of some 500 combs I had. The mice spoiled a few until I isolated the rack by means of wire instead of ropes. I may say that the combs were hung with an inch or so space between them all. Last winter I kept a lot of combs in hive bodies and got quite a number spoilt with moths. This was partly due to neglect I admit.

Of course a proper comb room with racks and made air tight so as to allow the whole of the combs being sulphured at once and as often as needed would be the best, but for those who have not the means, or the space, or enough combs to make it worth while building a room, I should say, keep your combs in a rack where the frosty air can reach them, say in a shed or under a verandah, leave an inch or two space

between them, and when the frosts cease, watch closely for signs of bee-moth and when found sulphur at once, by placing combs in hive bodies, stacked 5 or 6 high and standing on an empty hive with a dish of burning sulphur in it. Allow a slight draught to draw the fumes up through the combs and mind you don't set the whole boiling on fire. Fully drawn out combs are worth a good deal in spring, and a few hours spent to keep them in good order is time well invested.

38.—What plan of working would you recommend to increase the production of wax per hive?

This question is given on account of the steady rise in value of wax in the Euporean and American markets.

39.—G. Colbourne, Junr.—Do you use chaff hives, if so please give your experience with them?

G. COLBOURNE, JUNR.

38.—Close spacing and allow the bees to cap the combs fully.

J. & E. THACKER.

38.—We have not worked to produce wax, but should think the fixed box principle should meet the case. That is cut out all comb.

39.—We do not use chaff hives and have no experience.

SHUMAOH BROS.

38.—My opinion is let the bees seal the combs well before extraction.

39.—Do not use them but I intend to try them next winter, as I believe they would be the best hives to winter bees in.

"BINNI."

38.—I could give a number of plans on paper, but when put to the test I know of no method that gives a paying return.

39.—I do not use Chaff Hives all through the apiary, but from experiments I am making, and on which I cannot yet give a pronounced opinion, I believe it will turn out to be a great success. The cost of hives is the greatest detriment.

H. RUSSELL.

38.—Your paper with question re increase of wax, has unfortunately reached me too late to reply by 20th inst. (tomorrow). I may say it is a subject on which I have been devoting a little thought and I intend making an experiment this season by running a few hives for honey only and an equal number alongside of them for honey and wax; but at the same time I think the price of honey must come down much lower and the price of wax advance before it will pay to run our farms for wax only. I shall be glad to give you the result of my experiments and the method adopted after it is carried through.

L. T. CHAMBERS.

38.—First, a hive of ready access with plenty of longitudinal room, say 20 self spacing frames on one flat, about the size of the L frame, end up, two dummy boards and two excluders. Allowing four combs for brood nest, working outside of that behind the excluder for wax, especially while drone comb is demanded by the bees previous to swarming. The amount of wax depleted week by week to be proportionate to the honey flow. The extracted nectar to be fed back at night provided the bees will accept it. After a few weeks room to be made in the brood nest for half a comb of drone cells and two empty combs or frames of foundation. This will give room for increase and consequent swarming. Swarms to be put upon eight starters and process of wax robbing carried on proportionally to honey flow and discontinued at first sign of failure of it. This for outline only. I don't think it would be possible to work for honey and wax, but by giving the bees an occasional spell from wax production, enough honey would be gathered to keep the bees in good heart and allow time for new broods to come forward to work. I am certainly under the impression that more money could be made by the production of beeswax and with less outlay of time and capital, than by the production of silk, of which we hear so much now-a-day.

P.S.—Please note what C. A. Montague says under page 449 *Gleanings*. "From each pound of capped honey he secures $\frac{1}{4}$ oz of beeswax."

JOHN SMITH.

38.—You can only increase the production of wax per given colony by extra abundance of food, natural or artificial. Respecting artificial feeding to produce wax, the game is scarcely worth the candle. You cannot fatten cattle or sheep when the pastures are dried up, and there is no rain, and the grass is brown instead of green. Neither can you get wax from bees when the times are hard with them. Nature's laws are fixed. When there is an abundance of suitable food, you can then rear prize oxen or fat pigs, corpulent aldermen, and wax producing bees. The rise in the price of wax has not occurred by any very extra increased requirements so much as by the diminution of the supply caused by the general failure of the honey harvest the past two years in many parts of the world, so that in many apiaries during that period the bees have not produced a single pound of wax. When the season is good, and all nature is decked in bridal array—the trees white with blossom—the air filled with fragrant perfume, when every shrub and flower is adorned with exquisite beauty,—then the delicious nectar is silently and mysteriously distilled in nature's laboratory, and the bees hum and rejoice—ne might even say laugh—and then fat they cannot help then secreting the wax, and they must

build comb even if they have to fill the gable covers for want of room elsewhere. When times are bad in bee-dom, when there is very little bloom or blossom, and scarcely a drop of nectar or a grain of pollen to get in a day's flight, then go and take a square look at the bees—see how thin they are. They appear careworn and restless; not a vestige of a wax scale about any bee in the hive. They appear full of trouble and anxiety. Instead of rushing head over heels in hot haste, as they used to do in the days of prosperity, to fetch another load, they come out listlessly, look about to see which way best to go to try to find anything in bloom, then as if going up in hopelessness and despair, they turn back dispirited and go into the hive again.

W. S. PENDER.

38.—This question assumes that the production of wax is profitable. Well, perhaps it is; but how? There is one thing I am in a little doubt of, and that is: Do bees produce wax during the usual course of honey gathering without going into a state of quietude? I am inclined to think they do a *small quantity*, and my only reason for thinking so is, during a honey flow, when the colony has all its combs built, a quantity of wax scales are dropped on the bottom board of a hive. I have an idea that these scales were a voluntary secretion, and the bees having no combs to build and nowhere to use them, dropped them on the floor. If such is the case, it would be a good plan to give a few empty frames every time we put a super of combs on a hive, and we would have combs drawn out at no cost, as the bees would use the wax scales instead of wasting them. If we then got more combs than we needed, we could melt out culls after every extracting. Some have suggested to me that they intend to get as much wax from their hives as they can, as they believed wax production was more profitable than honey, and intended next season to cut out all their super combs after extracting, to melt up into wax and return the empty frames to have combs rebuilt. I would here like to point out a loss those beekeepers would sustain in their honey crop. 1st, we are told in various text books that bees consume so many (various) lbs. of honey to secrete one lb. of wax. Well, I don't know how many pounds, but fancy the amounts stated are very high. Any way, leave this out of the question. 2nd. After extracting or straining all the honey 1 lb. of comb will allow, how much honey will there be adhering to the comb that cannot be removed without washing? I venture to say a greater value than the value of the wax. 3rd. By compelling bees to build combs before the honey can be stored therein, a considerable number of bees that would otherwise be honey gatherers, are compelled to be comb builders. This causes a less return in honey. No, I do not think it profitable to produce wax beyond what bees would produce in their usual course of work by voluntary secretion.

N. Z.

38.—By all means let us thrash out the question of raising wax. Mr. Editor, as, undoubtedly it is going to be one of considerable importance before long. I have felt convinced for several years past that sooner or later we should have to turn our attention to this matter. Every season there is a greater scarcity of wax all over the world, as evidenced by the advance in price and the numerous enquiries from distant quarters. The rise in price does not come from a larger demand for it I feel certain, as, in many instances in manufactures, mineral wax has of late years been used as a substitute for beeswax, and it is quite probable that there is even less of the latter used than formerly. The advance in price is no doubt owing to their being less produced than formerly. Up to within 10 years ago there were considerable quantities of wax exported from New Zealand, and it was not a difficult matter to collect a ton or two at any time, but of late years there has been a growing scarcity and instead of exporting any we have not been able to supply our own markets, while the price has gone up fully 30 per cent, in fact we are now importing the article, although we are not using so much as in former years. If the scarcity still goes on in the same ratio I would not be surprised to find the price of wax advance 100 per cent in the course of a few years. No doubt the time is not far distant, if it has not already arrived, when it will pay beekeepers to turn their attention to the production of wax as well as honey. At all events it is as well to tackle the subject at once in theory if not in practice and obtain an exchange of opinions as to the best method of raising wax. I am of opinion that in many cases an apiary run for both wax and honey would pay better than for honey alone. It is not at all likely that we should be in danger of glutting the market with wax but we know that it is very easy to do so with honey. Now, then, if we can agree that the production of wax is of sufficient importance to come within the sphere of practical beekeeping, and I don't think there will be any difference of opinion on that score, let us by all means discuss the question in all its bearings, and I hope, Mr. Editor, you will remind your readers now and again if there is any flagging. It is a matter no doubt that requires some little thought, simple as it may appear at first sight, and I hope to be able to jot down and send you next month my impressions as to the most profitable method of raising wax. In the meantime I trust you will have a large number of your readers do the same thing, as I consider it one of the most important questions yet asked through your journal.

G. COLBOURNE.

38.—I have given the subject of increasing the production of wax per hive considerable thought for a number of years, and experimented a little; and I have satisfied myself that it is

possible to increase the yield of wax considerably and still get a good crop of honey. At the outset I wish to say that I merely give this plan so that others if they wish may try it, but I do not want anyone to say (if they do not make it as great a success as they expected to from reading my article), I should have had tons more honey if Colbourne had not puffed extra wax production so much in the A.B.B. As I do not wish to be the cause of any beekeeper losing money, I would say, go slow, try the plan on a few colonies and then if it pays extend it to more. My plan is to get the hive as full of bees as possible early in the spring, then put on surplus arrangements as soon as there is honey coming in from the flowers, giving frames of comb spaced scant, one and a quarter of an inch from centre to centre and allow the bees to fill the combs with honey and cap every cell. Now take out the frames and uncap the honey and extract it and return the empty combs to the hive to be filled again. When fully capped again remove and extract as before with this difference when uncapping the honey take off about one quarter of an inch of the cell walls with the cappings, extract the honey and return the frames to the hive and allow the bees to draw out or rather build out the cell walls to their original length and fill and cap as before. Remove frames from hive and uncap as before taking a quarter of an inch of the cell walls with the cappings. Continue this as long as the honey flow lasts. If the colony is very populous you can further increase the production of wax by removing one frame from the brood nest and hanging in its place a frame with a half inch starter in it and cut out the comb as fast as the bees build a piece as large as your hand, and thus keep them building as long as the honey flow lasts. I often practice the latter to get frames of comb for the extracting supers, with this difference instead of cutting out the comb when as large as my hand, allow the bees to half fill the frame and lift out the frame and shake the bees off and hang it in an upper story to be completed, and put a frame with a starter in the hive from whence I took the frame partially filled, and I find this a most excellent way of getting frames of comb for the extracting super, as any strong colony will build comb in one frame without lessening the yield of honey, but I am digressing, so must get back to my subject.

I have given above my plan for increasing the production of wax per hive, but did not say how it increased it any. A careless reader might say that it was only the good and proper way of producing extracted honey, barring cutting out a quarter of an inch of comb each time of uncapping. We will now look carefully into the matter, and see where the increase comes from. In the first place, I said space the frames out

$1\frac{1}{4}$ -inch from centre to centre (too close,) and fancy I hear some brother say, "But hold on; in the ordinary way of spacing frames, say $1\frac{3}{8}$ or $1\frac{1}{2}$ inch, the cappings that cover one pound of honey will make just about one quarter ounce of wax." Well, by bringing the frames closer together we shorten the cells. Therefore, it requires a greater number of cells to hold a pound of honey, and consequently more wax to cap it over, as each cell requires as much wax to cap it if the cell is only three-eighths of an inch deep as it would if it was one inch deep. Hence the gain in wax, by close spacing. We now come to the quarter of an inch taken off the cell walls each time of uncapping. This in itself would make a great gain in wax. According to my figures it will give about one and a half times as much as the cappings, as supposing the cells to be worker size, say five to an inch, it will of course take an inch of cappings to cap over 25 cells. This, with cells not deeper than one half inch, should give us three-eighths of an ounce of wax to every pound of honey extracted. Now, in the quarter inch of cell walls that we took off, there should be wax enough to have capped over one and a half pound of honey (had it been used for that purpose), or nine-sixteenths of an ounce of wax. Thus, if we get twenty pounds of honey at each extracting (which we should), we would have about one pound of wax. Now, how much have we increased the production of wax? I should say fully three-quarters of a pound per hive at each extracting. As the average apiarist does not allow his bees to more than one-fourth cap the combs before extracting, by following the above plan we would produce a first class article of honey, and a much greater amount of wax. I did not estimate the yield of wax from the comb cut from the frame placed in the brood chamber, but if that was worked as it should be, to get the bees to do their best, it should yield at least a fourth more wax. Some will say that the bees would consume a lot more honey to produce so much wax, but I do not think such would be the case in actual practice, as I can always find wax scales going to waste in large quantities when the bees are storing honey rapidly. Let all try this plan on a few hives, and see if the bees will not bear me out. Mind, I say on a few; one if you like.

R. BEUHNE.

38.—One of the topics discussed at the Victorian Beekeepers' Convention was: "How to increase the production of wax." The figures taken as a basis were 1cwt. wax to 20cwt. honey, and it was pointed out there was little doubt that the proportion could be raised to 2cwt. wax to 20cwt. honey.

Assuming the figures of 1 to 20 to be correct. I need only point out that they were supplied by a box hive man to show that the whole calculation based thereon is altogether wrong, excepting we return with one step to that primitive

method of beekeeping or at any rate only using extractor to empty the combs before melting them down. Thus we lose at once all the advantages of modern beekeeping excepting those of controlling the brood chamber. To come to the figures 1 in 20 we must first give up the whole of the increased yield brought about by the introduction of the extractor which the bar frame hive has over the box hive.

With the extractor I find that the proportion of wax to honey is about 1 to 100 when calculated on the total yield of honey and wax for the season.

Our apiary being located in a district producing honey of a somewhat inferior grade, I have for several years past tried to increase the production of wax. The results of these experiments are by no means encouraging. Feeding honey back to produce wax resulted in obtaining 1lb wax to 40lb honey fed, thus getting less than $\frac{1}{40}$ for the honey and giving the labour in. Feeding honey to fill 1lb sections cost 1ld each. The result would probably be better but that a quantity is always stored in the brood chamber, thus hampering the queen.

The feeding I therefore gave up as a failure, and tried working the box hive super over a bar-frame brood chamber, supplying starters in the super. I picked out six of the strongest hives with young queens for this experiment, and the total yield for the season was 21cwt honey and 9lb wax, or an average of 35lb and $1\frac{1}{2}$ lb respectively, whilst of the 120 colonies extracted I obtained an average of 75lb honey and $\frac{3}{4}$ lb wax: thus losing 40lb honey to gain $\frac{3}{4}$ lb increase in wax. In a very good season the difference between comb honey and extracted is perhaps not so great; but there is a suspicion that those colonies which are run for extracted are not always all attended to as they might be. Combs are filled but not sealed and are left a few days longer "to ripen," during which time the bees have not the storage room they want. The best results I have obtained with shallow extracting supers without intervening bee spaces between them, the frames touching one another, thus forming one continuous sheet of comb from top to bottom. Removing the top tier when completely capped, and inserting an extracted underneath, thus only disturbing one-third or one-fourth of the supering at a time, the bees are never checked in their work, and will produce almost as much wax in the shape of cappings as if combs were built and cut out, the extra honey in the former case being an absolute gain. Having pointed out what would be lost in honey to produce wax at the rate of 1 to 20, or in other words produce all comb honey, it now remains to deal with the proposal to increase the production of wax to 1 in 10 of honey. According to the figures 1 to 20, as supplied to the Convention, 1lb wax will construct comb enough to hold 20lb honey. As bees will not build combs unless there is honey

to fill them with, the proportion must always remain the same. The only way so far as I can see to increase wax in proportion to honey is, therefore, to feed honey back to be changed into wax by the bees. To begin with, we find on looking at the formulæ of the components of wax, and comparing them with those of honey, that under no circumstance can 1lb wax be produced from less than 5 or 6lb honey, according to the character of the same. In practice, however, according to the best authorities, it takes 16lb to 20lb honey to produce 1lb wax. In my own observations the figure has always been much higher, due, perhaps, to unfavorable surrounding conditions.) Taking it for granted, however, that bees would produce 1lb wax from 16lb honey, and taking wax at 1s 4d and honey at 1d nett. price, it would still pay better to sell the honey, as the labour of feeding back has to be reckoned and this is no small item. As bees will not build combs to any extent without filling them, it follows that the honey would have to be fed repeatedly: for instance, to transform 36lb honey into wax, would give at the first feeding as result 2 1/2 lb comb-honey or 1lb wax containing 20lb honey. This honey fed again would return 9oz wax 12lb honey and so on. The labour involved, it would be seen, would be enormous.

There is only one instance in which wax can be produced under favourable conditions without loss to the beekeeper and that is in the case of a swarm. In a good honey flow a swarm hived on starters will be quite as well off at the end of three weeks as one hived on full sheets of foundation (excepting as regards drone comb). The only way of increasing the production of wax seems to be in the direction of increasing the swarming propensity, but I fear the extra labour and trouble attendant would more than swallow what is gained on wax.

If we dispense with the extractor to obtain more wax, a little extra may possibly be gained by arranging the supers and frames in a way to produce that which we have been trying so hard to prevent—brace and bur combs. There is a possibility that some process may be discovered of manufacturing wax from honey, but I doubt very much whether that would be an advantage to beekeepers, since any honey changed into wax would have to be low priced, and the process would be equally applicable to other substances such as sugar, glucose, etc., from which the bees are able to produce wax and possibly others which the bees refuse to take. I have very little hope that increased production of wax will be found payable, but shall be pleased to learn that I was mistaken when the reports of the experiments proposed to be undertaken come to hand.

QUESTIONS NEXT MONTH

40.—T. Wall,—Which do you think the most profitable to produce in Australia, Comb or Extracted honey?

41.—G. F. Bray,—What is the best way to send honey to market, both for local and export trade? Tins, small casks or otherwise?

HOW I BEGAN TO KEEP BEES.

J. M' CUE.

Continued from our last.

I waited four or five days before I transferred the second colony, to see how No. 1 "took to it," but as all seemed quiet with it I started on No. 2. No veil, gloves, etc., this time. I cut out the combs, and fixed them in frames, as I did in No. 1. But I altered my mode of transferring the bees. In this case I shook them all down in a bag in front of frame hive, guided them with a soft brush to the entrance, when I had the pleasure of seeing her majesty going into her new home. The other colonies that I transferred afterwards were no trouble, and I have timed myself at each colony, from the 5th to the 12th, and found that the time ranged from 20 to 40 minutes, the shorter time being when I had only three or four brood combs to fix in frames.

Of course as time passed I secured the proper requisites—a good smoker, which causes me often to wonder how I managed in the beginning without it; books, "Langstroth on the Honey Bee" (revised by Dadant and Son), Root's "A.B.C.," and last, but not least, our "Bee Bulletin." After reading these I found I would be behind the times if I kept only black bees, so I started to Italianize each hive by purchasing queens. These I introduced successfully (thanks to "Bee Bulletin") and now (May 1895) have a fair lot of Italians. I still find some of the black bees in some of the late introduced hives. One trip I

received three queens by post, and all dead—workers also—which caused me a bit of trouble, as I made three hives queenless the day before the arrival of the queens. That has cured me of touching any hives in the future till I have the new queen on the spot. Another mistake I made—I made two hives that were too short to take the “Root-Hoffmann” frame, but I have altered that, and replaced them with proper sized hives, so that now all my hives are uniform, and take the same frame.

Before I conclude, I will state the way which I transfer the bees from a tree in the bush—it may be of service to some of your readers. I take a small box that holds five frames (Root-Hoffmann); it has a moveable top, one that can be easily slipped in and out in grooves; a few pieces of tape, and thin deal strips and tacks. After I open up the nest, I take out the combs carefully, placing the combs with honey in a kerosene tin, and then pick out the best brood combs and fasten at once on to the frames. Then I get a few handfuls of bees from the cluster (the bees soon cluster after the combs are taken) and place them in the box, or at the entrance, when they soon run on to the brood combs. I watch the bees for awhile, and can soon tell by their manner if I have put the queen in the box; if not, and the bees fly to *cluster in the log*, I look for the queen there. It does not take long to find her, if no cracks or crevices handy. When the queen is found I place her at entrance of box, and see that she runs in; soon after you will have the flying bees following her in, and by sundown you will have almost every bee belonging to the colony—of course many get killed in the fall of the tree—anyhow, if you get three or four good brood combs for your frames it will soon be as populous as ever it was. It is a good plan—I always do it now—to take a queen out with you in a cage; she comes in handy if the bush queen gets maimed or killed in the fall of the tree.

CAPPINGS.

H. R., Bordman says:—After the honey season is over, and that mysterious impulse to swarm is abated new colonies may be made and built up from sugar feed. Natural combs built at this time will be almost entirely free from drone comb, and will compare favourably in perfection with combs drawn from foundation. There is a large force of workers lying idle; and the busy season being over makes it somewhat of a temptation to do such work at this season. I have thought it just as well to wear these bees out as to let them live in idleness and die of old age, provided, of course, there was any profit in it. I have a good many of these natural combs in use, now that I have built in this way in the last few years, and they give very good satisfaction. I reasoned that, with the prevailing low price of sugar and the high price of wax, together with the late succession of poor seasons, bee-keepers ought to be able to become producers of wax by using natural combs, instead of consumers by using foundation. I do not think really there is much money in it. I only hope it may help in the sharp struggle for survival, especially in poor localities.

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