THE NEW ZEALAND BEEKEEPER

VOL. 12, No. 1. February, 1950

OFFICIAL ORGAN of the
NATIONAL BEEKEEPERS' ASSOCIATION
OF NEW ZEALAND
(Incorporated).

(An Organisation for the advancement of the Beekeeping Industry in New Zealand)

Better Beekeeping | Better Marketing

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The New Zealand BEEKEEPER

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FRAGILE—HANDLE WITH CARE

The process of honey production provides an example of perfect harmony between Man and his environment. The nectar freely offered by the flowers and the service willingly rendered by the bees are combined, under the care of the beekeeper, to produce one of our most wholesome and delectable foods. And the reaping of this generous harvest involves neither damage to the earth's resources nor destruction of plant or animal life. It is indeed a pleasing and satisfying moment when the beekeeper, as a result of his labour, is able to survey a fine crop of surplus honey.

The producer who appreciates the bounty of Nature will feel a keen responsibility when he approaches the second part of his task—the transferring of the honey from the hive to the breakfast table. The exquisite natural product, as sealed in the comb by the bees, deserves the greatest care in handling so as to preserve its precious original quality.

Let the first consideration be cleanliness. The most important attribute of any honey is its purity, and it should therefore be protected at all times from possible contamination. Fresh air, clean equipment and careful handling are essential in the honeyhouse, and wax particles or air bubbles which may enter the honey unavoidably during the extracting process should be removed as carefully and expeditiously as possible. Moisture, which is readily absorbed by honey, is the enemy of good quality because it destroys the character of the product and allows, or hastens, the process of chemical decomposition through fermentation.

Next to purity comes flavour, and although honey has many valuable properties it is the flavour which provides the greatest attraction to the consumer. Apart from the presence of impurities there are two dangers which should be avoided. One of these is over-heating which dulls the flavour and intensifies any damage caused by the influence of foreign matter. The other is over-handling, because unnecessary manipulation dissipates the delicate aroma which is so essential to fine flavour.

When the honey is ready for marketing it is well to remember the simple ethics of trade. Each package should contain the correct weight and bear an honest label, and the constant objective of the packer should be uniformity. Some honeys may differ widely from others but each one has its own particular appeal provided it is presented in a consistent and attractive form. A trade mark or a label means nothing if the product shows variation in character and quality.

The honey producer performs a valuable service within the community and it behoves him to display a degree of pride and enthusiasm worthy of his calling.

NOTICE BOARD

CONFERENCE DATES

The Annual Conference is to be held this year in Wellington, and if present arrangements are confirmed the dates will be the 5th, 6th and 7th of July.

HONEY PRICES

The present authorised prices for honey in various packs (both wholesale and retail) are set out in Price Order No. 927 and Amending Price Order No. 984. These Orders are obtainable from the Government Printer, Wellington (price 1d. each, postage 1d.).

The maximum price allowed for beeswax is 3/6 per lb.

NEW BRANCHES

New Branches of the Association have recently been formed at Waitomo and at Buller. We hope that these Branches will prosper and provide a useful service for their members, and we look forward to having news of their meetings and other activities.

PERSONAL

Mr. W. J. Lennon, formerly Editor of "The N.Z. Beekeeper," has disposed of his apiary business and is now living in Hawkes Bay. "Wilf" will be greatly missed in beekeeping circles south of the Waitaki where his cheerful disposition and practical approach to apiary problems were always in evidence at meetings and field days. We wish Mr. Lennon every success in his new sphere, and we are pleased to know that he will still be associated with the beekeeping industry.

SEALS PROSECUTIONS

Further Convictions.

The following report is taken from "N.Z. Truth" dated 23/11/49:—

"They attempted to get justice from the Marketing Department, and the only way was by being prosecuted; their attitude being that they were being unfairly and unjustly treated. They both felt concerned and have an extreme sense of injustice over the treatment meted out, and the broken promise of the department made in 1938."

These were some of the submissions to Mr. Raymond Ferner, S.M., by Mr. J. T. Watts, in Christchurch Court for one of two beekeepers, T. F. Penrose, of Southbridge, against whom an information was laid by the Marketing Department. The other apiarist, for whom Mr. W. G. P. Cuningham appeared, was W. B. Bray, of Leeston.

The information against Bray was that as a producer within the meaning of the Honey Marketing Regulations, 1938, he sold to a Springston storekeeper 2lbs. of honey packed in a retail container which did not bear the appropriate seal prescribed by the regulations.

The information against Penrose was similar except that he sold 1lb. of honey to a Doyleston storekeeer.

Both pleaded not guilty.

For the department Mr. A. W. Brown said he had been told the facts were admitted, but he understood there would be an attack on the regulations themselves. The facts showed plain breaches of the regulations by both men, who were well known apiarists and very competent.

"I submit the regulations are valid," said Mr. Brown. That no seals were put on was admitted, so conviction was the only course. Other bee-keepers had complied, but these two had not.

The magistrate said that the regulations were declared to be valid. Whatever he should think of the regulations, Parliament should be left to speak for itself. He must hold in view of the expressed words in the Confirming Act that the regulations were valid and duly confirmed, and that the objections could not be sustained.

He fined both £5, and added that the penalty was nominal because the case was the first of its kind in the district. In subsequent cases the penalty would be different.

He allowed Bray leave to appeal.

HEAVY CROP IN ENGLAND

The 1949 English summer, which treated the New Zealand Cricketers to beautiful weather throughout their tour, was also very kind to British beekeepers. Reports from various sources indicate that in all parts of the United Kingdom honey crops were better than for many years past.

AMERICAN ENTOMOLOGIST

ADDRESS IN DUNEDIN

A very interesting meeting was held in Dunedin on January 30th, when Dr. B. E. Montgomery was present in response to an invitation from the Otago Branch. Dr. Montgomery, who is from Purdue University, Indiana, is visiting New Zealand as a Fulbright Research Scholar and is studying various aspects of the pollination of red clover.

Mr. T. L. Jackson, Branch President, in introducing the speaker, welcomed representatives from Federated Farmers, the Horticulture Society and Seedsmen and Growers, and also officers of the Department of Agriculture who had assisted with arrangements for the meeting. Dr. Montgomery discussed the natural history of the honey bee and its long association with mankind, and compared the value of various types of bees in the service of pollination. He also described, with the aid of coloured slides, the work which is being carried out at Purdue University in the field of Entomology. Several questions and some interesting discussion followed and the meeting expressed its thanks and good wishes to the visitor. Supper was then served and as Dr. Montgomery was accompanied by his wife and daughter, the function concluded with an enjoyable International Conference conducted on the friendiest terms.

In the course of his trip in the South, Dr. Montgomery was able to visit apiaries in various districts, and to see something of the work of the Department of Agriculture. Credit is due to Mr. A. F. Lindsay, the Otago Branch Secretary, for his efforts in arranging a most successful meeting.

SHORT STORY

SWARM Bees Lost, last seen moving east across Tankerville Rd., Sunday morning. Please reply 406, "Star-Sun."

—Christchurch Evening Paper.

"American Bee Journal," published by Dadant & Sons, Hamilton, Illinois, U.S.A. Subscription rate 1.75 dollars.

THE GENERAL EXECUTIVE

MEETING ARRANGED

A meeting of the General Executive is to be held in Wellington on February 28 and March 1.

The attention of the meeting will be focussed mainly on the future status of the Auckland Packing Plant, and in this connection there are two recent developments to be considered. The first is the direction from the 1949 Conference that the Executive investigate further the linking of the honey industry with the Dominion Producers' Co-operative Agency Ltd., and the second is the return of a new Government at the 1949 General Election—a Government whose intention is that "Internal Marketing will be handed over, as soon as it can conveniently be done, to producer co-operative organisations." Both of these developments represent a trend away from State Control in the direction of producer co-operation, and they may have an important bearing on the future of the honey marketing structure.

It is hoped that there will be a full attendance of members and that a satisfactory meeting will result.

CORRESPONDENCE

The following are copies of letters received by the General Secretary on subjects dealt with at the last Dominion Conference:—

TAXATION

Office of Minister of Finance,
Wellington, N.Z.,
12th December, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Dear Sir,—Since receiving the letter you wrote to me under the date of 16th September, I have taken an opportunity of discussing with the Commissioner of Taxes the question of beekeepers being required to include hives as stock-in-trade in their taxation returns.

The Commissioner informs me that the method of computing the assessable income of beekeepers generally was recently reviewed, as it appeared for some years past that there was no uniform basis on which beekeepers were furnishing their returns of income to the Department. After careful examination of the circumstances surrounding the industry, it was decided that the proper course to be followed was for beehives to be regarded as ordinary trading stock in terms of Section 16 of the Land and Income Tax Amendment Act 1939, and that the usual rules for treatment of such trading stock in taxation returns should apply in the case of beekeepers.

Subsequent discussions were held with representatives of your Association, and I understand that the Commissioner made it clear that he could see no practical alternative to the treatment of hives as trading stock. The view is taken that as the hives are so closely connected with and form an integral part of the stock necessary in the beekeeping industry, their treatment as other than trading stock within the meaning of Section 16 of the above Act would not be justified.

I observe that the Commissioner has agreed to consider the facts of individual cases with a view to allowing the initial adjustment to be made without undue hardship to the taxpayer concerned, and in the circumstances, I am doubtful whether anything further can be done with regard to the matter, but in any case if you so desire, the Commissioner would be pleased to see you again by appointment.

Yours faithfully,
(Signed) W. NASH.

HONEY CARTONS

Minister's Office: Customs Department,
Wellington, N.Z.,
29th September, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Dear Sir,—I have received your letter of 16th September, in which you have brought to my notice the text of a resolution passed at the Annual Conference of your Association concerning the quality of locally produced honey cartons.

During recent years no provision has been made for imports of such goods from overseas as it was understood that local manufacturers were in a position to meet all requirements.

In view of the information which you have supplied, however, I am arranging for further enquiries to be made into the matter and an announcement will be made in due course through the usual channels if it is considered desirable to make some provision for imports of goods of this nature from overseas.

Yours faithfully,
(Signed) W. NASH,
Minister of Customs.

HONEY LABELS

Department of Health,
Wellington, C.1.
27th September, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Dear Sir,—I refer to your letter of 19th September.

The article which appeared in "The New Zealand Beekeeper" was written after careful consideration to discourage the extravagant claims made on some honey labels concerning the alleged health-promoting properties of honey. The Department is fully convinced of the value of honey in the diet but cannot agree that it possesses any miraculous properties in preventing disease.

Yours faithfully,
(Signed) F. S. MACLEAN,
for Director-General of Health.

INSTRUCTIONAL FILMS

Office of the Minister of Agriculture,
Wellington,
31st October, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Dear Sir,—I am in receipt of your letter of the 17th October, 1949, informing me of the resolution passed at the annual conference of your Association, requesting the provision of instructional films on the beekeeping industry.

Your Association may be assured that my Department is alive to the importance of having instructional films made illustrating the various aspects of the beekeeping industry. It will, however, be more than a year before a start can be made on producing these films as much of the equipment needed for this purpose, still has to be obtained.

Yours faithfully,
(Signed) EDWARD CULLEN,
Minister of Agriculture.

NECTAR-BEARING TREES

Soil Conservation & Rivers Control Council,
Wellington, C.1, N.Z.,
11th October, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Honey-Bearing Tree Species

Dear Sir,—With reference to your letter dated 5th October, 1949, and the resolution passed at your annual conference, I have to inform you that this Council acts in an advisory capacity to Catchment Boards, etc., and does not normally undertake tree planting work itself. The Council has not therefore carried out any planting of honey-bearing tree species, but the Catchment Boards have been informed of their value. In particular, the South Canterbury Catchment Board has shown a keen interest in this aspect of conservation tree planting.

I would add that when this Council arranges for the retirement of land from farming, the normal procedure is to encourage the natural regeneration of native tree species rather than to plant up the area with exotics. As you will realise this is greatly in your favour as a large number of the colonising species and of the climax forest species are prolific honey-bearers.

Yours faithfully,
(Signed) W. L. NEWNHAM,
Chairman.

State Forest Service,
Minister's Office,
Wellington.
7th November, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Dear Sir,—I have to acknowledge receipt of your letter of the 5th October requesting information as to the suitability for planting by the Forest Service of trees listed as honey-bearing species by the Department of Agriculture, Horticultural Division.

The majority of the trees mentioned are, however, not planted by the Service as they are non-commercial from a timber production point of view and, in fact, consist in the main of shrubs and small trees.

Of those listed the Forest Service does plant, but to a limited extent, eucalyptus and willows. Others such as chestnut, tulip, etc., are used for ornamental purposes around village sites, but taken on the whole such plantings are negligible for purposes of your Association.

Many of the indigenous species mentioned are, of course, found in existing forests, and the aim of the Forest Service is to preserve the understory and, under management, to encourage natural regeneration to the maximum extent possible.

You will realise, therefore, that the list is limited in as far as the species mentioned are of value for use by the Forest Service.

Yours faithfully,
Commissioner of State Forests.

WALLACEVILLE EXPERIMENTS

Department of Agriculture,
Wellington, C.1.
4th November, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Dear Sir,—I am in receipt of your letter of 10th October conveying a resolution passed at the recent Annual Conference of your Association in regard to the use of Phenol for driving bees from the combs when harvesting honey.

The Department does not recommend the use of Phenol for this work as it taints the honey when not used very carefully, and it is believed that beekeepers would discontinue its use immediately if a more suitable substance could be found.

Experiments were begun at Wallaceville last year to find a substance for this purpose which will not taint honey, but so far satisfactory results have not been obtained. However, the tests and experiments are being continued at Wallaceville.

I shall be glad to advise you further on the position at the close of the coming honey harvesting season.

Yours faithfully, (Signed) W. T. GOODWIN,
for: Director, Horticulture Division.

OPOSSUM MENACE

Office of the Minister of Internal Affairs,
Wellington, C.1.
7th November, 1949.

The General Secretary,
National Beekeepers' Assn. of N.Z.,
FOXTON.

Dear Sir,—I am in receipt of your letter of the 17th October last relative to destruction of native forest in Westland, as it effects the West Coast Beekeepers' Association.

The problem is a big one and has, and is being, fully investigated along all lines from the habits of the animals to the best methods of destruction in the field.

Various other organisations have suggested the payment of a bounty, but I feel from all evidence which has been placed before me that while this would be an easy matter to arrange and that a large number of opossums would be killed, it is equally certain that it is no permanent solution of the problem, and would result in the wasteful expenditure of large sums of Government money without any real lasting benefit to the country.

I am at present considering various proposals which have been placed before me following on a conference of interested Government Departments. After these proposals have been considered by the Government, I anticipate being able to make a statement as to the Government's policy in the matter.

Yours faithfully, (Signed) W. E. PARRY,
Minister of Internal Affairs.

BEESWAX

Director of Marketing,
Wellington, C.1, N.Z.
17th January, 1950.

The General Secretary,
National Beekeepers' Assn. of N.Z. Inc.,
FOXTON.

Dear Sir,—With reference to your letter of the 23rd December on the subject of beeswax, I am not in a position to be able to state to what extent locally produced beeswax has been disposed of. This Department has not taken on the duty of selling the wax, but has merely agreed to hold a list of local producers who have wax in stock with a view to ensuring that importations do not take place while local stocks are available.

Since the receipt of this list, several applications for import licenses have been refused, and at least one application for an export license has been referred to the Honey Section of the Auckland Branch of the Department for their recommendation. It is not possible for this Department, therefore, to state exactly the result of this prevention of imports on the locally produced stocks. However, if the lists are kept up by your Association, we will continue to so act in regard to any applications for import licenses.

Yours faithfully,
(Signed) L. C. WEBB,
Director.

BEAR TROUBLE

Few berries in the north; Bruin's food is scarce all around so he took what he could from the bee yards. One man killed over thirty bears for bounty and pelts. Our boys killed four, one landlord killed one. Several pot-shotted visitors never came back —but what they did before that!

In one yard, a big bear knocked down seven or eight hives with the crop still on and scattered frames and shells high, wide and handsome. The other bees saved the honey and the damage to hive bodies or super shells is low. But the combs and frames are demolished. We took the crop then but left the hives with combs. Bruin came back for more and scattered another half dozen hives around the landscape. Then we took out the hives, leaving nothing but the fence which the visitor had broken down to suit himself. He came back again and he must have been mad because he trotted over to the neighbour's house, raised his furry body on hind legs to growl and peer into the window in protest.

Another three year old, followed a river, beginning at its mouth, and toppled over hives progressively in three yards until he was trapped.

Electric fences are, at best, only partial protection. The bears find a way through somehow. Snares occasionally help but more often they are wrecked, including the surrounding brush, as the bear fights his way to freedom. Best way is to relocate in spots where bears seldom visit—if you can.

—G. H. Cale, in American Bee Journal.

BEEKEEPING IN AUSTRALIA.

"The Australasian Beekeeper". Illustrated monthly magazine, published by Messrs. Pender Bros. Pty. Ltd. Subscription, 8/- per year, posted. Sample copy free on application to The Editor, P.O. Box 20, West Maitland, N.S.W., Australia

MARKETING DEPARTMENT
(HONEY SECTION)

HONEY NOTES

SEASON 1948/49

FINAL PAYOUT

The final bonus to suppliers to the Pool has been made and this amounted to 1¾d., which, together with the original advance on receipt of honey, makes the payment up to 11d.

SEASON RECEIPTS

The toal amount of honey received for the season amounted to 370 tons, of an average grade of only 79 points. This average grade is much lower than usual and we found it possible to export to your United Kingdom market only 36 tons of a grade which made the packing of "Imperial Bee" brand possible. In addition to this quantity, however, we have shipped 75 tons of Light Amber Honey and we have approximately 30 tons awaiting shipment.

SEALS REVENUE

Seals Revenue for the season amounted to £5,400. During the year the legality of these Regulations was tested by successful Court action.

SEALS

We find that beekeepers have difficulty in attaching honey seals to the tins. Although every effort has been made to improve the sticking surface of the seal, difficulty is still experienced by beekeepers. Use of Friars' Balsam will be found helpful in the adhering of seals to the tins.

SEASON 1949/50

The initial payment for this season will be the same as that which applied last season, namely:

7d. per lb. pro rata
2¾d. flat

—

9¾d.

At the close of the season's operations, 30th September, 1950, when the Pool Account will be closed, it will be possible to determine the final bonus payable.

Special Attention is Drawn to the Following:

1. The advance payment is the same as last year.

2. Large line bonus is now 1/12d. for consignments of similar extractions of 19 cases to 29 cases, and 1/8d. on consignments of 30 cases and over.

3. It has been usual for beekeepers to forward advice notes of consignments coming forward, in duplicate. Duplicate copies are **not now required,** an alteration being made in our office procedure to avoid this.

4. Arrangements have been made for:

(a) Preliminary advances to be made to beekeepers on receipt by the Marketing Department, P.O. Box 53, Dunedin, and the Marketing Department, P.O. Box 820, Christchurch, of shipping or rail consignment notes and advice note.

(b) For the ordering of Seal Lids (provision has already been made for the purchase of Seals from local Branches).

(c) More local contact by local Branch Officers with suppliers in these areas.

5. We would appeal to suppliers to assist in forwarding advice notes with the necessary information. This assists us with transport, depot operations and office work. Lack of information often causes additional inconvenience and delay.

6. The supply of export this year is an absolute necessity and for this reason we have asked beekeepers to advise us tentatively of their possible consignments to the Division. There is no commitment on the beekeeper in doing so, but it is essential that we should have at the earliest possible date an intimation of what honey may be received by the Department, so that we can estimate the quantity that may be available to forward to the United Kingdom.

INFORMATION CIRCULAR

A circular has been prepared giving detailed instructions in the packing, branding and consigning of honey, matters which should receive the close attention of producers. It also deals with the grading of the honey and the procedure which is followed in making payments. This circular has been sent out to commercial beekeepers and additional copies are available from this Department.

HONEY MARKETING REGULATIONS, 1938

Producers selling their own honey are required to affix a Honey Seal Stamp on honey sold by them, where such is required under the above Regulations.

Further details of these Regulations will be supplied on request. Provision has been made for the purchase of Seals from the local Departmental Branch at Dunedin, Christchurch, Wellington and Hastings.

GADGETS AND IDEAS

STEAM CONDENSER

A condenser can devised by Mr. T. L. Jackson, Dunedin, will be found useful by beekeepers who use small electric boilers. The exhaust from the knife is carried almost to the bottom of the can by means of a metal tube soldered in position. Thus the steam condenses readily because it is discharged below the surface of the water which accumulates in the can. When the boiler requires refilling the switch should be turned off, causing contraction within the boiler, and the hot water in the condenser can is automatically drawn back through the steam tube.

If it is not desired to return the water through the knife a steam tap may be fitted to the boiler outlet, and the water can then be drawn back through a separate tube.

This method not only simplifies the refilling of the boiler but also provides a supply of hot water for the purpose. There is no escaping steam within the honeyhouse and the slight back pressure from the can gives greater heat to the knife.

SMOKER FUEL

Every once in a while an article will appear in the bee journals about fuel for bee smokers and the best way to fire it. I have never seen the method I use advocated and so, as it is my baby and I naturally think it tops, I am passing it along for what it may be worth.

The handiest and best fuel that I have found is not some old stinking rags but planer shavings obtainable for the asking at almost any planing mill or carpenter shop.

For firing the smoker I cut a burlap bag into about three-inch squares and soak these in a solution of potassium nitrate (saltpeter), four ounces or more to three-fourths of a quart of hot water. The gunny sacking will soak it all up. I then spread the squares out in the sun to dry.

To use this fuel I roll one or two squares together, touch a match to it, and drop it in the smoker and at once fill the smoker with shavings, packing them down moderately firm, give a number of puffs with the bellows, and I have a clean, sweet smoke with a slow fire that lasts for several hours of work.

—E. P. Hummel, in Gleamings.

TIP FOR GRAFTING

"Do not try to graft with your hat on." This advice to beginners was given by Mr. T. E. Pearson in the course of a talk on queen rearing. "The additional shadow thrown on the comb of larvae makes them very hard to see and pick up on the grafting needle."

WET COMBS

If, in autumn, there is a little honey left in a super, and you wish to get this taken "downstairs" by the bees, proceed thus:—Lay on top of the brood frames a sheet of paper long enough to cover their entire length, but narrow enough to leave one frame uncovered at each side of the hive, after removing the super and lifting it off. Then put the super back. The bees, feeling isolated, will carry down the honey. A week later, take off the super and the paper (which will come away untorn if a strong piece has been used).

—Quoted in The Bee World.

"THE LANGUAGE OF THE BEES"

A Review of some recent literature on The Dances of the Honey Bee.

By W. J. LENNON.

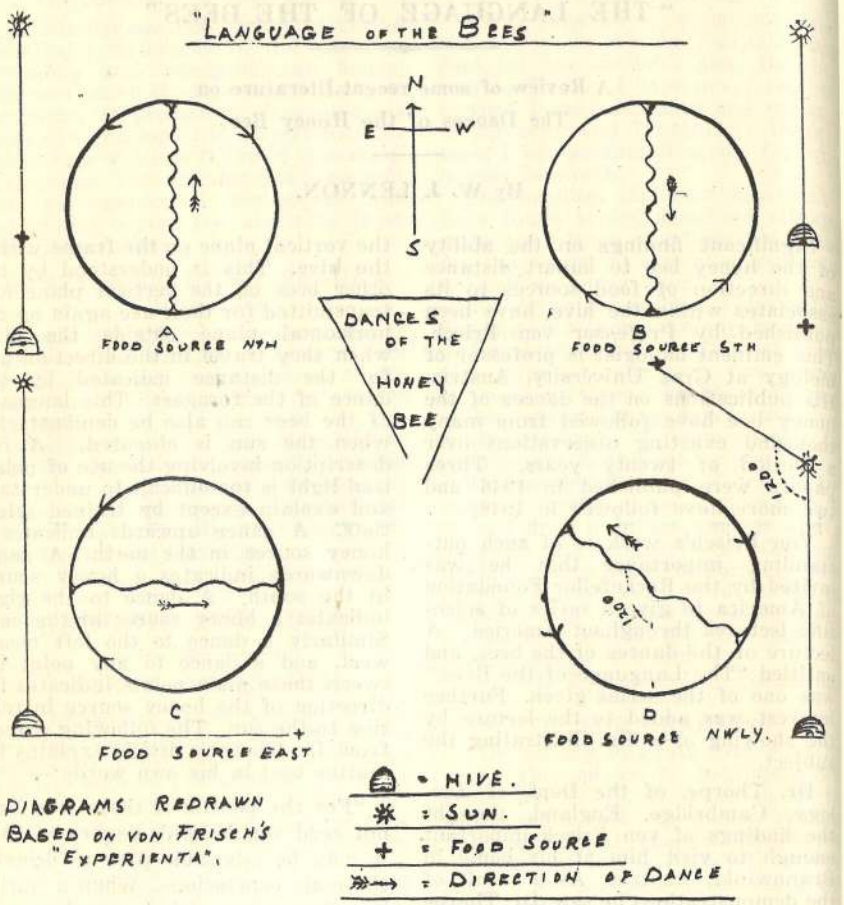
Significant findings on the ability of the honey bee to impart distance and direction of food sources to its associates within the hive, have been published by Professor von Frisch. This eminent biologist is professor of biology at Graz University, Austria. His publications on the dances of the honey bee have followed from many thousand exacting observations over a period of twenty years. Three papers were published in 1946 and two more have followed in 1948.

Von Frisch's work is of such outstanding importance that he was invited by the Rockefeller Foundation of America to give a series of scientific lectures throughout America. A lecture on the dances of the bees, and entitled "The Language of the Bees," was one of the series given. Further interest was added to the lecture by the showing of a film illustrating the subject.

Dr. Thorpe, of the Dept. of Zoology, Cambridge, England, thought the findings of von Frisch important enough to visit him at his home in Brunnwinkl, Austria. As a result of the demonstrations he saw, Dr. Thorpe has written at length to explain the bee dances. It happens that von Frisch's apiary is also the field station of the Zoological Institute of the University of Graz. It is particularly well suited for the work in that commercial beekeeping is practically non-existant there. The country also is almost mountainous, providing hazards for the bees that would not be present on a flat plain. This provides a further physical test on the ability of the bees to remember the direction and to transmit the knowledge to other bees.

On a bright day, bees locate distance and direction in relation to the sun, and transmit this knowledge from the horizontal plane of the earth to the vertical plane on the frame within the hive. This is understood by the other bees on the vertical plane and transmitted for their use again on the horizontal plane outside the hive, when they travel in the direction and for the distance indicated by the dance of the foragers. This language of the bees can also be demonstrated when the sun is obscured. A full description involving the use of polarised light is too difficult to understand and explain except by trained scientists. A dance upwards indicates a honey source in the north. A dance downwards indicates a honey source in the south. A dance to the right indicates a honey source in the east. Similarly a dance to the left means west, and a dance to any point between these main points indicates the direction of the honey source in relation to the sun. The following extract from Dr. Thorpe's article explains the matter best in his own words:—

"For the benefit of those who have not read von Frisch's papers of 1946, it may be advisable first to describe the main conclusions. When a worker bee discovers a rich (natural or artificial) source of nectar or pollen, she informs the other inmates of the hive of her find by performing a dance on the comb after her return. Bees which are nearby follow her in the dance, become excited and then apparently fly out to search for the food indicated. Quite early in the work it was noticed that there were two types of dance, the 'round dance' and the 'waggle dance'; the latter consisting of a very broad figure-of-eight, during the transverse straight run (the waggle run) of which the bees waggles her abdomen from side to side at a constant rate. (See illustrations.)



"If the food source is not more than 50-100 yards from the hive, the round dance is performed. This is merely a signal to the other bees to go out and search round the hive for a food source of the same odour as that adhering to the body of the dancer. With increasing distance of the food source there is a gradual modification in the type of dance performed, until at more than 100 yards it becomes the characteristic waggle dance. The number of complete waggle dances in a unit of time decreases with increasing distance of the food source. This inverse relationship is so constant that, by timing the dance with the aid of a stop-watch, one can estimate accurately the distance of the food source from which the dancer brings her burden, and it is clear that this dance gives an effective and reliable indication to the other bees of distances between 100 yards and 1500 yards. At 100 yards there being an average of 10 waggle runs per 15 sec., which drops steadily to an average of 4.5 at 1500 yards. Further observations described in a later paper show that the waggle dance continues to give an accurate indication of the distance of the food source up to four miles from the hive, the rates at this extreme distance fitting perfectly on to the asymptotic curve obtained for shorter distances. The dance, however, is not effective for recruitment of new bees to a food

source beyond three and a half miles.

"The dancing bee also indicates the direction of the food source by means of the waggle dance. It must be borne in mind that these dances are normally performed on the vertical surface of the combs inside the hive. Under these conditions, the direction of the waggle run of the dance indicates the direction of the food source in relation to the position of the sun, which is represented by the vertical direction on the comb. This will be clear from the diagram, no doubt already familiar. Thus we see that a waggle run upwards (A) indicates that the food source lies in the direction of the sun. A waggle run downwards (B) shows that the feeding place is in the opposite direction. A waggle run to the right (C) means that the food source is to be found at the right of the sun and at such an angle to the sun by which the waggle run deviates from the vertical; similarly, a waggle run to the left (D) indicates a feeding place at a corresponding angle to the left of the sun.

"Thus the complete waggle dance indicates both direction and distance of a food source, and constitutes for the colony of bees an extraordinarily efficient method of harvesting as rapidly as possible a new and abundant source of food. The dance is only performed when a worker has discovered, or is foraging at, a particularly rich source of supply. Each performance of the dance on the comb results in a number of other bees setting out and finding that particular food source. If the supply is still rich when the newcomers reach it, they also dance on the combs on their return, and so a numerous band of foraging workers is quickly recruited for work at a rich source of supply. As soon as the source begins to fail, the returning workers cease to dance, although they themselves continue exploiting that source as long as an appreciable yield is being obtained. The result is that any new source of food is rapidly and fully utilised by the colony without any undue waste of time and energy.

"The performance of the waggle dance on the vertical comb is so remarkable that we are forced to ask ourselves whether, apart from human faculties, there is anything comparable known in the animal kingdom; for I think it may be said that the performance of the worker hive bee is essentially an elementary form of map-making and map-reading, a symbolic activity in which the direction of action of gravity is a symbol of the direction of incidence of the sun's rays. We can assume that the main orienting stimulus when the bee is on the vertical comb inside the dark hive is the pull of gravity on the body . . ."

"There is one particular difficulty which presents itself on first reading this work and this is the problem of how the bees themselves can observe the characteristics of the waggle dance when it is performed on the crowded surface of the comb in an absolutely dark hive. It is important to remember that the successful foragers give up some food to the other bees on first returning to the hive. They then do the dance. The bees nearby are excited by the dance and appear to appreciate its direction by following close on the waggle run. They thus experience both the angle and speed of the dance by themselves following the waggle run immediately in the wake of the returning forager. Von Frisch has now shown that the direction-giving is, under good conditions, accurate to about 3°, whereas the distance indication is, on the average, accurate to about 100 yards. The accuracy with which the angle, between the axis of the waggle run and the vertical, is measured by the bee is an astonishing feature of the results . . . . Bees are somewhat reluctant to fly over obstacles and tend at first to go round rather than over impediments such as high cliffs and mountain sides; although later, if the detour is excessive, they may quickly learn to straighten the path. Von Frisch, as a result of some preliminary detour experiments, concludes that bees indicate the actual distance flown on the detour but give approximately the true direction of the food source in relation to the sun—not the direction in which they set out. A moment's thought will show that, in fact, this is the simplest way in which direction-giving could be made effective in country where obstacles have to be negotiated.

The waggle dance is occasionally performed on the horizontal surface of the alighting board in front of the

hive, and under these conditions the waggle run serves as a pointer indicating the actual direction of the feeding place, not its direction in relation to the sun; for obviously, on a horizontal surface, the type of dance involving reference to gravity is impossible. A bee performing the vertical form of the waggle dance on the comb in its normal position can immediately be induced to perform the horizontal form by moving the hinged vertical comb of the observation hive to the horizontal position—provided only that a good deal of daylight is being admitted to the hive (in actual fact as long as some blue sky is visible to the bees). In the dark, bees (as observed by a red light to which they are insensitive) are always disorientated when on a horizontal surface or when daylight is too diffuse or reduced below a certain intensity. The primitive function of the horizontal dance is completely obscure . . . . and it is hard to imagine how under natural conditions there could ever be a horizontal surface available for direction-giving.

" . . . . . As a result of a long series of experiments, von Frisch found that sight of a very small area (10°) of the blue sky at any point of the compass is sufficient, quite independent of its direction, to maintain correct orientation of the dance on the horizontal surface . . . . We are thus forced to the conclusion that daylight in itself without sight of the sun has some orienting capacity independent of its direction. A confirmation of this astonishing conclusion was obtained from an entirely different set observations and experiments, 3600 number, planned and carried out previous years for another purpo Unfortunately, lack of space forbi discussion here of this very impre sive evidence . . . .

"Prof. von Frisch by his first wo on bee behaviour, published in 192 23, showed the foraging organisati of the hive to be far more compl than had hitherto been conceived. I this latest work (1946-49) he pos tremendous problems . . . . such as require a reconsideration of some the most fundamental concepts us in our explanations of the behavio of insects and other animals. In spi of the fact that the honey bee h been closely associated with man f many centuries, it is now clear th we have a very long way to trav before arriving at anything like a fi understanding of its behaviour a social organisation."

References.

"Science News." Penguin Books.

"Nature," July 2nd, 1949.

For Extra Reading:

"The Hive and the Honey Bee 1946, Dadant & Sons (particular Chap. 5 by Dr. O. W. Park).

"The Behaviour of Bees wh foraging," C. G. Butler; Journal The Royal Society of Arts, 194 Vol. 93.

"Experienta," Von Frisch.

HONEY MARKETING COMMITTEE

A meeting of the Marketing Committee was held in October, and the following matters were discussed.

FINAL PAYMENT 1948/49

The recommendation for total payment for the season of 11d. has been concurred in and the final bonus paid.

INITIAL ADVANCE 1949/50 SEASON

The recommendation of producer members for an initial advance of 7d. per lb. pro rata, plus 2¼d. flat, has been authorized.

BEESWAX

The Committee has endeavoured to restrict imports of Beeswax whilst supplies are available in New Zealand. The request to beekeepers to make available information of unsold stocks of Beeswax held by them has been most disappointing. The Committee has finally been successful in negotiations to restrict imports.

SEALS

Collection of money from the sale of Seals and Seal Lids this season amounts to £2,400.

Following the request at Conference, every effort has been made to see that the Honey Marketing Regulations providing for the usage of Seals are complied with.

SECOND UNITED KINGDOM PACK

Endeavours have been made to establish in the United Kingdom a light amber pack, in addition to our "Imperial Bee" pack.

GRANT NATIONAL BEEKEEPERS' ASSOCIATION £100

The Committee's recommendation has been accepted.

1949/50 SEASON

The published Policy of the Committee for the coming season, as previously outlined, can only be fulfilled if supplies are available. The following points cannot be too often brought to the notice of all beekeepers.

1. Under normal conditions the local market has not proved an outlet for all production.
2. Local prices can be stabilized only if the local market is not oversupplied.
3. Supplies of "Imperial Bee" quality are urgently required for the United Kingdom market and all beekeepers can contribute towards making these supplies available.
4. It is the Committee's objective to export:
(a) Maximum "Imperial Bee" quality.
(b) To establish a light amber pack in the United Kingdom.
5. Reports indicate that there is now a tendency for prices in England to drop, particularly with the medium and low grade lines. Some packers are holding heavy quantities on hand.
6. Your London market which is so valuable to your industry is in danger. Supplies over the last few years have been irregular and unsatisfactory. Good supplies this season should retrieve the present position, but without supplies your market and your overseas agency may be lost and your industry seriously affected.
7. Lack of supplies this season could only be interpretated as lack of interest by the industry in their marketing organization. A general appeal is, therefore, made to all beekeepers for full support in order that the objectives already outlined may be fulfilled.

A. C. BRIDLE, Chairman,
Honey Marketing Committee.

PREFERS THE CURE

Gwyn Rees, 42, owner of 25 beehives, has been strung more frequently than any of his fellow Welshmen.

"I had rheumatic fever twice," he declared recently: "I was in hospital for seven months and had to be carried out—a cripple. I was convinced bees would cure me and they have."

In addition to deliberately inviting bee-stings, Rees eats about 2lb of honey every week.

DEPARTMENT OF AGRICULTURE
HORTICULTURE DIVISION

The following is a summary of reports covering honey crop prospects received from Apiary Instructors at the end of December, 1949.

Auckland

December was an excellent month for beekeeping—rain fell on 12 days yielding 3.57 inches of rain against an average of 2.56. Rainfall for the year, however, was 6 inches below the average. Temperatures were inordinately high with a complete absence of winds during the latter half of the month when the weather was the hottest and calmest experienced for 25 years.

Above average crops from all sources have been reported from North Auckland. In South Auckland the returns from clover have been excellent, whilst returns from buttercup and manuka have been below average. Pohutukawa crops will be above average. Given rain, the pennyroyal may yield heavily this year.

Hamilton

Spring nectar sources did not yield to any great extent this season and all stored feed honey was used by the bees by the first week in December, consequently colonies not fed were below strength at that time. The bees generally have been slow in recovering from the set-back experienced during late spring.

Though rainfall for December was below average frequent showers were sufficient to keep the pastures fresh.

Prospects at the end of December were good for average crops.

Tauranga

Extremely hot weather caused pastures to dry up rapidly this season, and rain was urgently required at the end of December. Provided good rains fall early in January prospects are fair for average crops which may be lighter in colour this year. Clover has yielded lightly so far. Heavy crops of honey have been secured in pohutukawa areas.

Palmerston North

Colonies in most areas were up to strength at the end of December and though weather conditions were somewhat unsettled during the month, a little nectar was gathered by the bees daily.

Clover bloom is making a splendid showing, especially in the inland areas which were affected by drought two years ago. Rata has also bloomed well but manuka has been later than usual.

Warm rains at intervals have kept the soil moist. Honey crops above average, are expected mainly from clover, catsear, blackberry and rata.

Greymouth

West Coast: Though some lengthy wet periods have been experienced during the spring months, temperatures were consistently warm, consequently plants and trees are blooming approximately two weeks earlier than usual. Rata was blooming profusely at the end of December. If the West Coast is favoured with a spell of fine weather in January and February above average crops of honey will be harvested.

Nelson: The honey flow was at its peak at the end of December. Clover, lotus major and dandelion being the main sources worked. Slightly above average crops are expected.

Marlborough: Reports indicate that above average crops are expected in this area.

North Canterbury

The honey season was exceptionally early in parts of North Canterbury where more rain fell than other Canterbury areas. Many beekeepers commenced extracting operations in the middle of December. Average crops may be harvested in certain areas on the plains and along the foothills, but the lighter land became too dry in the early part of the season, ruining all prospects of normal crops.

South Canterbury—North and Central Otago

A considerable amount of honey was stored by the bees in many apiaries in parts of South Canterbury during December and early January, when prospects appeared bright for bumper crops, but conditions generally have not been so good since then, and have varied considerably according to location. Some areas required more rain to produce normal crops.

At the end of December there were prospects of a good honey season in Central Otago.

Southland

Less artificial feeding was necessary during December this year owing to mild weather conditions. Manuka, rape, kamahi, cabbage tree and latterly clover in drier districts, have been worked by the bees.

Pastures in all districts south of Dunedin were looking well at the end of December and prospects appeared bright for average to good crops depending on calm warm weather conditions in the New Year.

Staff

Beekeepers throughout New Zealand will regret to learn that Mr. W. J. Fix who has been off duty on sick leave since the middle of May, 1949, is still absent on sick leave, and that he has not yet recovered his health sufficiently to enable him to resume duty with the Department.

During the absence of Mr. Fix all honey grading duties have been carried out by Mr. R. S. Walsh, Apiary Instructor at Auckland.

Since 1947 there has been a substantial increase in the number of apiaries and hives kept in the Auckland district (there are now a total of 2,122 apiaries and 22,926 hives registered in that area), consequently it became increasingly difficult to service the industry effectively in areas originally covered by the above mentioned officers, with the staff available. There are also prospects of greater supplies of honey to the central depot for grading during the present year.

To meet this situation two new appointments to the Apiary Section staff have been arranged. Mr. T. P. J. Williams is Assistant Apiary Instructor at Auckland, and D. Roberts, who it is expected will begin duty at Auckland at an early date.

T. S. WINTER,
Superintendent, Beekeeping Industry.

PLANNING IN NORTH AMERICA

CANADA

Last year, faced with a carryover of honey from 1947 and the largest honey crop in Canada's history in 1948, beekeepers right across Canada were generally convinced that either they would have to drastically reduce production and accept progressively lower prices for their honey or they would have to do something about the marketing situation to create a larger buyer demand for honey in Canada. This subject received serious discussion at all beekeepers' meetings last fall and during the winter motions were passed at provincial conventions of all provincial beekeepers' organisations in the six major honey producing provinces requesting the Canadian Beekeepers' Council to collect a levy on honey containers which could be used to develop honey markets.

Armed with these requests from provincial beekeepers' organisations, the Canadian Beekeepers' Council approached the container manufacturers and requested them to increase the price of their containers by the amount of the honey container levy and to remit such levy to the Council. It was pointed out at that time that beekeepers were generally in accord with this procedure but wanted to be assured that the levy would be collected on all containers right across the country.

The Council was able to persuade the container companies that this was the view of organised beekeepers in Canada and as a result, in January of this year, they signed the following agreement:

"At the request of the Canadian Beekeepers' Council, the provincial beekeepers' associations and honey producers co-operatives and in conjunction with the following honey

container manufacturers, we undertake to increase the price of all honey containers, commencing with containers for the 1949 crop by an amount equal to 1/5c per pound capacity of the container and to remit all monies so collected on sales in Ontario to the Ontario Beekeepers' Association and on sales in other provinces to the Canadian Beekeepers' Council."

This agreement was signed by the American Can Company, Atlas Paper Box Company Limited, Continental Can Company of Canada Limited, Mono Paper Containers Limited, Perga Containers Limited and Canadian Sealright Company Limited.

In order to make the County levy completely uniform with the compulsory levy in Ontario, the above agreement was modified so that 1/5c per pound would be charged on all containers up to 8 pounds and 1/10c on 30 pound containers and over.

Container companies are co-operating and including these charges in their price list and it is hoped that sufficient funds will be raised this summer to carry on the program of advertising which the Council initiated during last fall and winter and on which some 20,000.00 dollars has already been spent.

In honey, we have one of the best commodities in the world to advertise and we are confident that sales can be increased at prices kept at reasonable levels by means o advertising.

—R. M. Pugh in the Canadian Bee Journal.

IDAHO

A new Act which become effective on May 4, 1949, in the State of Idaho creates a fund for constructive advertising of honey and honey by-products. The method for raising funds has two advantages which should be of interest to other States: 1. Everyone pays into the fund according to the number of colonies owned. 2. The amount collected is about the same each year, so that the program of advertising can be planned ahead.

The Act creates an Idaho Honey Advertising Commission of four members, three honey producers or beekeepers and the Commissioner of Agriculture, who will act as chairman. These men will receive no salary, but will have the expenses of the work of the Commission paid. The Commission shall plan and conduct a campaign for honey and honey by-product advertising, publicity, merchandising, sales promotion and research by contracting with a service or with other States. A tax of 5 cents per colony, collected in the same manner as other personal property taxes, will provide the funds.

—American Bee Journal.

ORANGE HONEY SPREAD

2 cups of honey, ½ cup of grated orange rind, ½ cup of grated grapefruit rind, pinch of salt.

Mix the ingredients well and stand them over warm water for half an hour to blend the flavours thoroughly. Put the spread into small pots.

FLORA OF NEW ZEALAND

Of the three principal herbaria in the country, the one built up by the Botany Division of the Department of Scientific and Industrial Research and located in Wellington is the youngest. It began in 1928 with the inception of the Plant Research Station at Palmerston North when a small nucleus collection was received from the original Biological Laboratory of the Department of Agriculture. The herbarium now contains about 70,000 sheets of specimens and is expanding at the rate of some 2000 a year. It cannot yet boast quite as comprehensive a representation of the native flora in its boxes as its sister herbaria of the Auckland Museum and the Dominion Museum. Nevertheless, a number of its sections are outstanding. For example, the section of naturalised flora is most comprehensive and up-to-date. Practically every weed species known to occur in the country could be examined on its sheets.

The herbarium at present contains flowering plants, ferns, mosses, seaweeds and lichens, and the whole collection is arranged in distinct sections. The indigenous flora contains specimens native to New Zealand and its adjacent islands; the naturalised flora contains specimens of species growing wild in the country but not native to it; and the overseas section contains specimens received from other lands in exchange for local material. In addition, among the minor sections, there is one rapidly coming into prominence: a section of cultivated plants that includes crop plants, forest trees and ornamentals cultivated in this country.

To save confusion it is necessary that the plant has one name which is universally recognised. Thus one of the principal objects of a herbarium is to provide a check on the correct application of names.

The herbarium is in constant use by various research workers, amongst whom is Dr. Allan, who is at present preparing a revised edition of Cheeseman's "Manual of the New Zealand Flora." Another function of the Botany Division herbarium is to supply the various Government Departments and other Institutions with the correct names for some thousands of plant specimens submitted each year. Prominent seekers after information are the farmers through their local Agricultural Offices and the schools, which also send many specimens for identification.

PLANNING IN WALES

Lampeter and District Association

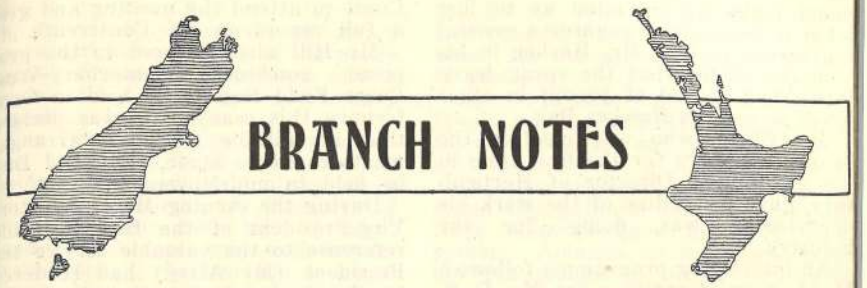
At a meeting of this Association, held on Oct. 28th, a resolution was passed asking for joint action on the part of the Welsh and English Beekeepers' Association to advertise honey and educate the public as to its great food value. It was pointed out that the average person looks upon honey merely as a cure for such ills as sore throat and a severe cold and that if a campaign was submitted to a good Advertising Agency it would do a great deal to broaden the basis of honey consumption which is so narrow at present that a small increase in production is sufficient to knock the bottom out of the market.

—Welsh Bee Journal.

A HONEY DISPLAY

The Los Angeles County Fair at Pomona has closed a very successful year. Large crowds attended and the exhibits were unusually fine. There were several very excellent exhibits of honey, beeswax, and live bees. Riverside County's "Beekeepers" won the first prize. It was a very striking display. A large card in the background read "Bees Fill the Food Basket Through Pollenization." From the centre of this card many ribbons led to different objects on a table in the foreground. Somehow we felt as though we were playing a game with no end of a thrill when we traced each ribbon to a large melon, a squash, some peaches, walnuts, almonds, or different mounds of seeds. No one could leave that exhibit without feeling a renewed interest in bees, and I believe at least a little grateful for their efforts in giving us a full food basket.

—L. L. Andrews, in Gleanings.



BRANCH NOTES

SOUTH AUCKLAND

The South Auckland Branch held its half-yearly meeting on Dec. 14th.

The main business centred on marketing matters and the pay-out for the coming season.

The meeting considered that organised marketing was essential to the honey industry and that it is necessary to that end that a partnership between the producer and the Government should continue in order to safeguard the financial position, and that statutory authority must be maintained by any honey authority.

Taxation, and also the indiscriminate sale of unwashed honey tins was the basis for discussion during the balance of the meeting.

It was also moved that a Field Day be held at Okauia Hot Springs, Matamata, during late February. Mr. Paterson and the Secretary were elected to make the necessary arrangements. A cordial invitation is extended to all visitors and neighbouring Branches. Notices will be sent to all members of the South Auckland Branch in the near future. Would visitors please contact either of the above committee for further particulars.

The crop throughout the Waikato has been disappointing. Some beekeepers have experienced a good year but on the whole the yield has not been up to expectations. Conditions have been the driest for many years, especially around Hamilton and up to Te Kauwhata.

The clover flow was very light, similar to last year, but a higher quality honey will nevertheless be harvested.

—J. D. Lorimer.

HAWKES BAY

THE SEASON

Following a winter of higher rainfall than for some years, the pastures were in good condition in the spring and where the bees were strong early, some good crops were stored, but some drying winds, followed by weeks and weeks of scorchingly hot sun, dried out the pastures so rapidly in some areas, that little honey was to be had. It has been a really disappointing season, and in Hawkes Bay little can be expected once January is passed. Apiarists have again been troubled by a percentage of thick honey, which adds to the difficulties of extracting. In the Wairoa and Dannevirke districts good crops are reported.

FIELD DAY

In the spring a successful field day was held in the attractive grounds of the Napier Boys' High School. Visitors included the Minister of Agriculture, the Hon. E. L. Cullen, Mr. C. G. E. Harker, M.P. for Hawkes Bay, Mr. A. M. W. Greig, Director of Horticulture, Mr. T. Winter, and Mr. W. J. Lennon.

Mr. P. Berry, our President, thanked Mr. W. T. Foster, Headmaster of the School, for the use of the grounds and in replying Mr. Foster apologised for the fact that a shearing competition had prevented more of the boys attending the field day.

In officially opening the day the Minister spoke of his admiration of the drive and initiative displayed by officers of the local branch in carrying to a successful conclusion the fight to obtain protective legislation against spray poisoning, but expressed the wish that the Industry generally

could make up its mind as to just what it did want as regards a general marketing policy. Mr. Harker in his remarks stated that the spray legislation had proved of benefit in other areas as well as Hawkes Bay.

Mr. Greig, who was meeting the branch members for the first time in his position of Director of Horticulture, gave an outline of the work his department was doing for the industry.

An interesting programme followed, Mr. Lennon, deputising for Mr. D. S. Robinson, who had a bad throat, gave an interesting talk on the opening of the hive and foul brood. Mr. L. H. Maulstead dealt with swarm control and supering up. Mr. F. M. Leete demonstrated the manufacture of equipment, and Mr. G. F. R. Gordon methods of removing the surplus honey crop. Mr. P. Berry dealt very interestingly with methods of queen rearing and requeening.

Mr. Lennon complimented the Branch on a most successful field day, and the womenfolk were thanked for their catering.

It is proposed to hold another field day in March at the honey-house of Mr. Gordon, when extracting and packing will be demonstrated, as well as other seasonal work.

—G. F. R. Gordon.

WEST COAST.

There was a very large attendance of beekeepers at a meeting of the West Coast Branch, held in Greymouth on September 30th. The President, Mr E. Airey senior, extended a welcome to beekeepers from Westport, who had been invited to attend, and offered them assistance in forming a Branch of the Association in the Westport area.

Mr Airey also welcomed Mr C. Hill, of Rangiora, who had acted as delegate for the West Coast Branch at the Annual Conference. Mr Hill addressed the meeting and gave a full and interesting report on proceedings at the conference. Mr Airey thanked Mr Hill on behalf of the local beekeepers who very much appreciated Mr Hill's willingness to act as delegate, and were very grateful to him for coming over to the Coast to attend the meeting and give a full report on the Conference.

Mr Hill also referred to the proposed combined Canterbury-West Coast Field Day to be held in Canterbury this season. It was decided that if suitable transport arrangements could be made, the Field Day be held in mid-November.

During the evening Mr L. A. Ilton, Vice-President of the Branch, made reference to the valuable service the President (Mr Airey) had rendered to the beekeeping industry on the Coast over a long period of years. Mr Airey, he said, had been connected with the industry for the past 31 years, and had been President of the local Branch for the past 15 years. Mr Ilton spoke of the assistance Mr Airey had always willingly given and the many successful gatherings that had been held under his leadership.

Other beekeepers also spoke of the good work Mr Airey had done for the industry locally, and Mr D. Cochrane, another pioneer of the beekeeping industry on the Coast, then presented Mr Airey with a fireside chair in appreciation of his services. Mr Airey suitably replied.

Field Day at Westport.

On October 29th the Apiary Instructor and members of the local Branch, including the President and Secretary, journeyed to Westport to attend a Field Day and be present at the formation of a Branch of the Beekeepers' Association in that area.

The Field Day was held at Birchfield, at the apiary of Mr G. Stone, and although the weather was not the best for such an occasion there was a fair attendance of beekeepers and a very enjoyable day was spent.

—R. V. Glasson.

CANTERBURY

Field Day Report

The Canterbury Branch held their annual Field Day on the 19th November at the home of their president, Mr. T. E. Pearson, at Darfield. The day was extremely hot with a strong north-west wind. The Branch was privileged to entertain twenty-five members of the West Coast Branch

who travelled by bus over the Otira Gorge and five members of the newly formed Branch at Westport and a number from the South Canterbury Branch.

The President opened the proceedings and dealt with some Branch business that had accumulated since the last meeting. A number of appliances that had been brought along by beekeepers were then demonstrated and these included a grass mower, hive carrier, a hoist, electric embedder, and an electric uncapping outfit.

Mr. E. B. Diehl demonstrated his hive master-truck and showed its many uses in handling hives and supers of honey. A coke-fired boiler capable of supplying steam for any sized honey house proved most interesting and was used to boil water for the tea.

The West Coast visitors arrived at mid-day, and after lunch all visitors were welcomed by Mr. Pearson. The Presidents of the three visiting Branches all addressed the gathering and thanked the Canterbury Branch for their hospitality.

The President then introduced Mr. I. W. Forster and Mr. F. W. Bartrum, Apiary Instructors to South Canterbury and Canterbury respectively, and Mr. Forster suitably replied.

All present then left by car or truck for a nearby apiary situated in the lee of a high bank amidst a blanket of yellow broom in the Hawkins riverbed, where Mr. Pearson opened a number of hives and described the methods used in Canterbury and the type of bee he was breeding for maximum honey production, and his method of requeening, using a tinplate division between the brood boxes and putting a queen cell in the bottom box.

On returning to Darfield, Mr. Pearson described in detail the working of his honey extracting plant, which is equipped to handle any size crop and to carry on extracting each day without stoppages caused by accumulation of cappings, blocked strainers or insufficient tank storage.

After afternoon tea, Mr. G. E. Gumbrell of the South Canterbury Branch gave a very instructive talk on insurance for the beekeeper, and covered all types of insurance from personal risk to apiary and honey house insurance. He was accorded a hearty vote of thanks.

Mr. T. Penrose moved a vote of thanks to Mr. and Mrs. Pearson for their hospitality, and it was carried with acclamation.

The crop prospects are not too good round Christchurch this year. Scattered showers have made it very patchy. Apiaries on light land may not get enough to winter on, while others will be about average. Despite the showers we have had, it is still very dry and the country is very burnt off.

—R. R. Bushby.

NORTH OTAGO.

On Saturday, November 5, at the home apiary of Rev. C. R. Sprackett (Duntroon), North Otago beekeepers held their first Field Day for some years. The locality proved to be ideal, and the sun so warm that the shade from the surrounding trees was very welcome.

Rev. Sprackett, president of the North Otago Branch of the National Beekeepers' Association, welcomed visiting beekeepers, including the members of the Otago Branch who had been able to make the trip.

Mr I. W. Forster (apiary instructor) opened proceedings by explaining various methods of swarm control and added interest to his talk by demonstrating on a couple of colonies which Mr Sprackett decided were in need of manipulation.

Mr J. McFadyien, of Dunedin, delivered a very interesting talk on requeening and the making of increase by the use of the particular type of division board which he favours. This talk gave rise to quite a number of questions which were satisfactorily answered.

Mr D. G. Hamilton, of the North Otago Branch, and part-time inspector for the district, gave a short and instructive talk on spring management, mentioning particularly the use and abuse of entrance blocks. Questions were also satisfactorily answered.

Mr A. Farmer, also of the North Otago Branch, took as his subject "Foul Brood," and spoke of the detection and treatment of this "beekeepers' headache." At the conclusion

of Mr Farmer's talk Mr Forster asked that beekeepers co-operate with him and notify him within seven days of any outbreak of foul brood, as without the help of beekeepers the disease will never be wiped out.

The final talk of the day was "Queen Rearing," Mr Forster speaking of several methods used by commercial beekeepers to raise queens.

Mr A. B. Callick, of Alliance Bee Supplies, had on display a few small items of beekeeping equipment which created quite a discussion group for half an hour.

Mr Forster (apiary instructor) and Mr T. L. Jackson (Otago Branch) expressed their appreciation of a very enjoyable day.

A vote of thanks to all who had helped to make the day so successful, with special thanks to Rev. and Mrs Sprackett, brought to an end a very interesting Field Day—still in bright sunshine.

—I. MacKinnon.

OTAGO

The November quarterly meeting of the Otago Branch was held in Dunedin on 7th November, 1949. The Branch President, Mr. T. L. Jackson, welcomed a number of visitors and new members.

Mr. J. McFadzien gave a very interesting account of the Annual Conference, held at Rotorua, and spoke highly of the excellent arrangements for entertaining the delegates, especially the **Maori** substitute for "HAGGIS," and the scenic trips, also the general interest of delegates in the subjects brought before Conference.

Mr. McFadzien was accorded a vote of thanks for his report.

Demonstrations were then made with several classes of transformers and fittings for electric embedding, including two used for toy-trains. Most of the appliances embedded one length of wire, and one transformer proved capable of embedding the three wires in one flash, whilst a motor cycle battery proved a useful accessory too. A number of those present tried the appliances and expressed surprise at the simplicity of the use of controlled electricity as an aid to supplant the tedious old methods of embedding wires into wax foundation.

A vote of thanks was accorded the demonstrators. Supper was handed round and another very interesting meeting ended at 10.30 p.m.

Note: It is with deep regret that we record the death of Mr. E. Richen, and the Branch's sympathy is extended to Mrs. Richen and family.

FIELD DAY

Otago Field Day was held at Mr. T. L. Jackson's apiary on Mr. Les Graham's farm, Mosgiel, on Saturday, 10th December, 1949, after having been postponed on account of weather conditions.

Mr. T. L. Jackson, President, extended a welcome to a number of visitors, including the Mayor and Mayoress of Mosgiel, Mr. W. Hartstonge and Mrs. Hartstonge, who also welcomed the beekeepers to the district, and stressed the value of the industry to the farmers and gardeners, and hoped all present would profit by the demonstrations.

Mr. S. Line gave a practical demonstration of queen rearing, including de-queening and removal of brood, transferring, grafting queen cells, and re-queening. This demonstration lasted one hour and was watched by all present with keen interest.

Mr. J. McFadzien gave a talk on swarm control and the causes leading to swarming.

Mr. T. L. Jackson demonstrated his most ingenious extracting plant; the principal part was an old fire extinguisher converted into an electric boiler to provide heating for the decapping knife, melter and honey-heater. Mr. Jackson is to be congratulated on his enterprise.

Afternoon tea was served by the ladies, and votes of thanks accorded the demonstrators, and especially to Mr. and Mrs. Graham for the use of the farm for the field day, which proved a most instructive and interesting outing.

Conditions have been quite good in this area during the present season. Unsettled weather over the holiday interfered with nectar gathering, but fine days prevailed towards the end of January, and the hives filled up rapidly. Crops will be fairly good in most districts.

—A. F. Lindsay.

GORE

The Annual Field Day was held at the apiary of Mr. C. J. Kellett, Mandeville, on January 28th. The day was notable for fine weather, a large attendance, congenial company (beekeepers in the south are taking a very nice crop of honey) and an impressive array of cars and trucks on the parking area. President J. Glynn directed a full programme of practical demonstrations and discussions, the only interruption being a swarm of bees which passed by at 15 miles an hour and almost lured half the assembly over into the Hokonuis. A certain carload from Dunedin reports that the southern hospitality was up to the usual high standard and looks forward to the announcement of date and venue of next year's function.

A CORRECTION

In the report of the address by Mr. Wallace Nelson, published in our November issue, we regret that owing to a mistake the hive increase was given as 5% instead of 50%, thus altering the significance of the statement. The paragraph in question should read as follows:—

1938-1949.

The year 1938 may be fairly regarded as a normal season of production free from any restrictions in the matter of price, or compulsion to supply the I.M.D. In that year, 1,100 tons of honey was voluntarily sent forward to I.M.D. This amount may be regarded as the surplus over that which the beekeepers could conveniently sell themselves through the usual trade channels. Today, eleven years later, we have about 50% increase in the recorded number of hives and of this increase the greater part is in the commercial class of beekeepers. There is no evidence that the commercial consumption of honey has increased in the intervening eleven years, while the increase in the population is negligible over that period. It is therefore surely logical to assume that with a return to the same normal conditions of supply and demand as we had in 1938 the surplus of honey over and above that which the beekeepers can sell themselves will be considerably greater than the 1,100 tons sent to the I.M.D. in 1938.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P.O. Box 3306, Cape Town, South Africa.

NOTES FOR BEGINNERS

By SKEP

The factors which govern honey flows are not very clear, nor do they seem to have been the subject of very intensive study, but it appears obvious that two essentials are heat, together with sufficient moisture at the right time. Last year the quality of the crop was lower than usual, this year it is likely to be equally high, but lack of good rainfall in January would indicate that the flow will be cut short, and very little be gathered during February, except where special sources exist such as penny-royal or rata. Hobbyists may be interested in growing a few plants of the great American honey plant, Sweet Clover. While insufficient can be grown to produce honey, the immense amount of blossom, and the length of time it stays in flower, indicates the extreme value it could be if it were to become a popular farm crop in this country. Unfortunately this is not likely as during its blossoming it becomes very stalky and has luxuriant foliage only under grazed conditions.

THE HONEY CROP

Skep hopes all have secured a reasonable crop. Drought conditions have probably caused very light crops in many parts of the country, but what has been secured is of good quality. Its quality must be retained by careful handling, and to do this the combs should be removed from the hives when well ripened and fully sealed. No moisture should be allowed to be absorbed by leaving honey exposed to the air for any length of time, as although in the drier areas honey will remain in good condition exposed to the air for some time, in most parts of the North Island honey left in open tins, tanks or extractors will take up moisture, and the top half-inch will become very noticeably thin. Having extracted the honey the next procedure is to strain it. The novice will probably have no heating device and possibly no very efficient strainer. However quite a good job can be done by making a suitable sized box for a strainer with a wire gauze bottom, and procuring a ten foot length of cheesecloth. Place this over the box and pour your honey through it, pulling the cheese-cloth through to a clean part when the first piece becomes blocked. This method works reasonably well for those handling honey of light to medium body. It then remains only to add a starter honey of very fine grain, stir well, and pack in retail containers, keeping the honey in the coolest available storage while granulation is occurring.

COMB HONEY

There are few things more disappointing than to produce a crop of honey and then to find it too thick to extract. Commercial beekeepers are now overcoming the difficulty by the use of warming rooms and pricker pads, but to a beginner a warming room is too expensive for the quantity of honey being handled. It is therefore perhaps preferable to work for comb honey, but the production of section honey needs very special skill in handling the hives to secure good results. An easier way and one being increasingly used is to cut up the combs carefully in suitable sized pieces, wrap them in damp-proof cellophane, or good waxed paper, and sell in that manner. Only good well-sealed honey should be sold in this fashion, and on no account should any honey be sold in this way the comb of which has been used for brood-rearing. The usual section honey must be carefully removed and stored, the bees sometimes perforate the cappings if unduly disturbed during its removal. This causes weeping and poor storage. In some parts, notably Taranaki, section honey will quickly granulate very hard, and in this condition it is not pleasant to eat. In these parts it should be sold immediately. Manuka sections can be stored well packed in boxes, airtight, for some months, and can be held for sale till scarcity enables one to sell to best advantage.

ATTENTION TO HIVES

In the last Journal was a good article on Queen Breeding, and the writer mentioned February as possibly

the most favourable queen rearing month. This is in line with Skep's experience, and as the hives have plenty of flying drones, and also the weather is at its warmest, quicker mating occurs at this time than at any other. The strongest hives can also be divided for increase at this time, provided it is realised that increase can be secured only at a cost in honey or feed, and sufficient must be provided to see the divisions through the winter in good condition.

DRYING AND STORING COMBS

The empty combs after extracting are a beekeepers' best asset and should be carefully looked after. One or two hives may be placed on bottom boards specially made to serve as super cleaners. These bottom boards are over twice the length of the usual ones, and the hive of bees is placed on the front, and a pile of wet combs on the back. A flat board is placed across the cleats to form a bridge, so that the bees of the hive selected may enter the rear pile and clean the combs. Any section honey unfilled will be well finished on top of these cleaning hives, and the combs should be stored away for next season in piles, with newspaper between every two supers, with crystals of para-dichloro-benzene on each newspaper as a precaution against the wax-moth. These piles of combs must also be kept mouse-proof by placing a queen excluder or some other device at the top and bottom of the piles. An open shed makes a good storage place as the cold winds discourage wax moths from breeding.

Summarizing:

1st—Efficient handling of the honey crop.

2nd—Every hive headed by a good young queen that next year's crop may be assured.

3rd—Extracting combs cleaned and well stored ready for use next season.

No foul brood hive should be allowed to go into winter quarters, they should be completely destroyed.

Best wishes to all and I hope you have had an instructive, interesting and successful season.

HORMONE WEEDKILLERS

The Dominion Executive, feeling some concern at the increasing use of Hormone Weedkillers, recently approached the Horticulture Division asking if it would be possible to ascertain whether the use of these preparations was likely to prove injurious to bees. Tests are now being carried out at Wallaceville and the Research Officer, Mr. T. Palmer-Jones, has furnished the following Progress Report.

HORMONE WEEDKILLERS AND THE BEEKEEPING INDUSTRY.

Hormone weedkillers are already employed on a fairly large scale in New Zealand, and there is little doubt that their use will increase as a wider range becomes available and methods of application are improved. At present hormone weedkillers are too costly for extensive use, but they are of value as selective weedkillers for obtaining clean crops and pastures when these cannot be cleared of weeds by other means. Weeds such as thistle growing in a valuable crop can be killed without damage to the crop itself.

The beekeeper is naturally concerned with the question of whether the use of hormone weedkillers will constitute a new threat to the beekeeping industry by causing heavy mortality in field bees. It will be recalled that when D.D.T. was first used for large-scale spraying and dusting operations in the U.S.A. it was feared that it would cause great losses to beekeepers. However, although highly toxic to bees, D.D.T. is effective as an insecticide in much smaller concentrations than the arsenic compounds it is largely replacing. These arsenic preparations were consequently applied in much greater quantities than is necessary with D.D.T., and drifted and were blown over much larger areas than those being treated. Thus, although D.D.T. is more toxic to the honeybee than arsenic, its intelligent use has considerably reduced bee mortality. The hormone weedkillers at present in commercial use have a low toxicity for bees and if applied with due regard to the need for protecting bees, should constitute no serious hazard.

The main danger to bees in the past has been from insecticides such as the arsenic compounds which have been used to destroy the insects infesting plants. Hormone weedkillers, however, are used to kill weeds which even if originally attractive to bees are quickly destroyed and so removed as a possible danger. An insecticide such as D.D.T. might remain on such a plant for days while bees were attracted to it for nectar and pollen. As in the case of insecticides hormone weedkillers may persist on plants attractive to bees and resistant to the action of the hormone.

At present many commercial preparations of hormone weedkillers are on sale in New Zealand, but all are derived from two main types:—

(1) 2, 4 D acid (2, 4 dichlorophenoxyacetic acid) base and its compounds. (Esters, amine salts, and sodium salts). Examples of commercial preparations are Weedone, Dee Cee Pee, Chloroxone.

(2) M.C.P. acid or Methoxone (2 methyl, 4 chlorophenoxyacetic acid) base. This is represented commercially by Agroxone.

2, 4 D acid has been tested overseas and reported as having a very low toxicity for bees.

At present exhaustive tests of the toxic effect of 2, 4 D acid and M.C.P. acid and their commercial compounds, on bees, are being conducted at Wallaceville, but have not been completed. The tests are made by confining bees in cages kept in an incubator and feeding them varying strengths of the substances in sugar syrup held in miniature feeders. So far the tests show a low toxicity for the two acids and there appears no need to view their use with alarm.

As other plant hormone weedkillers are developed for commercial use their toxic effect on bees will be studied at Wallaceville, so that the interests of the beekeepin industrgy can be protected.

POLLEN AND NECTAR-BEARING TREES

In response to a request from the National Beekeepers' Association, the Horticultural Division has supplied to the State Forest Service and to the Soils Conservation and Rivers Control Council a list of native and exotic pollen and nectar-bearing trees for use where possible in tree planting programmes. For the information of beekeepers we publish the lists compiled for the Auckland, Hamilton and Tauranga Districts, and we hope later on to supply further lists for the remaining areas.

Auckland Apiary Inspection District:

The following list of trees are of value in this district for either nectar or pollen. It would remain for the Forestry Service and others to decide those most suitable for use in the various phases of their Tree Planting programme.

Hakes (H. Saligna) nectar.

False Acacia (Robinia pseudacacia) nectar-pollen.

Pohutukawa (Metrosideros tomentosa). Grows very well inland as well as on the coast.

Piriri (Vitex lucens) a useful winter pollen source.

Tanekaha (Phyllocladus trichomanoides). Helpful where pollen shortages are experienced.

Totara (Podocarpus totara). Helpful where pollen shortages are experienced.

Rewa-rewa (Knightia excelsa). Honey and pollen.
Hinau (Elaeocarpus dentatus), pollen and nectar.
Houhere (Hoheria populnea), autumn source of pollen and nectar.
Yellow Kowhai (Edwardsia microphylia), early nectar source.
Tawari (Ixerba brexioides), nectar.
Mahoe (Melicytus ramiflorus), nectar and pollen.
Kohekhoe (Dysoxylum spectabile), yields some nectar and pollen May-July.
Titoki (Alectryon excelsum), pollen and nectar.
Tawhere (Weinmannia sylvicola), nectar source in February.
Toru (Persoonia toru), nectar.
Kawaka (Syn. L. plumosa), pollen.
Matai (Podocarpus spicatus), nectar.
Puna-Weta (Carpodetus serratus), nectar and pollen.
Genus Pittosporum, all excellent for either nectar or pollen.
Ngaio (Myeporum Laetum), nectar and pollen; grows on coast but does well inland.

The trees listed hereunder are heavy nectar yielders in their natural habitat, but could not be definitely recommended to do the same in New Zealand, as experience has shown that plants which are good nectar bearers in one country frequently fail to produce honey when grown elsewhere.
Tree of Heaven (Ailanthus altissima).
Black locuet (Robinia pseudacacia).
Tulip Tree (Liriodendron tulipifera).
Lime tree (Tilia vulgaris or T. platyphyllos).
Almond (Prunus amygdalus).
Box (Buxus sempervirens).
Chestnut (Castanea sativa).
Horse chestnut (Aesculus Hippocastanum).
Californian buckey (A. californica).
Judas Tree (Cercis siliquastrum).
Canadian Juneberry (Amelanchier canadensis).
Koelreuteria (K. Paniculata).
Japanese Acacia (Sophora japonica).
Magnolia (M. Grandiflora).
Maple (Acerspp. Aceraceae).
Sumac (Rhus typhina).
Tupelo (Nyssa sylvatica).
Gum (Eucalyptus ficifolia).

Oamaru Apiary Inspection District:

Though the growing of such native trees as Kamahi, Ratas, Kowhai and Ribbonwood would provide for increased nectar yields, it is not certain whether these trees are suitable for planting under the conditions required for control of soil erosion in this district.

Crack Willows, Golden Willows and Weeping Willows are of undoubted value to beekeepers and should be suitable for some types of country.

Sycamores and Gums are nectar bearers and may also be satisfactory under certain conditions for soil conservation.

Hastings Apiary Inspection District:

The following list of trees contains some of the most valuable nectar bearing trees suitable for planting by the State Forest Service, River Control Councils, etc.
Willows (Salix gragilis, Salix Babylonica, and Salix caprea.
Kowhai (Edwardsia microphylla).
Kotukutuku (Fuschia excorticata).
Pohutukawa (Metrosideros tomentosa).
North Island Rata (Metrosideros Xrobusta).
Tawari (Ixerba brexioides).
Eucalyptus, all flowering varieties.
Cabbage trees (Cordyline australis).
Five Fingers (Nothopanax arboreum)
Titoki Alectron excelsum.
Acacia flowering varieties (mainly for pollen).
Hinau (Elaeocarpus dentatus).

Hamilton and Tauranga Apiary Inspection District:

Native Trees (nectar bearing and suitable for transplanting)
Rewa-rewa (Knightea excelsa), flowers in November and gives a dark, but mild flavoured honey.
Fuschia (Fuschia-excorticata), light coloured honey, spring flowering.
Pohutukawa (Metrosideros tomentosa), light honey. Suitable for coastal areas.
Tawari (Ixerba Brexioides), light honey, flowers November-December.
Koromiko (Hebe salicifolia), medium amber honey, flowers February-March.

Exotic

Pussy Willow (Salix caprea), listed as noxious weed in Waikato.
Crack Willow (Salix fragilis).
Lime (Tilia vulgaris).
Tagasaste (Cytisus proliferus).

Heath (Erica gracilis), honey for spring feed.

False Acacia (Robinia pseudacacia), Black locust.

Pepper Tree (Schinus molle), a South American tree. Flowers January early February. Bees greatly attracted to it.

Coral Tree (Erythrina crista-galli), summer flowering. Bees greatly attracted to it. Unable to indicate type of honey produced. Bloom somewhat like Red Kowhai. Fairly hardy and grows rapidly.

Eucalyptus ficifolia (crimson flowering gum). Flowering period January-February.

Eucalyptus saligna. Flowers in August and September, white flowers.

THE WASP MENACE.

By Hugh Alex Bagley, Ahipara.

Wasps appear to be spreading. For quite a long time past I disregarded their presence and activities, in the belief that they fulfilled a useful purpose by attacking scale on citrus trees, preying upon moths, spiders, larvae of insects, etc., but the call to beekeepers induced me to find out what really constituted the Wasp Menace.

Referring to American text books on Beekeeping I learned nothing except that, among other insects, Wasps and Hornets were listed as enemies of bees. On turning to English writers, I found a lot of information about the "brigand of the British insect world." One author expresses his hatred and detestation of the Wasp in no uncertain terms. He amplifies his opinions by referring to the Wasp's voracity and depredations which, he declares, more than negative the good work done by it in other directions. That it is a robber of honey, and a killer of bees, all English writers agree. Fierce attacks on occasion, will cause considerable loss, even unto extinction of queen-right colonies, honey, brood and eggs entirely disappearing.

The Wasp is stronger than the bee, and stings not once, but again and again while it has poison left. They are said to show more determination, more intelligence, and more reason in their quicker movements than bees.

If the European Wasp in New Zealand is the same as its cousin in Britain, the possibility of it becoming a hive robber is as likely as it is evident on occasions in Britain. In May and June I watched Wasps and bees working alongside one another on the same flowers of Protea, Poinsettia, and Tree Dahlia, suggesting that the food they gather is as good to the one as the other. It is probable in some localities, while there is an abundant supply of delectable food easily gathered. Wasps will avoid the difficulties and dangers of robbing stores from bee-hives. Also, New Zealand may have more adequate flows of nectar and over a longer season than in Britain. Therefore, it is reasonable to suppose shorter, fewer or meagre nectar flows, shorter summers or adverse climatic conditions, the mowing of clover crops, or any cause lessening the nectar supply for bees and Wasps, may drive the latter to the weakest hives in the nearest apiary, thus depriving both the bees and the beekeeper the fruits of their respective labours.

Now, make a mental note of this: "In the year 1944 some of our apiaries were quite seriously lightened by Wasps before Christmas, and another bee farmer told me that he estimated the loss in his apiaries at two tons of sugar or honey." (R. O. B. Manley.)

That was in England; and that could happen here in this land flowing with milk and honey.

AN ACTUAL EXPERIENCE.

By J. D. Lorimer, Hamilton.

In response to your request that I should relate my experience with Wasps this past year, I do so, willingly, and in the hope that it may be the means of preventing serious losses of bees and honey in localities where Wasps are numerous.

The type of country will have a bearing on the severity of the wasp menace, provided no effective method of control is evolved. Bees situated adjacent to gullies with sandy banks covered in fern and scrub, or rough country, will undoubtedly be liable to a gradual robbing of honey during the autumn and also a considerable loss in bees.

I had the unfortunate experience of losing 30 colonies of bees as, I believe, a direct result of wasps. The apiary was situated two miles from Hamilton on the Cambridge highway, and the area is riddled with wasps.

During May I removed honey from the apiary and without exaggeration there were many times more wasps than bees robbing for all they were worth. Three hives were completely demoralised and wasps had robbed a total of seven supers of honey.

A week later I fed an average of four combs of honey to each hive, which I thought would be sufficient to last them till the first spring inspection in late July.

It was a lovely spring day when I came to check them.

There was no activity, and on further investigation I found all but two colonies dead. These two had no honey but were alive.

Contributing factors may have been:—

(1) There were no entrance blocks.

(2) The honey was removed when bees were in a semi-dormant state.

(3) The feeding of combs of honey while the wasps were still active.

(4) The gradual depletion of bees through wasps killing them, thus leaving the hives liable for robbing by bees in other apiaries. I believe a combination of all these factors was responsible for the loss.

To prevent any recurrence next year I propose wintering my bees in these areas in one storey, restricting their entrances, and keeping a constant check on their winter stores.

Care will need to be taken in any manipulations during the autumn which in any way weaken hives.

The loss of stores in the Waikato since the wasp has become established must run into many tons of honey yearly.

I would like to take this opportunity of paying tribute to the work of Officers of the Department of Agriculture in their endeavours to combat the wasp menace, and I think beekeepers should do their best in assisting in any campaign for their eradication.

MAKING MEAD.

(By John De Burgh Lake.)

Among American beekeepers, there is a general desire to know exactly how mead is made. When the countries now known as the U.S.A. were first settled, mead, as a popular beverage, had already gone out of fashion, so the new land held no records of its manufacture. Even today an American honey producer informs me, text books either refer airily to the preparation of mead, or ignore the subject altogether.

Now, mead is definitely an intoxicating beverage. Furthermore, its preparation may have a legal aspect. Will law-abiding beekeepers be obliged to take to the hills with their illicit mead producing apparatus? I do not think so. Probably, unless someone decided to market mead on a commercial sale, its fabrication would receive the same easy tolerance granted to the domestic brewing of beer.

There are numerous recipes, and I give one used by the late James A. Abbott, inventor of the Abbott self-spacing frame and founder and first editor of the "British Bee Journal." Abbott, a connoisseur of mead, used to regale his friends, including myself, on that rather heady beverage during Christmastide.

Here is the recipe: Bring five gallons of water to blood head and add four to five pounds of honey; when an egg will float with one end just showing over the liquid, the correct amount of honey has been added. Assemble three small pieces of mace, a few cloves and sticks of cinnamon, two nutmegs and about 1 oz. of ginger root. Grind these, or, preferably, buy them ready ground. Probably an equivalent quantity of "mixed spice" sold by grocers would be quite satisfactory. Blend the spice with two minced lemons, including the peel and, of course, the juice. Wrap all in a muslin bag.

Now place in a bowl a half-teacupful of ground malt, one and a-half oz. of cream of tartar, and the same quantity of ammonium phosphate. Boil one of the five gallons of honey-and-water for three quarters of an hour, skim and add to the ingredients in the bowl, stir, strain and then run the resultant liquid into a wooden tub. Finally, boil the rest of the honey-and-water for the same period, skim, and pour into the solution in the tub. Add two oz. of yeast.

The primary fermentation will have finished as soon as the frothing ceases, generally in three days' time. The brew can then be strained into a cask. After the primary fermentation has subsided, the addition of a quarter of an ounce of isinglass renders the liquid more clear and sparkling—a particularly valuable quality if mead for exhibition purposes is contemplated.

The recipe detailed above, though undoubtedly a fine one, comes down to us from a more leisurely age, when time and trouble were of little moment provided the outcome was satisfactory. Here is a simpler, though probably not so satisfactory method of making mead.

Bring one quart of water to 176 degrees F. (80 degrees C.), and add three pounds of honey. Heat a separate quart of water to 158 deg. (70 deg. C.); to this quart add one and a half oz. of crushed malt and the same quantity of hops. Decant the liquid contents of the two vessels into a third, add yet another quart of water (boiling) and one and a half oz. of yeast. When the primary fermentation has ceased, the blend of fluids is strained into a cask—preferably, for flavouring purposes, a brandy cask.

The procedure, whether No. 1 or No. 2 recipe has been used, is the same from this stage onwards.

Fit the bung hole with a tight tube, containing in its curved "trap" portion a little glycerin. The time when bubbles cease to break through, usually after the lapse of three months, marks the conclusion of the secondary fermentation.

When the "working" has stopped, the glass tube and cork should be removed, the cask sealed down, and left for another three months to settle. Finally, the mead is drawn off into bottles.

It should always be remembered that mead improves with age.

"American Bee Journal."

"THE N.Z. BEEKEEPER"

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Literary contributions and advertisements must be in the hands of the Editor, Mr. J. McFadzien, 29 Nottingham Crescent, Calton Hill, Dunedin, S.W.1, not later than the first of month of publication.

Nom-de-plume letters must be signed by the writer and address given, not necessarily for publication, but as proof of good faith. Letters accepted for publication do not necessarily express the views of the Editor.

ADVERTISEMENT RATES.

BEES DEFEAT CRICKETERS

Clouds of bees caused the abandonment of a cricket match between Marist (Greymouth) and Blackball at Blackball on Saturday. The bees were out in brilliant sunshine running an extremely active shuttle service between an apiary and a profuse blossoming of rata on nearby hills. Unfortunately, the cricket field lay between the apiary and the rata.

Batsmen and bowlers were stung by the angry toilers and hats and coats waved vigorously seemed to make the position worse. The clouds of bees became denser as the tiring insects flew lower with their loads of nectar, and the game was abandoned at 4.30 o'clock.

—Herald, 17/1/50.

THE NATIONAL BEEKEEPERS' ASSOCIATION.

SUBSCRIPTIONS:

Up to 30 colonies	....	£0 7 6	(minimum)
Up to 60 colonies	....	0 10 0	
Up to 90 colonies	....	0 15 0	
Up to 120 colonies	....	1 0 0	
Up to 150 colonies	....	1 5 0	
Up to 180 colonies	....	1 10 0	
Up to 210 colonies	....	1 15 0	
Up to 240 colonies	....	2 0 0	
Up to 270 colonies	....	2 5 0	
Up to 300 colonies	....	2 10 0	
Up to 330 colonies	....	2 15 0	
Up to 360 colonies	....	3 0 0	
Up to 390 colonies	....	3 5 0	
Up to 420 colonies	....	3 10 0	
Up to 450 colonies & over		3 15 0	(maximum)

An Associate Member shall pay 5/- per annum.

APIARY INSURANCE.

Arranged by the Association and available to all members.

PREMIUM: 1/3 per apiary per annum.

(Insurance is voluntary, but if taken, all of a member's apiaries must be covered.)

JOIN YOUR NEAREST BRANCH AND DERIVE FULL BENEFITS.

HONEY FRUIT DRINK

Here is a recipe for a long, cool, refreshing drink to serve in summer:

2 cups of honey, 1 cup of lemon juice, 1½ cups of fresh, strong tea, 4 bottles of ginger ale, 1 cup of well-crushed fresh fruit.

Soft fruits like strawberries, raspberries, currants, and passion fruit are the kinds to use. Mix all the ingredients except the ginger ale and stand them aside for several hours to mellow. Add the ginger ale and, if available, cracked ice just before serving the drink. Float on each tumbler tiny leaves of bruised mint, a wafer-thin slice of lemon, or a small whole fruit of the kind used in the drink.

WANTED

BEE BOOKS: State Title, Author, Publisher, Edition, or Date. Condition. "Apiologist," C/o. Anketell, The Beach, Otaki.

North or South Island, buy, to 400 hives bees, equipment, also dwelling. Reply to "Cash," C/o. The Editor.

FOR SALE

FOR SALE: Honey Packing Plant for Disposal, including holding Tanks, Thermostat Heat Controlled Filling Tank, Honey Melter capacity 20-60s, 3-speed Honey Pump, and 2 h.p. Vertical Tubular Steam Boiler, etc. Enquiries invited Box 42, New Plymouth.

FOR SALE: Good White Pine Honey Sections and Frames. Any quantity. Apply M. W. Burnett, Nelson R.M.D., Wakefield.

Active, experienced beekeeper can acquire increasing yearly ownership and control of comb-honey business from chain of 15 apiaries, about 500 hives, or may sell whole or a part. Ballantyne, Quebec Road, Milford, Auckland.

MOTORING HAZARDS

A curve on a calf often proves more dangerous to drivers than a cow on a curve.

Annoyed at her gentleman friend, Eveline Panagakis, 31, of Peterborough, U.S.A., got into a car and made three runs on his parked automobile, smashing in the front, side and rear.—"Time."

Asked by a visitor what time he got up in the morning to go to work, the over-worked farmer remarked: "Son, I don't go to work; I wake up surrounded by it!"

"DRIFTING" OF BEES.

It is often complained that the production of bees in a certain row of hives never comes up to that in others. A common cause is that some obstruction near the apiary has resulted in what is known as "drifting." Bees returning from the fields loaded with honey travel in a direct line, and obstructions such as trees, fences, etc., may throw them out of their course, and being heavily burdened and tired they will enter the most convenient hive to give up their stores. Perhaps on the next trip they will return to their own hive, but this periodical diversion appreciably reduces production in the hive to which they belong.

The manner in which drifting bees enter a strange hive usually renders them immune from attack; they have not the nervous movement of robber bees, and so come and go unmolested. Where some colonies show little progress, drifting should always be suspected as a cause.

—W. A. Goodacre, N.S.W. Agric. Gazette.

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