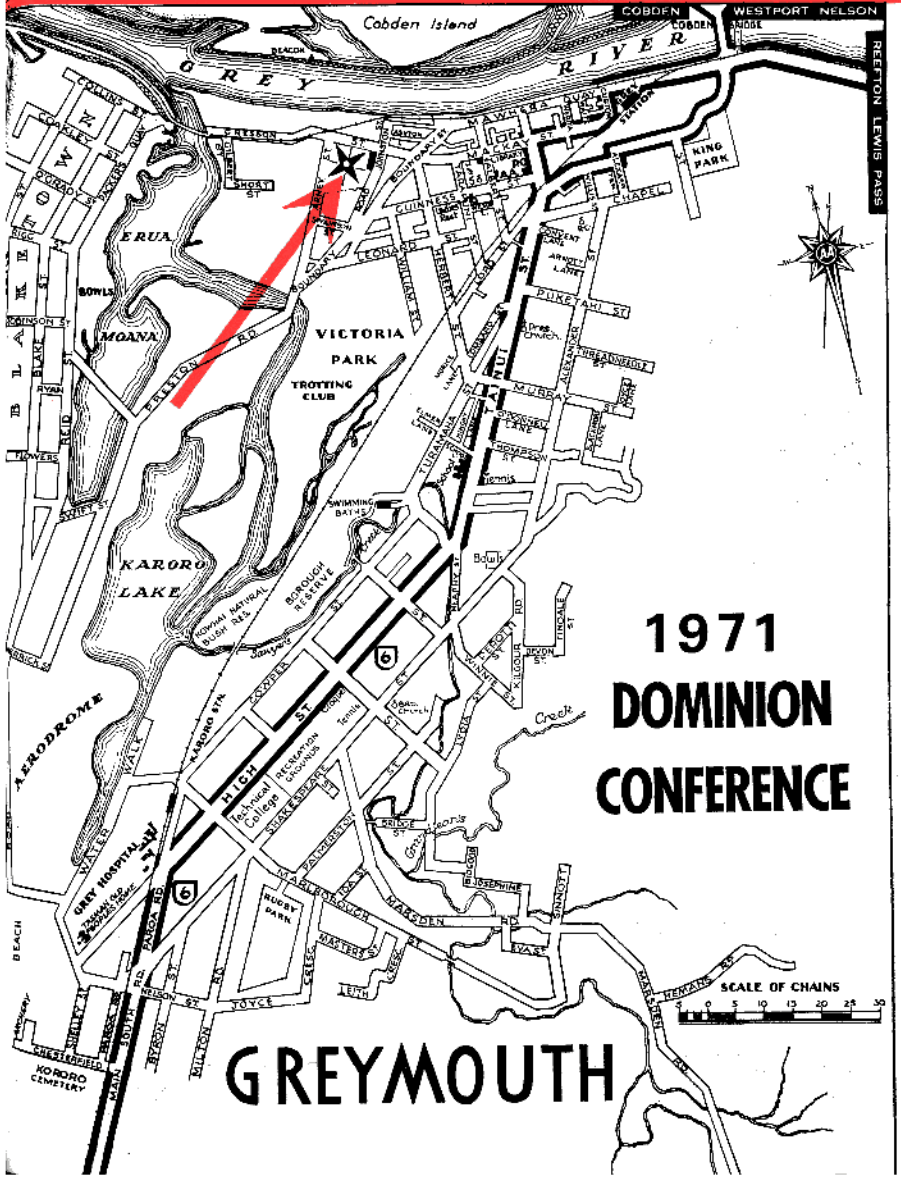
HE
EW
EALAND
BEEKEEPER
MAY, 1971



THE NATIONAL BEEKEEPERS' ASSOCIATION of N.Z. Incorporated

President:

Mr. BRUCE FORSYTH
R.D.3, Ohaupo, Waikato.

Vice-President:

Mr. I. DICKINSON
Box 55, Milton, Otago.

Executive:

Mr. R. BLAIR
157 Carlisle Rd., Browns Bay

Mr. F. BARTRUM
Pleasant Point,
South Canterbury.

Mr. R. JANSEN
Taupo

Mr. D. PENROSE
R.D.3, Christchurch

General Secretary:

Mr. E. R. NEAL, A.C.A.
A.C.A.
P.O. Box 1879, Wellington

Editor:

Mr. L. W. GOSS
P.O. Box 3561, Auckland

Hon. Librarian:

Mr. CHRIS DAWSON
P.O. Box 423, Timaru

BRANCHES

FAR NORTH
President: Mr. D. D. Matthews, Awanui Road, Kaitaia.
Secretary: Mr. M. D. Haines, P.O. Box 284, Kaitaia.

NORTHLAND
President: Mr. A. G. Tucker, 35 King Street, Whangarei.
Secretary: Mr. A. J. Dickie, 2 Hailes Road, Kamo, Whangarei.

AUCKLAND CENTRAL
President: Mr. J. Brookfield, 26 Liverpool Avenue, Papatoetoe.
Secretary: Mr. Terry Hall, 60 Archers Road, Glenfield.

WAIKATO
President: Mr. R. L. Janson, Box 460, Taupo.
Secretary: Mr. H. N. Tuck, Kihikihi, Waikato.

BAY OF PLENTY
President: H. C. Ward, 26 Seddon Ave., Waihi.
Secretary: Mr. A. C. Barrow, 71 Cameron Road, Te Puke.

HAWKES BAY
President: Mrs. G. Dorward, Box 86, Havelock North.
Secretary: Mr. Ian Berry, Arataki Road, Havelock North.

C/S. HAWKES BAY
President: Mr. D. L. Ward, Guy Street, Dannevirke.
Secretary: Mr. E. Rowe, 35 Neptune Street, Dannevirke.

SOUTH WESTERN DISTRICTS
President: Mr. E. J. Whalley, 3 R.D., Wanganui.
Secretary: Mr. K. C. Morris, 63 Norbiton Road, Foxton.

NELSON
President: Mr. T. Burnside, R.D.1, Upper Moutere, Nelson.
Secretary: Mr. W. N. Merrin, 541 Waimea Road, Wakatu, Nelson

WEST COAST
President: Mr. J. V. Glasson, Blackball.
Secretary: Mr. T. Holland, Weenink Road, Karoro, Greymouth.

CANTERBURY
President: Mr. T. J. Cattermole, 308 North Rd., Christchurch
Secretary: Mr. J. R. Burness, 6 The Rise, Christchurch 8.

SOUTH CANTERBURY
President: Mr. R. Davidson, Jnr., Hadlow, 4 R.D.
Secretary: Mr. M. D. Cloake, Fairview, 2 RD, Timaru.

NORTH OTAGO
President: Mr H. S. Wilson, 2C R.D., Oamaru.
Secretary: R. B. Mackie, 52 Frome Street, Oamaru.

OTAGO
President: Mr. M. J. Heineman, Milburn, R.D.2, Milton.
Secretary: Mr. B. D. Norton, 127 Belford St., Waverley, Dunedin.

SOUTHLAND
President: Mr. J. Glyn, P.O. Box 5, Balfour.
Secretary: Mr. S. M. Booth, Oreti, No. 1 R.D., Winton.

THE NEW ZEALAND BEEKEEPER

VOL. 33 No. 2

Published Quarterly in February, May, August and November, by the National Beekeepers' Association of New Zealand (Inc.) in conjunction with the N.Z. Honey Marketing Authority.

Subscription: $1.50 per annum, post free

Registered for transmission by post as a Magazine.

Editor: Leslie W. Goss

MAY, 1971

CONTENTS

TRICKS of the TRADE

BEEKEEPERS ARE A FUNNY LOT.

There's no doubt about that direct indictment and it can be proven as a statement of fact. Perhaps the oddity of their self imposed calling makes them different from the common herd for let's face it, there are easier ways of making a living than dealing with insects with a sting in their tail.

Consider for a moment the question of finance. No industry, no association, no family and no individual can do without money to pay for essentials. Beekeepers band together—on the face of things at least—to conduct their industry affairs, yet a sizeable proportion make every effort to avoid paying their just dues and several resort to subterfuge to "get away" with underpayments based on hive holdings. One man, for example, registers his name as a beekeeper with a minimum of hives whereas his company of limited liability is so limited that they do not technically belong to the Association at all. The industry information and the work of the Association, however, is put to good use by the company through the deviation of that information by the director

concerned. Let's be frank and not mince words. THIS KIND OF BEHAVIOUR STINKS. It is mean, parsimonious, penny pinching, and a trick.

It is suggested that one honest and straightforward way to ensure subscriptions are paid promptly and to the correct assessment is for the Secretary of the Association to be authorised by Executive to provide the Editor with a list of payments made for subscriptions as they are made. Beekeepers within their own area know the extent of neighbour's holdings, and the subscription dodgers and recalcitrants will be able to see their name in print, how much they have paid and when they paid it. The neighbours will see it too.

The treatment may be drastic but cunning has to be met with cunning, and it will at least ensure that essential funds are forthcoming. The dodgers will have the choice of exposure or paying up.

This moment in time seems to be as appropriate as any for some further conscience seeking. If you were one of those who held back supplies of darker honey urgently needed to fulfill the Honey Marketing Authority contract for Japan, you will certainly have something to think about and little of which to be proud.

Nothing is more frustrating or irritating for a buyer to place an order and then be let down for lack of supply. Here was the biggest honey marketing organisation in Japan anxious to buy and pay spot cash for grades difficult to sell in some markets, and we collectively let them down.

A great opportunity to relieve the home market was irretrievably lost by producer's stupidity and shortsightedness.

Drums in the shed are not as good as money in the bank, and even if the price was not as high as producers might wish, it compared favourably with many sales on the home market and an odd ton collectively supplied by producers would have helped the industry, the H.M.A. and the new buyer.

The new buyer is the man to cultivate and to encourage to open his market door, not slam it in his face. Producer's lack of support was a very poor show, and was one which should certainly never be repeated.

INDUSTRY DELEGATES REACH BASIC AGREEMENT AT WELLINGTON MEETING

The March 1971 meeting of Executive at Wellington was probably the most momentuous held for many a long day and the decisions taken, if implemented, will affect the industry for years to come. If not implemented, and the industry is allowed to drift with every man thinking on a short-term self-interest basis, many beekeepers might be well advised to seek remuneration in other fields of activity.

By far the most important of the March meeting was basic agreement between the National Beekeepers' Association Executive, delegates from the New Zealand Honey Packers' Association and representatives of the Honey Marketing Authority on the vital question of finance for industry with a clear-cut policy how every producer should contribute a fair share on sales made, irrespective of whether they are made through normal trade channels or at the front gate.

NEW BRANCH

The inaugural meeting of the new branch at Wanganui to be known as the South Western Branch had the support of 35. The President of the NBA Bruce Forsyth attended the meeting and it was hoped that some of the new members would be able to attend conference.

LIFE MEMBERSHIP

Executive unanimously resolved that the Director of Horticulture, Mr A. M. W. Greig be recommended to conference for the bestowal of Life Membership in recognition of his services to the industry.

HONEY MEAD

A deputation from executive agreed to wait upon the Secretary of Justice to ascertain whether any action could be taken to expedite the commercial production of this product. Mr Greig who was in attendance, had nothing to report on the subject.

DEPARTMENTAL

Executive stressed that the testing of queen bee strains (Remit 24) was considered to be very well worth while and asked for departmental assistance.

On the vital subject of insecticides, the question was asked whether it would be practical for the N.B.A. and the Department to jointly produce an instructive pamphlet. Superintendent, Beekeeping pointed out that Mr Vince Cook at Oamaru had produced the required information in easily readable form and that the material would be made available for publication in the N.Z. BEEKEEPER.

PARASITICAL CONTROL

Concern was expressed that "Flower Wasps" had been liberated at Whakamaru to control grass grub. Mr Greig replied that the release would be under the control of the Enthymological Division of the D.S.I.R.

LEAFCUTTER BEE

Permission had been granted for release on one property only at Seddon.

WELLINGTON ASSOCIATION

Contact had again been established with this independent body of beekeepers, and a further invitation would be extended to foster closer co-operation.

PRICE LISTS

As to whether the N.B.A. should issue price lists it was emphasised that the onus was on the H.M.A. to perform this function and not the Association.

INSURANCE

The British postal strike had held up replies from London insurers and information from the B.B.A. Information would be considered and diseminated from a subsequent meeting.

LINCOLN COLLEGE

The three South Island members of executive are to attend Dr Burns or the Registrar on the possibility of including beekeeping in agricultural degree courses.

BALE REPORT

Executive resolved to express to Professor Ward appreciation of the work involved in preparing the Bale Report.

DIPLOMA IN APICULTURE

The State Services Commission is to be asked to clarify the position of diploma holders and inclusion of their achievement in the Public Service Scale.

JAPANESE HONEY BUYING MISSION

Grave concern was expressed that the manager of the H.M.A. had cancelled two orders for 100 tons each darker grades of honey through lack of support from beekeepers. It was suggested that an extension of time might have enabled the valuable contract to be fulfilled.

JOINT MEETING OF DELEGATES FROM THE N.Z. HONEY PACKERS' ASSOCIATION, THE HONEY MARKETING AUTHORITY WITH THE N.B.A. EXECUTIVE

On Wednesday, March 2, Messrs. Davidson, Holt, Herron and Gavin of the N.Z. Honey Packers' Association, Mr Russell Poole, the chairman of the H.M.A., Mr Eric Lee the Government-appointed representative on the board of the H.M.A. met executive and discussed proposals for amendments to the Honey Marketing Regulations.
Detailed discussion on ways and means of providing finance for the orderly marketing of honey were discussed at length and agreement obtained between the parties resulting in the following proposed amendments to the Honey Marketing Regulations now in draft form as follows:

PROPOSED AMENDMENTS TO HONEY MARKETING REGULATIONS

PART II — LEVY

20. (1) Subject to the provisions of these regulations, a levy at the rate of 2c per lb shall be payable on all honey sold in New Zealand.

(2) No levy shall be payable with respect to —

(a) Any honey sold for consumption in the bee comb in which it was provided:

Provided that there shall not be exempted from payment of levy under this paragraph any honey in the bee comb where the comb or any portion thereof is packed, together with extracted honey, in the same retail container.

(b) Any honey accepted by the Authority for disposal by the Authority on behalf of suppliers.

(The present regulations provide that no levy shall be payable with respect to —

(a) Any honey, where packed in containers containing more than 10lb of honey and sold by a producer by retail at his apiary and delivered to the purchaser at the apiary.

(b) Any honey packed in containers containing more than 10lb of honey and sold by a producer to a manufacturer, or by wholesale for re-sale in the containers in which the honey has been packed by the producer.

(c) Any honey sold by a producer by retail at his apiary packed in the customer's own container. It is proposed to delete these.)

21. The levy shall be payable by the producer to the Authority quarterly as at 30 June, 30 September, 31 December and 31 March of each year, supported by a Declaration of the total quantity of honey sold by him.

(2) Payment of the levy shall be made at such time as may be agreed upon between the Authority and the person by whom the payment is to be made.

(3) If in any case the Authority agrees to defer payment of the levy, it may require such security as it thinks fit to be given in respect of the deferred payment.

(4) Where any levy payable under these regulations remains unpaid it shall be recoverable from the person by whom it is payable as aforesaid as a debt due to the Authority.

PART III — FINANCIAL

29. (1) For the purposes of these regulations there shall continue to be a Honey Industry Account as that established under the Honey Marketing Authority Regulations 1953.

(2) There shall be paid into the Honey Industry Account all money derived from the operations of the Authority.

(3) There shall be paid out of the Honey Industry Account all costs, charges, and expenditure incurred by the Authority in the performance of its duties and the exercise of its powers and functions under these regulations and in the administration thereof.

(4) The Authority may from time to time establish within the Honey Industry Account such special accounts, pool accounts, or reserves as it deems necessary or expedient for any purpose authorised by these regulations.

(5) For the purpose of these regulations the Authority may open at any branch or agency of the Bank of New Zealand (whether in New Zealand or elsewhere) such imprest or other subsidiary accounts as it may from time to time think necessary or desirable.

29A. (1) The Authority shall continue to operate within the Honey Industry Account a Honey Levy Account.

(2) There shall be paid into the Honey Levy Account

(a) All money paid to the Authority by way of levy under the provisions of clause 21 of these regulations.

(b) An amount annually, derived from the local trading operations of the Authority being the equivalent of 2 cents per lb on all sales made in each financial year by the Authority of honey intended for consumption in New Zealand.

(3) The funds accruing in the Honey Levy Account shall be applied by the Authority for the following purposes.

(a) All costs, charges and expenditure incurred by the Authority in collecting the levy and administering the Honey Levy Account.

(b) The payment of a sum in each financial year of the Authority towards the costs of the National Beekeepers Association of New Zealand Incorporated to be approved by the Minister.

(c) The application of such sum in each financial year as the Authority may consider necessary or expedient to assist in stabilising the honey producing industry, to supplement the payments for honey supplied to the Authority.

(d) Such other purposes as the Authority may consider desirable.

CONFERENCE It was agreed that papers by Department officers and representatives of national bodies be made available for circulation with the minutes and that time be made available to the originators to answer questions.

STATIC DISPLAYS Invitations are to be extended to suppliers to erect static displays of equipment of interest to beekeepers.

PARLIAMENTARY UNDER SECRETARY The President of the N.B.A. and the Chairman of the H.M.A. with the General Secretary waited on Mr Alan Dick to inform him of progress made in the joint discussions between the N.B.A., N.Z.P.A., and H.M.A.

DOMINION CONFERENCE

GREYMOUTH — JULY 14, 15 AND 16

CONFERENCE ARRANGEMENTS

A meeting of executive will take place on Monday and Tuesday prior to conference. Business sessions will be from Wednesday morning at 10 a.m. until closure on Friday.

The Mayor of Greymouth will welcome delegates and visitors; opening proceedings will be by a prominent parliamentarian connected with the industry. At the time of going to Press invitations have been extended and inquiries made and are subject to availability.

Conference 1971 will be held at Greymouth, and a typical West Coast welcome to delegates is guaranteed. Visitors are reminded that hotel managers are entitled to a deposit when hotel bookings are made, and reservations should be as specific as possible to ensure that the type of accommodation required is obtained. Since the West Coast is the West Coast, it should be noted that private hotels are not listed in the guide to visitors, but good private accommodation can be obtained if inquiries are made.

TRAVEL. Scenic beauty of routes to the West Coast will persuade many visitors to arrive by their own transport and it is good to know that there is ample parking facility adjacent to the venue for conference and outside main thoroughfares. Greymouth can be said to be a hub from North, East and South and each route can claim individual scenic attraction. Additionally, there are road services from Christchurch through the Lewis or Arthurs Pass, from Nelson, Picton and via the Haast from the south of the island.

Air services are available from Christchurch and Nelson to Hokitika with a connecting New Zealand Road Services bus into Greymouth at a cost of 75 cents. There is also, of course, the rail service from Christchurch.

ST. JOHN AMBULANCE HALL, GRESSON ST., GREYMOUTH

will be the venue for conference. The hall is well furnished and comfortable and is adequately heated. Precise location can be seen from the detailed map of the town printed on the front cover (corner of Gresson and Johnstone Streets).

The host branch has arranged a get-together evening on Tuesday, July 13, from 8 p.m. to 10.30 specifically to enable delegates and visitors to talk over a light supper and pleasant refreshment.

The social evening will be held on Wednesday, July 14 from 8 p.m. to 11 p.m. and all functions will be held in the same hall.

The social evening entails catering arrangements and it is essential that advance reservations be made by all delegates and visitors who intend to be present. Obviously, the branch cannot be expected to carry the whole financial burden of the evening's entertainment and the cost has therefore been assessed at $3 per person. Please send your reservations as early as possible and not later than July 3 to:

TOM HOLLAND,
Weenink Road, Karoro,
GREYMOUTH

SOCIAL EVENING RESERVATION

I require ..... Tickets at $3.00

for the Social Evening on Wednesday, 14th July, 1971.

I enclose $.....

Name .....

Address .....

.....

.....

A first-class band has been engaged for the evening and traditional West Coast hospitality will be in evidence.

Special arrangements have been made for the ladies, dependent upon weather conditions prevailing at the time and the overall interest of the company. If you have any particular ideas or places of interest that you would like to see, please do not hesitate to make your suggestions to the secretary or president and whatever the circumstances, remember to carry your camera . . . loaded to record some of the scenic and social gems.

For "outdoor types" there is a wide range of activities including shooting, fishing, fossicking, climbing, caving (speleology), gemstone hunting (rock-hounding) botanical and biological wonders, or just sitting in the hotel lounge with feet ensconsed on a cushion, dependent on individual taste.

ACCOMMODATION. Hotels and motels within easy distance of the conference hall are listed, together with details of prices, accommodation available, etc. For your convenience the respective telephone numbers are given should you wish to make a personal inquiry and tentative booking, but you are again reminded that hotel keepers expect, and must be given, a deposit to ensure reservation being made.

KINGS MOTOR HOTEL, Mawhera Quay. Phone 5085. 75 beds, 3 grades accommodation. Rates per person $:50 twin to $8 single de luxe. Meals extra.

REVINGTONS, Tainui Street. Phone 7055. 40 beds, 6 double, 17 twin, 17 single. Rate, $5.50 - $7 single, $9 - $12 double and twin. Meals extra.

DUKE OF EDINBURGH, Guinness Street. Phone 7086. 25 beds, 3 double, 7 twin, 8 single. Rate, $8.30 to $9.30 (all inclusive).

UNION HOTEL, Herbert Street. Phone 5517. 5 beds, 22 twin, 2 single. Rate, $7.45 (all inclusive).

GREYMOUTH HOTEL or SHERWOOD MOTOR LODGE, High Street. Phone 5642. 30 twin units. Rate, single £6, double $7.

MOTEL DE LUXE, Alexandra Street. Phone 7549. 8 2-person, 4 4-person. Rates: $7 for two and $2.50 each extra person.

GREYMOUTH MOTEL, 49 Paroa Road. Phone 6090. 3 units up to 6 persons. Rate, $5.50 for two, $2.50 each extra person.

OCEAN VIEW, Fern Hill, South Beach. Phone 6399. 7 units. Rate, $5.59 for two, $2 each extra person.

TOURIST MOTEL, Omoto Road. Phone 6884. 7 units. Rate, $5.50 for two, $2 each extra person.

GILMER HOTEL, Gresson Street. Phone 7243. 7 twin rooms. Rate, $8.30 - $9.30 (all inclusive).

AUSTRALASIAN HOTEL, Karoro (ten minutes drive). Phone 5342. 4 twin units and divans for children. Rates, $8 per unit, /10 with children. Meals extra.

Don't blame the organisers or the host Branch if you leave reservations to the last minute and find that all the best pubs or motels are fully booked.

For the guidance of delegates who wish to be located in the same hotel as executives and members of the H.M.A. a reservation has been made at KINGS MOTOR HOTEL.

Decisions will be taken at conference which may materially affect your livelihood and the future of the industry for many years to come. If decisions are taken contrary to your own particular thought and you are not present to record approval or dissension, you will have no one else to thank other than yourself for circumstances prevailing in the future. This is your business and you should make every effort to be in attendance on this working holiday.

REMITS

BRANCHES SHOULD NOTE THAT THE DATE FOR THE RECEIPT OF REMITS BY THE GENERAL SECRETARY AT P.O. BOX 1879 WELLINGTON IS MAY 25. REMITS RECEIVED AFTER THE CLOSING DATE WILL BE TOO LATE FOR PRESENTATION TO CONFERENCE.

COMMENTARY

from the Editor's Desk and Mail

THE MINISTER OF JUSTICE, in consultation with the Minister of Agriculture, has agreed to sponsor legislation permitting the sale of honeymead by the manufacturer to certain licensees. However, other proposals to amend the Sale of Liquor Act have precedence over this amendment and it seems unlikely that legislation on the subject will be possible this year. The efforts and representations of the National Beekeepers' Association have at last resulted in positive action being taken, even if culmination is still some way off.

★ ★ ★

BEEKEEPERS WHO buy their 5lb. cans from the Auckland plant of Alex. Harvey Ltd., are in for some changes, like it or not. In a letter dated March 3 the company state that they intend to rationalise their production and to discontinue the 5⅛" diameter x 5 7/16" high can replacing it with a container slightly smaller in diameter but 5⅝" high. The makers state that the change over is to be in early May and that they trust they have given packers adequate warning. The Petone and South Island factories are not affected by the change in production.

★ ★ ★

COMMENT WAS MADE on the eccentricity of one member of Executive spreading a layer of honey on his fried eggs for breakfast in the hotel dining room. It's not so crazy as it seems. If your palate does not like the fat most hotels use to excess in frying, try a thin spread of nectar of the Gods. One for sure is that it will not harm you and you may be agreeably surprised.

★ ★ ★

A MOBILE HONEY EXTRACTING van has been designed by the N.S.W. Department of Agriculture for use in its Government Apiaries. Finance for the project was provided by a Commonwealth Extension Services grant. A commercial caravan builder worked to the plan and instructions of department officers, and machinery and equipment was

supplied by Pender Bros. Pty., the apiary equipment house. Design and plans of the mobile extractor have been made available to the industry for migratory beekeepers.

★ ★ ★

FIFTY EIGHT DELEGATES from Australia are expected to attend the 23rd International Apicultural Congress in Moscow U.S.S.R., from August 27—September 2. Scientific and practical bee talk will be the order of the day.

★ ★ ★

THE JAPANESE HONEY BUYING MISSION to Australia received a big welcome and they visited Sydney, Melbourne, Shepparton, Adelaide and Perth before leaving for New Zealand. In addition to orders placed during the currency of the visit, subsequent orders have been received with the mission's return to Tokyo. Whilst extent of the orders has not been specified, it is understood that prime interest was for White floral source honeys and for dark honey to be processed in Japan.

★ ★ ★

A CORRESPONDENT in Mexico provided information which makes a joke of the claim that Mexico depresses world markets with her cheap honey sources. It's a case of give a dog a bad name . . . European buyers are scrambling for honey supplies at $340.00 per ton and there is a big shortage, and it is claimed that a good spring crop from Yucatan will not make an appreciable difference. Retail prices at the far famed Miel Carlots for bottled honey are:

225 grams (half pound) 4.75 pesos (40c); 500 grams (1 pound) 7.85 pesos (64c); 2½ kilos (5 pounds) 29.50 pesos ($2.40).
The prices quoted are approximate and are shown in US$.

★ ★ ★

A READER OF "GLEANINGS" reports an unusual incident in that he went through a hive which had just swarmed and cut out all queen cells, adding a ripe queen cell from his breeder hive. On subsequent inspection 20 minutes (!!) later, he found his newly emerged queen cleaned up and active, busily engaged in a fight with a drone. The observation was made that this particular queen had apparently never heard of the present generation's "Make love, not war" theme.

★ ★ ★

A NEW MANUAL on the technique of artificial insemination of queen bees has been published in America titled "INSTRUMENTAL INSEMINATION OF QUEEN BEES" by Dr. Otto Machenson and Dr. Ken Tucker, both of the U.S.D.A. Baton Rouge Laboratory. The publication is well illustrated and presented in easily readable form and copies may be obtained from the U.S. Government Printing Office, Washington D.C. 20402, for 25c.

WASTE NOT WANT NOT may well be the axiom to remember next time you find an old outer casing discarded from a car or truck. Worn tyres even with split walls make excellent damp proof stands for hives and a rigid foundation.

★ ★ ★

MOST PEOPLE CANNOT TELL a honeybee from a hornet or a wasp for that matter, and the hardworking bee invariably gets blamed for a sting. In a commendable effort to educate the public and assist beekeepers in clearly showing the obvious differences, "GLEANINGS IN BEE CULTURE" has produced a bright colour slide to educate the public. The cost is 50 cents, post paid.

★ ★ ★

AN AMERICAN PEACE CORPS VOLUNTEER in his third year in Ethiopia writes that he has been setting up an organised honey co-operative. The work included building modern hives, managing bees and teaching host country nationals. Twenty-six year old Stephen Meyer writes that he has a degree from Wisconsin University, no military obligations and a strong desire to work in a commercial operation in New Zealand. Apiarists wanting an experienced man might care to write to Stephen Meyer at Ghimbi, Wollega, Ethiopia, Africa.

★ ★ ★

A GOOD DISPLAY of New Zealand honey was on show at Petroni's Plaza, San Francisco, with Mr. W. L. Middlemass, our Trade Commissioner in attendance. Industries and Commerce pic seems to indicate that the price tag per jar was 99 cents (U.S.)

★ ★ ★

FINEST NEW ZEALAND WHITE CLOVER is making £215.00 (N.Z.$459.39) per ton on the London market and there have not been any offerings from China. Current minimum export prices for Australian honey are:—

	Sterling per ton c.i.f.	N.Z. $ Equivalent
Light Amber	£160	341.87
Pale Amber	£155	331.18
Medium Amber	£150	320.50
Dark Amber	£145	309.82

★ ★ ★

GO AHEAD NORTH OTAGO branch reports preliminary arrangements are under way for the OTAGO and SOUTHLAND ANNUAL CONVENTION scheduled as usual for Queen's Birthday weekend and the Otago Agricultural and Pastoral Society's Winter Show in Dunedin.

Afternoon and evening sessions will be held at 2.00 and 8.00 p.m. on Tuesday, 8th June in the Otago Pioneer Women's Memorial Association rooms at 362 Moray Place, Dunedin.

Whilst the programme has not been finalised, all beekeepers are assured of an interesting and instructive series of events and a very warm welcome from the hosts, with plenty of "bee talk."

BRANCH NOTES

NORTHLAND BRANCH

The 1970-71 honey crop has not been all that was expected by earlier indications. The bees started off well but weather and other considerations had an adverse effect and crops gathered have been darker than in past years with a preponderance of buttercup.

The autumn Field Day was held at Terry Gavin's home yard on April 24 with a good attendance from Auckland and the far North, and our apiary instructor explained methods used to send queen bees to Canada.

The Gavin family made everyone very much at home and dispensed generous hospitality.

Reported by Arthur Tucker.

OTAGO

The last notes recorded that it was possible and very pleasant to be able to write in the back garden clad in shorts. For this year and this area those days are now passed. "Wintering" of both humans and bees is close at hand, but it has been an excellent summer for both.

Our Field Day was at our branch president's property "Milburn Apiaries" at Milton in Otago on Saturday, February 20. A better day weather-wise could not have been chosen, which had a bearing on the excellent attendance of some 100 plus members, friends and children.

A welcome and opening address was given by Jim Marshall an old identity of the branch; the inclusion of comments of older days of skeps and drumming gave a touch of colour to his contribution. A queen rearing talk and demonstration by Ivan Dickinson showing how the other fellow does it was most interesting.

Russell Poole gave his report from the Honey Marketing Authority with news of large demands for honey by Japan.

Lunch break was followed by a 16mm colour and sound film "Secrets of the Hive" shown in John Heineman's new

Part of the 100 strong crowd of beekeepers at the Otago field day in February, listening to a speaker outside John Heineman's new honey house. John's new house is big enough to hold a field day crowd! (Picture by courtesy of ODT Farm Reporter R. McDougall).

shed. But first, the shed of which John Heineman is justly proud. Just completed, it is truly a beauty and large enough for a dance and could have more than comfortably held the whole of the field day attendance had the weather kept us indoors.

The film was of Japanese origin and of a very high standard for technical correctness, photography and suitable for a wide range of audience.

Dale Alderton, representing the Board of Management of the Otago Provincial Farm Training Cadet Scheme was the next speaker. His description of the scheme took us a stage further with the Cadetship scheme in beekeeping, correctly being developed by the association.

Our apiary instructor Gavin McKenzie dealt with financial controls in beekeeping for the commercial operator. This is the hard grass roots facts of life that produces red or black bank balances. Always timely these facts are increasingly important.

Ivan Dickinson's talk on the National Executive's activities was again fundamental grass roots material. Final formal business of the day was a down to earth, factual, interesting and entertaining address and "baby nucs" by D. Jenkins from Clinton.

An auction of surplus beekeeping gear from several members was successfully run and resulted in a complete clearance to the satisfaction of buyers and vendors, as well as a cut for branch funds.

Reported by Bruce Norton.

WAIKATO BRANCH

A brilliantly sunny day ensured a large attendance of beekeepers from the Waikato, surrounding districts, from Auckland and even the Far North branch at the annual Field Day on Saturday, March 6.

Members of the H.M.A. en route to Auckland for an Authority meeting were also able to stop over for the Field Day, and Bob Walsh the apiculturist at Auckland was amongst the visitors.

"The Detection of Acarine Disease" by apiary instructor A. W. Bennett

was practical and well worth listening to in detail and it was a pity that some of the crowd on the outer fringes were so engrossed in chatter that they made some of the speaker's points difficult to hear. However, a sharp rejoinder from the president quietened down the distraction.

Other speakers were R. L. Jansen on "Straining of Honey", Neil Bates on "Queen Rearing" and a demonstration of a new wood sealant by Kevin Ecroyd.

Bob Walsh spoke on his work with pollen storage, and after the luncheon recess Russell Poole, the chairman of the H.M.A. and the manager of the Authority answered questions on H.M.A. activities and the success in obtaining the order from Japan. (What a pity that the order did not materialise to its full extent).

The Gadget Shield brought lively competition and some ribaldry, particularly the winning entry in the form of a pair of pantie-hose mounted on a frame as a dual strainer, entered by Phil Muir. Perhaps, it should be stipulated that the pantie hose had been purchased new specifically for the purpose.

A very enjoyable day was experienced and fortunately, the mosquitoes appeared to be on a starvation diet, thus leaving inexperienced Aucklanders not immune to their bloodthirsty habits to return home without blemish.

WEST COAST

In the months of February and March exactly half the normal rainfall was experienced and we all hope that the clerk of the weather will not reserve his outpourings for conference time. If anyone has some influence, now is the time for exertion.

Pasture source necta has been good with delicate flavours of white rata. However, the long dry spell has increased some problems and in particular for the sheep farmer with facial exczema — previously unknown on the Coast.

There has been a fantastic increase in the number of wasps. Useless to arrange a nice quiet picnic near a bush-fringed lake or river flat; too

BEEKEEPERS' TECHNICAL LIBRARY

THANK YOU to the three beekeepers who sent their copies of August, 1970 N.Z. Beekeeper.

Donations received:—

THE NEW ZEALAND BEEKEEPERS JOURNAL, dated 1915 to 1922 plus—

THE NEW ZEALAND HONEY PRODUCER, dated 1929 — presented by Mr. W. B. Bray, Leeston.

HONEY FOR HEALTH *by Cecil Tonsley.* A complete guide to one of Nature's greatest health-giving foods. 1969. 128 pages — presented by Comvita Apiaries, Kaitaia.

ABC and XYZ. Two copies 1908, 1910, plus copies of various small booklets on Beekeeping plus assorted copies of THE NEW ZEALAND HONEYBEE, THE NEW ZEALAND BEEKEEPERS JOURNAL and THE NEW ZEALAND HONEY PRODUCER — presented by John Heineman, Milburn, Otago.

(From the above it is hoped to make a complete file of these old magazines for future reference purposes).

Suggestions for winter reading—the following books are listed under their subject.

QUEENS

Queen Breeding for Amateurs—*Abbot.*

Scientific Queen Rearing—*Dolittle.*

Queen Rearing—*Snelgrove.*

Queen rearing—*Laidlaw and Eckert.*

Practical Queen Rearing—*Pellett.*

Life of the Queen Bee—*Sutherland.*

Better Queens—*Jay Smith.*

Introduction of Queen Bees—*Snelgrove.*

HONEY FARMING

Beekeeping—*Eckert and Shaw.*

Hive and the Honey Bee—*Grout.*

Practical Beekeeping—*Hopkins.*

Honey Farming—*Manly.*

Honey Getting—*Sechrist.*

Bees are My Business—*Whitcombe.*

BEE BEHAVIOUR

The World of the Honeybee—*Butler.*

Bees—Vision, Chemical Sense and Language—*Von Frisch.*

Dance Language and Orientation—*Von Frisch.*

The Dancing Bees—*Von Frisch.*

Bees—*Khalifman.*

Communication among social insects—*Lindauer.*

The Behaviour and Social Life of Bees—*Ribbands.*

Several copies of ABC and XYZ are available at 50c. per year.

Bundles of Bee Magazines available for 20c. Send for catalogue—free.
Chris Dawson, Honorary Librarian, P.O. Box 423, TIMARU.

WEST COAST

from page 18

many visitors wearing yellow striped football jerseys invite themselves to the party and in the absence of any other tasty piece, register their disapproval with a bite of live meat. Hurry along cold weather and a sharp frost or two.

Another problem has been the confounded wax moth which are everywhere; even in stored feed.

Nevertheless, this has been a good working year with reasonable returns, though they have larger than normal brood patches, are not making noticeable inroads into stores.

Red rata vine has yielded very well.

A South Westland discussion group was held at P. Lucas's homeyard at Hari Hari on March 14, and a dozen far south bee blokes ensured an interesting, lively and educataive day.

Smoke - benzaldehyde - blowers: the poor old bees. Who could blame them for getting cross and trying to shift homo sapiens: the thieving blighters.

My only growl was that every time I tried to take a good picture for the Editor*, the beam end of some spectator showed up in the view finder. Still we were there to look and learn.

Reported by Tom Holland.

* Thanks for trying—Ed.

PROBLEMS ASSOCIATED WITH PROTECTING HONEY BEES FROM PESTICIDES APPLIED TO BRASSICAS & WHITE CLOVER

in an address at a field day held at Herbert on 13 February, 1971
by **V. A. COOK,** Apiary Instructor, Dept. of Agriculture, Oamaru.

INTRODUCTION

Brassica and white clover seed crops depend on insect pollination to produce maximum seed yields. In New Zealand, honey bees are by far the most important pollinators of these crops. Brassica crops such as chou moelliere, rape, kale and turnip, which flower from early September to late November, provide bees with valuable pollen and significant quantities of feed honey. White clover is the main source of the honey crop. Growers and beekeepers are therefore mutually interested in the well-being of brassica and white clover seed crops, and honey bees.

Unfortunately, the brassicas are prone to attack by cabbage aphids, and white clover often becomes infested with clover case-bearer moths. Both these pests may have to be controlled with an insecticide, and this presents a serious danger for bees.

In 1955 heavy bee mortality caused by lindane dust being applied to flowering chou moellier seed crops led to the passing of the Apiaries Protection Regulations 1957. This legislation prohibited the application of sprays and dusts which are toxic to bees to cruciferous or leguminous crops, when they were in flower, or to flowering plants within the crops, unless a permit was obtained from the Department of Agriculture. The test of any legislation is, I suppose, whether or not it achieves its aim. The aim of the Apiaries Protection Regulations (which are now included in Section 35 of the Apiaries Act 1969) was to protect honey bees from agricultural chemicals while ensuring adequate pest control and maximum seed and honey production. This aim has certainly been achieved in South Canterbury and Otago; many crops have been treated, no seed has been lost as a result of restrictions imposed by the legislation, and no pesticide poisoning of bees has been confirmed.

It is unfortunate that difficulties have arisen between some seed growers and beekeepers which, if allowd to continue, could threaten our amicable farmer/beekeeper relations. This would be a great pity because,

while implementation of the legislation has been successful, it is my policy to invoke legislation only as a last resort. I prefer education to legislation, and in the matter of protecting bees from agricultural chemicals I have found growers to be co-operative and helpful. Problems have arisen because some beekeepers don't understand how the relevant legislation is implemented when it has to be invoked, and others have the mistaken idea that they have the authority to tell growers if and when they may spray their crops.

It is important for beekeepers to understand the growers' point of view. Brassicas and white clover are valuable seed crops. Most growers are well aware of the value of bees as pollinators, but when insect pests are found in crops, which threaten to reduce or destroy the seed harvest it is understandable for growers to want to get rid of them.

BRASSICAS

Brassica crops usually start flowering in September and growers are advised each year, through the press and by radio, to examine their crops in August, and if aphids are found, to apply a systemic insecticide from the air before flowering commences. Systemic insecticides are absorbed into the sap system of plants, and so they are suitable for controlling sap sucking insects such as aphids. Some systemic insecticides make the nectar in flowering brassica crops toxic to bees for about five days, and so if flowering crops are sprayed with these materials, pretty well all the field bees from hives working the crop will be killed. It is fortunate, therefore, that the aphids can generally be controlled outside the flowering period. If crops are not pre-flower sprayed and aphids begin to build up during the flowering period, aphid control can usually be postponed until flowering has finished. However, should the circumstances warrant it, a permit may have to be issued authorising the application of a systemic insecticide to a flowering crop. Beekeepers who have hives within two miles of the crop would be advised to move their bees out of harm's way. This point should be clearly understood. There is not a blanket ban on growers spraying flowering crops; they may spray if they have a permit.

If a permit application to spray a flowering crop is received and the crop is found to be infested with aphids at a level likely to cause the grower economic loss, the application is considered jointly by the apiary instructor and the farm advisory officer for the area concerned. Briefly, the decision on whether a permit is issued rests mainly upon which will be the greater — the value of the estimated loss in honey production if the treatment would necessitate the temporary removal of all the hives of bees within a two mile radius of the crop. Even in the most intensive bee-keeping areas, where there could be up to 150 hives involved, the decision will almost invariably be in favour of the crop being sprayed.

In practice, when a crop is in full flower, it is most unlikely that permits will be issued, but difficult decisions have to be made in cases where the aphid population builds up towards the end of flowering.

Sometimes there is a race against time — will flowering be sufficiently over before the increasing aphid population must be sprayed? And this is where some problems have arisen.

There have been several cases where beekeepers have told growers they may not spray their crops. Now, when a grower has a crop worth thousands of dollars and he is worried about aphids sucking away his profit, he doesn't take kindly to being told that he may not destroy them. I know, because I have talked to some of these growers, or rather, I have listened to them! We must be quite clear about this; beekeepers have no authority whatsoever to tell growers whether they may spray their crops. This is a job for the Department of Agriculture. If a beekeeper is concerned because he has heard a grower intends to spray a flowering crop he should get in touch with the Department of Agricultur, and the matter will be taken up with the grower, if he has not already sought advice.

If hives of bees are moved to a brassica crop it is best to place them about 100 yards away so that, if the crop has to be sprayed after flowering, there is no possibility of an insecticide being sprayed onto the hives.

When a crop has finished flowering, provided there are no flowering weeds in it. the grower can spray, without a permit, at any time of the day or night. Growers are advised to spray as soon as flowering is over before white clover is blooming profusely in adjacent paddocks, to avoid possible bee mortality from drifting sprays. On this point some hostility has sprung up between growers and beekeepers. In one case a beekeeper tried to stop spraying operations because clover was flowering in a paddock across the road from the brassica crop concerned; a crop badly infested with aphids and urgently in need of treatment. In practice there is little possibility of bee mortality occurring through spray drifting onto clover.

WHITE CLOVER

The problem of controlling case-bearer moths on white clover seed crops is potentially very serious for the bee-keeping industry, because when crops have to be treated insecticides must be applied when the crops are at peak flowering.

Case-bearer moths are only about ¼" long. They lay their eggs on the open flowers and the tiny caterpillars damage the developing seeds by feeding on them. Seed yeild reductions of up to 60% have been recorded. Not all crops have to be sprayed, however, and Mr R. A. French, an entomologist with the Department of Agriculture at Lincoln College, has studied the economics of the chemical control of case-bearer moths. He has evolved a system for working out the economic threshold for spraying which, in the case of crops at peak flowering, involves using a sweep net to take ten twenty yard drags through a crop and finding the average number of moths caught per drag. The decision on whether to spray rests on the average number of moths caught and the expected price of the clover seed. For example if the expected price is 40 cents per lb. an average of 8 moths warrants immediate spraying.

Fortunately, when treatment is neccessary, the moths can be killed without harming bees if one of the recommended insecticides (bromophos, dichlorvos and trichlorfon) are applied in the late evening when no bees are flying. These materials break down quickly and treated crops are safe for bees to work on the next day.

It is really impractical for officers of the Department of Agriculture to examine all white clover seed crops, issue permits and police the regulations. In the final analysis we must rely on growers doing the right thing. We have put over a lot of publicity about protecting bees when crops are sprayed, and I believe we are getting across the message that commonsense management of white clover can avoid killing of honey bees which, besides providing the beekeeper with a livelihood, are responsible for the pollination of the flowers.

There is a tendency for beekeepers to blame any bee mortality occurring when clover is in flower on imprudent spraying. Of several suspected cases brought to my notice none has been confirmed as insecti- for beekeepers to accuse growers of poisoning bees when they have not cide poisoning. It is hardly in the interests of farmer/beekeeper relations for beekeepers to accuse growers of poisoning bees when they have not sprayed at all! In a recent case a beekeeper told me some of his bees had been poisoned when in fact several badly affected hives were found to be severely infected with Nosema disease.

Clover seed production demands efficient pasture management and most growers are aware of the value of bees and do all they can to protect them. However, it is always possible that some grower may, albeit unwittingly, spray a crop in the daytime and cause bee losses.

The correct procedure for beekeepers who suspect their bees have been poisoned in this way, or from any other cause, is to get in touch with the local apiary instructor immediately. A quick investigation can then be made, and if insecticide poisining is confirmed I woud expect that, without resort to prosecution, we could be confident of no repetition. Subsequent tactful publicity would aid our educational campaign. Of course, if blatant, indiscriminate spraying of white clover ever occurred and caused heavy bee losses no doubt prosecutions would be taken.

CONCLUSION

I have found brassica and white clover seed growers to be reasonable men who do their best to protect honey bees when they have to use insecticides to destroy pests. Since 1955 honey bee mortality from pesticides has been, at most, negligible. Beekeepers must also be reasonable in this matter; they must understand the growers point of view, and take care not to impair the harmonious farmer/beekeeper relationship upon which the well-being of the beekeeping industry so largely depends.

WOMEN'S PAGE

Some Well Tried Honey Recipes

Honey Prune Pudding:

1½ cups stoned and chopped prunes
3 tablespoons melted butter
3 tablespoons honey
1 cup buttermilk
½ cup flour
1 beaten egg
1 teaspoon carbonate soda
½ teaspoon essence almond
1 cup rolled oats

Add soda last dissolved in milk. Pour into a buttered basin and steam for 2½ hours. Serve with custard sauce.

Honey Suet Pudding:

Sift two cups flour, 1 teaspoon baking powder and pinch of salt together, add 4 ozs. finely chopped suet and mix to a stiff paste with milk. Boil mixture in a well scalded and floured cloth for 2 hours. Serve at once with honey.

Honey Sultana Pudding:

Cream 1 tablespoon butter and 3 tablespoons honey, add 1 egg and beat well. Next add 2 tablespoons cold tea, 1 cup flour, 1 small teaspoon carbonate of soda, ½ cup sultanas, some chopped lemon peel and a little cinnamon. Steam for 2 hours.

Honey Snaps:

2 ozs honey
1 oz sugar
2 oz butter
2 ozs flour
1 teaspoon baking powder
½ teaspoon ground ginger

Melt butter, sugar and honey: add other ingredients: stir till smooth. Drop in teaspoon lots on to cold tray. Bake about 10 minutes at 350°F. Leave on tray a few minutes to cool.

Good Toffee:

1 lbs sugar
Heaped tablespoon honey
¼ lb butter

Boil 9 minutes. Do not stir after mixture boils. Pour into greased dish to set.

Honey Nut Loaf:

1 teacup water
3 tablespoons honey
2 tablespoons butter
1 cup raisins

Into a basin sieve 2 cups flour, ½ teaspoon salt, ½ teaspoon baking soda, 2 teaspoons baking powder, Add ½ cup chopped walnuts. Pour in the cooled honey mixture and stir thoroughly. Put into greased and floured loaf tin and bake 1 hour in moderate oven.

Honey Sponge Roll:

3 eggs, 1 breakfast cup flour, 1 cup brown sugar, small cup honey, 1 teaspoon mixed spice and ground ginger, ½ teaspoon bicarb. soda dissolved in very little hot water, 1 teaspoon cream of tartar sifted in with the flour, some vanilla essence.

Cream butter and brown sugar together, add the eggs (well beaten), then the honey, soda, spices and flour. Stir thoroughly and turn on to a well greased baking dish. When cooped, turn out onto a clean towel wrung out of cold water, spread with flavoured cream and roll up at once. Sprinkle with icing sugar.

Honey Mead:

Take 8 quarts of water, 2 lb honey, 1 lemon or orange, - pint of pale ale, ¼ oz yeast, a few raisins, a little sugar, 2 cloves and a pinch of cinnamon. Bring the water to the boil and dissolve the honey in it. Peel the lemon or orange and remove the pips. Put slices and rind in pan with cloves and cinnamon. Turn off the heat and leave till almost cold, then add the ale and yeast dissolved in a little water. Pour into the jar and allow to stand overnight. Strain and bottle, putting three raisins to each bottle along with a teaspoonful of sugar. Stand for three days in a warm place, then store in a darkened room for two weeks before drinking. This is the stuff to give the troops!

AGGRESSIVE BEHAVIOUR of HONEY BEES

The sting organ is usually regarded as the bee's weapon of "defence." In "defending" her colony or herself, a honeybee may appear to be the actual initiater of the attack. She may launch an attack at animate or inanimate objects seemingly without provocation. A passer-by near an apiary could be attacked without warning. A drifting bee at the entrance to a hive other than her own may be attacked similarly, although she herself has probably no aggressive intentions. A newly emerged queen enters into vigorous combat with other virgin queens, and she may tear apart queen cells in an effort to sting the occupants. Even an introduced queen, which can only benefit a queenless hive, can be subjected to an aggressive attack.

Although we might like to conjecture as to whether a bee is "defending" or "attacking," it is probably irrelevant to the bee herself. The honeybee is primarily an animal of instinct—responding to only a few of the many stimuli that she meets in her environment. Such stimuli as size, shape, colour, texture, movement and odour, may all, or in part, trigger an aggressive response by a bee. If the intensity of the stimulus is strong enough the bee responds vigorously. Unlike humans, the bee is without reasoning powers and has a poor learning ability.

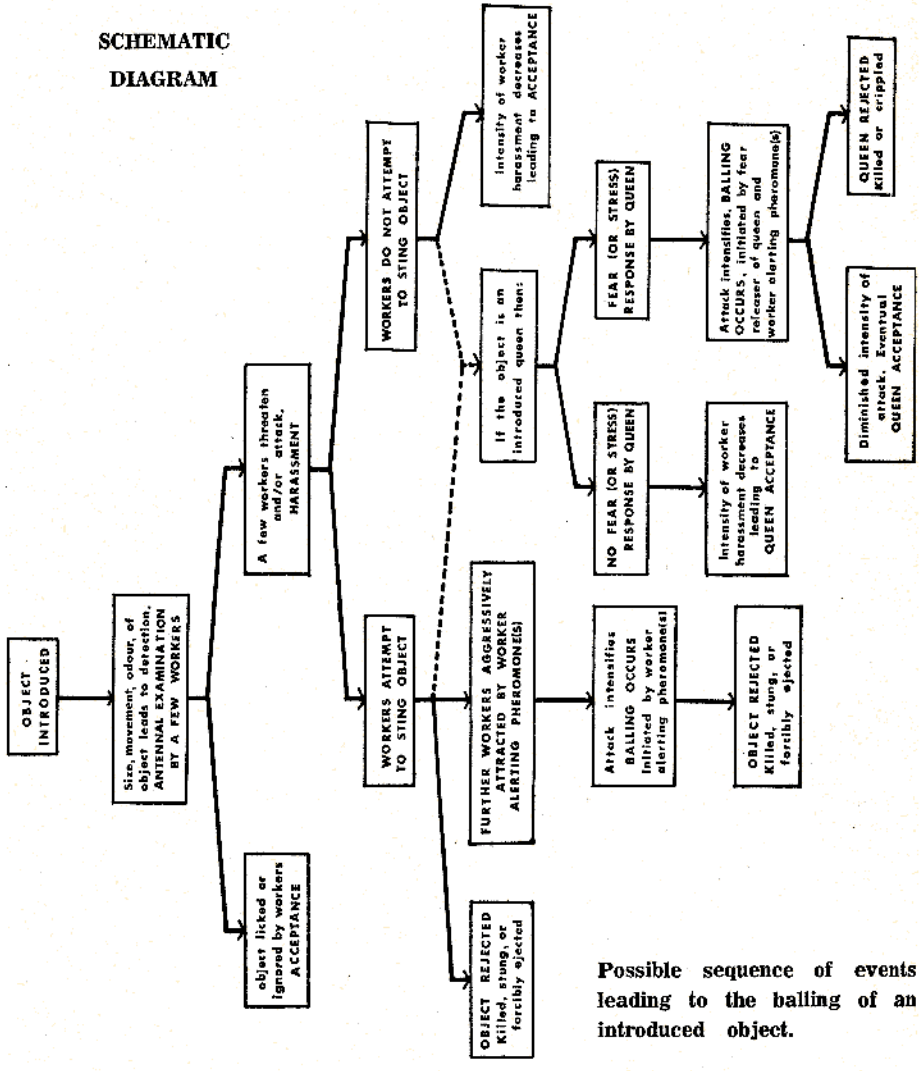
Aggressions has been defined as that behaviour associated with and including the act of initiating an attack (Scott, 1958). Different degrees and types of aggression are displayed by the honeybee. Lecomte (1961) distinguished four different levels, forming a sequence: Diffuse aggressiveness (agitation), directed aggressiveness (approach), recognition and effective aggressiveness (fighting). Hamman (1957) observed the behaviour of workers toward a virgin queen preparatory to the mating flight and distinguished five characteristics of worker behaviour: trembling, rocking, clinging, rolling and pulling. These characteristics were aggressive in nature and increased with increasing age of the queen. In a study of aggressive behaviour of workers in small cages towards introduced queens, Walton (1968) identified and described six levels of worker aggressiveness: rocking, holding, pulling, abdomen-inflecting, stinging and balling.

Rocking occurs in the immediate vicinity of the queen. The workers' movement is made by rocking her body between the mid and hind pairs of legs. The mandibles are usually held open and the worker often makes a simultaneous examination of the queen, using antennal and fore-leg contact. This response was first described by Hammann (1957) and has been perhaps better renamed "threatening" by Yadava (1970). Holding (seizing) is the most common of aggressive responses to an introduced queen. Workers attach themselves by their mandibles to the legs (particularly the hind-legs), the wings, or to an antenna. The "pulling" response is similar to holding except that the worker makes an active attempt to dislodge the queen.

The abdomen-inflecting response involves a holding response together with an inflection of the abdomen. The worker often holds onto the wing bases and thorax of a queen and the downward inflected abdomen is vibrated occasionally. At times, abdomen inflection occurs momentarily before a stinging response, but on other occasions workers may abdomen-inflect for extended periods without making any attemput to extrude the sting organ. In the early stages of balling

by G. M. WALTON

Apicultural Advisory Officer, Palmerston N.



Possible sequence of events leading to the balling of an introduced object.

a queen, for instance, many workers often attempt to sting her, but, with time, the intensity of the stinging attack may lessen, leaving the queen encompassed by many abdomen inflecting bees. This non-stinging abdomen inflection may occur for extended periods of time as the ball slowly disperses (Walton and Smith, 1969). Yadava (1969), who followed a somewhat similar experimental method to that of Walton (1968), did not observe the abdomen-inflecting response. He suggested that abdomen inflection was either "seizing" with extra muscle pressure to keep a tight grasp on the queen's body, or "a stinging response, but in the absence of the proper tactile stimulus, owing to its body orientation their stings were not extruded." Neither alternative fully explains the observed behaviour which occurs partuclarly in the dying, non-stinging phase of balling. Holding, abdomen inflection, and stinging (the actual extrusion of the sting) form a continuum of increasing aggresssiveness. All stinging bees are holding, abdomen-inflecting ones. The different behavioural responses may be the result of similar aggression-releasing stimuli requiring different threshold intensities, or alternatively, different stimuli may be involved.

Balling is a mass aggressive response by workers. It has been defined as the holding, abdomen inflecting or stinging behaviour of a clustered group of workers (five or more). It is thus a combination of individual component responses. Balling may continue for extended periods of time. More often than not a balled queen is killed, but on occasion queens do survive uninjured. Balling is not restricted to queen bees. Workers, wasps, bumble-bees, inanimate objects and even humans may be balled by aggressive bees.

Lecomte (1961), Free (1961), Maschwitz (1964) and others have examined the stimuli releasing the stinging responses of honeybees. Movement, size and colour contrast are optical factors that help determine the nature of the worker response. Bees are very sensitive to a wide range of volatile chemicals. Some heighten the aggressive response; for example, animal sweat and DDT, whereas others, such as smoke and carbon dioxide, subdue bees. Chemical "odours" may increase a bee's preparedness to attack, but a suitable object must be present before an attack is launched. Alarm communication, whereby one animal can alert others, can be given by optical, mechanical or chemical means in highly developed social communities of Hymenoptera. Recent work, however, indicates that chemical systems provide the dominant means of communication for honeybees. These animal secretions that influence the behaviour of other animals of the same species have been given the name "pheromones."

An alerted worker exhibits a characteristic stance somewhat akin to Nassanoff gland "scent fanning." The abdomen is elevated, the sting chamber opened, and the sting protruded while the wings are vibrated. This venom fanning is often seen on cold days when a hive mat on a colony is pulled back quickly. Experiments by Maschwitz (1964) indicate that temperature, vapour pressure and physical contact may all initiate alerting behaviour. The alerting pheronome is often released when a bee attempts to sting, and results in other workers becoming involved aggressively.

One of the active principles of the alerting pheronome from the sting organ has ben identified as iso-pentyl acetate (Boch, Shearer and Stone, 1962). The mandibular glands of workers have been shown to contain 2-heptanone which alerted and agitated workers (Shearer and Boch, 1965). Newly emerged workers are without iso-pentyl acetate and 2-heptanone, whereas guard and foraging bees possess maximum quantities. These alerting pheromones have not been reported in queens or drones.

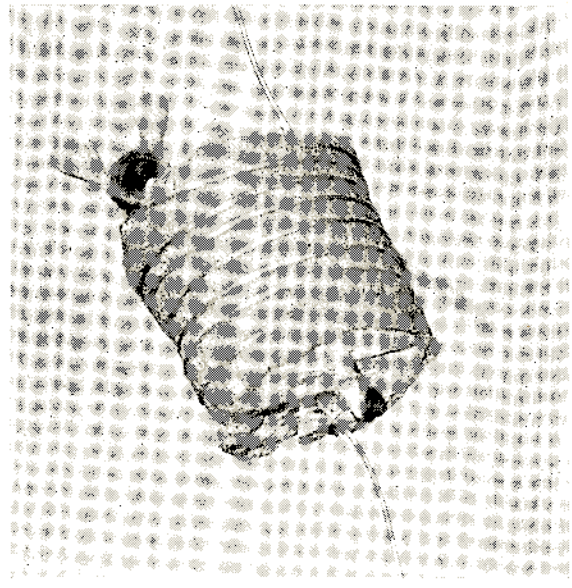
Queens, however, do possess some alerting pheromone that elicits antagonistic workers' reactions. Extracts of queens (Jordon, 1963) and more specifically the contents of the queen's mandibular lands (Gary, 1961) when applied to the abdomen of workers, released aggressive worker responses when they were introduced into queenright hives.

Queens with extirpated mandibular glands are less likely to be balled by

INDUCING A BALLING RESPONSE

FIG.1.

A plain cork covered in red tissue paper around which is coiled copper wire 2 mm. apart.



(Photos by courtesy N.Z.D.A.)

FIG. 2.

Charged with 6v. from a battery charger at five second intervals resulted in antagonistic worker reaction.

workers (Walton and Smith, 1970). These findings indicate that the mandibular glands of the queen are a source of a substance or substances that influence the level of aggressive response by workers toward her. It has been called "fear pheromone" by Walton (1968) and "stress pheromone" by Yadava (1969). The latter was able to induce the queen to produce the fear pheromone by stimulating the biting and stinging worker responses experimentally, in the presence of strange workers. The balling response appears to be a function of the introduced queen's age and her physiological condition.

Gary (1961) suggested three hypotheses that might explain intra-colony aggressive fighting. These alternatives have been adapted slightly by Walton and Smith (1969) to explain balling behaviour specifically:

(1) The queen may secrete a chemical that acts as a specific releaser for worker balling behaviour. Although the possible occurrence of a "fear" odour has been recognised in worker honeybees (Butler, 1954) it would seem unlikely that the progeny bearer of a colony would respond to a danger situation by secreting a substance which would function only to reduce her chances of survival.

(2) the queen may produce a pheromone which acts as a releaser for more than one behavioural response. In other words, a pheromone may act as a releaser for a graded series of behavioural responses. Normal concentrations of the secretion from the queen's mandibular glands might elicit the responses of queen perception, awareness and attraction, whereas larger or abnormal secretion might result in mass aggressive attraction of workers. In this case balling conuld be regarded as a super-attraction of workers.

(3) A worker or workers may respond to a factor in the constituents of the mandibular glands of the queen, when this exceeds a certain threshold concentration, by releasing an alarm or alerting pheromone. The majority of workers would thus be attracted aggressively as a consequence of worker alerting and not as a direct consequence of a queen pheromone.

It s probable that a combination of these alternatives may explain the release of the pheromone that triggers a balling reaction by workers. This queen pheromone, however, cannot be regarded as the solitary stimulus for balling. "Robber" bees may be balled by workers of a hive they attempt to enter. In an attempt to induce the balling effect in the absence of a queen, an experiment was carried out at Palmerston North using a cork. The cork, covered in red tissue paper, was suspended by two pieces of fine wire above the top bars of a colony. The two wires formed a coil around the stem of the cork and were separated by a gap of approximately 2mm (fig. 1). The supporting wires were connected to the terminals of a 6-volt battery charger and the current applied at five-second intervals. The dangling, electrically charged cork (fig. 2), resulted in significantly more antagonistic worker reactions (holding, pulling, abdomen-inflecting and stinging) than this same object when stationary and uncharged. Numerous sting organs were left in the tissue paper surrounding the cork.

The schematic diagram shows the possible sequence of events leading to the balling of an introduced object. The workers' subsequent responses to an introduced object are dependent upon a number of factors, including the size shape, texture, odour, colour and movement of the object itself. Climatic conditions and the age, state of alertness and previous queenright or queenless condition of the workers, are also important. If the introduced object is a queen bee then the nature of the worker response is also influenced by the queen's age and physiological condition—probably reflected by her pheromonal secretions.

With aggressive levels determined by so many variables it is not surprising that an object that may have been initially accepted could well be challenged and harassed later by other workers until accepted fully by members of the colony.

The age and physiology of an introduced queen play a major role in her acceptance. Solodkova (1958) and Hammann (1957) have shown that with increasing age of the virgin, from the time of emergence until mating, workers

are both increasingly attracted and increasingly aggressive toward the queen. A virgin queen's readiness to fly is determined to a great extent by the assaults upon her (Hammann, 1957). Experiments have shown that laying queens are easier to introduce than virgin queens of a corresponding age. Bees that have remained queenless for extended periods are often very aggressive. There is an indication that there is an indirect link between worker ovary development and aggressiveness, as a result of queenlessness. The presence of a young mated queen in a colony has a significant effect on worker responses toward the introduction of any other queen.

Many environmental factors influence the nature and intensity of an aggressive response. Wind, rain, and electromagnetic disturbances (Schua, 1952; Lecomte, 1961) as well as colony inspections and disturbances (Tyul'panova and Genrikh, 1958; Taber, 1963) increase colony aggressiveness. The effect of temperature and light intensity is less certain. Diurnal and seasonal periodicities occur, aggression increasing after foraging has ceased for the day and for the season (Tyul'panova and Genrikh, 1958; Lecomte, 1961).

Three aspects of honeybee aggression are worth considering. Firstly, from a health viewpoint a bee sting could be a question of life or death to a hypersensitive person. Secondly, stinging bees can be a nuisance. A beekeeper is forced to don a veil and a pair of overalls, often on a hot day, in order to work his colonies. Finally, queen introduction failures, which are usually the result of worker agression, can reach uneconomic proportions. Although much is known about the problems associated with honeybee aggression, a greater basic knowledge is required of the mechanisms of the stinging responses of bees.

ACKNOWLEDGMENTS

I wish to thank Mr J. C. Buirhead for the photographs, and also Dr M. V. Smith and Dr R. W. Shuel, Entomology—Agriculture Department, University of Guelph, Canada, for valuable help and criticism of the original draft.

REFERENCES

BOCH, R., SHEARER, D. A. and **STONE, B. C., 1962.** Identification of iso-amyl acetate as an active component in the sting pheromone of the honeybee. Nature, 195: 1018-1020.

BUTLER, C. G., 1954. The World of the Honeybee. Collins: London, 223p.

FREE, J. B., 1961. The stimuli releasing the stinging response of honeybees. Anim. Behav., 223 (9): 3-4.

GARY, N. E., 1961. Antagonistic reactions of worker honeybees to the mandibular gland contents of the queen. Bee World, 42: 14-17.

HAMMANN, E., 1957. Which takes the initiative in the virgin queen's flight, the queen or the workers? Insectes Sociaux 4(2): 91-106. In German, B.R.A, Trasl. E.360.

JORDON, R., 1963. Reactions of workers and drones in flight to markers of queen-scent extract. Bienenvater 84 (12). 344-349. In German (abstract only).

LECOMTE, J., 1961. The aggressive behaviour of workers of **Apis mellifica L.** Ann Abeille 4 (3): 165-270. In French.

MASCHWITZ, U. W., 1964. Alarm substances and alarming processes for danger in social Hymenoptera. Z. verg. Physiol 47: 596-655. In German. B.R.A. Transl. E.832.

SCHUA, L., 1952. The influence of weather factors on the behaviour of honeybees. Z. vergl. Physiol 34: 258-277. In German (abstract only).

SCOTT, J. P., 1958. Aggression. Chicago: University of Chicago Press.

SHEARER, D. A. and BOCH, R., 1965. 2-heptanone in the mandibular gland secretion of the honeybee. Nature 206 (4982): 530.

SOLODKOVA, N. A., 1958. Behaviour of virgin and mated queens in the colony. Pchelovodstvo 35 (9) 30-33. In Russian (abstract only).

TABER III, S., 1963. The effect of disturbance on the social behaviour of the honeybee colony. Amer. Bee J. 103 (8): 286-288.

TYUL'PANOVA, V. A. and **GENRIKH, V. G., 1958.** Causes of a hostile attitude of bees toward introduced queens. Pchelovodstvo 35 (2): 17-21. In Russian. B.R.A. Transl. E.480.

WALTON, G. M., 1968. Aggressive behaviour of queenright **Apis mellifera L.** workers in small cages towadrs introduced queens. Unpublished thesis, 121 pages. University of Guelph, Ontario, Canada.

WALTON, G. M. and **SMITH, M. V., 1969.** Balling behaviour of worker honeybees. Amer. Bee J. 109 (8): 300-301.

———— 1970. Effect of mandibular gland extirpation on acceptance of the queen honeybee. J. of Econ. Ent. 63 (3): 714-715.

YADAVA, R. R. S., 1969. Aggressive behaviour of **Apis mellifera L.** workers towards introduced queens. Unpublished Ph. D. thesis, 108 pages. University of Guelph, Ontario, Canada.

———— 1970. Analysis of the components of aggressive behaviour of Apis mellifera L. workers towards introduced queens. Amer. Bee J. 110 (10): 393.

WINTER STORAGE of POLLEN COMBS for SPRING USE

by R. S. WALSH
Apicultural Advisory Officer

Last autumn several supers of wet pollen combs were treated and stored in various ways in order to find the best method of preserving pollen and retaining its viability. Most combes were treated with Methyl Bromide to ensure the destruction of wax moths and their eggs.

1. Several supers of wet combs were placed in the H.M.A. coolers at a temperature of 45°F.
2. Four supers of combs were dipped in paraffin wax at temperatures between 120-130°F. The wax was allowed to cool to this temperature before dipping as boiling point was found to be too hot. They were then stored without further treatment or protection in a shed.
3. Six supers were treated with carbon disulphide. A sheet of newspaper was then placed on each super and a handful of P.D.B. crystals sprinkled over the paper. Tin trays were placed top and bottom of the stock. The storage period was five months. These combs were not subjected to Methyl Bromide and were dry combs.
4. Four supers of pollen combs were covered in a mothproof fashion with black polythene after fumigation with Methyl Bromide.

In early September the stored pollen combs were taken to an apiary in a pollen deficient area. Part of the hives in this apiary were supplied with fresh combs of pollen gathered elsewhere. The hives were headed by queens bred that autumn from the same strain.

Combs from H.M.A. coolers

When taken from the coolers the combs were free of mite and moths and the pollen looked as fresh as when it was stored by the bees. When given to the hives in the spring it proved highly acceptable to the bees.

Under black polythene

These combs came through the winter in excellent condition. They were moth and mite free and had a fresh appearance. They were also appreciated by the bees.

Treated with carbon disulphide and P.D.B. crystals

These were quite free of pollen mite and wax moths. Other supers of comb in the same shed, not stored on paper with P.D.B. crystals, were badly infested with pollen mite. The pollen in the treated combs had retained a fair degree of moisture and was eventually consumed by the bees in the test apiary. P.D.B. does not destroy eggs but is lethal to moths. That it does not kill eggs under these circumstances is not very important, because the young moths die as soon as they hatch, even if carbon disulphide was not applied.

Paraffin covered combs

It was noted that areas in these combs not covered by paraffin wax allowed entrance to the pollen mite which burrowed under the paraffin until they reached the pollen cells. Damage was not very extensive. After two weeks on the hives in spring the bees had made no attempt to strip the paraffin wax film from the combs. As soon as available, swarms were obtained and shaken on to these combs. They soon removed the paraffin wax and set up normal housekeeping in the combs. There was no mortality and thriving colonies were soon established. This seems to indicate that paraffin wax does not harm bees, but that they are not keen to tamper with it unless compelled to do so. It must be remembered, however, that the pollen-bereft bees to which the supers were given originally were rather weak. At this stage covering pollen combs with paraffin wax cannot be recommended.

It is interesting to note the melting points of various grades of paraffin waxes:—

(Shell)	No. 3	(150 - 155°F)
	No. 4	(145 - 150°F)
	No. 5	(140 - 145°F)
	No. 5U	(" ")
	No. 6	(135 - 140°F)
	No. 6U	(" ")
	No. 7	(130 - 135°F)
	No. 8	(125 - 130°F)

No. 7 was used as No. 8 was unavailable. I was advised that paraffin wax is in short supply and has been for some considerable time.

Observations carried out during the trial did not disclose an difference in the devolpment of colonies supplied with fresh pollen and those given the over-wintered pollen.

The breeding rate seemed to be equal, the appearance of the bees was similar, their energy and working ability about the same and the performance of the queens differed very little.

A recent examination of the hives indicates that th longevity of the bees is similar. The nurse bees in the hives when first supplied with stored pollen, in quite a few instances, looked to have nosema infection. This was not seen in the check colonies.

Letters to the Editor

Correspondence on any subject of interest to beekeepers is cordially invited. Publication does not necessarily imply agreement with the views expressed.

Ohaupo.
26 April, 1971.

Sir,

The Manager of the New Zealand Honey Marketing Authority, Mr. R. McDonald, is to be commended for his efforts to establish an outlet for New Zealand honey in Japan. However, it is indeed a great misfortune that beekeepers did not support to a greater extent this timely opportunity to clear surplus stocks from within New Zealand, causing forfeiture of a $70,000 order from Japan.

It is correct that the price for the darker honey was marginal, but the lighter honey was commanding excellent prices. Many beekeepers are at present endeavouring to obtain an increased return on an oversupplied market, with the result that the return in many cases is becoming marginal.

Surely, in a season such as the present one, it would be beneficial to support a potentially valuable market to some extent and consequently have an orderly local market on which the beekeeper could obtain the realistic price he so desperately needs in these days of increased costs. It is regrettable that many N.Z. beekeepers, who are the authors of their own misfortunes, will continue to be such until they resolve to support the export organisation which operates for their benefit.

It is the above facts that prompted the H.M.A. and honey packers representatives to meet the N.B.A. Executive in Wellington in an endeavour to solve the unsatisfactory state of their honey market, and as directed by the Auckland Conference.

An agreement was reached by the three organisations, which will be placed before beekeepers for industry approval at the forthcoming Conference in Greymouth.

It is intended to abolish the Seals levy in its present form, and implement a producer levy of 2c. lb. on all honey sold by the producer excepting honey in the comb and honey supplied to the H.M.A. These draft regulations are detailed in full in the Executive minutes.

Your Executive went to considerable trouble to have honey freed from price freezes and has now taken one step further, by placing the prosperity of the industry squarely in the hands of the producer. He will be expected to accurately assess his costs and regard the 2c levy as such. Of course the packer will pay more for his honey but he will be able to recoup this on an orderly market, plus a reasonable profit margin which he is not getting at present.

It is hoped that much more honey will be supplied to the H.M.A. with the prospects of a better payout. Beekeepers have indicated this on many occasions, in the past. In the face of world competition where else can extra funds come from?

Executive commends this producer levy scheme to beekeepers and urges them to study the proposal very closely. When the proposal comes before Branches in remit form it is hoped that it receives full support, because without a united agreement by beekeepers and the implementation of these recommendations the industry will surely continue to drift along in the present chaotic state of affairs, resulting in diminishing returns to producers, a state of affairs that your present Executive is determined to overcome.

B. W. FORSYTH,
President, N.B.A.

★ ★ ★

Heathcote, N.S.W. 2233, Australia.
5 April, 1971

Sir,

My thanks for the copies of the "N.Z. Beekeeper," which you send me from time to time.

Although I am no longer secretary of one of our amateur apiary clubs here, the magazine gets an active handing around among interested members.

My dabbling in matters apiaristic came to an abrupt end last year. After much experience at the game and its attendant stings I gave it up for lack of time and absence from home. Last year I was called in by a neighbour—a novice—to show him how to open up a hive. The bees were rather savage and I took about six stings through the socks on both ankles. Apparently I collapsed in quick time, a doctor was called who found my blood pressure dangerously low and so injected heart stimulants without result. Four hours later I came back to earth in the casualty ward of a hospital twenty miles away in a very hazy condition.

On discharge next day I was warned that I had had a lucky escape; bee venom was something that I had developed an intolerance for, and even one single sting could be curtains in future. In short, I can play about with the "birds" but steer clear of the bees. I am glad that we are not blessed with the type of bee that seems to be a danger in South America.

With every good wish for the profession in N.Z. whether it be for sport, hobby or livelihood.

BERT E. WESTON.

How Long Have Bees Existed on Our Planet?

by G. N. LANSDOWN

When birds are singing on a warm summer's day and large cumulus clouds drift lazily high overhead like a fleet of white frigates making a sail; beekeepers when working contentedly among their bees, must often speculate as to how long bees have existed. I have often pondered over this question myself, trying, out of curiosity to go back into the dim recesses of the past to see if an answer can perhaps be found to this baffling and interesting question.

Some beekeepers assert that because King Solomon mentioned honey in the Old Testament, it is proof enough that bees existed at that period of history. This is true but we can go back in time long before King Solomon to prove that bees existed. There is evidence that the Egyptians kept bees about 3,000 B.C. A cave in Spain has a drawing of men taking honeycomb from a bee's nest, and it is estimated the drawing was the work of cavemen about 15,000 B.C.

To find out when bees first existed, it is obvious that we must go back in time not in thousands of years, but in millions of years. Scientists tell us that in the morning of time about 200,000,000 years ago, in the age of reptiles, huge fearsome dragonlike creatures called dinosaurs roamed the earth, and grazed on the lush vegetation in a semi-tropical climate. Flesh-eating dinosaurs, measuring nearly 100 feet in length attacked and ate plant-eating dinosaurs.

Most people are aware that many plants depend on bees to help fertilise their flowers. Bees must have existed during the same period of time as plant-eating dinosaurs, because without bees, plants would cease to exist — except those plants which are pollinated by other insects, or the wind.

Which of the species of bees in existence today pollinated the flowers of plants on which the dinosaurs fed will never be known. They may have belonged to one of the social bee groups that live in colonies, or may have been solitary bees, but it is logical to believe that bees existed 200 million years ago — give or take 20 million years!

What an eerie place the world must have appeared to bees living in those far off days. It was without doubt a healthy age for bees, because the water in the lakes and rivers from which the bees drank was clean, and not polluted by poisons from city sewers, factories slaughter houses, etc. The air was crystal clean, and last, but not least, bees did not have to contend with crop dusting and spraying with insecticide poisons. What a happy age it must have been for bees.

HONEY and HONEY-DEW

is this misrepresentation?

by HAROLD INGLESENT

Opinion is sharply divided in this country as to whether sales of honey-dew should or should not be fostered. More important is the thought that honey-dew should not in any way be associated with honey as a product.
This interesting account of offers for sale in the U.K. was published in "British Bee Journal" to whom we are indebted.

During the last few weeks, maybe due to Christmas shopping, there has appeared in the appropriate shops a honeydew honey (100 per cent honey-dew) at a price of 6s 8d to 7s per lb. This price is similar to that asked in some places for English honey.

The product is called "Wild Wood Honey" and it comes from one or more of the Eastern European countries. It is dark brown in colour and fairly clear, and it moves freely in the jar.

It has a pleasing bouquet and the taste is a little sharp, although the residual flavour is sweet and cloying. The viscosity appeared to be high although the figure was not determined.

In a partial analysis the following determinations were made: Water, 21 per cent; Ash, 0.09 per cent; Iron, 15 pts./million. The heat test for "biochemical activity" indicated that the product had been subjected to a form of pasteurisation.

Microscopical Examination

A sample examined was almost devoid of pollen grains but a fair amount of vegetable matter and light earthy debris was present. There were also yeast cells and mould spores (viability not determined). A number of the cells were moribund, in all probably due to heat treatment.

Bearing in mind the preceding analysis and micro-examination the determination of paramount importance was- should the substance be sold as honey? Was this the substance that the public expected when it asked for honey, a product from floral nectar.

Honey-dew is not of that standard. The marketing of such products as honey-dew presents a grave danger to the genuine article. In accordance with specifications extant it is difficult to define the word honey, the legal specifications and terminology are far too loose.

If such looseness is allowed to prevail honey-dew will soon be labelled "Pure Honey" or "Genuine Honey". Then the purchaser could be gulled into assuming that a honey-dew product was equivalent in every way to English honey.

Honey-dew is the exudation of leaves and other parts of the plant collected by insects, mainly hemipterous, and the insect's excreta collected by bees and stored in the same manner as a floral nectar.

Neither the "Codex Alimentarius" nor any other codex will call it honey, nor, will any convention of the intellectual pundits of any food or bee-keeping organisation alter the constituents of a honey-dew product to make it equivalent to a honey of a floral nectar origin.

At the present time there are three types of products marketed as honey:

1. Honey from floral nectar, unprocessed and packed without the application of heat.

Products in this category are very much in the minority.

2. Honey from floral nectar, stored in containers and subjected to heat to enable the product to be run into jars.

3. Honey imported from outside this country, in large containers and subjected to heat to enable the product to be run into jars.

Categories 2 and 3 should be labelled pasteurised or semi-pasteurised (the writer is not aware of the term semi-pasteurised being used in industry, it is difficult to visualise how it could work).

There is a variation on the third category inasmuch that honey is imported from countries with a known and accepted Food Surveillance System it is also brought in from sources where the surveillance is not known and maybe non-existent.

Honey is also purchased by private contract and sold to the purchaser direct from the consignment, the packing is done by a commission operator. These parcels are "picked up" anywhere in Europe oblivious of the existence or otherwise of a Food Surveillance System. The transfer is made in steel containers holding from 500lb to 650lb, i.e., forty-to fifty-gallon drums.

Some conception of the length of time and the amount of heat required to bring the contents of such a package to a "workable" condition can be realised, also the condition of the honey after such treatment.

What was the condition of the drum before the honey was put in it? Was it treated in any way to prevent any damage to the product?

Is it honey?

The all-important question is again posed: Can one call it honey?

All honey exposed for sale is included in one of the above-mentioned classes but there is no label to state which class. Is it fair to the beekeeper who puts out a genuine product, also why degrade many tons of honey?

When heated milk is given to schoolchildren the deleterious effect of the heating is acknowledged and compensated, in a measure, by giving orange juice.

Processed honey is equally damaged but no acknowledgement is made on the label.

This is not a tirade against any product but a presentation of the incorrect labelling leading to a misrepresentation of the three products:

HONEY, floral origin.

HONEY, floral origin, but heated to facilitate packing.

HONEY-DEW.

FOR SALE

"SUPERIOR" COMB-FOUNDATION

Latest Weed Process. Beekeepers wax converted. Large stocks on hand.

PULLINS APIARIES LTD.
29 Belfast Street, Mt. Roskill
Phone 656-950. P.O. Box 13052, Onehunga
Rail Station, Onehunga.

BEEKEEPING BUSINESS

1,200 HIVES in excellent order.

4,000 sq. ft. Honey House, with modern extracting equipment, packing plant and two cool-rooms. 1964 Bedford 5-Ton truck. All necessary gear. No disease. Attractive 3-Bedroom House. A profitable going concern, with established retail market.

PALMER APIARIES LTD.
DARGAVILLE

---

440 HIVES BEES

First Class condition, all re-queened this Autumn. South Auckland area.

Also 500 Waldron Queen Excluders. excellent condition.

Apply:—

"SOUTH AUCKLAND HIVES"
c/o/ N.Z. BEEKEEPER

COMB FOUNDATION — Latest American process. Beekeepers wax converted. Stocks of foundation on hand.

PULLIN'S APIARIES LTD.
29 Belfast Street, Mt. Roskill
AUCKLAND

SITUATIONS VACANT

YOUNG MAN — SINGLE
YOUNG MAN — SINGLE

Required for Beekeeping Business in Waikato. Experience preferred but not essential.

This position has prospects.

Reply to:
BRUCE FORSYTH
R.D. 3, OHAUPO.

CO-OPERATIVE OPPORTUNITY

to share returns for keen active man or youth in comprehensive commercial beekeeping enterprise, from August onwards.

Reply:

A. W. HANSEN
Happybee Apiaries
Orini R.D. 2, TAUPIRI

BEEKEEPER WANTED

BEEKEEPER WANTED

Do you want a position of responsibility and an opportunity to increase your income? I am prepared to pay a top salary and a share of the profits to the right man with experience in commercial beekeeping. A secure future is assured to the man who is prepared to accept responsibility and has enthusiasm and drive.

A married man would be preferred but consideration will be given to a single man with high qualifications.

All applications will be treated in confidence. Please apply with details of experience, age and copies of references to:—

"BEEKEEPER"
P.O. BOX 2222,
CHRISTCHURCH

The National Beekeepers' Association

(For the advancement of the Beekeeping Industry in New Zealand)

'Better Beekeeping—Better Marketing'

SUBSCRIPTIONS

0 to 20 hives	$2.00		1001 to 1100 hives	$22.00
21 to 200 hives	$4.00		1101 to 1200 hives	$24.00
201 to 300 hives	$6.00		1201 to 1300 hives	$26.00
301 to 400 hives	$8.00		1301 to 1400 hives	$28.00
401 to 500 hives	$10.00		1401 to 1500 hives	$30.00
501 to 600 hives	$12.00		1501 to 1600 hives	$32.00
601 to 700 hives	$14.00		1601 to 1700 hives	$34.00
701 to 800 hives	$16.00		1701 to 1800 hives	$36.00
801 to 900 hives	$18.00		1801 to 1900 hives	$38.00
901 to 1000 hives	$20.00		1901 to 2000 hives	$40.00

JOIN YOUR NEAREST BRANCH
AND DERIVE FULL BENEFITS

APIARY INSURANCE
(Public Risk Indemnity)

Free Cover for Association Members

All financial members of the Association are automatically indemnified against Public Risk claims up to $10,000 in any occurrence of injury or death to persons or livestock directly attributable to the action of the members' bees and arising from his or her negligence as the beekeeper. The cover is underwritten by the New Zealand Insurance Company Ltd and the premium met by the Association from consolidated funds.

THE N.Z. BEEKEEPER

This Journal is issued to all members of the National Beekeepers' Association and direct subscribers.

Literary contributions and advertisements must be in the hands of the Editor, Mr L. W. Goss, P.O. Box 3561, Auckland, not later than the 25th of the month preceding publication.

Nome-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

Quarter Page	$4.50	Per Inch	$1.25
Half Page	$8.25	Min. Charge	65c.
Full Page	$15.00	for each insertion.	

Front Page Story

GREYMOUTH

It would be interesting to know just how many normally law-abiding citizens of New Zealand have transgressed and joined the criminal classes through acts committed on the hospitable shores of the West Coast of the South Island.

There can be but few visitors who did not taste and welcome the freedom of imbibing a quiet drink out of "official" licensing hours before the advent of greater flexibility and an adult attitude as to when or when not it was permissable to enter licensed premises.

It was certainly strange to visit a fully illuminated hostelry for a quiet drink at night time, when self respecting hotels in other parts of the country were bolted and barred. Stranger still and fear inspiring to see a uniformed member of the constabulary enter the bar, wish everyone a pleasant good evening, remove his headwear and have a drink himself!

Perhaps the people of the Coast are more enlightened than the rest of us; perhaps they valued their freedom and were prepared to resist subjection by practical demonstration that laws which were unfair and unreasonable would not be accepted.

Now, however, we are all "respectable" and law abiding, but the same intense degree of hospitality prevails and visitors can be sure of a warm and friendly welcome.

BOUGHTWOOD PRINTING HOUSE, North Shore