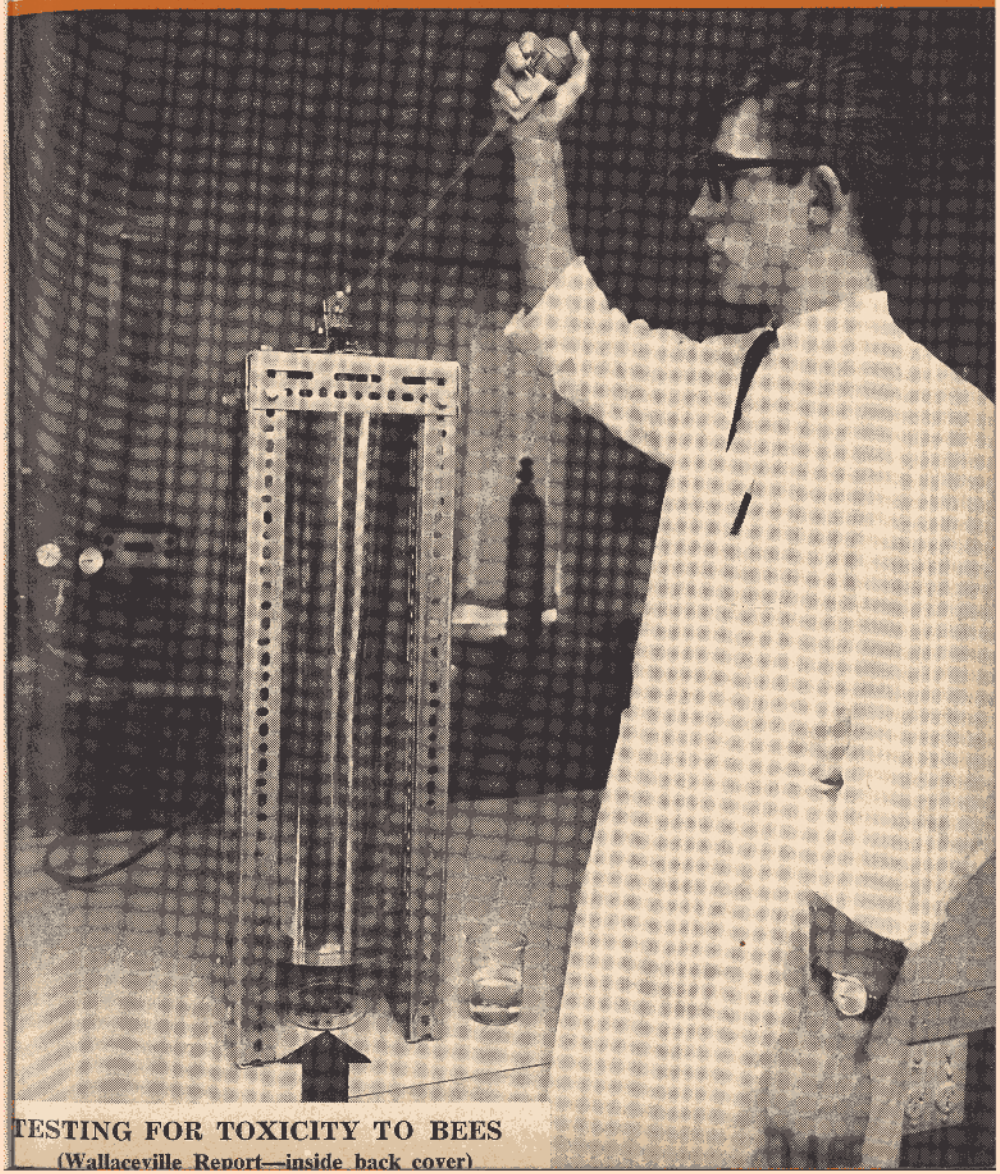
THE NEW ZEALAND BEEKEEPER

AUGUST, 1965



TESTING FOR TOXICITY TO BEES

(Wallaceville Report—inside back cover)

THE NATIONAL BEEKEPEERS' ASSOCIATION of N.Z. Incorporated

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44 Baycroft Av., Tauranga

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1H R.D., Oamaru

General Secretary :

Mr. K. E. MOODY
A.P.A.N.Z., A.C.I.S.
P.O. Box 127, Upper Hutt

Editor :

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

Hon. Librarian :

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

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THE NEW ZEALAND BEEKEEPER

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CONTENTS

POLLEN SUBSTITUTE

THE QUESTION of pollen substitutes is engaging the close attention of beekeepers throughout New Zealand and overseas particularly since the visit to this country of Dr Haydak of the University of Minnesota, U.S.A. on his return from the Waite Institute in Adelaide, Australia.

Dr Haydak and fellow scientists developed a pollen substitute from yeast, invert sugar, and skimmed milk, which can be slipped inside the entrance of the hive on the bottom board, providing a palatable and attractive soft candy bar for the bees when they most need it, and encouraging brood rearing at maximum capacity.

The substitute is to be marketed commercially by a food manufacturer in Australia, and a further description of the product will be found elsewhere in this issue.

Whilst the work of Dr Haydak and his colleagues is of the greatest importance to beekeepers everywhere, we must not forget the fact that research into pollen substitutes is not a new conception in beekeeping husbandry.

Nearly 20 years ago a paper was published on the work of T. Palmer-Jones, who was then Research Officer at Wallaceville, titled **"Use of Pollen Supplements in New Zealand"** in which it was explained that their use could improve hive strength under certain conditions, pointing out that adequate supplies of pollen are essential, and that pollen shortages are often reflected in marked decreases in the amount of honey produced.

The author emphasised that the value of supplementary feeding had been proven in the Central Otago, South Taranaki and Paparangi, but that its use in some areas of New Zealand

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National Beekeeper's Association

DOMINION CONFERENCE

at Dunedin July 21-23

Delegates from every part of New Zealand attended the Annual Conference of the National Beekeepers' Association, held at Dunedin from July 21-23, under the chairmanship of Mr Harry Cloake.

The Mayor of Dunedin, Mr T. K. S. Sidey welcomed the visitors to his city and claimed some slight knowledge of bees and their ways in recalling that bees hurt when exercising their right to sting, as vividly remembered from boyhood days, when his father kept bees for a hobby.

The conference was officially opened by Mr K. E. J. Davies, District Field Officer, Land and Survey Department who spoke of the work of the department in settling returned servicemen on the land, forestry, and the attendant problems of collating the work of other departments to provide schools, transportation and specialised staff in the development of Crown Land in Otago.

Apologies were received from Mr McDonnell, M.P. who was unable to attend because of Parliamentary duties, and from Messrs John McFadzien, R. A. Fraser, W. J. C. Ashcroft, Ashley Lennie, W. T. Herron, C. Dawson and Wallace Nelson.

The chairman of the Honey Marketing Authority—whose address is fully reported on another page—referred with regret to the recent death of a former member of Board, Mr Percy Hillary, and expressed good wishes for a speedy return to good health to Mr William Herron, who served as chairman of the Honey Marketing Authority.

ANNUAL REPORT

The President of the Association, Mr Harry Cloake, presented the Annual Report and called upon the secretary to read the statement of accounts and explain their presentation in the new format.

Following the unanimous adoption of the president's report and the accounts, a number of questions were asked by delegates. In regard to the Tutu problem and the committee set up to carry out an investigation, Mr Percy Berry pointed out that responsibility had been placed on the shoulders of individual beekeepers. Would the president advise how many people from affected areas were invited, and how many attended? In reply, Mr Cloake said that the industry was represented by the chairman of the H.M.A., the General Secretary of the Association and himself. Individual responsibility had been strongly opposed, but industry representatives were outvoted. The decision was not made by the N.B.A. Asked if an invitation had been extended to members from the affected area, the chairman replied that the Government convened the meeting and invited three members of the executive and one member of the H.M.A.

Mr Davidson Snr objected to inclusion of Branch Funds in the Balance Sheet, and the secretary explained that Branch balances are part of Association assets and a legal entity. There was no intention to call upon Branch funds for central purposes.

AGRICULTURAL CHEMICALS BOARD

Mr T. E. Pearson gave a most interesting resume on the work of the Agricultural Board and his duties as Association representative, pointing out that the value of agricultural chemicals sold in 1963 was £1.2 million, and could well be £1.5 million today.

Referring to the need for great care in handling agricultural chemicals, Mr Pearson mentioned the tragedy which ensued when a well-known herbicide was placed in a beer bottle. The bottle was moved from its position to a shed and eventually found its way into a domestic refrigerator. At a party, two guests inadvertently drank from the bottle, with the result that the first man died within three days, and the second within ten days.

Another tragedy occurred earlier this year, when a two-year-old infant died from organo-phosphorous poisoning caused by absorbtion through the skin after handling an apparently "empty" can of sheep dip.

Both tragedies were caused by carelessness which would be regretted by those responsible for the rest of their lives.

Dealing with the Poisons Act designations, Mr Pearson pointed out that the terms "RESTRICTED POISON", "POISON", and "POISONOUS" referred to the degree of danger which their use presents. Some misunderstanding may exist regarding the term "RESTRICTED POISON" which means that material so labelled is restricted to commercial use only. **It replaces the term "DEADLY POISON"** which, manufacturers claim, detracts from sales appeal.

Timing of application of insecticides was essential to minimise danger to bees, and Mr Pearson had recently brought before the Board a request for a reassessment of procedure in the treatment of brassica crops, in that the permit system intended for use in emergency only to allow brassica crops in flower to be sprayed was being misused. Experience has shown that there is no necessity to treat crops in flower, and every effective treatment can be applied immediately after flowering without material loss of seed.

A reporting system instituted by the NBA to assess accurately the extent of honey bee losses from insecticides throughout New Zealand would be most valuable, and it was suggested that suitable forms could be made available through branches which would give: Apiarist's name and address. Date of damage. Extent of loss. Number of hives affected. Estimated crop loss. Chemical suspected. Name and status of Authority confirming damage.

Progress is being made with the licensing of ground operators, the complexity of chemical application calling for a high degree of skill and knowledge, and a course of instruction similar to that of aerial operators is envisaged to reduce the incidence of damage through careless or irresponsible application.

REMITS

NOTE:Remit numbers correspond to those appearing on the order paper, and in some cases were amended by unanimous consent of the mover and seconder. Remits not detailed were either withdrawn or lapsed. Movers of motions were permitted three minutes, other speakers two minutes, right of reply two minutes, subject to extension at the will of conference.

(22) "That the Executive investigate the attitude of the Health Department on the food value of honey and take appropriate action." (Berry/Gordon).

Mr Gordon referred to derogatory comments on health giving qualities of honey and that Health Department went out of its way to be derogatory. Mr Ian Berry mentioned claim by Dr Turbot that honey is 23% water is untrue and that Executive should protest to Health Department and take action. Carried.

(22) "That his Conference request the National Executive to approach the Director-General of Health with regard to the true value of honey as a food in view of the derogatory remarks made by the Department of Health." (Barrow/Penrose). Carried.

(25) "That in the event of honey being freed from price control the H.M.A. immediately issue a price list (of their packs) to producers and packers and also advertise as widely as possible the suggested selling price." (Bray/Penrose). Carried.

(Note: On the second day of Conference, honey was freed from Price Control.)

(26) "That the H.M.A. advertising of honey be continued as a definite aid to promoting honey sales." (Bray/Penrose).

Remit was put forward as expression of confidence and congratulations to H.M.A. for advertising policy. "Roving Bee" an excellent promotion. Carried.

(27) "That this Conference is concerned at the excessive "specialty" of the Honey Gold Pack and requests the H.M.A. to take steps to have the price brought more into line with their suggested retail price." (Penrose/Bray).

Mr J. Fraser explained that "Honey Gold" is sold to wholesalers at normal price but retailers or wholesalers have reduced price as "specials". Allowance made to some distributors of 7½% in exchange for radio or other advertising of honey. Where large retailer orders big quantity without consignment going through a merchant, discount of approximately 7½% is given. Honey is invoiced to merchant. Carried.

(28) "That H.M.A. consider using the "Woman's Weekly" for advertising honey." (Forsyth/Bird). Carried.

(29) "That this Association supports the policy of the H.M.A. in relation to the re-sale of bulk honey from its stocks and that the H.M.A. will not sell bulk honey to packers but will meet any local shortage from its own packs." (Tuck/Forsyth).

Mr Fraser stated H.M.A. will not release bulk to packers, but dependant on conditions prevailing from year to year. Carried.

(32) EXECUTIVE: "That in accordance with the decision of Conference 1964 consideration be given to the Association's finances being based on a levy of 1/20th of a penny on honey, and that the basis of collection be arranged through the H.M.A." (Cloake/Wheeler).

The President as mover of this Executive remit explained the suggested structure which would entail amendments to the Honey Marketing Authority Regulations, and was supported by the seconder, Mr Trevor Wheeler, and the manager of the H.M.A., Mr Colin Gosse. Conference agreed that alternative remits on the order paper dealing with finance to be considered and considerable debate ensued on the merits of a hive levy on beekeepers with 50 hives or more, which was estimated to embrace 80%, and at 5½d per hive would produce £3,700. New legislation would be required. Whilst the N.B.A. is recognised at the voice of the industry, the Minister would have to be satisfied that any scheme was in accord with the industry as a whole. An Amendment (Berry/Gordon) agreed with the Executive remit in principal, but suggested increase of levy to 1/16d subject to Executive providing a figure annually on which they could operate, creating a reserve of £1,000 and to be responsible to Conference each year as to amount of levy required, and the H.M.A. be advised accordingly.

Following a motion for a Delegate's Vote the remit was carried. For 1699. Against 848.

(35) "That the Association's balance date be changed from May 31 to April 30 to bring it into line with Branches' balance date." (Cloake/Wheeler). Carried.

33 and 34 Note: Remits were combined and altered to recommend alteration to subscription and voting as defined by the Executive and detailed on an explanatory list. (Winslade/Heinemann). Carried.

Basis of proposal is: 1-90 hives 10/- (1 vote). 91-240 hives 20/- (5 votes). 241-360 hives (10 votes) 361-480 hives 40/- (15 votes). 481-600 hives (20 votes). (Branches will retain all subscriptions and pay 2/- per member to Head Office.) A Special Meeting of the Association will have to be called to ratify a change in the Rules.

(30) "That with the knowledge of the secretion of honey dew by the passion-vine hopper, the closed area be opened for bees, and queen-rearing, from April 1st to Novmber 30th each year, on a permit system." (Forsyth/ Ian Berry). Lost)

The following remits were received under Rule 32. (Berry/Gavin).

1. That Conference is of the opinion that any new arrangement with Kimptons should provide that no commission be paid other than a flat rate of two per cent. Lost.
2. That Conference is of the opinion that in any new arrangement with Kimptons the H.M.A. should reserve the right to terminate the arrangement at any time. Carried.

(The H.M.A. Chairman, Mr J. Fraser, explained that current proposals for termination of agreement was for 12 months' notice.)

(3) "That the Apiary Regulations be amended to empower the apiary instructors to issue a permit to a beekeeper to allow the free removal of hives of bees during the season, and new apiary sites where such a permit is issued be registered within fourteen days." (Tuck/Forsyth). Lost.

(5) "That the Department of Agriculture seek any new information on pollen substitutes for immediate publication." (Bray/Penrose). Carried.

(Mr T. Palmer-Jones pointed out that research is proceeding and paper published in 1947 on subject will be brought up to date. Pollen deficiency now more serious.)

(6) SOUTHLAND: "That we commend Government for providing for investigations into the development of biological control of inspect pests, and urge an expansion of this work." (Mrs Cranston/Bray). Carried.

(14) "That Executive approach the Agriculture Department with the purpose of condemning the re-use of second-hand Queen Cages by Queen Breeders unless suitably sterilised." (Blair/Tuck). Carried.

(15) "That this Conference considers that Apiary Instructors would gain a much better appreciation of beekeepers' problems if they attended the Annual Conference of this Association and accordingly requests that their attendance be authorised by the Department of Agriculture in the interests of the honey industry." (Wilson/Winslade). Lost.

(9) "That Government be asked to compensate beekeepers with a percentage of the value of hives infected with bacillus larvae and destroyed on the instruction of an Apiary Instructor." (Foote/Penrose). Carried.

(10) GORE: "That we ask the Department of Agriculture to initiate a Queen testing programme, with the co-operation of suitable commercial beekeepers." (Bryant/Gossett). Carried.

(12) SOUTH CANTERBURY: "That the Department of Agriculture be urged to import new strains of honey bees, in the immature stages, for trial purposes." (Bartrum/Bird). Carried.

(16) GORE: "That a senior instructor be appointed for each Island, to have a cadet under him to be trained to fill any vacancy which may occur." (Bryant/Glynn). Carried.

(18) NORTH OTAGO: "That Executive request Government assistance be granted to beekeepers in the event of an area declared a disaster area for beekeepers. (Winslade/Wilson). Carried.

(50) NORTHLAND: "That is Conference recommneds to the General Executive that the 1966 Conference be held in Whangarei." (Gavin/Blair). Carried.

(20) SOUTH CANTERBURY: "That the National Executive, in association with the Department of Agriculture, make the fullest use of overseas experts to lecture to Branches." (Bartrum/Davidson). Carried.

(31) SOUTH CANTERBURY: "That immediate and positive action be taken by the General Executive to ally the Beekeeping Industry with the Agricultural Development Programme." (Bartrum/Holt). Carried.

(38) WAIKATO: "That the Association Rules relating to direct members be amended as follows: That Direct Membership be available only to persons or companies outside established branch areas." (Tuck/Berry). Lost.

(44) WAIKATO "That all honey prices fixed by a Price Trbiunal be standardized for the whole of New Zealand." (Tuck/Holt).

The mover pointed out that although honey was now decontrolled, the branch wished to establish a principle for future. Carried.

(45) BAY OF PLENTY: "That this Conference requests the National Executive to investigate the price structure of New Zealand honey up to United Kingdom consumers' level." (Barrow/Berry). Carried.

The seconder pointed out that the retail price of honey in England was 3/6 per lb. We did not know enough about our honey after despatch to U.K., and it was duty of Executive to take this matter up.

(47) SOUTH CANTERBURY: "That the General Executive investigate the possibilities of effecting regulations to safeguard established apiaries from encroachment by overcrowding, and that a full report on this subject be presented to the 1966 Conference." (Davidson/Bartrum). Carried.

48) "That the Executive undertake a survey to determine to what extent the development and sale of land building and plant is restricted by lack of available loan money and take such action as may be considered practicable." (Mrs Cranston/de Witt). Carried.

NOTICES OF MOTION

"In view of the responsibility placed on the beekeeper for his product in relation to the tutu problem and, as in England provision is made in the Food and Drugs Act 1955 for compensation to be paid to the owner for goods seized under the Act, such provision, plus compensation for loss of trade caused to the owner by reason of publicity through proceedings brought to have the food condemned, be included in the corresponding New Zealand legislation." (Holt/Berry). Carried.

In connexion with the tutu problem, it should be pointed out that a meeting to deal with the matter further is to be convened at the Beekeepers' Seminar at Hamilton, in which representatives of the Department of Agriculture, other Government bodies, the H.M.A. and the N.B.A. will participate.

"This Conference urges the Department of Agriculture to give support to any application for the importation of pollen substitute in sufficient time for the coming year." (Bray/Penrose). Carried.

ELECTION OF OFFICERS—PRESIDENT

Nominations for President: 1. Mr Percy Berry (Gordon/Jansen) and **2. Mr Harry Cloake** (Bartrum/Bray). Messrs Cook and Foster were requested to act as scrutineers of the secret ballot, and the result declared and announced by the Secretary was that the sitting President, Mr Harry Cloake had been re-elected for a further term of office.

VICE-PRESIDENT

Nominations for the Vice-President were George Winslade (Newton/Gavin) and **Trevor Wheeler** (Lorimer/Bray). Trevor Wheeler was declared elected.

North Island Members of the Executive: Bruce Forsyth and Don Barrow. South Island Members: Jack Glynn and George Hinslade.

LIFE MEMBERSHIP

Nomination for Life Membership of the Association was submitted by the Gore Branch (Bryant/Barber) for **Mr W. J. (Bill) Herron** who had been an active member of the Association since 1923 and one time producer representative of the Honey Marketing Advisory Committee and for 10 years a member of the H.M.A. The election was carried with acclamation, and in the absence of Mr Herron through illness, the Life Members certificate was presented to Mr Herron Jnr.

BEEKEEPING AND HYPERTENSION

During the course of Conference Dr Simpson, of the Otago Medical School, addressed delegates to explain that a team of medical officers would be available to take the blood pressure of volunteers. Arrangements would be made to interfere with the business of Conference as little as possible by members being examined in small numbers. As to whether beekeepers faced an occupational hazard remained to be seen, but it could be that they might be recommended to avoid being stung when it was avoidable. The majority underwent a brief examination and completed the questionnaire, and results will be awaited with interest.

CONCLUSION

Before declaring Conference closed for another year, the President expressed thanks and congratulations to the Otago Branch for their welcome to delegates and for the organisation and work which had been expended in providing

recreation for the ladies during the business hours of Conference, and for the very enjoyable social and film evenings.

In acknowledging tributes to his fairness in conducting the business of Conference, the President expressed his grateful thanks to members of the H.M.A., officers of the Department of Agriculture and to members of the Executive for their help and support during the year, and wished everyone a safe and happy return home. Conference concluded at 1.30 p.m. on Friday, July 23.

National President's Report to Congress

Ladies and Gentlemen,

It is my pleasure to present to you the Annual Report of your Association. This past year has been a busy year, a formative year, one where a new approach has been made to our financial problems and a new General Secretary has been appointed. Progress must be maintained and the Executive has striven to achieve this.

Three Executive meetings were held during the year, the first to decide on the General Secretary's resignation, the second to appoint a new secretary and deal with current business, while the last meeting was primarily to consider and formulate an acceptable scheme to finance the Association. Other business of the year included deputations to the Minister of Agriculture and to the Minister of Industries and Commerce; attendance at a specially convened meeting to discuss known facts relating to the Tutu problem; attending, on invitation, the October meeting of the Honey Marketing Authority and interviewing applicants for the position of General Secretary. Whenever possible members of the Executive have visited branch meetings and attended field days. It has been our aim to keep all members well informed and to attend to all problems as they arise.

PRODUCTION AND RESEARCH:

Once again it has been the lot of the beekeeper to find that after all his strenuous efforts to get his bees into the best possible condition ready for the honey flow, weather conditions have foiled him. This past season will go down on record as being one of poor returns. This is most frustrating to the beekeeper who prides himself on his skill, but we cannot account for nature. Some districts report complete crop failure while over-all the returns will be very much below average. However, with that optimism inherent in all beekeepers, we will look to the future and hope that next season will be better.

In looking to the future, what do we see? Can we expect to continue to produce economic returns? This question must cause grave concern to us all. The changing pattern of farming, the heavier stocking of pasture lands, the clearing away of the pollen sources, does this leave us with a bright future? Perhaps at first sight it appears not to be so, but let us look at this situation more closely. Are we overstocking what has been in the past good honey producing country? Are we trying to operate too many hives with the labour force available, with the result that the hives go into the honey gathering season in poor condition? If we are at fault, then we should rectify this before it is too late.

The Association, in conjunction with the Department of Agriculture, conducted a Seminar at Timaru last spring. This Seminar was well attended, and proved to be an outstanding success.

A similar function will be repeated at Hamilton in the North Island this coming spring.

It has always been the aim of the Association to secure adequate research facilities for industry. We are now in the fortunate position that the Wallaceville Animal Research Centre has sufficient staff to carry out a more comprehensive programme of research. This can only benefit the industry.

An Amendment to the Apiaries Act, based on the decisions made at the combined meeting concerning the Bacillus Larvae problem, is now before Parliament. This Bill not only gives more scope for the control of the disease but the responsibility for the inspection of the hives for the disease is now placed with the beekeeper, where it rightly belongs. We expect, however, that Departmental Officers will pursue this problem with continued vigour.

ILLEGAL QUEEN ENTRY:

It has come to our notice that a queen bee has been brought into New Zealand without authority. This is disturbing information, and is something which should not be treated lightly. Rumours of other importations have also been heard. Is this not the time to look more closely at the question of queen bees being imported under strict supervision and quarantine? To be indifferent to this attitude leaves us with the danger of more unauthorised importations, thereby introducing undesirable races of bees and, even more important, diseases which could spell disaster to us all. Therefore, we must take a realistic attitude to this and, if possible, thoroughly investigate the possibility of importing queens in a manner which would not expose the industry to any danger.

TUTU PROBLEMS:

In October last year the Government called together a meeting of a committee on which this Association was represented, to discuss the known facts concerning the Tutu problem, and the production of toxic substances. This meeting revealed a great deal of new information which sustained previous opinions. However, the meeting could not offer any immediate solution and until some means of controlling the passion vine hopper is found, each beekeeper must be responsible for his own product. It is expected that all producers in the suspect areas will exercise great care when extracting the crop, identifying each extraction, and harvesting all honey as early as possible.

It was revealed to the Committee that the investigation of biological control could be put forward a year if sufficient money was available to send a research officer to Australia the following summer. The Honey Marketing Authority subsequently made a sum of money available, and for this we are indebted to them.

A report of this meeting has been made available to all branches in the suspect area. It is in their own interest to study this report and learn to live with this problem until a solution is found.

DECONTROL OF HONEY PRICES:

Even though efforts have been made by members of the Association to persuade the Executive to agree to the retention of Price Control, it has spared no effort to secure complete freedom of marketing for the industry by releasing honey prices from control. The outlook of the Association must be consistent, and at no time will the Executive obey the dictates of the minority unless, of course, circumstances prove them correct. By doing so we would lose the strength of purpose built up over the past years, and as on this occasion there is no evidence that the opinion of the industry has changed, the Executive will continue their efforts towards de-control.

The Government's attitude to this question has become intolerable after years of evasive replies. The industry has the right to a definite answer to this vital aspect of its economy and demands one.

The Executive has succeeded in securing increases in the Price Order to take care of increased costs as they occur, and they will continue to watch the interests of the industry in this matter.

THE GENERAL SECRETARY:

It is with deep regret that we record the resignation of Mr R. A. Fraser, General Secretary to the Association. He served the industry faithfully and wisely as did his late father, Mr G. V. Fraser, before him, and in times of emergency with vigour and the resources at his command. It was largely due to his ability and foresight that the industry is held in such high regard, and may we remember this when extending to him our sincere thanks.

Following the acceptance of Mr Fraser's resignation, the position was advertised, selected applicants interviewed, and Mr Moody was appointed at an administration fee of £750.

FINANCE:

The Association's financial position is clearly set out in the Balance Sheet, and the General Secretary will elaborate on the financial statement in due course. I would, however, draw your attention to the fact that our income is barely sufficient to meet our day to day expenses. We must record that the H.M.A. has assisted the Association by meeting half the publication costs of the "N.Z. Beekeeper". Their contribution in this matter exceeded £300. But for this, the Association affairs would have shown a serious deficit for the year. This arrangement with the H.M.A. is to continue for a further year, but a solution must be found to ensure financial stability for the Association. Proposals in line with the principle approved at last Conference will be placed before you later during this Conference. The Association is not able to be really effective until it is able to make a contribution to the development of the industry. This it can only do if it has the financial resources available.

TRAVEL BURSARY:

So far, it has not been possible to establish a satisfactory liaison with the industry in Canada. Although there has been an exchange of correspondence we still require full details of the itinerary for the bursar, and every effort will be made to have the negotiations finalised so that the project can come to fruition in 1966.

RECOGNITION:

Each Conference we elect our officers for the following year and then spare little thought for the work done by them in our service. This past year has presented us with some unique problems and I would have you know of the grand support given to me by the Vice-President, who has ever been ready to assist in any way possible. Your members of the Executive have given of their experience and knowledge at all times willingly.

On the Agricultural Chemicals Board our Association is worthily represented by Mr T. Pearson. His work on our behalf is particularly worthy of recognition, for the benefit of it cannot always be readily seen.

APPRECIATION:

The work of the Agricultural Dept. Apiary Section staff, ably guided by the Director, Mr A. M. W. Greig, strives to assist the industry as a whole, and we record with appreciation our thanks for the work done by them all.

During the year invaluable help in many ways has been forthcoming from the H.M.A. and we are indeed indebted to them.

I have been pleased to have had the opportunity to meet many members and take part in some of the activities of the Branches, and thank all members for the courtesies extended to me

H. CLOAKE, Dominion President.

HONEY MARKETING AUTHORITY

ADDRESS BY THE CHAIRMAN OF THE H.M.A., MR. J. FRASER, TO CONFERENCE.

Mr President, Ladies and Gentlemen,

Once again the Authority must express its appreciation of the opportunity now given me as Chairman to address your Conference. Perhaps the natural community of interest between the N.B.A. and the Authority has been strengthened this year by the Authority's decision to provide at least some of the means whereby your Executive can continue to carry out the tasks entrusted to it.

The arrangement made in October last year has worked out very well, and we appreciate, Sir, the excellent co-operation we have enjoyed with your Executive, and with your branches throughout New Zealand.

The question of Association finance will again be debated at this Conference. The decision, of course, will be yours. The Authority has only this to say: Whatever scheme may be approved, the Authority will do all it can to meet the wishes of the Industry.

The Report and Accounts for the year ending August 31 1964 have already been circulated, and I would only ask that in any discussion of them at this time you would bear in mind the period to which they refer.

The purpose of my present address and the answers to any questions you may have later, is to inform you as fully as possible of conditions as they apply to date in the present season, one which over almost the whole of the country has been one of the most difficult and most disappointing for many years.

SUPPLIERS, RETURNS AND CONDITIONS OF SUPPLY

In considering the conditions of supply laid down by the Authority it should be borne in mind that these are of necessity determined in October, at a time when crop prospects are completely unknown and at a time when, normally, large stocks of honey remain unsold. The estimation of the value of these stocks, especially on a falling world market, calls for the very greatest care.

The supply of honey to the Authority's depots as at July 17 1965 was 743 tons—a decrease of 718 tons on last year. In view of the nature of the season and, in comparison with the total Dominion production as estimated by the Department of Agriculture, it is considered that this is a very satisfactory intake. The main effect will be, of course, on the quantity of honey available for export, and a severe reduction in the exports of bulk honey to the United Kingdom market will result. A feature of the season has been an above average grading in the darker honey producing areas, resulting in a severe shortage of honey in the Light and Medium Amber grades. Manuka honey has also been in very short supply.

Two new schemes introduced by the Authority this year are the operation of a Returnable Container Scheme for five gallon and 44 gallon drums through the Auckland depot, and the abolition of separate Payment Pools for Manuka and Kamahi in favour of a Market Differential Withholding Payment Scheme which has been extended to include Tawari and Rata honeys. Many suppliers in the Auckland Province have taken advantage of the Returnable Container Scheme, but because of the short season the full benefits that could have accrued to suppliers have not been fully received. Any financial benefits that may accrue

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C/- N.Z. Honey Marketing Authority, Auckland.

C/- Mr. J. D. Lorimer, Hamilton.

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to suppliers in the form of refunds under the Market Differential Withholding Payment Scheme, will not become evident until the Annual Accounts of the Authority are prepared. It is considered that the introduction of this scheme in conjunction with the established system of Category Payments provides a means whereby all honeys are paid for at a price which bears the closest possible relationship to their comparative market values.

Thanks in large measure to the steps taken to hold a reserve stock of both White Clover and Light Amber honeys, from last season's production, the Authority expects to be able to maintain continuity of supply of all grades on all markets and from surveys we have recently made it would seem unlikely that there will be any real shortage on the domestic market. **On this subject of reserve stock, I would like to say this: Under existing financial arrangements there is a very definite limit to the quantity that the Authority can hold in reserve, and I would urge everyone, producers, and packers alike, to take advantage of those good seasons we hope are coming, to establish private reserves so far as you are able. Only in this way can continuity of supply through all channels be maintained and that depressing cycle from feast to famine be broken.**

PLANT

While the plant in operation at the Auckland factory has maintained a satisfactory standard of efficiency and output, there are still improvements that can and should be made. Mr J. D. Lorimer, due to his valuable practical experience in honey processing and his proximity to Auckland, has worked in close co-operation with the Authority's own staff on all matters connected with plant efficiency and on his advice, improvements are constantly being investigated or implemented by the Authority.

AGENCY AGREEMENT

Over the past year, the Authority has been engaged in negotiating a new overseas marketing contract with Kimpton Bros. of London. Agreement has been reached on a number of points.

As before, the contract relates to bulk honey, which has been defined, and the area of operation of the sole agency, to be known as the Marketing Territories, has been limited to the United Kingdom and the Continent of Europe.

We expect to reach final agreement on all points at our October meeting when full terms will be made known.

MARKETS (a) EXPORTS — BULK

The world market for honey in the last two years has been greatly influenced by large surpluses of both Argentine and Mexican honey. This situation has been further affected by the recent devaluation of the Argentine peso. We understand that the 1963-64 crop surplus of Argentine honey has now been cleared, but there is still between 6000 and 8000 tons of their 1964-65 crop unsold. Although the market for this honey has firmed slightly as a result of the surplus being cleared, it is still available on a CIF U.K. basis at about £88 per ton for a fine white Alfalfa Honey.

Undoubtedly, the price of Argentine honey has kept all other honey prices in check, and since their crop is in the nature of 21,000 tons this quantity must materially affect world prices and shows up our own vulnerability on world markets.

While prices for our own honey have been affected by this situation they have not receded to anything like the extent of Australian and other honeys. This is due mainly to the limited quantities we had available and the fact of our ability to carry over stocks in the form of reserves. Had we been in a position of being forced sellers the position could have been entirely different and a substantial depression of prices would seem to have been inevitable.

Th ability of the Authority to carry over stocks under such circumstances is completely dependent on its ability to finance stocks through overdraft accommodation with the Reserve Bank. The greatest assistance the Industry can be given in its contribution to the national exports is an extention, when required, of the existing limits on such financial accommodation.

(b) EXPORTS — RETAIL PACKS

The Authority is continuing to put every effort into increasing its exports of honey in retail packs, with particular emphasis on Eastern markets. New brands have been created especially to cater for these markets and trial shipments of liquid honey have been made. High packaging and freight costs make competition with the U.S.A. and Australia difficult, but the recent developments of a new glass jar and special export outer have effected a reduction in both these factors, allowing our product to become more competitive. Exports in the current year to Japan, Hong Kong, Malaysia and Australia all show an increase on last year and in addition a promising market in the Yemen has accounted for a total of 11 tons of honey in glass jars.

(c) LOCAL MARKET

The Authority is continuing its policy of marketing its own brands throughout New Zealand and is keeping itself abreast with any new trends in packaging with a view to benefiting the industry as a whole. Market experiments are being conducted with a new type of utility cardboard pack which, while it is not anticipated will replace the popular cardboard carton will provide a cheaper means of presenting our product to the price-conscious housewife, the ultimate aim, of course, being to increase the overall consumption of honey.

The total sales on the local market, both retail and bulk up to June 30, 1965, amount to 355 tons which is made up as follows:

Honeygold	118 tons (127 tons)	Last year in brackets
Imperial Bee	132 tons (107 tons	Last year in brackets
Bulk for Manufacturing	105 tons (67 tons)	Last year in brackets

SEALS LEVY

The Seals Levy paid this year to June 30 totals £14,977 which is £1,822 more than the total to the same date last year. While the amount of Seals Levy collected is usually regarded as an indication of the level of local sales of honey, this may not necessarily be a fair indication this year. The payment of Seals Levy reflects the optimistic outlook of packers when purchasing packing materials, but whether all containers purchased will be filled is another story.

ADVERTISING

In view of the low intake of Light Amber honey, the advertising appropriation for "Honeygold" brand has been substantially reduced, to £500. The sum of £3,000 has again been set aside for a national campaign on honey in general, the major portion, £2,000, being devoted to the "Roving Bee" radio theme, and £800 to the School project.

In addition, the Authority has taken space in the Food Section of the New Zealand Display Centre at Wellington, which is being established under the direction of the well-known television personality, Mr Graham Kerr. All honey packers will shortly be invited to participate, to make this display of New Zealand honeys a truly national one.

It is appreciated that there is scope for conducting advertising campaigns through many avenues, and producers may well wonder why all avenues are not being fully exploited. Advertising is expensive. Therefore the problem facing the Authority is how to obtain the most effective coverage for the limited amount of money available. The Authority is following the advice of its advertising agents in devoting its limited appropriation to one concentrated medium, rather than splitting it up into a variety of avenues which, individually, would lack sufficient impact to be fully effective.

GIFT PARCEL SCHEME

This scheme, originating from a small beginning is proving very popular. The number of parcels handled over the last year have increased by 596 to 2,938. This additional through-put has made it economically possible to introduce specially designed tins and cartons which makes the general presentation of the gift even more attractive.

The Authority has also produced a new pack of honey designed for gifts, for export, and for sale in New Zealand to overseas tourists. It consists of an attractively printed carton displaying three ½ lb. plastic pots of selected honeys collected from native flora.

These schemes prove most valuable in the publicising of New Zealand honey overseas.

OVERHEAD COSTS

The Authority, faced with the effects of increased overhead costs through the application of successive wage orders, is making every endeavour to neutralise the effects of these increases by using its building, plant and other facilities for subsidiary operations which can be conveniently combined with its honey handling function. Reductions in office staff have been effected over the last two years and because of the seasonal nature of some administrative operations, use is being made of casual staff during peak periods.

OURSELVES

During the year the Authority has held one three-day meeting, one two-day meeting, and one one-day meeting. Every endeavour has been made to keep the Industry fully informed on all aspects of our operations, by meeting your Executive, per medium of our journal, by circular, and by the attendance at producers' meetings and field days of Members of the Authority and the Manager. Advice has just been received that Cabinet approval has been given to increases in the honoraria payable to members of Producer Boards, including our own.

CONCLUSION

At a time when the operations of other producer Boards have come under public scrutiny it may be relevant to consider the position achieved by the N.Z. Honey Marketing Authority in its 12th year of operation.

While no one would pretend that it is perfect, or that better results cannot be achieved, surely this can be said:—

That the Industry, through the Authority, has made a significant contribution to our exports by securing premium prices on highly competitive world markets.

The Authority has rendered a service to consumer and producer alike, through purchase and supply, a service which producers have recognised in striking fashion in this most difficult year, by their continued support.

Above all, what successes have been achieved have not been the result of restrictions: Within N.Z. honey may be bought and sold freely through all channels. The consumer, no less than the producer, retains his freedom of choice.

The Producers, if they are wise, will keep it that way.

Importation of Honey Bees in Immature Stages

By T. PALMER-JONES, Principal Scientific Officer,
Wallaceville Animal Research Centre, Department of Agriculture, Wellington.

in an Address to the National Beekeepers' Association Conference.

I hope in this account to outline the reasons for the present ban on imports of honey bees and to discuss the recently developed technique for importing bees in immature stages. I would like to stress that my function is solely to give technical advice and not to make policy decisions.

REGULATIONS AGAINST IMPORTS OF HONEY BEES

All regulations on this subject are administered by the Horticulture Division.

The first regulations governing the introduction of bees into New Zealand were passed in 1920 under the Apiaries Amendment Act, 1913. These had been pressed for by representatives of the beekeeping industry who were particularly concerned that acarine disease, then known as Isle of Wight Disease, might gain entry from the U.K. Under the regulations an exporter was required to certify that his bees were free from disease. A certificate was also required from an officer of the Department of Agriculture of the country from which the bees came certifying that it was free from acarine disease. Bees could be introduced only from Italy, the U.S.A., and Australia, all of which were then believed free from acarine.

These regulations were revoked in 1924, and the introduction of bees into New Zealand prohibited except with prior consent of the Minister of Agriculture. Bees were examined for disease on arrival by an officer of the Department of Agriculture. Very few queens were imported between 1920 and 1948.

Apiaries regulations were passed in 1952, again mainly as a precaution against the introduction of acarine disease, and administered by the Horticulture Division. Under these regulations a certificate was required with each consignment of imported bees certifying that the apiary from which they came was free from all bee diseases, and acarine disease did not exist within fifty miles of the apiary in which the bees were kept immediately prior to export. Such certificates are only one general safeguard and must not be regarded as infallible. The Director, Horticulture Division, was prepared to issue permits only if each consignment of bees was brought in addressed to the importer via Wallaceville Research Centre where all worker bees, caged with queens as attendants, were examined for acarine disease. This desease is caused by a mite infesting the prothoracic spiracles and its diagnosis requires that the bee must be killed and dissected. Absence of acarine in attendant worker bees does not guarantee that the queen they accompany is free as queens themselves may contract the disease. Authority to import queens was restricted to countries claimed free from the disease—the U.S.A., Canada and Australia. From 1948-56 the Director approved the importation of only four consignments of queens from the U.S.A., one from Canada, and three from Australia. The total number of queens imported duriong the period was thirty-one. All attendant bees were found free from acarine disease.

SPREAD OF ACARINE

Acarine recently spread to South America, being reported in the Argentine, Peru and Uruguay. I would expect it to have now reached Brazil and Mexico, as these countries have little organised bee research. Although the U.S.A., like New

Zealand, has strict laws against imports of bees they can be evaded. Recently a Texas beekeeper brought in a queen bee and attendants illegally from Mexico. (Morse 1960.) Although these bees were all found free from acarine the incident shows how easily acarine could gain entry to the U.S.A. and Canada. We have also found several queen bees which have been smuggled into New Zealand, fortunately without bringing in acarine.

For these reasons the Director Horticulture decided it was unsafe to continue importing bees from the U.S.A., Canada and Australia. No permits have been issued to import bees from these countries or elsewhere since 1956.

The beekeeping industry recently asked the Departmnt of Agriculture to consider importing bees in immature stages, a newly developed technique which obviates the risk of bringing in acarine. The industry has also suggested that the Department should not only import bees but also compare the performance of imported strains of bees with those already in New Zealand.

SOME MISCONCEPTIONS

Dr Bailey and Acarine, Bailey (1961, 1963), states that although acarine may shorten the lives of individual bees the overall effect is generally slight. He suggests acarine is not found in North America and Australia because their comparatively regular and abundant nectar flows provide conditions under which mites decrease in number, and quite possibly become extinct. Bailey's work has all been carried out in the U.K. where acarine is endemic and bees would be expected to have developed resistance.

In spite of Bailey's work the U.S.A., a country without acarine but possessing a very efficient bee research organisation, has recently stiffened its regulations against bee imports. A short time ago even Dr J. E. Eckert, of the University of California, was refused a licence to import bees from Australia. In 1961 Dr Michael, of the U.S. Entomology Division, was sent to Europe to study methods of combating acarine disease. His trip was made in response to resolutions passed by the American Beekeeping Federation and the Apiary Inspectors of America. On his return Michael advised that the current U.S. restrictions, which prohibit importations of adult bees except from Canada, should remain in force. He considered them essential because of the serious effect of acarine disease as observed in Europe and determined through discussion with the majority of authorities consulted. Michael also advocated a concerted effort to eradicate acarine should it gain entry to the U.S.A. (Michael 1963).

In 1955 and 1959 I travelled extensively in Europe and the U.K., visiting all the main bee research stations. After seeing the time and effort expended on diagnosis and control of acarine disease I realised how fortunate we were in not having this disease in New Zealand. Perhaps Bailey is right and acarine might not be serious under New Zealand conditions. But do beekeepers wish the Department to sanction the heroic experiment of exposing bees to disease from which they have not suffered for over a century, so losing their natural resistance. Long-term exposure to infestation could develop resistance, but it is my opinion no beekeeper would want to go through such a process if it could be avoided. Methods of control are laborious and would greatly increase the operating costs of commercial beekeepers. The effect of acarine mites on strains of New Zealand bees could be studied but such a course would be too dangerous to sanction because of the risk that mites could escape.

Dr Bailey himself feels that the U.S. is right in preventing further imports of queens. (Morse 1960).

ALKALI BEES

It may appear inconsistent for the Department of Agriculture and the Department of Scientific and Industrial Research to bring in immature stages of the alkali bee (*Nomia melanderi* Cockerell) for lucerne pollination while banning the importation of honey bees. However, unlike honey bees, alkali bees hibernate in the larval stage for many weeks and larvae are sufficiently robust to be transported without special precautions. Honey bee larvae are far more delicate, and would require a special incubator, carried by a courier, for transport. One batch of

alkali bee larvae was brought in to New Zealand last year in an ordinary airmail parcel. Ample time was available for Wallaceville and the D.S.I.R. to examine them before release. Examination was necessary as a precaution against entry of parasites harmful to either alkali bees or honey bees. A crash programme would have been necessary to bring in and examine honey bee larvae in the short time they can be kept out of a hive. It would then have been necessary to mate them in isolation to avoid undesirable crosses.

IMPORTATION OF STOCK BY OTHER INDUSTRIES

Restrictions on imports of stock have been imposed in New Zealand in recent years whenever considered necessary to protect local producers. Cattle, horses, dogs and cats may be introduced only from Great Britain, Eire, and Australia, while poultry and sheep may be imported only from Australia.

It should be realised that honey bees are far more likely to spread their diseases than domestic animals because they are flying insects which cannot be confined.

IMPORTATION OF HONEY BEES IN IMMATURE STAGES

For some years the Agriculture Departments of Canada and the U.S.A. have collaborated in a project for transporting larvae or other immature stages of bees, separate from adult bees, hives or combs, from other countries. Acarine mites do not infest such immature forms, which can be brought in, if certain precautions are observed, without risk of introducing acarine (Smith 1962). The National Beekeepers' Association has suggested that the Department should apply this method to bring new strains of honey bees into New Zealand. Before commenting on this proposal I will describe the method itself.

SEMEN

There would be no difficulty in bringing semen into New Zealand. But it would provide the male parent only and would have to be used to inseminate virgin queens artificially. A fairly pure line could be obtained by continued back-crossing with artificial insemination. This is a highly skilled operation which might require more than one season per batch of semen. An artificial insemination project with the aim of improving strains of bees was commenced at Wallaceville in 1948. (Palmer-Jones and Miller 1950). It was abandoned after five years because of the slow progress being made and the unsuitability of the Wallaceville climate. I am convinced that such work could be carried out successfully only near Auckland in an area where the native bush and mild climate would give a nectar flow all the year round.

LARVAE

Female eggs just on the point of hatching may survive two to three days journey in an incubator. They are placed on strips of waxed paper (without food) and sealed in a one oz. vial with a piece of moist filter paper to maintain the humidity. On arrival the tiny larvae must be placed on royal jelly in an incubator for at least 24 hours to give them time to recover before grafting into queen-rearing hives to complete their devolpment. The resulting virgin queens could either be artificially inseminated with imported or selected semen, or allowed to mate with selected drones in an isolated apiary, perhaps on an island.

LARVAE AND PUPAE

Drone and queen larvae and pupae have been transported successfully between the U.K. and the U.S.A. On arrival the larvae and pupae would be grafted into hives, and emerging virgin queens and drones either allowed to mate naturally in an isolated apiary or artificial insemination used.

DISCUSSION

A peculiarity of honey bees is that mating can occur only in the air, so that pure strains are far more difficult to maintain than for animals which can be easily confined. Operations like artificial insemination are also more difficult to carry out because of the smallness of honey bees. A honey bee improvement scheme would be more troublesome to conduct in some respects than the herd improvement schemes run by the New Zealand Dairy industry.

Imported strains of bees would not necessarily be superior to ones bred locally. The reverse is more likely to be true, as imported strains would have been bred to cope with different climatic and other factors. They might not only be unsuitable for New Zealand conditions but bring in undesirable traits such as a propensity to swarm or build up burr comb. In April 1950 four queen bees were sent from New Zealand to Rothamsted. Although they came from stock which gave an excellent performance in the South Island their record under the different conditions met with in the U.K. was very poor. Selected strains imported into the U.K. from the U.S.A. also frequently give poor performances.

Imported strains would soon lose their characteristics unless mis-mating of progeny were prevented. It would be necessary for the New Zealand queen breeder to test such strains before release and maintain them in a state of purity. Many queen breeders might find these tasks beyond their resources.

Semen could be brought into New Zealand without difficulty. However, past experience has shown that building up pure strains of bees from semen would be a slow operation. Immature forms of bees are too delicate to survive rough handling, and it is imperative to have the incubator holding them carried personally, even for the relatively short journey across the Atlantic. The time taken to transport immature forms between laboratories in the U.K. and U.S.A. is only twenty hours. Except for imports from Australia, immature stages entering New Zealand must travel longer distances, and a courier would be necessary. Before despatch immature forms must be examined in the country of origin to guard against mechanical carriage of parasites. Collection, examination, and shipping of immature forms from overseas to New Zealand could be carried out satisfactorily only by a Government laboratory. Allowance should be made for the cost of such servicing in addition to a courier's air fare. The method is still very much in the experimental stage and its application in New Zealand would require considerable effort.

Importation and rearing of immature stages could be undertaken satisfactorily in the Auckland area. Here the climate is much more favourable than elsewhere and queen raising and artificial insemination could be carried out for most of the year. Apart from speeding up operations, an additional advantage would be that immature stages could be brought in during the New Zealand autumn and winter which would be spring and summer in the northern hemisphere. Auckland is also served by an international airport, making transhipment of imported immature stages unnecessary.

Wallaceville Apiculture Section staff is fully engaged in work on toxic honey, the effect of agricultural chemicals on bees, pollination, and apiary management. Diagnostic services are growing and taking up more time. If work on importing immature stages of bees were to be undertaken at a worth while level it would be necessary to increase the research staff by two men highly trained in apiary management plus a scientific officer. A small branch laboratory and experimental apiary would be required in the Auckland area. Still more staff would be necessary if it were also decided to compare imported strains with those already in New Zealand.

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Mr E. Smaellie, Superintendent Beekeeping, Horticultural Division, Department of Agriculture, details

NEW MEASURES TO CONTROL DISEASE

in his Address to Conference.

I appreciate very much the opportunity given me to address this Conference and to meet you as beekeepers. At previous Conferences Mr Greig and others have given a comprehensive purview of the over-all activities of the Department in giving service to the beekeeping industry.

It is not my intention on this occasion to cover such a wide field. I propose to limit my remarks to references to certain figures regarding production and the disease situation, and new measures it is hoped to adopt to provide more effective control of bee diseases.

COMMERCIAL GROWTH

Apiary registrations show a definite trend toward the consolidation of hive holdings by many commercial beekeepers, and the movement of apiaries to areas where better grades of honey are available. Commercial beekeeping has continued to expand in most areas of the Dominion. As the following figures will show, commercial honey production is a growing industry, particularly in the South Island.

At June 30 of this year, there was a total of 4,613 beekeepers owning 13,345 registered apiaries and 194,589 hives. Of these, 8,885 apiaries and 178,231 hives are owned by commercial beekeepers owning 30 hives and over.

Comparison with statistics compiled two years ago, show that the previous trend toward a decrease in the number of domestic beekeepers has continued. The trend toward further consolidation of the larger commercial holdings is a very healthy one for New Zealand beekeepers.

Average annual production of honey and beeswax is estimated at 5,200 tons of honey and 182,000 lbs. commercial beeswax. The past season was unfavourable in some major beekeeping districts, especially in parts of the South Island. Production for the season ended May, 1965, is estimated at 4,030 tons, approximately 1,400 tons below the annual average.

It is pleasing to note that many honey-houses have been redesigned and equipped with modern mechanical aids for processing and packing honey.

The general standard of beekeeping in New Zealand compares favourably with the high standards in other countries where progressive beekeeping methods are practiced. Typical of the interest of beekeepers in New Zealand to keep abreast of new developments and to adopt modern methods, was the large attendance and support given by beekeepers at the South Island Beekeepers' Training Course held at Timaru last September. This course and a similar one to be held in the North Island early this year, was organised joinly by your Association and the Apiary Section of the Department.

Maintenance of prolific strains of bees is fundamental in present-day beekeeping. It is natural therefore, that beekeepers continue to make efforts which will improve existing strains. You are all aware that New Zealand beekeeping is mainly founded on the Italian bee, and it is desired to keep this strain as pure as possible, and also to improve it by selective breeding. In past years some beekeepers have introduced dark coloured strains of bee, which soon crossed with Italian bees. The resulting hybrid progeny were considered to be undesirable. This fact, allied with the risk of introducing bee diseases not at present in this country, led to the Gazetting of Regulations. This action was supported by the National Beekeepers' Association.

ACARINE DISEASE

Because of the nature of acarine disease and its possible serious effect on New Zealand beekeeping, the Department of Agriculture regards the risk of disease very seriously. For this reason the Department has not granted any permit to import adult queen bees from overseas during the past 10 years. Your Industry recently requested the Department to consider importing bees in immature stages and has also suggested that the Department should compare imported strains of bees with those already in New Zealand. You have remits on your order paper this year which make a similar request. Mr Palmer-Jones of the Wallaceville Animal Research Centre will later discuss the feasibility of undertaking the work. His remarks will no doubt put into perspective your deliberations on this matter.

Inspection of apiaries for control of bee diseases was continued with assistance from competent beekeepers acting as part-time inspectors. The number of hives inspected last season was 39,405, and of these, 365 diseased hives were destroyed by burning. The overall incidence of diseased apiaries and hives inspected was 4.4% and 0.92%, a reduction from last year of 0.63 and 0.51% respectively.

The improved disease situation in some districts appears to have given some beekeepers who have carried out part-time Apiary Inspection a feeling of security and also some reluctance to continue with the work.

I am somewhat perturbed about this, as now is definitely not the time to ease up on the job. Quite frankly, I would say that if producers continue to loose interest in this work it would be physically impossible for Apiary Inspectors to cover the same ground effectively each year, in which case disease would again become a serious problem.

I would urge all Branches of the National Beekeepers' Association to continue to co-operate with the local Apiary Inspector in this matter and to see that sufficient competent beekeepers are available for the work each season.

Bacillus larvae, or American Brood disease, is the most serious disease of bees in New Zealand. The Apiaries Act, 1927, requires beekeepers to take certain action when this disease is found in their apiaries. It also gives departmental staff legal powers for the eradification of this disease if beekeepers fail to meet their responsibilities.

Because this is a bacterial disease which is readily spread from one hive to another, it is agreed by representatives of the National Beekeepers' Association and departmental officers, that wider powers are necessary when a high percentage of infection exists in an apiary.

NEW ACT

An Apiaries Amendment Bill is at present being considered by Parliament. This Bill, in Clause 2, requires a beekeeper to notify an inspector forwith if he finds disease in any hive, and requires the beekeeper, within seven days after becoming aware of the presence of the disease, to take proper steps to prevent its spread.

The clause also requires a beekeeper to make an annual inspection of his hives, and to send to an inspector a statement relating to the inspection of any disease found during the inspection.

Clause 3 of the Bill gives more adequate powers for the destruction of bees, honey and appliances that are diseased or infected, or that are in the opinion of an inspector likely to be, or become diseased or infected. More speedy destruction is frequently necessary to prevent the spread of disease, and an inspector is empowered to take any necessary action in this connection, either with the consent of the beekeeper or the occupier of the apiary, land or premises, or with the concurrence of another Inspector.

Should the provision of the Apiaries Amendment Bill be enacted by Parliament, it is proposed to implement the following procedures. Beekeepers will be required to complete an inspection statement by the end of November with inspection dates, certifying that he has inspected all his hives; the inspection statement will require to be forwarded to the apiary Instructor not later than the 7th December each year.

If disease is found, the beekeeper will be required within seven days to notify, in writing, the Apiary Inspector for the

District. This action should become standard practice. On notification, the Apiary Instructor will inspect the Apiary concerned, or arrange for its inspection by a part-time inspector. The inspector will also advise beekeepers in the immediate vicinity that disease has been found and inform them that a check will be made of their near-by apiaries as soon as possible.

When no disease is found the beekeeper will be free to harvest his honey crop in the Autumn. If disease is found, the crop may not be removed until the Apiary has been re-inspected in the Autumn and all diseased hives destroyed to the satisfaction of the Inspector.

The current policy of burning every hive in which disease is found, either by the Inspector or by the Apiary Instructor, will be continued.

The following general principles will be adopted:

(a) Where the beekeeper himself finds diseased hives, after notifying the Apiary Inspector, he should burn the diseased hives to the satisfaction of the Apiary Inspector concerned or if the equipment is practically new, the beekeeper may seek the inspector's authority to salvage such equipment provided he is prepared to sterilise it to the satisfaction of the Inspector by methods as are approved by him.

(b) Where the Inspector find a high percentage of diseased hives in the Apiary and in his opinion the remaining hives are likely to be or become infected, in such circumstances he will be authorised with the concurrence of another Inspector to destroy, by burning, all hives in the apiary.

Apiary inspection by departmental Officers during the Spring and early summer period will take precedence over all other work.

The employment of qualified beekeepers as part-time inspectors to assist Apiary Inspectors will be continued. It is to be understood, however, that inspections done by the Apiary Instructor or part-time Inspectors are to be regarded as check inspections only, and the part-time inspectors will be employed to include check inspections of commercial apiaries. A complete inspection of at least one apiary of each commercial apiarist will be carried out either by the permanent Instructor, a part-time inspector or by both working jointly.

Inspectors will endeavour to advise a beekeeper when he intends to carry out the inspection of his apiary; the plan of insection however will not be unduly delayed because the owner beekeeper cannot be contacted or is unable to be present when the apiary is inspected.

Adequate control for the movement of hives and equipment is necessary if the spread of disease is to be controlled. Section 7, of the Apiaries Act, regarding movement of hives and equipment will be strongly enforced. In future, beekeepers will be required to notify the Inspector whether there is a change of ownership, and hives concerned are to be inspected by the inspector before they are moved to a new location. Removal of hives from apiaries in which disease was found present during the previous 12 months will not be authorised until an Apiary Inspector has inspected the hives.

When disease is found, movement of the remaining hives will not be permitted until six weeks have elapsed and inspection reveals no further disease.

Where diseased hives or equipment are located in a declared fire district and have to be burned or dealt with during the fire restriction period, the Instructor may, at his discretion authorise removal of diseased hives and equipment to the home apiary or other location to be destroyed in such conditions as he may specify.

Where no disease is apparent in the apiary the beekeeper will remain free to move bees, honey and hive equipment between his registered apiary sites, but will be required to obtain a permit to move such for the establishment of a new apiary site.

Every effort will be made to ensure that every beekeeper is able to recognise American Brood disease and is competent to undertake the measures necessary for its control and eradication. This will be done by feature articles in the "N.Z. Beekeeper" and farmers' publications, educational leaflets enclosed in correspondence, and by way of personal and group instruction to beekeepers.

It is hoped that the Apiaries Bill will be enacted, and enable all these measures to be implemented as from this year.

North Island

TRAINING SCHOOL

for Beekeepers

Following the outstanding success of the Training School held in the South Island in September last, the Apiary Section of the Department of Agriculture, in conjunction with the National Beekeepers' Association of New Zeland, is to conduct a further seminar at Ruakura Hall, Hamilton, on September 9, 10, and 11. Preliminary information is detailed below.

The Organising Committee comprises:

Messrs R. S. Walsh, A. W. Bennett, and C. G. Rope of the Department of Agriculture with Messrs T. S. Wheeler, D. A. Barrow, and B. W. Forsyth of the National Beekeepers' Association.

PROGRAMME

THURSDAY — SEPTEMBER 9

RUAKURA FARMERS' HALL: HAMILTON

10.15 a.m.—Mr E. Smaellie, Superintendent Beekeeping and Chairman, will introduce Mr L. R. Wallace, Director of Agricultural Research, Ruakura, who will open the School.
10.30 a.m.—The Nature of Honey: Mr C. G. Rope, Honey Grader, Auckland.
12.00 Lunch.
1.30 p.m.—The Economics of Beekeeping: Mr I. W. Forster, Technical Officer, Apiary, Oamaru.
2.45 p.m.—INFORMAL. Meet your fellow beekeepers and inspect the display of hive loaders and other beekeeping equipment.
3.30 p.m.—Afternoon tea.
3.45 p.m.—Beeswax: Mr C. R. Paterson, Tauranga.
4.30 p.m.—Adjournment.

FRIDAY — SEPTEMBER 10

9.36 a.m.—Honey Houses. The Beekeepers' Largest Permanent Investment: Mr L. H. Johnson, Apiary Instructor, Palmerston North.
10.30 a.m.—Morning tea.
11.00 a.m.—Queen Cell Raising and The Management of Queen Banks: Mr L. A. Griffen, Apiary Instructor, Christchurch.
12.00 Lunch.
1.30 p.m.—Nectar Sources: Mr R. S. Walsh, Apiculturist, Auckland.
2.45 p.m.—Anatomy of the Bees: Mr V. A. Cook, Apiary Instructor, Oamaru.
3.30 p.m.—Afternoon tea.
4.00 p.m.—How to Install and Care for Honey Pumps and Other Essential Hony Packing Equipment: Mr M. Bradstock, Honey Blender and Packer for the N.Z. H.M.A.
4.30 p.m.—Adjournment.

SATURDAY — SEPTEMBER 11

10.00 a.m.—The Brains Trust — Chairman Mr R. S. Walsh. Put Your Questions to the Experts on the panel comprised of D. Carey, H. Cloake, D. Lorimer and T. Wheeler.
11.00 a.m.—Control of Wax Moths and Vermin: Mr R. Blade, Blade's Fumigation Ltd., Auckland.

12.00 Lunch.

1.30 p.m.—Aspects of Bee Breeding: Mr I. W. Forster, Technical Officer, Apiary, Oamaru.

2.30 p.m.—The Management of Baby Nuclei: Mr L. Wilsher, Apiary Instructor, Auckland.

3.15 p.m.—Afternoon tea.

3.45 p.m.—Description and Demonstration of Mr C. R. Paterson's miniature Honey Drying Vacuum Plant: Mr C. R. Paterson, Tauranga.

4.30 p.m.—Closing Address—President, N.B.A.: Mr H. Cloake.

Visitors to the Seminar should make their own accommodation and meal arrangements. Morning and afternoon tea will be available in the Lecture Hall at nominal charge. Registration fee for the course will be 10/-, on receipt of which a Lapel Badge will be forwarded to you, which will serve as a ticket of admission.

Please assist the organiser by posting your application for Registration as soon as possible, and before the end of August.

NAME(S) .....

ADDRESS .....

I/we will be attending the Beekeepers' Training School and enclose herein £ s. d. Registration Fees, representing ten shillings per adult..

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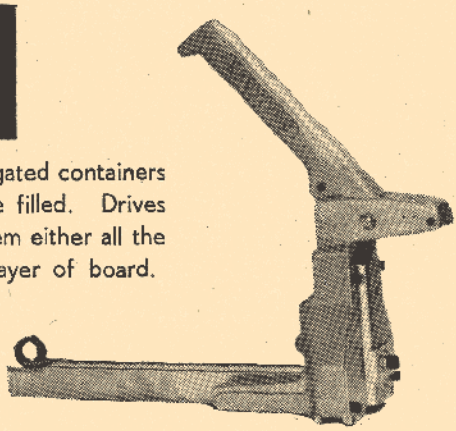

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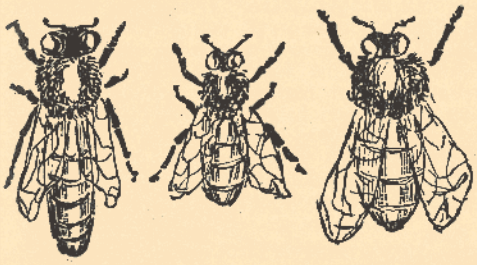


A WARNING TO PRODUCERS from the H.M.A.

The inclusion of the 44-gallon drum as a medium of supply under the Authority's returnable container scheme has meant that it is now readily available to even the smallest producer who may be supplying the Auckland Depot.

From the Authority's point of view, it is a convenient means of receiving honey and with the installation of special foolproof handling equipment, drums are quickly and safely unloaded, weighed and handled through the store.

While some producers have purchased reliable handling equipment with which to handle drums at the honey house, there are quite a few who rely on improvised methods. Some of these improvised methods are quite effective as long as extreme care is exercised. The purpose of this article is, however, to bring to the attention of producers the lethal potential of a 44-gallon of honey if it is not treated with respect.

The main danger of a 44-gallon drum of honey lies in its weight; a drum of honey weighs 710 lbs gross as against a drum of oil at 450 lbs gross.

Producers are urged to consider the following recommendations when handling drums of honey.

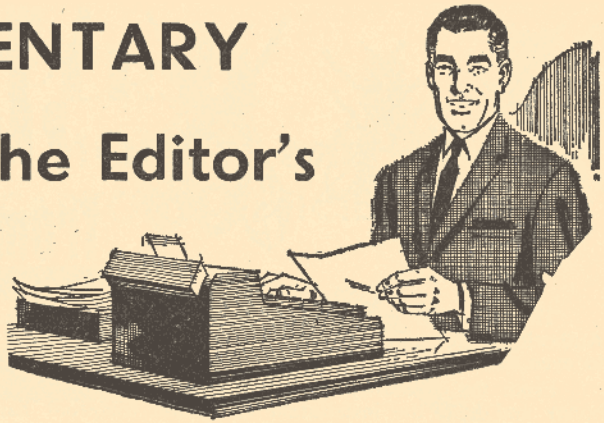
1. Ensure that drum handling trucks are sufficiently robust to take the extra weight and that they are of such a design that the operator has full control of the load at all stages of lifting and lowering. The Authority will be pleased to assist producers in their choice of a truck. Remember that most standard equipment available is designed for oil.
2. Ensure that floors are of sufficient strength to carry the dead weight and additional stress of the load being lowered. A reinforced concrete floor is most suitable. Unreinforced concrete floors will quickly break up with the impact of a drum being dropped on to it.
3. Ensure that operators wear safety boots with steel caps.
4. If it is necessary to tip drums from vertical to horizontal position, use a rubber tyre to break the fall and retain control by the use of two operators.
5. If drums are being rolled down a ramp, retain control by use of ropes.
6. When stacking drums vertically against each other in store or on a truck ensure that fingers are kept away from the rims.
7. Ensure that loads are well secured on trucks by the use of ropes that will prevent all movement. Do not rely on side or tail boards only, and keep in mind the hill approach to the Authority's cart docks. An uphill approach in reverse is essential.

Two further points not directly related to handling but which should be kept in mind by producers filling drums are:—

1. Ensure that the bolts securing the rim and lid are securely fastened both before and after filling. 660 lbs of honey on the floor can make a frightful mess.
2. Do not overfill. While this does not affect the producer it does affect the user whether it may be the Authority itself or an overseas buyer. When an overfilled drum is heated for the purpose of emptying the contents, expansion takes places, with the result that spillage through the bung occurs. At least an inch of space should be left at the top of the drum.

COMMENTARY

from the Editor's Desk and Mail



THE AMERICAN HONEY INSTITUTE promoted a "Honey For Breakfast" Week during which point-of-sale showcards and recipe cards were distributed to merchants and retailers to encourage greater consumption. Some of the recipes and suggestions emphasise the tremendous difference in national tastes, and help to remind us that we must not necessarily expect our customers overseas to whom we hope to sell honey, to view the product through our eyes.

"One man's meat may be another man's poison" is undoubtedly true, and it is extremely doubtful if some American recipes for using more honey would find favour with New Zealand tastes.

Nevertheless, the promotion is designed to create demand within the home market, and a vigorous, well planned promotion in New Zealand for our own home produced product might very well pay handsome dividends.

★ ★ ★

ACCORDING TO J. H. ARMITT, author of **"Beekeeping for Recreation and Profit,"** it is a waste of time to look for the old queen during re-queening operations, and the colony should be re-queened without thought of attempting to find her.

The method advocated is to introduce a new queen into a nucleus, spread a sheet of newspaper above the colony to be re-queened, place the queen-right nuc. on top complete with a good feed of syrup, and leave well alone. Mr Armitt claims that the old queen cannot survive active combat, and is normally destroyed by the colony, saving much time and considerable trouble.

★ ★ ★

IT IS INTERESTING to learn the origin of the colloquial description for **Bacillus Larvae,** in that the disease was first isolated in the laboratories of the United States Department of Agriculture in the 1900s. The fact that their research resulted in the disease being named after the country of discovery is really unfair, because records exist in the writings of early Greek and Roman authors which proves that **Bacillus Larvae** has plagued beekeepers for thousands of years.

The discovery that sulpha drugs could control **Bacillus Larvae** in 1944 resulted in some States of the Union recommending the use of the drug, but the State of New York insists on control by rigid inspection, destruction, burning the frames, and scorching other parts of the hive. In 1929 6.61% of 39,073 inspections proved to be diseased, whereas in 1963, of 86,960 inspections .81% were found to be diseased; a notable drop in disease incidence and strong support for control by fire.

It must be extremely difficult to maintain control when neighbouring States advocate and practice control by drugs, because the spores from the bacteria are not affected by the drug and may remain inactive for 35 years and more. Stored bee equipment and honey distributed from one State to another is therefore an ever present menace to disease-free areas.

THE MELBOURNE "AGE" reports that two pretty little blue bees were recently sent for identification by a reader, who had found them active on the lavender bushes. Both specimens proved to be different species and of different families, one being yellow and black with blue bands, and the other dark with blue spots.

The banded and spotted bee are native to Australia, and the first belongs to a group known as banded bees of the genus Anthopora (family Anthophoridae) and the spotted bee is one of the Cuckoo bees (genus Crocisa, family Melectidae). The latter do not nurse their own off-spring, but like the cuckoo bird, use others to act as foster parents, depositing their eggs in the nests of the host species and sharing the food supply there.

★ ★ ★

CORNELL UNIVERSITY experiments show that mice stung by bees after a heavy feed quickly died, whereas those that were starved for six hours and then subjected to stings, survived. Perhaps amateurs who find "hot feet" uncomfortable would suffer less if they did their manipulations on an empty stomach.

★ ★ ★

THE SCOTTISH BEEKEEPER reports the finding in the East of Scotland of an attractive badge in an attractive design in white with a gold rim on which is the wording **Brotherhood of Beekeepers.** In the centre circle is a pair of clasped hands, surmounted by a worker bee. The origin of the badge was unknown, but an appeal for information resulted in a story of its first use from the editor of the British Bee Journal, who reported that a Lt.-Colonel H. N. Kettlewell, an English beekeeper, started the idea in 1921. A badge was produced in white enamel on gilt, and were offered at the princely sum of 2/1½ post free. Postage at that time in England was 1½d, so that the net cost of the badge was 2/- but it always sounds more pleasing to include "post free". Later variations were in gold or silver double sided pendants, the former costing £1 and the latter 6/6, and as lapel badges and ladies' wrist bands.

Rules of the Brotherhood were simple, and primarily entailed to promise to create goodwill and fellowship between all beekeepers, and a willingness to help and offer advice to each other. No fees were required for membership, and acceptance of the rules entitled the wearing of the badge.

There is undoubtedly an affinity between beekeepers of all ages irrespective of race or creed, and it is a pity that the same sense of comradeship cannot be more closely emulated in other spheres of life.

★ ★ ★

THE WALTER T. KELLY CO. of Kentucky, U.S.A., are marketing an interesting device for chunk comb honey cutting. Comprised of heavy gauge copper and weighing seven pounds, the cutter is normally assembled with five inside blades spaced as specified by the buyer, but additional blades can be provided for about 5/- each. Heat is provided by the domestic electric iron strapped on to the top of the cutter, and the device is said to cut clean with slight pressure.

P.S. To maintain domestic bliss it is suggested that any Kiwi emulators and experimentors buy their own smoothing irons. Propolis or burned honey make stains which are the very devil to remove from freshly laundered sheets.

★ ★ ★

FISHING ENTHUSIASTS or members of the piscatorial persuasion will be interested in a device for a fish caller sent in by a reader of "Gleanings," who says:

> "Take a pint-sized bottle with a screw-on lid. Punch a few holes in the lid. Put a live bee inside the bottle and lower it to the bottom on a fish line. The air pressure will probably keep the water out. The buzzing sound of the bee will attract fish. Drop your baited hook close to the bottle. You'll catch lots of fish."

Something went wrong with my experimental "caller". All that happened was that the bee drowned. Perhaps the lid perforations were too big or the water too deep.

Another subscriber recommends that a smoker filled with oily rags is a mighty weapon to destroy gophers. Just light the rag, he says, and push the nozzle of the smoker into the gopher's hole. Working the bellows vigorously will soon fill the hole with smoke and drive the gopher above ground, where it

can be killed.

Of course, if we Kiwis cannot find a gopher hole the experiment can always be tried on a wasp hole, but no responsibility is taken for the result. Instead of a gopher, you'll probably have to go for your life.

A gopher, by the way, is a specie of squirrel with pouched cheeks, a rodent indegenous to America and a sworn enemy of beekeepers because of the damage caused to hives with ultra sharp teeth.

★ ★ ★

AN ENGLISH FIRM of honey producers and packers was fined in the Dorchester Magistrate's Court for infringing the Food Regulations in that they offered honey for sale as an English product, whereas in fact it contained imported honey.

The defence claimed that it was necessary to feed their bees with foreign honey because of climatic conditions, and that it was also necessary to use Canadian honey as a "seed" basis for the bulk honey.

It is surprising that the defence of using foreign honey as feed was advanced, because such a practice is looked upon as extremely dangerous and a possible source of spreading disease. Further, if a product was sold as a local or English product, it would surely be customary and expected to use a "starter" from local sources.

Defendants were fined £3 and £20 costs, the sample analysed having been said to contain 75% wild white clover, 5% eucalyptus, 2% buckwheat and 13% unidentifiable material..

★ ★ ★

FOLLOWING THE VISIT of Professor Mykola H. Haydak of the University of Minnesota, U.S.A., to Australia earlier this year, and experiments conducted by the Waite Institute in Adelaide, a new pollen substitute has been developed through field and laboratory research named "Kra-Waite".

The products is a soft candy for use inside hives, and is produced commercially in half pound containers ready for immediate use, and is attractive to bees even when they are collecting and storing pollen, permitting brood rearing to be maintained at maximum capacity.

"Kra-Waite" is manufactured from a formula based on yeast by Kraft Foods Ltd., and the commercial supplement will be entirely free from disease organisms, unlike candies produced from pollen for supplementary feeding.

Experiments in the United States and Australia have proved that it is highly dangerous to feed trapped pollen directly to bees as an attractant or supplementary food, because it was found impossible to sterilise the pollen and eradicate *bacillus larvae* or *nosema apis* without destroying nutritive values.

Similarly, a supplementary food containing hony could equally be dangerous for its ability to spread disecase, and "Kra-Waite" will therefore contain no honey, but will contain invert sugar, made by the inversion of cane sugar with enzymes. The use of the invert sugar makes it possible to guarantee that the commercial product will be entirely free from organisms which could cause bee disease.

The Australian Beekeeper reports that commercial supplies of the supplementary feed will not be available immediately, and that the formulae is not suitable for home production. The basic ingredient is Kra-Yeast, a byproduct from the fermentation of molasses into alcohol manufactured by Kraft Foods Ltd., and which has a high protein content and contains vitamins and minerals essential for honeybees. Skim milk powder is added to provide a better blend of proteins.

Enquiries are being made to see whether supplies of this commercially produced feed supplement can be made here in New Zealand or imported from Australia.

★ ★ ★

THE ROYAL AGRICULTURAL SOCIETY of England has entrusted the British Beekeepers' Association with an acre of land within the Society's show ground at Stonleigh Park, Warwickshire, for use as a permanent site. The Association has undertaken to develop the land as a permanent beekeeping centre, and facilities will be available for field days, conventions and similar functions.

★ ★ ★

AN ENGLISH BEEKEEPER who purchased an Apidictor was anxious to listen to the murmur of the inmates, and although out of season in the very early spring

to use the instrument for its intended purpose, chose a calm sunny day, and inserted the microphone for a little eaves-dropping. To his utter consternation and amazement, the earphones produced the voices of a male and female in animated conversation—and in English! Initial thoughts of the queen talking to her consorts had to be disregarded and a more logical explanation of the phenomena sought. A precise diagnosis has yet to be given, but a surmise is that the instrument was relaying by induction or some other freak of electronics ,a conversation twixt man and maid. No request is reported to have been made to get off the bee line.

★ ★ ★

ENGLISH TRANSLATIONS are available of every paper presented to the International Congress in Prague in 1963 and represent a notable tome of 384 pages of printed material. The organisers very generously and at considerable expense forwarded a copy to the Association, and it has been deposited with the honorary Librarian for any interested reader. The weight, however, is considerable.

★ ★ ★

HOME PRODUCED HONEY is in very short supply in England, and demand exceeds supply. Current market rates are 5/- a pound and 2/9 per half pound, as recommended by the Honey Producers Association. Complaint is made that despite the high demand, some smaller producers are under selling the market.

★ ★ ★

A NEW ORGANISATION in British beekeeping circles is called Village Breeders Association, and their avowed aim is to co-ordinate the propagation and maintenance of the better tempered, more vigorous and more productive strains, and to lay special emphasis on saving and popularising the best of the less prolific breeds closest to the native bees of last century.

The name of the association refers to the small colony habit, in the belief that prolificacy is not necessarily advantageous to honey production or easy management in many parts of the U.K. The opinion is expressed that the old native bee did not completely die out following the onslaught of Isle of Wight disease, and that whilst they have become crossed with imported bees, they are capable of reselection.

★ ★ ★

A SUGGESTED ADAPTATION of the stirring hymn for harvest festival is put forward by a writer to the English publication FARMERS' WEEKLY dated October 2, 1964, and it is apparent that the correspondent views with a jaundiced eye the haphazard destruction of any and every wild flower that blooms. Fortunately, there are indications that common sense is beginning to prevail over the spraying question, and that thought is preceding action.

SIR, Perhaps these verses, based on "We plough the fields and scatter . ." would now be appropriate for harvest festivals:

We spray the fields and scatter
The poison on the ground
So that no wicked wild flowers
Upon our farms are found.
We like whatever helps us
To line our purse with pence;
The twenty-four hour broiler house
And sweet electric fence.
All concrete yards around us
And Jaguars in the yard
The tele lounge and deep-freeze
Are ours from working hard.
We fire the fields for harvest
The hedges swell the flame,
The oak trees and the cottages
From which our fathers came.
We give no compensation,
The earth is ours today,
And if we lost on arable,
Then bungalows will pay.
All concrete yards . . . etc.

Laboratory Tests HELP PREVENT BEE LOSSES Through Pesticides

By P. G. CLINCH,
Scientific Officer, Apiculture Section, Wallaceville Animal Research Centre.

Every year, progress with the control of pests and weeds is made through the discovery of new pesticides. The biological spectrum of these materials is not, however, usually confined to the problems they solve, and their application may result in undesirable side effects, including the destruction of bees and other beneficial insects. Although not all pesticides are toxic to bees, all those that are to be applied in situations where they could present a hazard to beekeeping, must first be proved safe before release for general use. At Wallaceville Animal Research Centre, the Agricultural Section carries out laboratory and field tests to discover whether these compounds can be applied in New Zealand without risk to bees.

LAB. TESTS FIRST

At first sight it might seem more logical to confine all tests with new pesticides to the field, for that is where they will be used. However, field trials are expensive to undertake, and depend for their success on satisfactory conditions both for application and assessment. The weather is notoriously unpredictable and much time can be wasted waiting for suitable conditions. Furthermore, to safeguard against causing heavy bee losses or carrying out trials unnecessarily, certain basic facts about the toxicity of a pesticide to bees are essential. Laboratory tests have therefore been devised to obtain this information before proceeding to the field. So far we have been unable to replace field trials entirely by such tests, because every compound must be tested under New Zealand weather conditions by the application method employed in practice. For the same reason the results of overseas trials cannot be used as a basis for recommendations under New Zealand conditions.

A pesticide may kill bees by contact, stomach poison, or fumigant action, or by a combination of these, and the laboratory tests employed are designed to determine each effect separately.

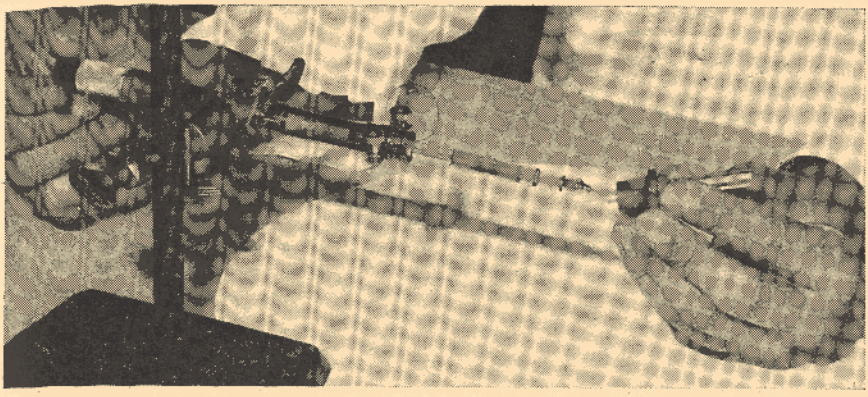
Contact Poisons

Bees may be killed if they are on a crop which is being sprayed or dusted with a pesticide of high toxicity as a contact poison. This mortality occurs because the compound is able to diffuse through the outer surface of the bee to kill it. A material with this property may also kill bees if they alight on a crop that is still wet with spray. In some cases it may even be toxic to them after it has dried, although many pesticides are quickly absorbed into the plant surface, where they are relatively harmless by contact.

In the laboratory each of these forms of contact contamination can be simulated with the aid of a spray tower (pictured on the front cover). Bees can be sprayed directly or allowed to come into contact with wet or dry spray deposits obtained with concentrations of pesticidies and volumes of water similar to those applied in the field.

Stomach Poisons

Bees may be killed if they collect nectar or water that is contaminated wtih a pesticide of high toxicity as a stomach poison. In this case, the compound penetrates through the walls of the digestive tract to cause the mortality. Direct contamination of nectar may result from spray entering flowers with an open structure e.g. brassicas, and pollen may be similarly affected. Certain pesticides may also reach the nectar by diffusing into the plant through the roots, stem or leaves, being internally



Loading a feeder with a measured drop of pesticide for dosing individual bees in the stomach poison tests.

transported to the nectaries in the sap flow. Such compounds are said to have systemic properties.

In the laboratory, toxicity as a stomach poison is detected by feeding bees individually a known dose of pesticide in sugar solution (see picture).

A new technique is being developed to determine whether a pesticide may contaminate nectar by systemic action. Plants are grown under artificial lights in a temperature-controlled room, and either just before or during flowering are treated with the pesticide. Nectar is then withdrawn with a pipette at intervals after spraying and fed to individual bees so that both the degree and persistence of the toxicity can be established.

Fumigants

Some pesticides are volatile and can kill bees by entering the spiracles as a vapour. This effect is usually the least important, because fumigants are normally quickly dispersed in the field by air movement.

This toxicity can be demonstrated in the laboratory by enclosing bees in containers so that they are held close to, but not in direct contact with, a filter paper soaked with the pesticide.

From the results of these tests it is possible to predict to some extent the behaviour of a compound in the field. For example, if it shows high toxicity by direct contact action it will almost certainly cause heavy losses if applied to a crop which bees are working. Without this information, these losses would occur in initial field trials. Laboratory tests therefore play an important role in conditioning the conduct of field trials and so safeguard the beekeeper.

Letters to the Editor

P. O. Box 16, Havelock North,
18th July, 1965.

Sir,

Conference produced some most important developments relating to honey marketing and I feel that these should be elaborated for the information of the many members who were unable to be present.

One of the most striking features of the Conference was the marked reluctance of my fellow members on the Authority to be drawn into debate on marketing remits but they nevertheless voted solidly in favour of continued profits for Lt.-Col. A. C. W. Kimpton.

One of the most vital remits before Conference was that which called upon our National Executive to investigate the price structure of N.Z. honey up to the United Kingdom consumers' level. It was plain to all that this remit directly implied a lack of confidence in the Authority's ability to market our honey to the best advantage and it was certainly incumbent upon all Authority members to be present so that they might defend their present policy, if they could. Unfortunately, when the motion was brought forward all of my colleagues had already left without advising Conference or offering any explanation. Transport arrangements could hardly have been the reason for their departure, particularly in the case of Mr Fraser, the H.M.A. chairman, who lives relatively handy to Dunedin.

Members who now have a full appreciation of our overseas marketing setup will welcome the Conference decision that any future arrangement with Kimpton Brothers should be able to be terminated just as and when we think fit. I have no doubt that the Minister of Agriculture will recognise this as an expression of the wishes of the industry and that he will, through his representative on the Authority, support the inclusion of this provision in the arrangement to be concluded shortly.

My other remit, relating to commission rates, was declared lost on the voices amongst considerable confusion, the question not having been actually stated by the chairman before being put and the vote being taken when a number of members were temporarily absent on other Conference business. A call for a show of hands, before the next business was proceeded with, was declined by the chair.

I am firmly convinced that the unanimous support given to the motion calling for an investigation by the N.B.A. into the United Kingdom price structure indicates the growing awareness of the industry as to the true extent of the problem which we are facing. Possibly the disclosure some time ago that the then chairman of the Authority was receiving private and confidential correspondence on marketing matters from Mr Kimpton has given rise to some questions in members' minds as to the extent and with whom this is still going on. The subservience of the industry to Kimptons, the reluctance of my colleagues on the Authority to debate marketing issues before Conference, their unannounced disappearance before the debate on one of the most vital marketing issues and their failure to request that this remit should be discussed sooner if there was a valid reason for their early departure all add to previous evidence of a situation which is gravely concerning an increasing number of the thinking members of our industry.

If the new arrangement with Kimptons commits us to pay excessive commission or if it does not reserve our right to terminate the arrangement at any time I will take steps to have a public judicial inquiry into the whole matter.

P. BERRY.

IN FAIRNESS to the persons named in this correspondence, Mr Berry's letter was shown to them, and the opportunity provided for answering the accusations made against them. Replies from both Mr Harry Cloake, President of the N.B.A. and Chairman of Conference proceedings, and Mr J. Fraser, Chairman of the Honey Marketing Authority, will be found opposite.—Editor.

Timaru,
July 31, 1965.

Sir,

In his letter, Mr Berry implies that his first Notice of Motion was put amid considerable confusion. This was not so. The President of the Host Branch was requested to ensure that as many of those attending the Conference as possible were inside the hall, that the door was closed and no one left the hall until the motion had been put. When all were seated, they were advised that the motion would be put. The motion was put in the proper manner, and lost by a considerable number of voices. Before proceeding to the next business—Mr Berry's second Notion of Motion—a short recess was taken. Mr Berry has omitted to inform readers of the Journal that it was not until the meeting had resumed following the recess that he called for a show of hands. He did not exercise his right of calling for a show of hands immediately after the decision was announced, and in calling for a show of hands after the recess was out of order.

HARRY CLOAKE,
President, N.B.A.

Invercargill,
July 30, 1965.

Sir,

If there was a reluctance on the part of Authority Members to engage in debate on Marketing remits, as Mr Berry alleges, it would have been due to three causes.

1) The subject matter of the various remits had been the subject of debate and decisions at the Authority meeting prior to Conference.
2) The Chairman's report to Conference fairly covered the field, and no one was denied the opportunity of asking questions.
3) There seemed little point in contributing to a debate in which Mr Berry sought sought to influence Conference by scurrilous and slanderous attacks of a personal nature, on people not present to defend themselves.

Those members of the Authority who were not present in the closing stages had previously informed me of their movements. I had myself made their apologies, and my own, to the Dominion President. (Perhaps I should add that I was present on the final morning at my own expense, not at the expense of the Industry.)

The particular remit in question, calling on the Executive to investigate the price structure of N.Z. Honey in the U.K. up to consumer level, could meet with no objection from the Authority, who of course are interested in just that very thing, and have from time to time made efforts to do what Conference now asks the Executive to do.

J. W. FRASER,
Chairman, H.M.A.

Sir,

re POLYTHENE SHEETS — FOR STORAGE OF BEECOMBS OUTSIDE

In view of the wide-spread use of these sheets, the following points may be of interest.

1. Black polythene .005 inch is not particularly robust and a slightly heavier grade seems adviseable.
2. It does seem necessary to have some slope on the top of the stacks — even a small pool of water is quite heavy when resting on such a thin sheet.
3. *Don't* use a sandbag to prevent billowing-up of the cover (some grains of sand escape and are very quickly through.)

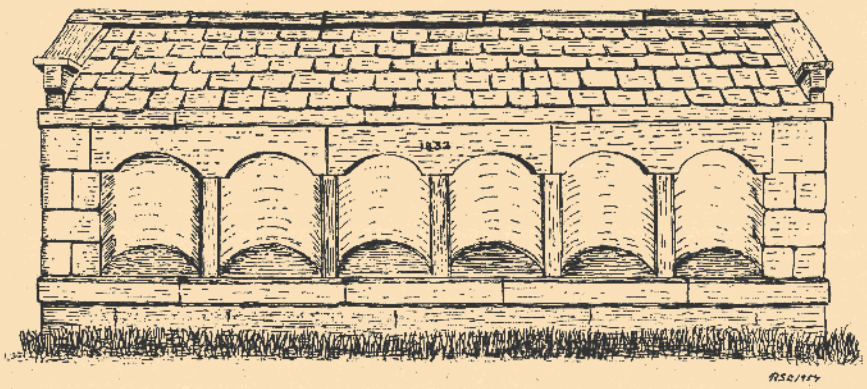
There has been trouble with moisture in the stacks and resultant soggy combs when the stacks are opened early the following season — this could be caused by

1. The concrete base is not a vapour barrier (4 shingle, 1 sand, 1 concrete is not a waterproof mix), and a sheet of polythene over the concrete is very good.
2. Don't let the water lie in the trench around the stack to feed the moisture inside by capilliary movement up between concrete and polythene.
3. Once water gets into the stacks there does seem to be an evaporation-condensation cycle started that results in dampness in the top layer of combs.

With reasonable care it is really something to open up such perfectly protected combs that this method can give.

Anon.

* * *



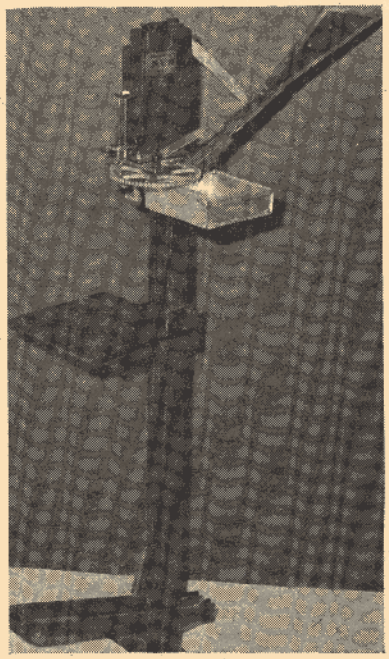
THIS INTERESTING SKETCH of a bee bole is reproduced by permission from the BRITISH BEE JOURNAL and was drawn by a Mr Rowland Close of Baysdale. The bee boles have been empty of skeps for some years.

Bee boles are to be found in various counties and burghs of Great Britain and were erected by early beekeepers to give protection from adverse weather to the flimsy straw skeps which were common a comparatively few years ago.

Now that more permanent hives of wood are in general use, bee boles have fallen into disuse and, in most cases, into disrepair. Incorporation as part of a brick wall is not uncommon.

FRAME NAILER

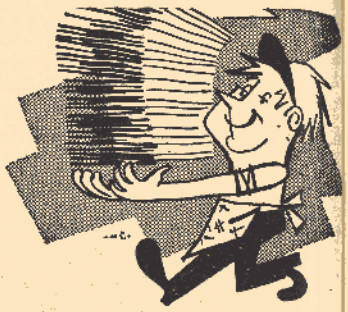
DELEGATES TO CONFERENCE at Dunedin were interested indeed to see and try out an invention by fellow apiarist, Robert Davidson Jnr., of Hadlow, Timaru.



Finding the chore of nailing frames slow, irksome and not always satisfactory, Bob put on his thinking cap and invented a foot operated machine which thumps in nails like a cook shells peas.

A handful of nails are thrown into the V-shaped tray on right, and the nails trickle down by gravity to feed one at a time into a serated wheel. Each time the foot pedal is operated by slight pressure, a nail feeds into a slot, to be injected under ram pressure into the frame or box held on the adjustable tray. For nailing frames, a jig is procurable which makes the whole operation extremely simple, and a child can assemble the frames ready for six nails. The frames after nailing are rigid and certainly produces a better job than the old hand hammered method. A Provisional New Zealand patent has been granted, with patents pending in other countries.

BRANCH NOTES



NORTHLAND

The Whangarei Winter Exhibition was a record show in several respects, one of which was the number of entries in the Honey Section which totalled 159. For the size of the district, a good effort and praised by the judge, Mr C. Rope.

A good muster attended the Annual Meeting on a wet night in May when beekeeping slides were also shown.

Winter work is proceeding and all members are looking forward to a better season.

—Reported by L. G. Lovatt.

☆ ☆

AUCKLAND CENTRAL

The July meeting was held on the wettest and wildest night of the year so far but was well attended, two members making a choppy crossing from Rangitoto after attending to colonies on the island. Many of the stocks were hungry—a common condition this year —and some had died out for lack of food.

The delegate to Conference gave a resume of proceedings and in particular remits put forward by the branch, followed by an informal chat by the Editor of the journal.

The Apiary instructor showed members a well pulled out frame of plastic comb foundation, and warned everyone to be sure to examine their food situation when circumstances permitted. Colonies in all parts of the area have consumed abnormal amounts of food this year. This branch meets regularly every month of the year with the exception of December.

—Reported by P. W. Keenan.

NELSON

Our last branch report, in which pleasure was expressed at the visits of V.I.P's who had looked in during the early part of the year, failed to reach the Editor and has either been delivered to an address unknown or lays reposing in some dusty corner of the Post Office sorting room. Messrs Colin Gosse of the H.M.A., E. Smaellie of the Dept. of Agriculture, and Percy Berry of Hawke's Bay were all visitors, and we shall look forward to seeing them again.

Three new members have joined us recently, and we all enjoyed seeing the Japanese film, "Secrets of the Hive". Our apiary instructor, Mr Paul Marshall showed us some instructive slides on comb honey production, from which we gained a number of good ideas. The writer attended Conference as branch delegate, and we shall certainly be represented at the Hamilton Seminar.

—Reported by Mrs I. M. Cropp.

☆ ☆

WAIKATO

After the light honey crop, a good crop of wasps descended to add to our woe, and reports are that a lot of stores were removed. One apiarist tells of having only 16 hives left from a total of 42.

Heather has flowered well, and if mild weather continues, this will help the feed situation, otherwise sugar will be needed. It is a pity that we are not permitted to shift stocks to the Whakatane area for feed, and we feel that we should ask for investigations to be carried out to see whether it would be safe to have bees in the closed area for sufficient time for them to build up, and supply a little honey to assist with the November famine elsewhere.

—Reported by C. Bird.

POLLEN SUBSTITUTES

(Continued from Page 1)

would be unlikely to be economic. His recommendation was that beekeepers with apiaries in districts suspected of pollen shortage should give the supplement a trial on a small scale, with control hives, before deciding to use it in large quantities.

In experiments conducted at Atira in 1946, hives fed the pollen substitute yield an average of 179 lbs. of honey, the seven control hives produced 122 lbs., and those fed with natural pollen in combs 266 lbs. during the season.

Palmr-Jones' recommended supplement consisted of nine parts by weight of soya bean flour, thoroughly mixed with one part by weight of dried pasteurised yeast of the medicinal type, added to one and a half pints of sugar syrup to each pound of supplement, and fed to the hive in one pound cakes over the top of the cluster.

The need for pollen supplements is probably greater today than was the case 20 years ago because of spraying and eradication schemes to rid the countryside of gorse and other prolific sources of pollen. But in our thirst for knowledge of new developments elsewhere, we must not forget the fact that stimulative feeding is not entirely new, and that a great deal of valuable and original resarch was undertaken by our own countrymen.

Perhaps it would be possible to reissue the original paper, brought up to date in the light of further research, and present-day costs.

PURCHASE OF CYNOGAS

Some beekeepers have experienced difficulty in purchasing supplies of Cynogas for destroying wasps and unwanted colonies.

The Department of Health have now ruled that it is not necessary for a beekeeper to be classified as an Approved Operator under the Deadly Poisons Regulations 1960 to handle Cynogas. Registered apiarists may now purchase Cynogas without departmental approval providing that the use is restricted to the beekeepers' use in his beekeeping activities.

Colin Rope of Auckland provides some

FOOD for THOUGHT

Marking Queen Bees

Glass observation hives are frequently exhibited in the Department of Agriculture's displays at A. & P. Shows. They are a great draw card. Children soon spread the word that there are bees in the big tent, and numbers of people enter specially to see them. Afterwards they peruse the other exhibits in the marquee, and, we hope, derive some knowledge from each of them.

The observation hive contains only one frame lightly covered with bees. The frame itself is new and the comb is clean and white, containing brood of all ages. It has honey and pollen in the corners.

The centre of attraction is the queen bee. She is usually confined within a 4in. diameter perspex cage which has queen excludered sides to allow nurse bees free access to the queen. She is very conspicuous because her thorax is painted with a bright spot, usually red. Ladies' finger-nail polish is good for marking queen bees. It dries fast and does not distress the queen. One queen marked in this way has retained her spot for two years and she has laid well throughout this period too.

Winter Mating

A hive in my backyard superceded its queen in July. The new queen mated, and laid satisfactory brood. Although she did not become a drone layer, the new queen was herself superceded the following September. Perhaps colonies replace their queens more frequently than many of us realise.

Is There a Complete "Droneless" Season?

I think not. One September we were dividing 30 colonies in an apiary as the initial step in the "2 Queen System." As we were dividing the colonies and distributing the ripe queen cells we became concerned because there appeared to be hardly a drone in the apiary. After a thorough search we could find only 2 or 3.

Well it turned out OK. A good percentage of the virgin queens mated satisfactorily and the apiary produced as much honey as other yards in the district.

Two Queens Accepted in One Hive

American authorities say that the most productive hives are those which contain two queens, each queen having an independent broodnet separated from the other by a queen excluder and a storey of honey. The bees are united at the commencement of the honey flow by the newspaper method, and will accept both queens for quite a time.

Uniting Colonies by the Newspaper Method

Dr Haydak has observed that when two single storey colonies are united in the usual way by the newspaper method but WITHOUT killing one of the queens first, the younger queen will be accepted by the bees on 70% of occasions, the older queen will be accepted on 10% of occasions, and both queens will be superceded on 20% of occasions.

For Comb-Honey Producers

1—Dead bees in uncapped cells? Give up using phenol.
2—Punctured cappings? Use less smoke and avoid robber bees.
3—Black film on your electric iron used for heat-sealing transparent wrappers? Apply soap to the iron from time to time.
4—Sand paper clogged with propolis and wax? Moisten it with turpentine after the machine has been stopped, leave for one minute, then clean the paper with a wire brush.
5—Bees have removed the honey from odd cells? Harvest your crop im-

mediately the honey flow has ceased.

6—Can B.D.H. Technical Benzaldehyde be recommended for repelling bees from sections? Two experienced beekeepers report excellent results with it this autumn. The bees did not mutilate the cappings. Other beekeepers have not mastered the technique.

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THE HUMAN FACTOR

We are often asked "Does such a thing work?", or "Is so and so a good idea?" It is sometimes difficult to give a conclusive answer, because there are some who can make most things work, and there are those who always burn the cakes no matter how good the recipe.

WHAT IS THE BLACK SUBSTANCE ONE SEES ON USED HONEY TINS?

This is Tannate of Iron and is produced by chemical interaction between Tannic acid which is a natural ingredient of honey, moisture, and iron from the container.

Tannate of Iron forms the basis of common ink.

☆ ☆ ☆

ITEMS OF INTEREST

FOLLOWING DECONTROL of honey prices, the H.M.A. moved quickly to acquaint the Industry with their price list of "Honeygold" colour 60, and "Imperial Bee" colour 86 brands to the wholesaler in various packs.

Statements by both the Chairman and the Manager accompanied the price details, and the latter emphasised that the H.M.A. intends to hold the prices of its retail packs of honey distributed on the local market at existing levels.

The Authority has taken a stand at the permanent Food and Wine Exhibition at Wellington, which is to be under the direction of television personality Graham Kerr. All aspects of honey marketing in New Zealand and overseas will be featured, and will include cooking demonstrations with honey by Mr Kerr. Packers and distributors with special brand names have been invited to contribute a 1 x 1 lb. carton of each brand packed for the display. The Exhibition opens on September 1st.

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The Auckland Beekeepers' Club held a very well attended meeting at the Honey Marketing Authority's premises on July 13, when 70 members availed themselves of the opportunity of inspecting the plant and having explained to them the processes involved from receiving bulk honey to packing in cartons or drums.

The President of the club, Phil Muir, paid warm tribute to the friendly cooperation of the manager and staff in staying on at work until late evening to enable the gathering to be held.

Colin Rope, Honey Grader for the Department of Agriculture, talked on grading and honey sections and the meeting was thrown open to general discussion from which a number of us learnt some more facts and facets of practical work.

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LIBRARY NOTES

DONATION OF TWO copies of "The Complete Texts of Lectures of xix Congress of Apimonda in Prague, 1963" is acknowledged, with thanks, from our Editor. Readers wishing to borrow these will need to send 1/- postage.

SUGGESTIONS FOR READING

"The Behaviour and Social Life of the Honeybee"—by Ribbands.

"City of the Bees"—Stuart.

"Infectious Diseases of the Honey Bee" —Bailey.

"Langstroth and the Honey Bee"—Dadant.

"Curative Properties of Honey and Bee Venom"—Yoirish.

For the Beginner: "The Art of Beekeeping"—Hamilton.

For long-term loans: older copies of "A B C and X Y Z of Beekeeping."

Books available to members of National Beekeepers Association anywhere in New Zealand. Send 2/- to your Hon. Librarian, Chris Dawson, Box 423, Timaru.

Questions and Answers
TO HELP BEGINNERS
by Bob Walsh of Auckland

Question: If a colony is known to have lost its queen by accident of otherwise or a nucleus is required to raise a queen from a frame of brood, what type of cell should the beekeeper choose to retain from amongst those raised, as likely to produce the most perfect queen?

Answer: They should retain only the largest of the UNSEALED cells. The reason being that bees finding themselves without their queen will often begin to supply with Royal Jelly larvae that are far too advanced in growth for the full effect of such feeding to take place, and the queens that will be produced in this way will be much inferior. The first of these emergency cells to be sealed over, should be destroyed.

★ ★ ★

Question: When making up a nucleus from an established colony, is the ripe cell given to the nucleus immediately on forming it, or several days later?

Answer: The cell should be given to the nucleus just as soon as the bees have settled down . Never leave the nucleus more than a few hours without a cell.

★ ★ ★

Question: When bees require water for cooling purposes within the hive during the nectar flow, do they abandon the work of nectar gathering to carry water?

Answer: No. Certain bees are delegated to each clas of work. Nectar gatherers gather nectar, pollen gatherers collect pollen and water carriers carry water.

★ ★ ★

Question: A young Italian queen bee was introduced to a colony of hybrid bees and in a few weeks' time true to type Italian bees were seen emerging from th cell and flying in and out of the hive. A short time later there appeared to be no increase in the number of pure Italian bees, in fact there where many less. The owner opened the hive and found a hybrid queen in occupation. He came to me in consternation at a loss to know how it could have happened. Remember the queen that had replaced the pure Italian was herself a hybrid. Can you give a reason for this?

Answer: An after swarm containing a virgin queen from a hybrid stock had entered the hive and killed the queen of the colony. Queen breeders have a good deal of trouble with this type of intrusion.

★ ★ ★

Question: Under what conditions does a queen lay more than one egg in a cell?

Answer: There may be nothing wrong with the queen, she may in fact be an extra good queen if she is laying eggs uniformily in every cell. If, however, the eggs are placed in scattered cells only, she is faulty due to old age or injury. It is not uncommon for a vigorous queen to lay more than one egg in a cell when there is only a small population of bees, such as in a nucleus.

★ ★ ★

Question: What is the difference between burr comb and brace comb?

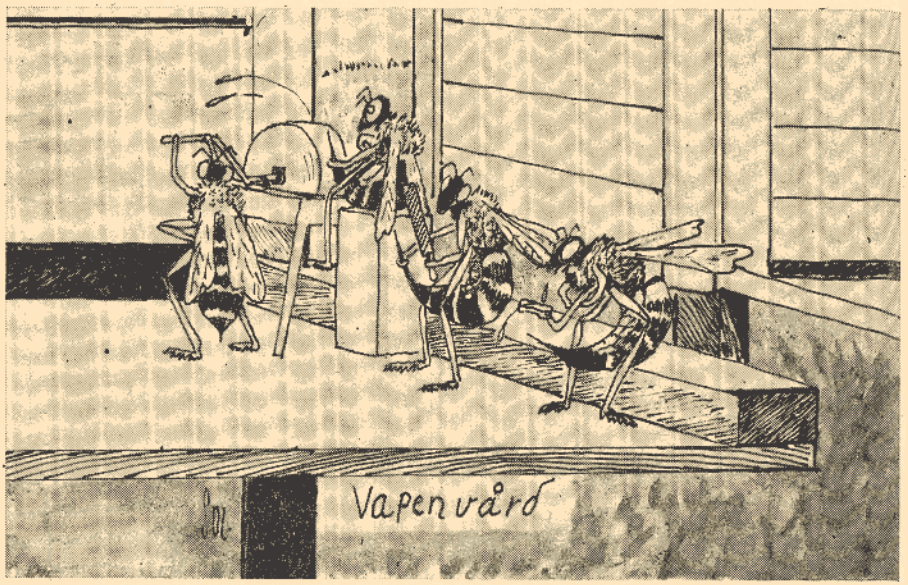
Answer: BURR COMB is built on top of frames or elsewhere, but not used for connecting them together.
BRACE COMB is built between frames etc., for the purpose of bracing them together.

★ ★ ★

Question: Which is the bottom of a queen cell—where the egg is laid or where the queen hatches out?

Answer: The top is always the bottom! The bees build the cell upside down. The egg is laid in the bottom of the cell and the queen emerges from the lower end.

The Point to Watch is . . .



HOW THE BEES manage to keep their sting so sharp and pointed, humourously portrayed by a cartoonist in the Swedish beekeepers' magazine "BITIDNINGEN."

Many a time has the beekeeper wondered — as the sting gets pushed down the end of a finger nail or through nice thick socks covering the ankle — how the degree of sharpness was maintained. Here you see inmates of the hive visiting the workshop in varying stages of the sharpening process.

In the foreground, bee number one is applying a little oil to a stone; the centre figure is apparently in need of a cross-cut file to improve matters, whilst a third sits astride a pillar as a companion rotates a water fed grindstone to obtain the desired effect.

OBITUARY

Past President of the National Beekeepers' Association, and one time chairman of the N.Z. Honey Control Board, Mr Percival A. Hillary, of Orewa, died in Middlemore Hospital, Auckland, on July 4, at the age of 79.

Mr Hillary was a beekeeper of many years experience and actively participated in the affairs of the industry as a commercial producer, and was well known as the father of Sir Edmund.

An ex-service man, he fought at Gallipoli during the first world war and went overseas with the First New Zealand Expeditionary Force. Returning home, he became editor of the Tuakau District News for a number of years, after which he left journalism to become a full-time beekeeper.

He is survived by three children, two sons and a daughter.

Prize Winning Recipe for

HONEY CAKE

The Australian Honey Board offered a prize of £100 for "the best fruit cake made with honey" recipe. Here is the prize-winning award in the nation-wide contest.

Ingredients—

1 cup plain flour
1 cup s.r. flour
½ teaspoon bicarbonate of soda
¼ teaspoon each ground cloves, salt, nutmeg and mixed spice.
1 teaspoon vanilla essence
1 tablespoon coffee essence
4 oz. blanched almonds, chopped
2 pkts. (12 oz. each) mixed fruits
Grated rind 1 orange
3 tablespoons butter
¾ cup honey
4 eggs, separated
Extra honey

Method—

Sift together all the dry ingredients, add the almonds and fruits. Beat orange rind into the butter, gradually add the honey, beating well after each addition.

Beat in the egg yolks, one at a time, and then mix in vanilla and coffee essence. Gradually mix in the flour and fruits mixture.

Beat egg whites until stiff and stir in until smooth. Turn into a paper-lined, 9 in. deep-sided, round tin and bake in a moderately slow oven, 325 deg. F. gas, 375 deg. F. electric, for 1¾ hours.

Remove from oven, brush over with extra honey, warmed, and cover with the topping. Return to a slow oven 300 deg. F. gas, 350 deg. F. electric, and cook another 20 minutes or until topping is firm and very lightly tinted.

Wrap cake in paper or foil when cold and store in an airtight tin for a week or two before cutting.

TOPPING

Ingredients—

1 egg
1 teaspoon orange juice
1 teaspoon grated orange rind
1 cup sifted icing sugar
½ cup castor sugar
Desiccated coconut

Method —

Beat the egg, stir in orange juice and rind. Add the sugars and mix until smooth. Add enough desiccated coconut (1¾ to 2 cups) to mix to a firm paste. Turn on to a piece of grease-proof paper and pat out to a round the same size as the top of the cake.

DIAGNOSTIC SERVICES for IDENTIFYING BEE DISEASES

A FULL DIAGNOSTIC service for the diagnosis of adult bee diseases is provided by the Department at the Animal Research Centre, Wallaceville and at the Veterinary Diagnostic Station, Taieri Agricultural Centre, Taieri, in regard to samples of bees submitted by Apiary Instructors.

The Diagnostic Centres cannot undertake the diagnosis of samples submitted direct by beekeepers. Therefore, beekeepers who may be in doubt regarding the presence of Bacillus Larvae disease or other adult bee diseases in their apiaries should communicate with their District Apiary Instructor so that he may advise or take other action as he deems appropriate.

The procedure adopted when forwarding diagnostic samples is as follows:

Collection of Samples

Samples are collected by the Apiary Instructor. Not less than forty adult bees are taken from each hive, very young bees are not included as these are less likely to have contracted a disease.

Despatch of Samples

Each sample of bees is placed in a new queen cage supplied with sufficient candy for several days.

Apiary Instructors in the South Island are to make full use of the Taieri Centre. Instructors may, however, submit samples to either Wallaceville or Taieri Centres depending on the transport service available to ensure the most rapid transit of material to the laboratory.

Case History

As much information as possible regarding the symptoms of the bees and the condition of the colony relating to the sample is forwarded by the Apiary Instructor in a covering letter to the Diagnostic Centre.

Reports

Upon receipt of a report from the Diagnostic Centre on the results of the diagnostic examination of the sample submitted, the Apiary Instructor informs the beekeeper concerned accordingly.

NEWS FROM OVERSEAS

The Master Mind

"**THE MOST PROMINENT** characteristic of the bee, is that similar to the ant, it can exist only in a collective and organised unit. Each hive contains only one family or colony of bees, numbering on the average of about 50,000. This vast assembly being housed in one box-hive about one cubic metre in size. It is observed however, that exemplary order and cleanliness are the hallmarks of this enormous and teeming tribe. Although there is a system for the permanent division of labour among them in accordance with age groups, the many sided activities and the scope of the work performed are tremendous. This is especially interesting if one considers that these insects have at their disposal neither radio or improved electronic brains and are lacking even the rudimentary facility corresponding to speech in the human specie, to facilitate the performance of their task. Wherein lies the secret of this successful organisation? Wherein lies the miracle?"

DR. ABRAHAM EYTAN,
Beer Yaagov, Israel.

☆ ☆

Bee Science in Japan

The Bee Culture Laboratory, Suishoen, Moriyame, Nagoya, Japan, publishes **Bee Science** every six months, and although primarily intended for, and printed in, Japanese, a summary is included in English of the more important findings.

Unfortunately, very few of the Western world understand the Japanese language, and it is frustrating and disappointing not to be able to share in the knowledge to be gleaned from Japanese bee literature. There can be no possible doubt but that we could learn much from them, and those who have seen the outstanding colour film on the life of the honey bee produced in Japan, will readily agree with this point of view.

The inclusion of a summary in the English language is therefore particularly welcome and helpful, and further copies of **Bee Science** will be awaited with interest.

Current reviews of work undertaken are primarily of direct interest to the research worker and scientist, and refer to experiments in assessing the oxegen intake of worker larvae of Japanese and European honey bees, and to the values of honey bee brood as feed for some species of pheasants.

The latter experiment was carried out at the Osaka Zoo, where old worker larvae and young pupae were mixed with artificial feed and given to chicks of 6 specie. Results proved that the addition of honey bee brood to the feed enabled a far greater proportion of all varieties to be successfully reared, and contributed largely to the growth of the chicks.

A common problem for beekeepers the world over is the protection given to agriculture and forestry by toxic sprays, and Japan is no exception.

Approximately one thousand hives are moved every year to the foot of Mt Fuji from outlying districts, and a spraying programme of nearby forest areas by aerial dusting was scheduled for the elimination of noxious insects. Unfortunatly, the insecticide is not selective, and good and bad suffer with equal certainty the penalty for unwitting contact.

Where colony entrances were closed prior to spraying, losses were negligible and amounted to approximately 150 bees per colony, whereas where entrances were not closed, losses of up to 40% of adult bees took place.

☆ ☆

STOP PRESS NOTICE

THE TUTU PROBLEM

As we close for Press, it has been announced by the organisers of the Hamilton School for Beekeepers that a special meeting open to all—and in particular those most vitally affected—will be held on September 9 at Hamilton.

Venue for the meeting will be annouced at the School.

SITUATIONS VACANT

RELIABLE YOUTH OR YOUNG MAN WANTED

EXCELLENT WAGES AND CONDITIONS
Experience an advantage but Not Essential.

Reply to "Progressive"
c/o N.Z. Beekeeper
P.O. Box 3561, Auckland

EMPLOYMENT WANTED

YOUNG MAN

Wishes to learn Beekeeping. Has kept bees as hobby for two years.

H.T. LICENCE
NON-DRINKER

Job required in the North Island.

Please write:

M. T. BALFOUR
P.O. BOX 574, WAIPUKURAU

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HONEY EXTRACTOR, 8 FRAME "PENDER" POWER

Excellent condition £80.
Now worth approx. £150 new.

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THE N.Z. BEEKEEPER

This Journal is issued free to all beekeepers in New Zealand having 30 or more registered hives, and to others who are members of the National Beekeepers' Association.

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 preceeding 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.

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Front Page Story

WALLACEVILLE TESTS PESTICIDES

By P. G. CLINCH,
Scientist

The picture on the cover this month was taken at Wallaceville Animal Research Centre and shows a spray tower, one of several pieces of apparatus used by the Apiculture Section to determine in the laboratory the toxicity of agricultural chemicals to bees.

Although before any final recommendation can be made a pesticide must always be tested in the field under the conditions and by the method that will be employed in practice, laboratory tests can reduce to a minimum the field trial work required. With the apparatus available at Wallaceville the different ways in which bees may become contaminated in the field can be simulated in the laboratory.

The spray tower (it has been slightly dismantled for clarity) is used to spray known amounts of pesticides on to bees to incidate what the effect on them might be if they were present in a crop while it was being sprayed. The photograph, taken by the Research Centre Photographer A. W. Barkus, shows Technician D. Weekley pipetting a measured amount of agricultural chemical into the spray jet prior to spraying the bees in the dish below.

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