THE NEW ZEALAND BEEKEEPER

OFFICIAL ORGAN of the
NATIONAL BEEKEEPERS' ASSOCIATION
OF NEW ZEALAND

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

Better Beekeeping | Better Marketing

THE NATIONAL BEEKEEPERS' ASSOCIATION.

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VICE-PRESIDENT:

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North Otago: Mr. C. N. Slater, 10 Stour Street, Oamaru.

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West Otago: Mr. D. G. McDuff, "Forestvale," Kelso, Otago.

Gore: Mr. D. C. Todd, c/o. Mr. J. McTaggart, Charlton R.D., Gore.

Southland: Mr. L. K. Griffin, Woodlands, Southland.

SUBSCRIPTIONS:

1 — 15 hives	5/-
16 — 50 hives	10/-
51 — 100 hives	15/-

Five shillings extra for each additional 100, with a maximum of £2.

INSURANCE PREMIUMS:

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The New Zealand BEEKEEPER

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Gilbert S. Kirker, Editor.

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ANNUAL CONFERENCE.

There was an attendance of fifty-odd at the Twenty-eighth Annual Conference at Wellington last month. A full agenda kept discussion going for a full three days.

The Dominion President, Mr. E. A. Field, presided and the Director-General of Agriculture, Mr. A. H. Cockayne, officially opened the conference. In the course of his remarks, Mr. Cockayne referred to the steady improvement in the incidence of disease. 29,000 colonies had been inspected by part-time inspectors and Apiary Instructors during the year just ended. The speaker also referred to the danger of overstocking in some districts, suggesting that it would be for beekeepers generally to give some consideration to this aspect with a view to devising ways and means of avoiding over-crowding.

The Acting Director of the Internal Marketing Division, Mr. R. Fraser, mentioned that, so far as New Zealand was concerned, there was no industry so well prepared to take the extra strain which devolved upon a primary producing country in a time of war as was the beekeeping industry, a fact which he attributed in part to the organizing of the marketing side by the Internal Marketing Division.

Over the past two years the sales of the Marketing Division had more than doubled, thus throwing a great strain on the packing plant and organization under Mr. J. Rentoul, Manager of the Division's Honey Section, and it was not possible to continue on such a scale without improvements to the existing packing facilities.

It was also necessary to look ahead and the Division would shortly be occupying in Auckland new and very up-to-date premises. The plant being installed was the most modern and efficient available and would be capable of handling a greater volume than ever before.

It was necessary to cater not only for present needs, but to look to the future and assume that the Division's services would be required more and more by the industry. That entailed the responsibility of providing a bigger and better plant. But this, in turn, meant that the plant should be kept going economically and the quantities of honey put through should ensure this. The Division confidently looked forward to receiving such support from beekeepers that supplies would be sufficient to justify the installation and working of the increased plant.

The Director of the Horticulture Division, Mr. L. K. Dallas, referred to the steady progress made by the industry. In 1919-20 there were in the Dominion 6392 registered beekeepers; in 1929-30, 6925; and in 1940-41, 5348. While this showed a decrease in the number of beekeepers, the number of hives had increased thus: In 1919-20 there were 70,000 hives; in 1929-30, 104,000 hives; and in 1940-41, 136,000 hives.

NO EUROPEAN FOUL BROOD.

Mr. Dallas referred to the disease which had been suspected as being European foul brood a year or so ago in Canterbury. An officer of the Department specially qualified for the work had made extensive investigations, and could identify none of the samples which had been submitted as being European foul brood.

CONTROLLED REGISTRATION OF APIARIES.

Mr. Dallas stated that some feasible scheme of controlling apiary sites was desirable so as to prevent overcrowding and undue expansion beyond economic limits.

ZONING OF MARKETING AREAS.

A large part of the conference's time was devoted to this matter, particular care being taken to avoid any tendency towards rushing any resolutions, and discussion was allowed to cover every possible aspect.

Finally, it was resolved:—

"That this conference endorses the resolution adopted at the previous conference, viz., 'That this meeting views with concern the possibility of the Internal Marketing Division suffering from independent sellers so as to jeopardize the turnover necessary to meet the overhead expenses and suggests, as a safeguard, that complete selling rights be given to the Internal Marketing Division in proclaimed areas.'"

When this resolution was considered at last year's conference, a considerable number of delegates held the view that insufficient consideration had been given to the subject, and that view was confirmed in certain districts. Consequently, the Executive desired that further consideration and a full discussion should take place this year, following full consideration at all branch meetings throughout the Dominion.

The decision now reached must be accepted as the considered view of the majority of the members of the Association, even admitting that it is hardly reasonable to expect a resolution of this character to meet with the unanimous approval of the industry. Every opportunity has been given to all branches to consider the question and to bring forward alternative proposals. These were fully discussed at the conference.

If the Internal Marketing Division does not have authority to handle all the honey sold in proclaimed areas, the industry will revert to the chaotic conditions existing a few years ago, when no organization of any description existed.

CONTROLLED REGISTRATION OF APIARIES.

This shows signs of becoming a hardy annual. Two years ago, the principle of controlled registrations was endorsed at the Hastings conference. On the question being referred to the Department of Agriculture, the Director of the Horticulture Division referred it back to the Association with the request that all branches of the Association should have an opportunity of considering it.

This was done, and the principle was again endorsed at the conference held a year ago. Once again, the Director of the Horticulture Division was informed of the beekeepers' views and, this time, considered opinion. He replied that the question embraced many difficulties, but that he would investigate the position and also watch developments overseas with a view to finding a solution.

A number of resolutions were again before this conference and, the Director of the Horticulture Division having indicated that he would prefer that the beekeepers themselves should evolve some proposals enabling their requirements to be practicably applied, a number of suggestions were forthcoming.

It was quickly realized, however, that discussion in such case could become almost interminable at a conference and a resolution in the following terms was adopted:—

"That the principle of controlled registrations of apiary sites be reendorsed and that it be a recommendation to the incoming executive that it contact the Horticulture Division with a view to evolving a satisfactory plan to come forward for approval at the next conference."

[It may be reported here that the General Secretary has already spent three hours discussing this and other matters with the Director of the Horticulture Division and that a meeting of the Director with the Dominion President and the General Secretary will probably take place during September, when the matter will be taken further. The General Executive hopes to have something concrete to submit to branches some time before the next conference so as to allow for

plentiful discussion among members throughout the Dominion prior to a final decision being taken a year hence.]

A resolution emanating from Canterbury:—

"That any licensing of apiary sites should be applied only to districts where pirating was proved to exist," was defeated on a delegates' vote by 772 votes to 266.

JOURNAL FINANCE—SUBSIDY.

"That, as the Association is the only body recognized by the Government as being representative of the industry, and as the Association is handicapped by lack of funds, we request that sufficient funds be made available from the seal money to enable the Association to carry out its work effectively."

"That we place on record our appreciation of 'The N.Z. Beekeeper,' and request that all measures possible be taken to ensure its continued publication."

These two remits embody the principles underlying ten which were adopted by the conference, after considerable discussion on the Association's financial position and the possibility of continuing publication of the Journal which has been an important factor in building up membership of the Association and in keeping members informed on matters relating to the industry.

COMPULSORY MEMBERSHIP.

"That the principle of compulsory membership of the Association, by all beekeepers, be endorsed and that necessary legislation be passed to make this effective."

This was a remit which caused considerable discussion before being declared passed by a bare majority. The chief point made was that it was perfectly obvious that a number of beekeepers were doing all the work, paying all the subscriptions, and the whole industry was getting the benefit.

Without the existence of the Association, a gathering such as an annual conference would not be possible and the Government would not have the opportunity of becoming familiar with the collective viewpoint of the honey producers. The gatherings were not as representative as they should be, and compulsory membership would do away with that disadvantage, besides having the effect probably of placing the Association on its feet financially.

The financing of the Association was an important factor. Members had no idea of the amount of work entailed and the Dominion President and members of the executive were always out of pocket, which was wrong in principle.

MEMBERS OF THE FORCES.

"That all members of the Association serving with His Majesty's Forces be made honorary members for the duration of their service and for one year thereafter," was a remit which was carried unanimously.

SELECTION OF APIARY SITES.

"That the Department of Agriculture be asked to co-operate with beekeepers in the choosing of new apiary sites by informing applicants for permits to move bees of the locations of all registered apiaries in the vicinity."—Carried.

LIFE HONORARY MEMBERS.

There was a number of amendments to the Constitution, an addition being, Clause 5, a sub-clause (c) to be added: —

"Life Honorary members may be elected to the Association at an annual conference as a mark of esteem and in recognition of noteworthy service to the industry or the Association, and no fees shall be payable by such members who shall not, however, be entitled to vote at meetings nor shall they be entitled to the benefits of the No. 2 Trust Fund."

PROXIES.

Clause 18, sub-clause (1), of the Constitution was amended to provide that no member be empowered to exercise more than one proxy. It was suggested that branches could nominate two or three people as proxies in order, No. 1, No. 2, No. 3, &c. In the event of No. 1 already holding a proxy, the proxy would then devolve on the second person designated, or the third if the second already held one proxy.

VOTING POWER.

"Clause 18 (1). Voting power shall be based on one vote for each 5/- of subscriptions received by the branch provided the Branch Secretary has remitted 50% of such subscriptions to the General Secretary by the end of the Association's financial year." Amendment carried.

PROTECTION OF SERVING MEMBERS' DISTRICTS.

"That the Government be approached by the General Executive with a view to having legislation passed enabling the Department of Agriculture to refuse the issue of permits for the establishment of apiaries within the territories vacated by beekeepers serving overseas, provided there is no power under existing legislation by which this object can be achieved," was a remit sponsored by the General Executive and which was adopted.

HOPKINS MEMORIAL LIBRARY.

In accordance with a recommendation of the General Executive, it was agreed that the sum of £7/6/-, which was made up of two sums which had been held in trust accounts for a number of years, should be paid to the Cawthron Institute to be used in augmenting the Hopkins Memorial Library which was bequeathed to the Institute by the late Isaac Hopkins, at one time Senior Apiary Instructor.

RADIO ADVERTISING.

Contending that radio advertising had not been in the best interests of the industry, a member suggested that the Internal Marketing Division should be requested to review the situation very carefully before issuing any further advertising, and proposed the following, which was adopted:—

"That any advertising in connection with honey be directed to the food value of honey and not in the manner as has recently been heard from the ZB stations."

The Manager of the Honey Section, Mr. J. Rentoul, explained to the conference how it was that the advertising had been put over in the form it had. The advertising policy was, as it were, in the making, but he would endeavour to see that any future broadcasts would meet the objections raised, as far as possible.

HONEY CONTROL BOARD ELECTIONS.

The conference unanimously endorsed the vigorous protest made a year ago by the General Executive and in the columns of this Journal against the action of the Government in appointing the Producers' Representatives to the Control Board instead of permitting their election by producers.

The basis of voting for Producers' Representatives was covered by the following resolution, which was carried unanimously:—

"That the voting rights for Producers' Representatives on the Honey Control Board be determined on the basis of the supplying of two tons of honey to the Internal Marketing Division, or the purchase, by a beekeeper, of £10 worth of seals in the two years preceding the election."

The Board Chairman, Mr. W. Nelson, pointed out that the resolution conflicted with a resolution passed a year ago, calling for the right of all suppliers to the Marketing Division to vote. He stated that the Board had taken it up at once with the Government and pressed it very hard, and he understood that legislation was prepared ready to be introduced. Now something else was being asked for.

It was contended, however, that the activities of the Board affected all producers of honey in the Dominion and that all producers should therefore be entitled to vote as this was only democratic.

Regarding the suspension of elections, this was dealt with by the passing of a number of remits—all unanimously—the basis being:—

"That the Producers' Representatives on the Honey Control Board be elected by the beekeepers instead of as at present being appointed by the Government."

A Manawatu remit:—

"That the Honey Advisory Committee be elected by the honey producers; that the Producers' Representatives serve for two years; and that the Committee be comprised of five members,"

was carried unanimously after the adoption of the second part of a Canterbury remit reading:—

"That the personnel of the Honey Control Board be increased from three to five; two Producers' Representatives being from each Island."

A further remit relating to the Honey Control Board was carried without discussion:—

"That conference expresses its appreciation of the lead and assistance given to the industry by the Honey Control Board in its valuable co-operation with the Internal Marketing Division."

PAYMENT OF FREIGHT.

A number of remits were under consideration calling for the payment by the Marketing Division of the whole of the rail freight on honey consigned to it. After some discussion an amended resolution was carried in the following form:—

"That it be a recommendation to the General Executive that it consider the proposal that the Marketing Division pay the freight on honey from the producers' nearest railway stations, and bring down a report on it to the next conference."

DUTY ON SUGAR.

This subject has graduated from the hardy annual to the perennial class. Southland's remit was adopted unanimously:—

"Now that America has recognized the justice of the claim by American beekeepers to a refund of tax on sugar, the Dominion Government be requested to pass similar legislation."

ARSENICAL SPRAYING.

A Hawke's Bay remit calling for action by the Horticulture Division and the Department of Scientific and Industrial Research with a view to combating this trouble was carried.

PRICE TRIBUNAL.

Some dissatisfaction in connection with the recent increase allowed in the price of beeswax and the methods adopted by the Price Investigation Tribunal in advising those concerned of its decisions was expressed, and after some discussion in the course of which the General Secretary pointed out that it was unlikely that the Tribunal would make known the procedure used in arriving at any of its decisions, the following resolution was carried by a small majority:—

"That the Price Investigation Tribunal be asked to explain the principles guiding its procedure in assessing the price of beeswax and in advising those concerned."

IMPORTATIONS OF QUEENS.

A resolution calling for the rigid control of importations of queens in view of the risk of importing diseases was adopted.

The Director of the Horticulture Division intimated that it was felt that the time had come when the Dominion industry had reached the stage when beekeepers should be able to develop queens which would equal anything that could be imported, and that the general policy of his Department, for the duration of the war anyhow, was against recommending the granting of permits to import.

WOODEN HONEY PACK.

Mr. G. Swanson, President of the Gore Branch, submitted a collapsible wooden box for the transport of honey to the packing depot. This was displayed by the Dominion President, who had taken advantage of the presence of Mr. J. Rentoul, Manager of the Honey Section, to discuss the possibilities of the container, and it was found that there were a number of serious obstacles to its use. A resolution "Thanking Mr. Swanson for the trouble he had taken in submitting for inspection of conference the collapsible wooden packing box," was carried by acclamation.

LONDON AGENTS.

In accordance with a resolution passed at the conference a cable in the following terms has been sent to Messrs. C. & E. Morton Ltd., London agents of the Internal Marketing Division:—

"Twenty-eighth conference National Beekeepers' Association of N.Z. just concluded unanimously conveys sincere appreciation your service to Dominion producers in unprecedently

adverse conditions. We fully recognize difficulties facing you in these times and are grateful. Best wishes to you and staff."

Messrs. C. & E. Morton Ltd. have been bombed out four times, yet they continue to give good service, and it was felt that the least the industry could do was to say—heartily—"Thank you."

NEW EXECUTIVE.

The election of officers resulted in Mr. E. A. Field being elected unopposed, for a third term, as Dominion President. Mr. W. J. Lennon, Central Otago, is Dominion Vice-President. Other members are unchanged, Messrs. J. R. Barber and F. D. Holt (North Island) And T. F. Penrose and D. H. Hamilton (South Island) all being re-elected.

BRANCH DINNER TO DELEGATES.

Delegates and visitors attending the conference were entertained in the Waldorf restaurant at dinner on the evening of Thursday, June 26, by the Wellington Branch.

Mr. C. R. Barrett showed a colour-film, taken by "Peter" (Mrs. C. R. Barrett) and himself in and about their own apiary and garden, and at Branch Field Days. The film was extremely interesting to beginners and gave commercial producers a new slant on beekeeping.

There was a substantial toast list and a number of entertaining speeches. The evening later resolved itself into a more informal gathering, and delegates were glad of the opportunity of becoming more acquainted with the members of the local Branch, who had proved themselves to be admirable hosts.

Read "The Scottish Beekeeper," Official Organ of the Scottish Beekeepers' Association. Published monthly, 3/- per annum. 186 Forest Avenue, Aberdeen, Scotland.

N.Z. HONEY CONTROL BOARD

CHAIRMAN'S ADDRESS.

Delivered at the Annual Conference of The National Beekeepers' Association at Wellington, 25th June, 1941.

I wish to express my appreciation of this opportunity to address the members of the National Beekeepers' Association. It is to the deliberations and the resolutions passed at your annual conference that the Honey Control Board looks for that guidance which makes it possible for the Board to put forward recommendations to the Government for the purpose of providing a solution to the difficulties confronting the industry from time to time. I am happy to be able to say that since the Board came into office we have never had occasion to be at variance with the general policy desired by your Association on those matters over which the Board exercises some official voice. I am glad to be able to say that the Government has always given sympathetic consideration, and on many occasions given effect to the recommendations of the Board, and as you well know, the marketing policy in operation to-day is strictly in accordance with that desired by the beekeepers themselves.

In the course of developing and administrating a new system of marketing there come new problems, and it is to several of the principal problems facing the industry to-day that I desire to particularly direct your attention.

At your last Annual Conference the following resolution was passed:

"THAT THIS MEETING VIEWS WITH CONCERN THE POSSIBILITY OF INTERNAL MARKETING DIVISION SUFFERING FROM INDEPENDENT SELLERS SO AS TO JEOPARDISE THE TURNOVER NECESSARY TO MEET THE OVERHEAD EXPENSES, AND SUGGESTS AS A SAFEGUARD THAT COMPLETE SELLING RIGHTS BE GIVEN TO THE MARKETING DIVISION IN PROCLAIMED AREAS."

It is perhaps hardly reasonable to expect a resolution of this character to meet with the unanimous approval of the industry, and consequently there has been a desire expressed in certain centres that further consideration should be given to this proposal before it be recommended to the Government for adoption. Whilst the Board believes that the proposal as embodied in your resolution is sound, we at the same time feel that if there are any constructive alternative proposals in the mind of a section of the producers they should be given the fullest consideration. I need hardly stress the point that the problem which the resolution in question was designed to deal with should be clearly understood, and with that point in mind permit me to briefly reiterate my comments expressed at your last conference and on several occasions in the course of the intervening twelve months.

A payable price and marketing stability is only possible as long as the Honey Section of the Internal Marketing Division is operating under conditions that will permit it to provide satisfactory service to the industry. Beekeepers, I think, now realise that it is unreasonable to expect the Division to successfully operate against practically the same conditions that were largely responsible for wrecking past co-operative efforts. Surely beekeepers in their own interest would be well advised to give serious consideration to the question of providing the Division with some measure of protection against competitive selling and inadequate supplies of honey. This is a factor of major importance and one which I trust will be given the serious consideration it deserves at this conference.

The construction of the new building in Auckland for the handling of the various products under the control of the Division is nearing completion, and provided there is no further hold-up in the supply of material, the Honey Section of the Division should be operating in the new pre-

mises within the next few months. Let me say I have visited several of the world's most up-to-date honey blending and packing plants in U.S.A., Canada, Australia and England, and I can assure you that nothing I have seen will surpass or even equal in the matter of efficiency the plant that will be installed for the use of the Honey Section of the I.M.D. in Auckland. The main floor of the building in which the honey will be handled is specially designed to meet the requirements of the Honey Section, and this will enable the staff to show much better results than is possible under the existing unsatisfactory arrangements.

From the report that will be submitted to you by Mr. Honeyfield, Auckland Manager of the Division, you will note that a considerable sum is being held in Reserve Account of the Honey Section. In regard to the disposal of these reserves, the policy recommended by the Board is that the amount held in London (£10,285) should be retained in reserve for re-establishing our overseas position when the War is over.

In regard to the money in reserve collected from the stamp levy (£11,363), the Board has recommended that this should be held mainly for the purpose of advertising and increasing the sale of our honey in New Zealand in seasons of surplus. The Board considers, however, that the stamp levy should not be earmarked solely for the purpose mentioned. In the event of the Division's sales return in any particular season failing to realise a level that will make possible a payout to suppliers equal at least to that obtained by the average commercial non-suppliers, the Board contends that under such circumstances the payout should be assisted from the Stamp Levy Fund. This policy was endorsed at your conference held in Hastings two years ago, and the term "equalisation fund" was used to define the purpose for which the stamp levy should be used. The Board holds the view, however, that the possibility of requiring to use any portion of the seal levy fund to assist the payout to Division suppliers would be very greatly lessened if the Division was granted regular adequate supplies of honey and protection from competitive selling in several of the main centres, to the extent that will permit the operation of the central plant at full capacity. You will appreciate therefore that the manner in which the stamp levy fund should be expended cannot be dissociated from the question at issue concerning whether the Division be given sole marketing rights over specified centres.

Some months ago the Board made representation to the Transport Board and other responsible authorities in connection with the impressment of beekeepers' motor vehicles. The Board submitted evidence to prove that no section of primary producers is so completely dependent on the use of their motor vehicles to carry on their business as commercial honey producers. It was also emphasised in the Board's representations that bees, if neglected, would become a source of trouble to neighbours and their stock, while the spread of disease would get beyond control. On this subject I should pay a tribute to Mr. Dallas, Director of Horticulture, and his officers. Thanks to the statistics and assistance received from Mr. Dallas and his officers, the Board was able to provide the Transport Department with the information it desired. I think it only fair here to say that the Transport Board gave our representation a most patient and sympathetic hearing, and a number of trucks that had already been impressed were subsequently released.

In conclusion, let me say that the Board has complete confidence in Mr. Honeyfield and his staff, and we believe that when you have heard the report of Mr. Honeyfield you will agree that your industry has never been in a more satisfactory or as secure a position than at the present time.

WALLACE NELSON,
Chairman, Honey Control Board.

BRANCH ACTIVITIES

NOTICE.

If your subscription to the Association is not paid at the time you receive this Journal, you should give it your immediate attention as your Branch Secretary will be rendering the usual quarterly return shortly. If your name does not appear on the "financial" list, it will automatically be dropped from the Journal Mailing List.

HAWKE'S BAY.

Officers elected for the ensuing year at the annual meeting held at Hastings on May 17 comprise:—President, Mr. A. Lowe; Vice-president, Mr. W. J. C. Ashcroft; Secretary, Miss D. M. Dalgliesh; Auditor, Mr. W. H. Ashcroft; Committee, Messrs. J. W. Laking, H. Shepherd, J. N. Walker, W. H. Ashcroft, L. H. Maultsaid, Mesdames Maultsaid and G. F. R. Gordon.

The annual report emphasises the vigorous and enterprising spirit of the Branch. The honey season had been favourable and prices satisfactory, apiary products being in good demand. The Branch has had five general meetings, a convention and four field days, besides a lecture evening, while there were four committee meetings. Expenditure for the year had been heavy due to numerous activities. There was a credit balance of 1/4. There are now 30 financial members.

SOUTHLAND.

The annual general meeting was held in Invercargill on May 16, those present being Messrs. Adams, Heenan, Hemmingsen, Irwin, Larson, McMillan, Watson, Lennie (Branch President), and L. K. Griffin (Secretary). An apology was received from Mr. Caldwell.

Members were advised that collections for patriotic purposes could not be made other than through the National Patriotic Fund Board, and as this Board does not collect for specific purposes it was felt that it would not meet the desires of members who had earlier proposed subscribing for the relief of distress in the British Isles caused through air raids. It was also felt that members were already subscribing to the best of their abilities to the Board, so it was decided to refund collections received and to release from their obligations those who had promised to donate tins of honey.

A report on the South Island Convention at Timaru on April 18/19 was given by the Branch Secretary, who was appointed Delegate to the Annual Conference.

The accounts showed a credit balance of £4/4/9 and a total financial membership of 33. Messrs. A. A. Lennie and L. K. Griffin were re-elected Branch President and Branch Secretary respectively.

WAIMARINO.

Members have increased the numbers of their hives and our honey season has been very good. Interesting talks and lantern lectures by Mr. H. F. Dodson, Apiary Instructor, Palmerston North, have helped learners and oldtimers alike. All beekeepers in the district are now members of the Branch.

CENTRAL/SOUTHERN HAWKE'S BAY.

Our annual meeting was held in the Takapau Public Library on Monday, May 26, but was preceded by an afternoon session during which addresses were given by Mr. Ashcroft, Hastings; Mr. G. Westbrooke, retiring Apiary Instructor for the district; Mr. J. Gillam, Branch President; and Mr. E. A. Field, Dominion President.

The Branch President referred to the recent retirement of Mr. Westbrooke and asked him to accept a

small token as a tangible expression of appreciation of his past services to the beekeepers of the territory, and wished Mr. Westbrooke many years of good health in which to enjoy his retirement. In the course of his reply, Mr. Westbrooke related a number of experiences, humorous and grave, gathered during his forty years' service with the Department of Agriculture.

Mr. E. A. Field was welcomed, it being mentioned that he had made a point of attending despite having just journeyed through from Foxton to Wanganui and back. Mr. Field covered much useful ground and aroused considerable interest in his references to matters of moment in the industry.

Mr. W. H. J. Ashcroft spoke to an appreciative audience on beekeeping matters.

At the annual meeting in the evening, the Branch President referred to the recent death of probably the oldest beekeeper in Hawke's Bay, Mr. G. Coles, late of Onga Onga, who had been known as the father of beekeeping in Central Hawke's Bay. For many years he had taken an active part in anything likely to be helpful to the industry and he had been a most active member of the Branch. A vote of condolence to relatives was passed, members standing a moment in silence.

The Annual Report and Balance Sheet were adopted and the election of officers resulted in Messrs. J. Gillam and Ivan Jones being re-elected Branch President and Secretary respectively. Remits for the forthcoming Conference were discussed and Mr. Gillam was elected Delegate. A strong executive will support the Branch President during the coming year.

Supper was provided and there was formal and informal discussion until an hour past midnight, when the meeting broke up, all having the feeling that it had been a successful and pleasant function.

There are three kinds of cells, worker, drone, and queen cells. The worker cells are about 1/5-in. in diameter. The drone cells are about ¼-in. in diameter and are usually found in the lower portion of the combs and are easily detected because, when capped, they project somewhat beyond the general surface of the worker cells.

Queen cells are usually built along the lower edges of the combs and are easily recognised because, instead of being horizontal, as are the worker and drone cells, they are vertical in position and resemble peanut shells in appearance and size.

INTERNAL MARKETING DIVISION
(HONEY SECTION)

ADDRESS OF MR. A. H. HONEYFIELD, MANAGER, INTERNAL MARKETING DIVISION, AUCKLAND, TO THE HONEY CONFERENCE, HELD 25/6/41.

I must apologise for asking that my address be placed so early in your Conference. The date which you fixed, however, has clashed with that fixed for the National Dairy Conference in Auckland, and unfortunately I will be returning to-night to attend that Conference. It is, however, very gratifying once again to have the opportunity of discussing with you our mutual problems and also of explaining away some apparent misunderstandings and suspicions which seem to have developed, mainly in the South Island. Whether this unfortunate state of affairs is due to climatic conditions or whether it is because we are unable to make the frequent contacts with the South Island that we make with the North Island I am unable to say; perhaps it is a mixture of both. However, much flabby nonsense has been written and said about the Honey Control Board and its individual members and about the policy which they have assisted in formulating, and in particular there has been criticism of the marketing system, which is said to be uneconomic—criticism of the principle of Seals Levy. Monopoly Control, Reserves, etc. Most of these statements are designed, not as constructive criticism, but to create mistrust, disunion and confusion within the industry, and eventually a breakdown in your marketing organization.

In view of this position the Honey Control Board have asked me to make a full policy statement of the facts as they have discussed them from time to time. I now commend myself to your tender mercies.

Since we last met, the war has increased in tempo and has brought with it an increase of problems and a general feeling of insecurity. Because of these abnormal conditions, the industry to-day requires careful directional guidance and the steady consolidation of your business can only be achieved by the application of sound policies.

Export of honey to the United Kingdom is very difficult to obtain, owing to the general shortage of shipping, and there is every possibility that very little honey will be shipped from New Zealand next year. In order to offset this eventuality we are investigating alternative markets at the moment. Even when we are successful in obtaining shipping space we are faced with increased costs in freight, insurance, lighterage, warehousing, London packing charges, etc., and in order to offset these increased costs we have made a practice of increasing the London prices to absorb the increased charges wherever possible. Prices, however ,are now fixed —at a satisfactory level—by the British Food Control authority, and further price increases are complicated by this factor; also by the formation of a Honey Packers' and Importers' Association in the United Kingdom, comprising the main firms handling Australian, Canadian and Jamaican honey. Incidentally, this Association requested the Ministry of Food to fix maximum c.i.f. prices for Bulk Honey. This was done, and we were fortunate in being able to obtain a premium for New Zealand Bulk Honey as well as for Packed Honey.

At the outset of war, the industry was faced almost with a crisis as the Imperial Government instituted a licensing system restricting the amount of honey which was to be shipped. However, after considerable communication we were fortunate in persuading the Imperial Government to revise the position, and we were given the right to ship unlimited quantities. Later, however, a quota system was introduced and now imports re-

quire the authority of the Imperial Food Controller and Shipping Committee. I regret to say that the outlook for the future is not bright from an export viewpoint, as we are experiencing considerable difficulty in obtaining permits and shipping space, and we have been notified that there is a possibility of all exports ceasing after 30th September. You may rest assured that we will continue in our approaches to the Imperial Government for the purpose of obtaining freedom of shipping, if at all possible, and in any case, we will immediately begin to search for new markets, provided shipping to these markets is available. At this juncture, it is safe to say that by December, 1941, New Zealand will have been cleared of all surplus stocks of honey and it would also be safe to say that by December, 1942, no great accumulation of honey will be held within New Zealand. Should there be a surplus few hundred tons I am of the opinion that the policy of the industry should be to avoid accumulating even this small quantity under the present conditions. even if it means taking a lower price in some other country.

Also, within New Zealand, as the result of war conditions, there are difficulties in maintaining efficient labour, in obtaining packing material, in keeping down costs and also in lifting the market from time to time in order to offset any cost increases. I am of the opinion that if we are to obtain maximum consumption within New Zealand, no further price increases should take place. It is just questionable whether our prices are not a little too high if we are to absorb greater quantities of honey within New Zealand. However, despite all the difficulties of which I have just told you, I am glad to report that the industry as a whole is in a very sound position and something like daylight is beginning to appear, thanks to your support and co-operation as producers. I am going to say now that without your support the consolidation of this industry is almost an impossibility.

You will remember the difficulties which were first encountered in reorganising the honey industry. It is only a few years since we sat in conference and you charged the Marketing Division with the duty of building a marketing organisation to take care of and iron out some of these difficulties. We were faced with intensive producer price-cutting; we were faced with propaganda tactics of the opposition and general lack of confidence; we were faced with comparatively small turnover in our local packing depot and overseas trade; we were faced with disheartened producers who had suffered a period of low prices, which had been further aggravated by the collapse of the H.P.A. and by difficulties experienced by N.Z. Honey Ltd. owing to the above causes, and we were faced with inadequate and poor factory layout. I am glad to say that, in all these matters, progress has been made and conditions are improving, each year being corrective of the previous year.

The nett returns paid to the producer have shown an improvement each year. The price of 6d. per lb. pro rata obtained for the year ending 31st March, 1939, rose to 6½d. per lb. pro rata for the second year's operations, ending 31st March, 1940, and for the third year's operations, ending 31st March, 1941, the final bonus of ½d. per lb. pro rata brings the total pro rata payment to 7d. per lb., and as I have pointed out the future is extremely sound—probably sounder than most primary industries, owing to the policy of annually avoiding stock accumulations and of creating substantial suspense accounts or equilisation funds.

The Packing Department for the New Zealand trade has shown considerable improvement; when we took over, our packing for the New Zealand trade amounted to approximately 200-250 tons per annum. I am glad to report that this turnover has risen from 350 tons in the first year's operations to 540 tons in the second year's operations and 642 tons in the third year's operations, and at the moment we have cleared half of this year's honey crop. It is anticipated that the depot will pack approximately 800 tons for N.Z. Trade for the current year ending 31st March, 1942. There is, of course, in addition, our usual export amounts. These results speak for themselves and indi-

cate that the quality, service, and pricing policy of the Internal Marketing Division are giving satisfaction to the wholesaler, the retailer, and the consumer.

In the matter of price competition from producer-packers, whilst this is still bad in places, I must say that there is considerable improvement. At the same time, there is no guarantee in the future that producers will not reopen price war to the detriment of all concerned, and in order to protect the industry and the suppliers to the Division, I will discuss with you at this Conference the advisability of zoning certain centres.

In the matter of the inadequate plant which was taken over, I am glad to report that within two months we should move into our new premises, which will provide possibly the most up-to-date honey packing and blending plant in the world. I am confident that the savings which will be obtained in this factory will be of considerable help to the whole industry, and will be a further milestone in the consolidation of an efficient co-operative marketing organisation.

In the first year of our operations, we handled a total of 1194 tons of honey; in the second year, 559 tons, and in the year ending 31st March, 1941, 971 tons of honey, and it would appear that we will handle in the current year 1100 tons of honey. I would draw your attention to the variation in turnover in each of the years which I have just mentioned and would point out that under no consideration should the turnover in your new factory be allowed to fall below 1000 tons in any one year. Any drop in turnover results in an increase in the unit cost per lb. of packing, a fall in the efficiency of the plant, and also reduces the influence which we have on your N.Z. market prices. Further it prevents adequate quantities of honey being shipped to fill your normal export requirements in the United Kingdom. This is another reason why I am anxious to discuss with you a policy of zoning certain centres which will provide the factory with a steady and adequate turnover.

A marketing policy to obtain the final payouts which have been achieved has been maintained. On all markets a policy has been adopted of endeavouring to cover cost increases, thereby obtaining for the producer what we know to be an economic return. Along with you, we have always believed in the selling possibilities of Honeyco Honey throughout N.Z., and "Imperial Bee" in the United Kingdom, and other overseas countries. The basis of our selling policy has been QUALITY—the greatest of all selling points, and in this respect, all honey coming to the Depot has been carefully graded and carefully blended into uniform qualities, both for internal and overseas trade—to a point where, whenever a housewife buys a package of our Honeyco Red or Blue Seal Honey, or an "Imperial Bee" package, she can depend on further packages, every week of the year, being of the same quality.

PACKS: The two packs, above mentioned, have been maintained and they are looked upon by the Division as more than containers; each package carries an advertising message into the homes of the consumers and the brand carries with it a guarantee of the quality. That the public to-day have confidence is borne out by the fact that we expect to pack for the current season approximately 800 tons of honey for sale within New Zealand, whilst in the United Kingdom practically all the honey exported during the last two years has been packed and sold in "Imperial Bee" containers.

PUBLICITY AND ADVERTISING: We have only, to a very small extent, indulged in displays, in radio and newspaper advertising within New Zealand. Intensive advertising has not been necessary owing to the fact that we have been exporting the surplus and maintaining the demand within New Zealand. This position, however, is likely to be reversed and it is quite possible that in the near future a considerable sum of money will require to be spent in advertising in order to increase our internal demand. Hence the necessity for substantial reserves for this purpose.

In the United Kingdom, whilst we have maintained the "Imperial Bee" pack, we have not indulged in adver-

tising since the outbreak of war, owing to the shortness of supply and keenness of demand. We have, however, adopted the policy of selling the whole of our exportable quantities in "Imperial Bee" glass jars; each of these, we contend, is an advertisement for our product and should continue to bring repeat business for "Imperial Bee." We have not, however, overlooked the possibility that at a later date we may have to fight for our position on the United Kingdom market and for this purpose a London advertising reserve has been created.

SEALS LEVY: The collection of a seals levy from packer-producers is a fundamental part of the complete marketing policy. I notice, from the remits, that there is still a certain amount of agitation in regard to this charge coming mainly from producer-packers, who recommend that further collections of seals moneys be discontinued, or, in other words, they apparently desire that the whole of the organised marketing system and co-operative efforts of other producers be entirely for the benefit of the producer-packer. I believe that most of you will agree that this policy is not only typical and one-eyed, but a very short-sighted policy.

Producer-packers! To-day your standard of living is amongst the best and your assets have real value. I cannot understand what is the matter with you! Have you forgotten so soon the chaotic conditions under which you traded a few years ago, when your standard of living was on the barest of margins, and when your assets had comparatively small value?

To-day, a market level is fixed throughout New Zealand from time to time and kept at a payable level for producer-packers to sell up to or under, as the case may be, but very seldom does a producer-packer take the initiative in endeavouring to lift the market upwards.

The surplus honey in New Zealand is taken off the market by the Division and sold in various countries throughout the world.

You are able to market such honey as you can comfortably handle, direct to the trade, wholesale and retail, and send the balance to the Division; the balance on some occasions being the worst of your honey.

Producers not desirous of selling all honey locally, have the alternative of forwarding supplies to the Internal Marketing Division, when a substantial and prompt advance is made, followed by progress payments, and a further final payment is made at the end of each financial year.

Packer-producers enjoy the benefit of any advertising or "EAT MORE HONEY" campaigns.

In order to stabilise the local markets for the Division and also for the producer-packers, it is necessary to establish an up-to-date blending and packing plant, along with an extensive honey marketing organisation.

Now, if I am any judge, the long-headed producer-packer will agree that these services are worth paying for. In addition, I do not for one moment believe that the remainder of the industry will permit a few to have a ride on the backs of the many, and I trust that when the remit comes before the Conference it will be dealt with effectively .

MINIMUM PRICES: I note also from the remits that there is a demand for the compulsory fixation of minimum prices. We have looked into this matter very carefully and we are of the opinion that such a procedure would not be feasible, mainly because of its impracticability. To fix a minimum price for all grades of honey would be an impossibility, and would only result in that, where the producer could not make his price, he would send his honey to the Division, which would mean the handling of a great deal of inferior honeys, and honeys which are best sold in the district in which they are produced. In addition, it is not possible for us to enforce compulsory selling prices by individual packers throughout New Zealand. The job is one which I, for one, would not care to tackle. In view of what I have just said the fixation of a minimum price does not seem feasible and is best left well alone in the meantime.

POOLING OF FREIGHTS: There appears also on the Agenda a remit

which refers to pooling of freights, and in this connection I would point out that if those served by the Railway were given freight-paid terms from the producer's nearest railway station, it would follow that others served by road transport would claim the same privileges and rightly so. This would, in turn lead to the paying of freights on honey from all sorts of out-of-the-way places and would also encourage the production of honey in uneconomic areas. The paying of all freight would also lower the net payout and give producers a lower figure for comparing their returns with the sometimes imaginary high returns received by producer-packers, who usually forget to charge their own time, freight and other incidental packing charges.

I do, however, believe that there are features to merit the payment of all reasonable freight and it may be possible within the next year or so, to take this step and still further consolidate your co-operative effort. In the meantime, I am of the opinion that, in these proposals, we are endeavouring to move a little too quickly. I notice that some of the districts advocating the pooling of freights are some of those who are not recommending the strengthening of reserves and finances to a point where freight pooling can be adopted.

COSTS AND FINANCES: I am glad to report that owing to increased turnover in the packing plant and to the careful watch kept by Mr. Rentoul, to whom we all owe our thanks, working costs have been reduced; naturally costs such as packing material are beyond his control. With the advent of the new building we are all hopeful that costs again will show a very substantial reduction. The finances of the Organisation are very sound and provide for unforseen contingencies which may occur in these most troublous times. After making a payment of 7d. per lb. pro rata for the year ending 31st March, 1941, surplus proceeds have been retained within the accounts and are made up as follows:

(a) Seals Money £11,363/6/8

(b) Unexpended London Advertising £10,285/6/5

(c) Surplus in the Pool Account £2,019/3/3

(d) Conservative stock valuations.

I note from remits that there is dissatisfaction with the policy of creating reserves; I may say at this juncture that this dissatisfaction is not general.

The policy of conservative stock valuation and the creation of surplus suspense accounts have been adopted for the following reasons:—

(a) The possibility of a drop in the market. As you are aware, particularly in these times, no one can forecast with safety a market three months hence.

(b) In the event of a honey surplus requiring indefinite storage within New Zealand, there will be incurred storage and interest charges.

(c) In the event of our finding it necessary to meet world competition in selling any annual surplus of honey to outside countries, such as Canada, U.S.A., India, Near East, or any other country which will take a quantity of honey, we would encounter high duties and lower selling values. These would, of necessity, have to be met; hence the necessity for valuing stocks at a conservative level. If this contingency does not arise, then so much the better for all of us.

(d) When holding honey, there is always a possibility of a loss by depreciation. Stock value should always cover such an eventuality.

(e) The possibility of producers not sending in sufficient honey to keep factory costs at a minimum, thereby tending to reduce the payout to those who loyally support the co-operative effort. Good reserves are an insurance against loss to suppliers from this possibility. Zoning of centres obviously would help towards steady turnover.

(f) In the event of export becoming impossible, heavy New Zealand advertising will become necessary and reserves must be accumulated for this purpose. If they are not required, again so much the better for all of us, but nobody at this juncture can say that they will not be required.

(g) In the event of generally disrupted markets, affecting the orderly marketing of your produce, the reserves could be used to effect equilisation of payouts, thereby maintaining the standard of living of beekeepers as long as is humanly possible. With the reserves in hand at the moment I would say that your future, despite the difficulties of which I have told you, is particularly bright and clear for at least the next two years, brighter than most primary industries.

(h) By having adequate reserves against unforseen losses, higher advances are possible, without the fear of subsequent claims for refunds as occurred with the H.P.A. when it went into liquidation. All I can say at this juncture is that if your business was liquidated it would provide a tidy dividend, which I know you will agree is a far better state of affairs than the opposite, i.e., refunds to be collected from producers over a period of years.

(i) With costs continuing to rise to-day and with selling levels fixed as high as they can possibly go in the United Kingdom, our net returns from sales in the future may not permit of the creation of further reserves.

I have dealt at length with the reserve position because I want to clear up the misunderstandings which appear to exist in certain districts and because it is necessary that everyone should be in possession of the facts for and against. I would like to see the Conference endorse the sound policy of the establishment of reserve funds so long as a satisfactory payout can be maintained for the producers, from year to year; such reserve funds to be used for the benefit of the industry and not to be tied for any particular purpose as apparently is the intention of some of your delegates. The reasons for not restricting the purpose of the reserve funds are very obvious; as I have just told you nobody can say over the next few years for what the funds will be required, but so long as they are used for the industry and in the interests of the industry, no one can complain.

In conclusion, regarding reserves, I know that certain people argue that the whole of these funds should be paid out. On the other hand, I would point out that the results obtained in any one year are not necessarily the effect of that year's operations, but are the accumulative results of general pooling and methods of all the years. If the honey was just floated on the market and sold to the highest bidder, all right, then, each consignment could be treated individually and there would be no pooling; the Internal Marketing Division would simply be selling agents, not a marketing organisation. I am sure that none of our suppliers are desirous of returning to the point where they are dependent on whether they strike a high or a low spot in the market, i.e., a return to the same old gamble instead of the reliable marketing we and you are trying to obtain. If you had not received from the Division the payable returns which you have received, then perhaps there would be a reason for the agitation as present circulating within some sections of the industry. The only advantages in paying out these suspense moneys that I can see, at the present time, would be to those who contemplate selling their apiaries, in which case a higher payout would mean that they could cash in and collect, but to those carrying on, the security of the future of their business is all-important, and this security can only be obtained by carrying forward sufficient funds to make the future secure. Even those desiring to sell surely have a corresponding advantage in maintaining a secure marketing organisation. What sort of a selling proposition have they if they cannot assure the buyer of a profitable return from the future marketing of his product? Why packer-producers should be so vitally interested in these reserves, I am unable to understand, unless it is for the purpose of weakening the organisation to a point where it may collapse and leave them once again to develop the old chaotic system of marketing. If there are any other reasons, I should be glad to hear them in order that we may argue the correctness or otherwise of these claims.

MARKETING AREAS: There is no monopoly in a system which allows all the beekeepers to share in returns from the Internal Marketing Division, and at the same time permits them to market locally outside of the main cities. The prime reason for suggesting the zoning of the cities is to protect the marketing organisation, the industry, and the suppliers to the Internal Marketing Division against the frailties of human nature—against the competition which wrecked the H.P.A. and made the position of N.Z. Honey Ltd. insecure. In this connection, I refer to price cutting by producers and their agents. At present there is uncertainty of turnover—some growers send in all their crop—some, none of their crop, and some sell the best of their honey and send what they cannot sell to their co-operative organisation, and in years when the crop is short and their organisation requires honey in order to maintain its turnover producers sell to merchants and to retailers, to the exclusion of their own organisation. Under these conditions, nothing solid can ever be built.

By zoning cities, the packing plant can be ensured a steady turnover of 1000 to 1100 tons per annum, probably more. This turnover is essential for low blending and packing costs—is essential for maintaining control of market levels—is essential for the elimination to a greater extent of price cutting by producer-packers. The zoning would ensure more regular supplies and also tend to influence more honey towards the Department earlier in the year. A steady flow of honey from December would provide for early exports, which is necessary if our overseas markets are to be kept steadily fed and selling continuously, not as in the past, when, as you will remember, the old Honey Board were frequently unable to obtain adequate supplies for export, in spite of the fact that many producers were holding considerable stocks, and I may say that since the Department has been in operation we have had similar experience. Now, I would like to point out to you at this juncture that with the export trade—built up at the beekeepers' own expense, and which has cost the industry over £60,000 in advertising—there is always a danger by this "in and out" policy that whole of your goodwill in the United Kingdom being destroyed by local chaotic conditions which may exist in any one season.

In the matter of marketing areas there is little opposition to this in the North Island. I would like to see the proposal initiated in Auckland and in Wellington, and possibly Christchurch, as being the largest honey consuming centres.

Again, I would repeat that our first concern is to see that suppliers do not suffer as a result of their honey being sent to the Division. Beekeepers asked the Government to provide a stable marketing arrangement and to do this adequate premises and equipment are being provided and a selling organisation developed in the United Kingdom and in New Zealand. Such an organisation cannot be run successfully on free air and scenery; the whole business must be turnover if it is to be economic and successful.

Four years ago this Conference requested the Internal Marketing Division to set up an efficient marketing organisation, and your policy should not be one thing to-day and another to-morrow; the Internal Marketing Division will necessarily see that whatever provision is essential for the success of the scheme will be made; it cannot be chopped and changed at the instance of a few producers, particularly as the opportunities for marketing their honey are the same for all. If the time ever comes when producers in the majority want something different, they will find that they have a solid business well worthwhile; something that will take care of their future.

In concluding my remarks on zoning cities, let me remind you of conditions as they were when we took over:—

1. The defunct H.P.A., with producers still paying off liquidation debts.

2. A co-operative Honey Marketing Company—New Zealand Honey Ltd.—in marketing difficulties.

3. Low advances to producers supplying N.Z. Honey Ltd.

4. Intense price cutting between producers, N.Z. Honey Ltd., and merchant packers, resulting in market chaos and low returns to all.

5. Bad debts were incurred by many packers; contracts were made by many packers, many of which were not honoured, either in the matter of price or quantity.

6. Low prices, which kept producers near the breadline in a great many instances.

My mind will not comprehend any producer desiring a return to these conditions; nor can I understand any producer not desiring to assist in avoiding a risk of a return to these conditions, and I say now that by advocating a sound policy of sufficient reserves, a steady turnover for the blending and marketing organisation and a continuance of seals levy contributions by packer-producers, the industry will be consolidated rapidly to the point desired by the majority.

May I say in conclusion that in this address I have not endeavoured to have the reputation of the Honey Control Board or the Marketing Department shored up, as some showy but rotten building needs to be shored up with beams, with fables of virtues which they do not possess, or with unreal sentiment and unreasoning partisanship. The Honey Board, the Department, and the industry as a team, stand to-day on firm foundations of real qualities and achievement, and those foundations, Gentlemen, are of steel, and I am certain that you will to-day lend a hand by forgetting parochial and individual views and by deciding in favour of sound policy giving your industry the directional guidance which it desires and deserves.

STOP PRESS!

HONEY REQUIRED FOR EXPORT AND BRITISH RED CROSS CONTRACTS.

Export Permits held of which Full Advantage should be Taken.

The Honey Section advises that more honey is urgently needed.

British Red Cross Contracts must be met and supplies are short for other Overseas commitment for which Export permits are held and should be fully availed of.

Beekeepers are urged to communicate immediately with the Internal Marketing Division, Auckland, advising the maximum quantities of honey they can release.

This is an emergency and more important than the local market. Every tin will help and the demand is urgent.

To help in this matter the period for the receipt of honey by the Honey Section will be extended till August 29th.

BEEKEEPING HINTS.

HEALTHY WINTERING.

The apiary site should be dry and sunny and grass and weeds should be kept down to allow the sun to shine on the lower parts of the hives and to penetrate to the ground around them. The all-important honey stores in the hives, particularly in combs situated outside the winter cluster, will surely absorb moisture when exposed to damp conditions and some fermentation may result. This deteriorated food-supply will need to be re-processed by the bees during the coming spring, which may cause them to suffer severely from stomach troubles.

Another source of trouble where dampness prevails about the apiary is the development of mould-growths on combs in the hives. Such growth exposes the bees to infection by fungous diseases. The most commonly-known infective agents are Aspergillus flavus and A. fumigatus; these may cause heavy mortality during spring, at a time when the colony can least afford such loss of strength.

DAMPNESS AND BEE SEPTICAEMIA.

The need for care in selection of apiary sites has recently been demonstrated in New South Wales where beekeepers reported heavy mortality among bees during a damp season. The Chief Biologist's report on one case was as follows: —

"The affected bees were found to be unduly black in colour, the body contents were also black and a bad odour. An organism was found in large numbers in the thoracic cavities and heads of most bee specimens.

"Apart from the presence of a few yeasts, the intestinal contents appeared to be normal. Bee septicaemia (a form of blood poisoning) was indicated by the examinations and it was noted that colonies situated where the surrounding soil was damp were susceptible to the disease."

C. E. Burnside, who has investigated bee septicaemia in U.S.A., states that the disease is due to the microbe Bacillus apisepticus, which enters the bee through its spiracles and multiplies in the blood so that the bee dies of blood-poisoning. Infected bees refuse food until too weak to fly and during the crawling stages their movements become uncertain and they frequently fall. Eventually they become unable to right themselves and die lying on their backs or sides.

This is not a common disease, but it sometimes occurs during rainy and humid conditions, principally along coastal areas. The selection of a well-drained, sunny apiary site is the best preventive measure.

Dwindling troubles of the adult bee are not taken seriously enough, yet they cause much heavier losses than all other forms of disease put together. (W. A. Goodacre—N.S.W. Agricultural Gazette.)

COMPOSITION OF THE WINTER CLUSTER.

M. J. Deyell's Observations.

It was midwinter and there had been a fall of snow. I lifted up one end of an upper brood chamber (sometimes called the food chamber) and it so happened that the centre of the winter cluster in this hive occurred between the two sets of combs so that I split the cluster of bees into what appeared to be two equal parts.

The centre of the cluster consisted of bees that were loosely clustered; in fact, they were moving about. The outside rim, or periphery, which was about 2¼ inches thick, consisted of bees that were packed together tightly and they were practically motionless.

I opened up two other hives and found identically the same condition. These observations tend to confirm in my mind the theory that bees are cold blooded and that the bees in the rim or outside of the cluster being packed tightly together do actually retain some of the heat generated by muscular activity on the part of the bees in the centre of the winter

cluster, which centre temperature never goes below 57 degrees F. and may go up to 94 degrees F.

("Gleanings.")

KEEPING ONE STEP AHEAD OF THE BEES.

Successful beekeeping consists largely in applying intelligent apiary management, which means doing the right thing at the right time, so far as possible. **"Plan your work, then work your plan,"** applies to beekeeping as well as other lines of business.

Many car loads of honey and countless swarms are lost each season because beekeepers fail to plan ahead and keep ahead of their bees. When colonies are boiling over with bees in the spring, why wait until the honey flow is on and queen cells are started, to put on supers?

Congestion in the brood chambers of populous colonies, due to a shortage of comb space, is the prime cause of swarming, and swarming can be controlled by supplying ample comb space, which means supers,—early.

Colonies that were supplied with an abundance of stores and adequate protection have wintered well. Such colonies are strong in bees this spring. If beekeepers will keep one step ahead of their bees during the season a larger crop will be harvested.

("Gleanings.")

STRONG COLONIES STARVING JUST BEFORE THE HONEY FLOW

It should not be forgotten that a strong colony built up from fast fading stores may starve to death just before the honey flow. A little honey, we will say, is coming in just fast enough to keep brood-rearing at its highest pitch. Then come a series of chilly or rainy days when the bees can not fly, but brood-rearing keeps on. The bees have been working from hand to mouth and even during a three or four day period with no honey coming in, a big colony may starve to death.

The remedy is obvious. First, in the fall, either put on all colonies a full-depth food chamber filled with good honey and pollen to last, or, second, keep a constant check on all colonies to see that they have a supply of honey till the heavy flow comes on. When short, a quart or two of syrup should be given to tide the bees over until they can fly again. The first plan is much the safer. The second plan is not feasible for outyards.

Always keep this in mind: If you are liberal with the bees they will be liberal with you. Conversely, if you are stingy with the bees, they will be stingy with you.

("Gleanings.")

WHAT ARE THE PRINCIPLES OF BEEKEEPING?

They are simple and may be found where honeybees live, and have lived naturally for thousands of years, possibly millions, in hollow trees and crevices of rocks. If, for example, we examine carefully the interior of a bee tree we will find that the colony of bees, in order to live, has three things, **Protection, Comb Space, and Food**, and that these constitute three principles that should be considered in modern beekeeping, viz:

(1) Bees must have **protection** from the elements.

(2) Bees must have **comb space**, which is room for building combs in which to store the honey and pollen, also for brood-rearing.

(3) Bees must have **food**—honey, pollen and water.

The application of these principles to modern-day beekeeping is what may be called apiary management. Management is the most important part of beekeeping.

(M. J. Deyell, "Gleanings.")

HIVE MANAGEMENT FOR CROPS.

The following is based on a plan outlined in "The Beekeepers' Item," and could perhaps be applied in a number of districts in New Zealand.

From the middle of September to the first of December there is usually plenty of pollen coming in. If there is not sufficient nectar also to build up a colony to tip top condition, it

will be necessary to feed liberally. The main flow from clover usually begins about December 1.

The bees should be managed up to December 1 to get all the bees and brood possible. The management is then changed to get all the honey possible and a minimum of brood during the honey flow. Any brood raised this month can be a liability in place of an asset.

To accomplish this, smoke the bees out of the second storey and remove it, seeing that it has no queen or queen cells. Exchange one capped frame for a frame of brood and eggs. This storey then becomes the brood chamber and is placed on the bottom board in place of the original brood chamber, which is removed to a new stand.

On the new brood chamber place a queen excluder and then a super of foundation which will accommodate the returning field bees. After about 48 hours the bees should have a good start on queen cells and all the old bees will have returned to their original stand.

Now go to the old brood nest and remove the queen and any queen cells, and set this chamber on top of the supers. It will be necessary to provide a small hole to let out drones and for ventilation. Six days after this, remove any new queen cells which might have been started, at the same time placing an extra super on top of the old brood nest to give room.

At the end of 25 days remove all finished honey. Set the original brood nest full of honey back on the bottom board, under the new brood nest, which should now have a young laying queen, and on top of which remains the queen excluder. Over the excluder, place unfinished honey. If all the honey is finished, give an extra super, for the bees will be obliged to move enough honey from below to give room for the young queen to lay.

This plan has the advantage of putting bees to work in supers more and more while the field bees each day have less and less brood to trouble about. Plenty of comb gives the best young queens and puts the colony in shape for the autumn flow and the winter, and there is no swarming.

The author, G. M. Chenoweth, recommends this plan for short flows of a month or six weeks in midsummer. Where the main honey flow in New Zealand commences later than December 1, operations should be timed accordingly.

BEE PARALYSIS.

The Editor of the "Beekeepers' Item" refers to bee paralysis or "mal de mai," and considers that the trouble is attributable to improper stores or mouldy and fermented honey being fed to the brood in early spring. He considers that the ailment is not contagious as has been supposed but can be induced by the feeding of soured stores. Conversely, it can be cured by feeding new sugar syrup or combs of sealed honey.

BEWARE OF GRANULATED SUGAR.

Granulated Sugar the Cause of Dental Decay.

"Gleanings in Bee Culture" for Nov., 1940, editorially:—

The dentists have generally stated that the final cause of dental decay is granulated sugar, either cane or beet, and that, as this sugar is the main ingredient of most of the candies, the candy eating habit is the fruitful cause of tooth decay. A News Release of May 14th states that at the University of California research workers report that they have "stopped tooth decay in 90 per cent. of the individuals comprising an experimental group, by eliminating refined sugar from the diet, and thus controlling growth of acid forming bacteria in the saliva."

This confirms the work done at the University of Michigan Dental School. Sugar is an acid forming food, while honey, on the other hand, as shown by the work of Dr. R. E. Lothrop is alkaline forming.

CORRESPONDENCE

ESSAY COMPETITION.

(To the Editor.)

Sir,—I have read through the April number of "The N.Z. Beekeeper," and it occurs to me that it would be a good idea if somebody donated some prizes for essay competitions as is done in Australia. A competition could be set for an essay on "Any subject pertaining to beekeeping," and the prizes could be either in the form of queens or money, in the proportion of 10/- first prize, 7/6 second prize, and 5/- third prize.

I think it would create interest in the Journal, and I am sure it would be an education to read the three best essays submitted in the following issue of the Journal. I don't know how you are situated in regard to someone judging the essays, but I am sure one of the instructors would be only too pleased.

This is only a suggestion and you might think it over for its possibilities. Trusting it may prove a success and arouse enthusiasm among the Branches.

Yours, etc.,
RAY J. WHITE.

Wellington, May 3, 1941.

[We like the suggestion, but the question of finance has always entered into everything pertaining to the continuance of the Journal. However, we propose to take a chance and invite entries which we shall be pleased to publish. We also have a suggestion and that is that perhaps Branches will undertake to provide the prizes for one number of the Journal in rotation. As there are only four numbers published per year and there are 23 Branches, we think that Branches could afford 22/6 occasionally out of their accumulated funds. Which Branch is going to make the first offer with a view to making the Journal a continued success?—Editor.]

In "Flight Studies of the Honeybee," published in this magazine in 1923, Dr. O. W. Park told how he and Dr. R. L. Parker timed the flight of bees by means of a stop watch. They found that the maximum speed of the honeybees is about 25 miles per hour with a speed of about 15 miles per hour under normal conditions. In the days of the horse and buggy the bee seemed to move at a fast pace, but in these days of autos and aeroplanes she seems to have slowed down in comparison with the movements of the beekeeper.

("American Bee Journal.")

ESSAY COMPETITION.

First Prize, 10/-; Second Prize, 7/6; Third Prize, 5/-.

In line with the suggestion made by a correspondent whose letter is published in this number, we invite entries for our Essay Competition. Essays should be addressed to the Editor, endorsed "Competition," and should be to hand not later than September 15th. The successful entries will be published in the October number of the Journal. Essays must be on a beekeeping topic.

THE FUTILITY OF PRICE CUTTING.

The selling price of honey should be based on the cost of production plus the cost of selling, plus a reasonable margin of profit. If the margin of profit is disregarded in establishing a selling price the beekeeper or the one who handles honey, does business at no profit and will eventually go out of business. This applies also to selling bees and queens.

The unethical practice of price cutting in selling honey is quite general. In some instances price cutting is due to gross ignorance and in others to a total disregard of marketing principles.

Unfortunately there are beekeepers who dump honey onto the market at prices below the cost of producing and marketing it. This practice is not only unethical but disastrous and demoralizing to our industry. Fortunately, these price cutters automatically put themselves out of business (temporarily at least) because, after selling their crop, they are unable to buy more honey at a price low enough to supply their market and make even a meagre margin of profit. The unfortunate fact is that these same price cutters are likely to demoralize the honey market in the same way next year, if they are lucky enough to secure a crop.

Honey is too valuable a food to be dumped on the market at ruinous prices. With a little intelligent sales effort it can be marketed profitably. But such a situation cannot be corrected in a day, week, or year. The problem may be solved eventually through education, and here is a project for Branches throughout the Dominion. If all Branches would have as one of their objectives the dissemination of authentic information on marketing honey, and would contact, in a diplomatic manner, beekeepers who violate rules of marketing, some progress might be made in eliminating this trouble.

Note the "may" and "might" in the last paragraph. The position seems to the writer to be as indefinite as that and is not likely to become more positive. It seems that it would be a much better plan to go in for a planned system of co-operative marketing and some compulsion would not be out of order.

There is some satisfaction to be derived from the fact that such a step appears to be contemplated in the Dominion at the present time, but it is apparent that some of the measures proposed will serve to keep the marketing organization which has been built up in existence without properly conserving the interests of all the producers in the country. There are those in the industry who are still not convinced that a scheme of minimum price fixation would involve on the Internal Marketing Division the obligation to accept all honeys sent in, whether or not they measured up to marketing standards.

It appears to the writer that such honeys need not be accepted by the Division. They are certainly not at present. If minimum prices were fixed, then unpalatable honeys would automatically become unsaleable except at the lowest price fixed, and this would tend to dispose of price cutting as it exists at the present time, since the better honeys would be easily marketable at payable prices.

Another aspect of course is that, while the market is reasonably sound at the moment, it does not follow that it will continue so at the end of the present war, and now is the time to think out measures to safeguard the position then.

(Contributed with acknowledgments to "Gleanings.")

HONEY COOKERY

HONEY BAKED BEANS.

1 lb. dry navy beans, 1 medium-sized onion, ¾ cup honey—(to this add sufficient hot water to make a cupful). ½ lb. bacon, 1 cup tomato soup. Soak beans overnight. Parboil in salted water, and then drain. Put beans in casserole, add onion (chopped), tomato soup, and honey. Dice bacon and mix with beans, leaving a few slices for the top. Bake in a moderate oven (350 degrees) for 5 hours. As they bake add more tomato soup, in addition to the cupful, sufficient to keep them moist. The constituency can be regulated as desired by the use of the tomato soup.

HEALTH MIXTURE.

Wholemeal Health Cookies: Quarter cup butter, ¾ cup honey, 1 egg (well beaten), 1 cup ham, 1 1-3rd. cups of wholemeal, 1 teaspoon cinnamon, 1 teaspoon baking powder, ½ teaspoon carbonate soda, 1 cup chopped raisins, ½ cup chopped nuts.

Cream butter and honey, add egg, ham, and sifted dry ingredients, and raisins and nuts. Drop teaspoonfuls on a greased baking slide, keeping them 2½ inches apart. Bake in a quick oven for about ½ an hour.—Mrs. D. S. (Waituna West).

EXCELLENT IN COLD WEATHER.

HONEY SPONGE: One cup flour, 3 or 4 eggs, 1 cup honey.

Beat the yolks of eggs with the honey to a light froth, add the flour, then the stiffly beaten whites. Mix and bake in a tin lined with buttered paper, in a slow oven for 40 minutes.

—Mrs. A. E. (Christchurch).

HONEY AND APPLE FILLING.

Apples are becoming more and more popular, so try this one: Bake four large apples. Mix the pulp with the juice of 1 orange, a little of the grated peel, ½ cup of brown sugar, 2 tablespoons of melted butter or cream, and 2 tablespoons of honey. Beat, and keep in little jars. A pinch of cinnamon may be added.

("N.Z. Listener.")

Two beaten egg yolks, 1 tablespoon of honey, 1 cup of dates, raisins, and nuts chopped, and icing sugar to thicken.

("N.Z. Listener.")

HONEY ROLY POLY.

For the filling, heat ½ lb. honey in a saucepan, add 2 oz. of breadcrumbs, mix well, and allow to cool before spreading on the dough. To make the dough sift 2 cups of flour and 1½ teaspoons baking powder into a basin, add 1 cup finely shredded suet, and mix well. Stir in sufficient water to make a soft pliable dough. Turn on to floured board, and roll out into an oblong shape. Spread with prepared filling, leaving a good margin all round the edge. Damp the edge and roll up like a Swiss Roll. Press the edges securely together at either end. Wrap in a floured pudding cloth, and tie tightly at both ends, place in a pan of boiling water and boil about 1½ hours. Cook in a long boiler if possible, to retain the shape. Serve with extra honey heated in a separate dish. This may also be baked, without the pudding-cloth of course.

HONEYED ORANGE STRIPS.

Cut the rind of three oranges in strips. (There should be about 1½ cups of rind.) Boil in salt water (about one teaspoon salt to cup of water) until soft—about half an hour. Drain, rinse in cold water, and let simmer very slowly in one cup of honey for about 45 minutes. Lay out each strip on waxed paper and let stand for two days before coating with dipping chocolate. These fruit strips when coated look like beans. When you bite into them you experience the delicious flavour of the jelly-like centre.

BEES, STINGS AND HONEY.

John Crompton. (Readers' Digest—Condensed from Blackwood's.)

My first lot of bees were responsible for my becoming bee-crazy. My second lot were responsible for my education. It was autumn, and I was quite happy with my white hive of bees, studying their ways and making their lives a misery with interference. Then I saw an advertisement in a bee paper: "For sale: strong stock of bees. Miss B." I had an empty hive, and the idea of seeing it transformed into a busy self-supporting city was irresistible.

For some reason one expects lady beekeepers to be elderly, plain, and a trifle peculiar. Miss B. gave me a shock by being young and good-looking. She talked bees to me for some time, then said she would dress and we could transfer the bees from the hive to the travelling box. She reappeared looking like an Arctic explorer, so swathed in overalls, high boots, gauntlets, and veils, all tied up with tapes, that no bee could have got at her if it had studied the problem for a week. She explained that she was rather susceptible to stings. Apparently she thought other people were not; I had no veil but she took it for granted that I was going to help. I did as she directed, but her attire hampered her movements and she jarred and crushed bees. Bees resent this. Their resentment, perforce, was directed at me.

I like helping good-looking women, but within reasonable limits. I went to look at the poultry. When I returned and Miss B. saw my face, she enquired with mild interest, if "a" bee had stung me. I felt tempted to ask if she thought the rest was skin disease. This was my first experience of stinging, but by no means my last.

I was, of course, thrilled with my new bees. They came out and flew round and round the hive, beginning in small circles that grew wider and wider and higher and higher, orientating the position of their new home. Moving hives presents an interesting problem. (*See footnote.) You can move a hive four miles, but you cannot move it two, for the bee knows every inch of its territory for two miles, and marks its home by the locality, not by the hive itself. The entrance, it knows, is just between those two trees and so far from the ground. Change it only a few feet and the returning bee, astonished as you would be to find your house suddenly moved a couple of blocks away, flies straight to its old doorway, bewildered and hopelessly lost.

The one way to move a hive a short distance is to move it only two feet each day, meanwhile giving the absent-minded inmates, whose thoughts are busy with the harvest, a daily reminder in the form of a sharp rap on the head. If the beekeeper puts a piece of glass or some grass over the entrance, this unexpected obstacle causes the bees to investigate and helps to impress the new position on their busy, preoccupied little minds.

September came, and I had to feed my bees and tuck them up for the winter. The text-book said they must be fed at night, on sugar-syrup. I argued that honey, fed in the warmth of the day, would be better, but honey has an effect on bees something like neat spirit on confirmed teetotallers. It sends them crazy.

Bees never go out at night, so if a can of syrup is put over them in the evening they get excited but remain in the hive and by the morning have settled down. I, however, put a can of honey over them in the daytime. Some twenty brown bees came up through the hole in the top, filled themselves and went back.

Then the fun started. The impulsive creatures jumped to the conclusion that, since rendered honey was coming in, the white hive next door was being looted, and rushed out to help. But I had also put honey on the white hive and by now they were rushing out to loot the brown hive. It was my first experience of robbing, and most alarming: the captains, the shouting, the fighting, writhing

bodies of tens of thousands of furious battle; the noise was terrific. I rushed for a hose and the spray of water swept them back in waves, but they came on in renewed fury whenever the flow stopped. The stocks might have exterminated each other, but nature came to my assistance. Rain began to fall in a downpour that got heavier and heavier. The bees were definitely discouraged and luckily, the rain lasted until the evening.

That winter I devoured literature on bees. I got a microscope and studied their anatomy. By spring I had reached a dangerous stage of confidence, made worse by the fact that by first stock were exceptional. I could do anything with them, and I attributed this to my knowledge of bees and not to their almost freakish amiability.

I had not opened the brown hive yet. The crate of honey over its main chamber had to be removed, so one morning I decided to do it. I condescended to wear a veil: a flimsy, home-made affair of light netting over my hat tucked in at the neck. I began to twist and pull the crate, which had been sealed with honey. There was a noise in the hive like rumbling thunder —quite a different note from the throaty, almost kittenish purr of the white hive. With a vague feeling of uneasiness, I pulled and twisted savagely. At last the crate came up —and so did the bees.

For one moment the top of the hive looked like a pan of treacle boiling over; the next I could not see it for a cloud that was attacking me. I then committed the crowning offence. Holding the thickly populated crate in my hand I groped my way to the stand placed to receive it, tripped, and dropped it, causing some twenty thousand additional bees to join my attackers. I did then what I ought to have done long before, and ran for dear life.

My veil, my hands and arms, were black with bees, all stinging. They were up my trousers and sleeves, and those that did not find bare skin were doing their business effectively through flannel and cotton. I ran like a hare, and gradually outdistanced the cloud toiling behind me. Then I began to get rid of the bees on me. Hundreds of little barbs, endowed with malignant life of their own, were quivering and twisting in my skin, still injecting poison. The owners, their powers of mischief over, part of their bowels torn away, doomed to die a lingering death, abated their fury not one whit, but flung themselves at me again and again. I doubt if any male creature ought so lose itself in hate and fighting fury.

I have often been asked what is the effect of receiving about a hundred stings at once. People vary a great deal—there are those that one sting would kill—and I can only speak for myself. People "attacked" and killed by swarms die, I think, chiefly from shock and fright. Many animals seem more susceptible than men. Horses suffer intensely. Fowls are killed almost immediately. I saw a mouse killed by a bee and it died in about one minute.

Bee poison is certainly no wishy washy stuff, and so far it has defeated our scientists. It is some sort of albuminous alkaloid toxin, and affects the heart and circulation. In my case, the pain of the stings merged into a feeling that I had been blown up to bursting point. My head felt blown up, too, and throbbed violently, and my brain refused to function. I could not remember where I lived or what direction to take to get home. I started to walk and discovered that either I had no feet or the ground was not solid. It is as well no one saw me making that uncertain homeward course at that time in the morning. I foolishly tried to be evasive before a startled wife. It did not go down. It is no use saying to someone who knows the normal size of your face that one bee got a bit cross.

From then on the brown hive declared war against me. Then they swarmed. They would not stay hived but settled on a bough of the apple tree, hung there until half-past three the next afternoon, then rose in a cloud and disappeared.

What is this honey we so prize? Scientific analysis is not yet complete, but we know that honey commences its career as an infinitesimal drop of sucrose (cane sugar) and water in the flower, called nectar. By intricate

processes, part occurring inside the body of the bee, this is converted into dextrose (grape sugar) and levulose (fruit sugar), which constitute roughly 70% of honey. There are other constituents: the essences of the flower, the scented oils and gums which give honey its flavour and bouquet. Less obvious, but greater in bulk and much more important, are a variety of salts and minerals, iron, phosphorus, manganese, lime, and sulphur, valuable because they are assimilable. The iron in numerous tonics, for instance, probably never gets into the human system at all; the iron in honey does. Then there are albumen, fats, waxes, formic and mallic acids, nitrogenous pollens, and last, but not least, some very complex digestive enzymes capable of such useful feats as converting starch into malt.

Chiefly honey is a food; the only food that requires no digestion and passes directly into the blood stream. It is a stimulant and a tonic. It has a strengthening effect on the heart and is a medicine for the liver. Its acids and salts make it a gentle laxative. It is a skin and hair food. It is a powerful antiseptic also; when next you cut your finger try applying honey and a bandage. The speed with which the wound heals will surprise you. If honey were nasty I believe more people would take it for its medicinal value. As it is, honey is bought almost solely as a sweet.

And honey-getting is a highly specialized business. On the face of it it is marvellous. Your stock feed and clean and water themselves and bring you the produce of your neighbour's land for sixteen square miles around without summons for theft. The trouble is that the bees are doing all this for themselves and not for their owner, who only gets any when there is a superabundance stored away. For the beekeeper is only a bee-robber, and robbing—if you make a business of it—is far from simple. I have to lay in an expensive set of burglar's tools. I run the risks of my profession and am frequently stabbed and wounded. The safes I prize open are too often empty. I want something for my effort because I know the goods are priceless.

That first season of mine everything went wrong. I know now I was lucky. An unfortunate who starts in a good season gets led astray. After he has collected his honey he does sums whose answer makes the beginner wonder why Morgan ever bothered about oil. But the next season, bad weather and inexperience may easily result in another sum which will make the beginner wish he had kept locusts instead.

(*Bees have successfully been moved less than two miles without loss to the colonies. This is the only apparent inaccuracy in an excellent article. Editor.)

BEATEN BY BEES

It is not generally known that during the last war the Germans drafted bees into service to fight against Britain. It happened in Tanganyika.

A British convoy was bringing ammunition and supplies to our troops. German askaris (native troops), who were trained bee-keepers, gathered several hundred swarms together and fastened the nests to trees along the trail.

An engineer wired the nests to a drycell battery hidden in the bush. As soon as the approach of the British convoy was signalled, the engineer switched on the current and gave the nests a shock.

Millions of angry bees swept down on the astonished cavalcade. Mules, horses, and oxen stampeded, rushing madly into the veld to escape their winged torturers.

Every man in the convoy perished in agony, and after death their faces were unrecognisable. The Germans then drove the bees with a smoke screen and collected the valuable spoils of their strange victory.

("The Illustrated Weekly of India," Dec. 8, 1940.)

ASKED AND ANSWERED.

EFFECT OF HONEY ON THE BODY.

Question.—Can you tell me if eating extracted honey has a tendency to cause a dryness or dehydrating effect with itching upon the human body and skin? If so, is it necessary for a person so affected to discontinue eating it or will the system gradually overcome its effects satisfactorily?—William G. Dominick, Mass.

Answer.—Honey has a decided hygroscopic quality which depends entirely on its levulose content. The more levulose honey contains the more capable it is to absorb moisture. The curative effect of honey both for internal and external use is mainly due to its dehydrating effect. Honey taken internally absorbs moisture from the entire digestive tract, which includes the mouth, throat, larynx, stomach and intestines. Honey is not a bactericide, that is, an agent which destroys bacteria, but a bacteriostat which means that it prevents the growth of bacteria. Antiseptics kill bacteria but they also destroy the tissues. Honey prevents the growth of bacteria by depriving them of the moisture which is absolutely necessary for their growth. On account of this, honey is far superior to antiseptics because it accomplishes the killing of bacteria without destruction of the tissues. Water is the most important constituent of our body. About two-thirds of our entire weight consists of water which in itself proves its vital function. A person who weighs 150 pounds contains 100 pounds of water. The lumph, an alkaline body fluid, is the greatest defensive substance against bacterial invasion of our body. It is our main germ destroyer. If there is an infection in the protective skin covering a swelling will occur which is really an accumulation of lymph to prevent the spread of further infection. It is like the rush of an army of soldiers to prevent the invasion of the enemy in breaking the defensive line. Honey draws the lymph to the surface and produces, indirectly, a safeguard against invading forces. There is no better substance for an infected wound than honey because the lymph which it attracts kills the bacteria and besides it helps in the reconstruction of the tissues. It would require too long an explanation about the dehydrating effect of honey upon the body. Honey is a laxative and important diruetic substance which in itself eliminates a lot of water from the system. The secretion of gastric juice will, in certain individuals, cause a distress of burning sensation and even cramps. There is no need to discontinue the eating of honey. All a person has to do is drink water which immediately restores the disturbed balance. The increased demand for water, which we call thirst, is a great advantage of honey. The flushing of the kidneys is very beneficial. Many of these individuals will lose weight by consuming honey because it liberates the water-clogged system of unnecessary liquids. I reduced the girt measurement of a fat person's abdomen from 56 inches to 42 in a short time by recommending to him the free use of honey. This is partly due to the dehydrating effect of honey and partly to the fact that fats, which are slow burning carbohydrates, will burn up in the "draft" caused by the rapid combustion of honey. It is like the process of setting fire to slowly inflammable coal with the aid of kindling wood or even oil. Let us add that we did not even scratch the surface of the medicinal and surgical virtues of honey.—Dr. Bodog F. Beck, 116 E. 58th St., New York City.

("Gleanings in Bee Culture.")

VALUE OF BEES.

It has been said that bees are at least fifteen times more valuable for pollination than they are for gathering honey. Fruit growers and producers of clover seeds must have honeybees to insure maximum yields.

POLLEN AND NECTAR STUDIES.

By Frank E. Todd.

AT THE PACIFIC STATES BEE CULTURE FIELD LABORATORY.

The Pacific States Bee Culture Field Laboratory has recently undertaken a detailed study of pollen and nectar and their influence on colony development and bee behaviour. Studies are being made of the gathering, storing, and utilizing of pollen and their influence on the brood-rearing activity of colonies, which it is hoped will place productive beekeeping on a much more scientific basis. The phenomenon of nectar secretion and factors affecting it are also being studied under controlled conditions, with a view to helping the beekeeper to manage his business more efficiently.

Pollen Studies.

By the use of pollen traps on hives containing normal colonies, pollen has been collected and weighed daily. When compared by semi-monthly periods, the rise and fall in brood-rearing have been found to correspond with the rise and fall in the quantity of pollen coming to the hive. The peak of egg laying occurs along with the peak in pollen income, but the population peak occurs about 35 days later. Thus the bee force at the time of honey flow is greatly influenced by pollen income five weeks before.

Since pollen income rises with the blooming of pollen source plants, it will be seen that the brood-rearing of a colony is in rhythm with blooming bee plants of a locality. Dearth of pollen sources or long periods of inclement weather during the building-up period of a colony result in corresponding breaks in the population size and changes in the average age of the cluster.

In 1939 the pollen loads collected in the traps were counted between February 15 and November 1 and the average number of loads per day was calculated. One colony brought in an average of 7,800 loads per day, or a total of approximately 1.8 million loads. During one day at the peak of the fruit bloom, 29,000 loads were brought in, indicating the tremendous pollination value of a colony when it is recalled that 80 or more blossoms were worked for each load.

The maximum amount of pollen trapped from a colony during the 1939 season was 42.9 pounds. To rear a season's brood for one colony it is estimated that about 44 pounds are needed. This is equivalent to about 5,200 square inches or 135,200 cells of pollen, the number of cells in 22 standard frames. That such an enormous quantity of pollen is used by a colony can hardly be realized upon casual examination.

Pollen supplies come from innumerable sources, many of which are not recognised honey plants. The laboratory shelves are filled with hundreds of jars of pollen showing all shades from black to white and many hues of the rainbow. Samples from many known sources are being analysed to determine the amounts of important food materials, such as protein, minerals, and vitamins, which may eventually form bases for concocting pollen substitutes. These pollens are also being fed to colonies to determine their effect on brood-rearing.

The colour of pollen is of great economic importance to a beekeeper. Some of the colouring materials are fat-soluble, and as such are soluble in beeswax. They are the source of the yellow colour in beeswax. Some pollens also contain water-soluble colouring materials, and they appear to be responsible for the amber colour of honey. The fresh nectars so far examined, even from plants that produce dark honey, appear to be colourless. It has been shown that other

colours in beeswax may come from the rendering vessels or from propolis, and some colours in honey may be due to other causes, such as darkening with age or excessive heat.

Windows of observation colonies have been marked off in square inches, to permit the checking of definite cells day after day to determine the progress of brood or the use of pollen. These colonies are fed syrup and pollens to determine their influence on brood-rearing. An attempt is being made to control brood-rearing through feeding, as in the feeding of chickens for egg production or of cows for milk production. Considerable progress has been made along this line, the indications being that brood-rearing may be more dependent on the food supply than on ordinary outside temperatures.

These observations under controlled conditions have shown that the efficiency of brood-rearing varies for different queens, and also for any one queen according to the abundance of the pollen supply. Queens that show low brood-rearing efficiency have spotted brood-nests, whereas queens with high efficiency show a compact brood area.

Pollen placed within the brood area is used very rapidly. By daily checking of the pollen cells it was found that one-third was utilised within 24 hours and one-half within 48 hours. This rapid turnover of pollen must curtail the brood-rearing activities.

Nectar Studies.

Bees select the richest nectars available and thus frequently store a nearly pure individual-plant honey. The richness of the nectar may at times be a very important factor in insect visitation to the blossoms, and consequently in pollination. On one occasion among 10 plum varieties growing side by side the nectars showed a range in average sugar concentration from 10 to 28 per cent. The bees were numerous on those varieties with the richer nectars but scarce or even absent from the others. If this production of richer nectars is a hereditary characteristic, we have a basis for the selection and breeding of better honey plants or of varieties of fruit with better pollination possibilities.

A field survey of the sugar concentrations in nectars of many honey plants has revealed a range in different plants from less than 10 per cent. to more than 60 per cent. The degree to which the relative humidity of the atmosphere affects the sugar concentration of nectars depends on the structure of the blossoms, whether they are of the open or the tubular type, which determines the rate of evaporation. Nectar in a tobacco blossom (tubular type), for instance, shows but little change, seldom exceeding 25 per cent. sugar, even during a dry warm day, while that in a plum blossom (open type) is rapidly concentrated to 40 per cent. sugar or even higher. Again, during a humid period the nectar in an orange blossom, which apparently is secreted with about 16 per cent. sugar, does not become much richer and it may even be diluted with fog. At such a time the bees practically ignore the copious supply of orange nectar but eagerly seek nectars of higher sugar content in the mustard, wild radish, and hoarhound blossoms. When the atmospheric humidity is lower, the water in the orange nectar evaporates until the sugar content is about 45 per cent., and the bees work upon it freely, ignoring other blossoms.

A requirement for a major honey plant is that concentration values of its nectar must approach or exceed an average of 30 per cent. sugars. Many plants that are very numerous in places appear to be deficient in nectar sugar, as, for example, avocado, pear, apricot, cleome, and mimulus. This appears to be the reason why certain plants are seldom reported as sources of surplus honey.

To get information on factors affecting secretion and concentration of nectar, poinsettia plants have been grown in a greenhouse through two blossoming seasons. With this plant a reduction of light, temperature, and soil moisture has resulted in a lowered quantity of secretion. Cooling the plants at night with subsequent warming in the daytime did not increase the supply of nectar. Secretion was most copious during the nights following clear days. During

the secreting period of an individual blossom (12 days for the male and 20 for the female), the amount of nectar could be represented by a curve having its peak at the middle of the period. The plants showed some individual differences in both the quantity and quality (sugar concentration) of the nectar. In the open nectaries of a single plant a range of concentration from about 9 to 66 per cent. was obtained by exposure to progressively drier atmosphere. This does not mean that in the field the rate of evaporation is the only factor determining nectar concentration, since records show that when pear-tree nectar averaged only 15 per cent. sugar nectar from filaree under the trees had a concentration of about 60 per cent. Thus it appears that the nectar secreted by some plants contains a larger proportion of sugars than that secreted by others.

("Gleanings.")

BOOK REVIEW.

***The Introduction of Queen Bees, by L. E. Snelgrove, M.A. M.Sc.**

Queen breeders and appliance dealers who sell queens will no doubt have thoughts at times about the fate that awaits many of the queens which they post to their customers, even although each postal cage has fixed to it a small card containing instructions of how to introduce the queen "safely."

But the instruction card cannot possibly contain all the information that is necessary to give the beekeeper an understanding of bee behaviour in relation to queen introduction. It does not necessarily follow that because a colony is queenless or has been made queenless that the bees will be "pleased" to accept the queen offered to them by the beekeeper. A great deal will depend on the condition of the colony, apart from its queenless condition, also, on the condition of the queen herself and on the way she is presented to the bees. And a method that may be successful during a nectar-flow may be a failure during a dearth.

The beekeeper has only to read through this book to have it brought home to him that the safe introduction of a strange queen to a colony is not so simple as he probably thought.

The first chapter—a short one—deals with the history of re-queening, and goes as far back as Roman times. This is followed by a chapter on the "Importance of Re-queening." In this section, the different conditions that sometimes arise in colonies resulting in a decline of prosperity, and the advisability of resorting to re-queening as a remedy, are discussed. Some of these conditions are queenlessness, failing queen, lack of industry and certain forms of disease.

But perhaps the most valuable part of the book is that which deals with "Queen Introduction Conditions." Here is to be found a very good description of all the different factors which must be taken into account by anyone who wishes to introduce queens successfully. The effect of the presence of queen cells, virgin queens and laying workers is well explained, as is also that of robbing and the attitude of the queen herself.

The author very properly distinguishes between a fertile queen in laying condition and a fertile queen out of laying condition. A queen in laying condition is more acceptable to the bees. On the other hand, a queen out of laying condition, for instance, one that has spent several days in a postal cage, must be presented to the bees carefully.

The conditions in the colony which favour the acceptance of a queen cell or a virgin queen, and which are seldom properly understood, are explained.

The author recommends direct methods of introduction. Such methods save time, especially in the case of out-apiaries, and one visit to the colony would suffice. With other methods, as in caging over the combs or on the combs, two or three visits might be necessary.

A number of direct methods are discussed, and their originators mentioned, but the author very naturally gives prominence to two methods of his own, the Snelgrove "Water" Method, first tried in 1910, and the Snelgrove "One Hour" Method. The "Water" method is stated to be "the easiest and most expeditious way of introducing a fertile queen to a queenless stock." The "One Hour" method was first experimented with in 1935. It is somewhat similar to the Simmins Direct method. As in that method the humble match box is made use of and the queen is introduced in the evening, but with an escort of bees previously taken from the queenless colony, instead of alone.

At the end of the book there is a summary of the principal methods of queen introduction. The degree of reliability and the amount of labour involved in each method is indicated by a system of lettering.

As is pointed out by Mr. Illingworth, who has written the Introduction, this is the first book of its kind to be written, where all the space between the covers is devoted to the subject of the introduction of queens. It therefore fills a gap in our beekeeping literature. The illustrations, printing, paper and binding are excellent, and there is an index and bibliography. It is evident that the author has a profound knowledge of his subject. We have no hesitation in recommending this book.

—LOWLANDER.
("The Scottish Beekeeper.")

*To be obtained from G. H. Logan, 30 Addiscombe Road, Weston-super-mare, Somerset, England. Price 7/6, postage 6d.

ASSOCIATION

The meaning of Association is a group organised for a common object. If such an organisation stands on such a foundation its main object should be to benefit its members, great and small, and to interest others, who are interested in the common cause. No organisation can continue to exist if it does not gain new members, new ideas, and new leadership. No organisation can function if its leadership and its working departments are on a two phase circuit. There should be no two way current. The Association idea itself stands for a single purpose, to co-operate. If there is not 100 per cent. co-operation among its membership it cannot expect to progress or reach out and gather in new members or even hold all that are listed on the membership roll. An Association cannot exist on a false pretence. If it does not carry on as its name represents, it is then a misfit and it does no good for the common beekeeper. Its name means nothing to them and their attitude cannot be changed when they become convinced that it is a misfit to them.

A good working Association cannot exist on membership dues alone, even if they do tell you it takes money to make the wheels go around. Neither can it be run smoothly by a faithful few who may donate services and become just "jolly good fellows." To sum up the whole situation, the success of any business, firm, group, or organisation depends on full co-operation within itself. Do not hope or expect to gain outside help or assistance to build up something if there is no close co-operation within.
(L. E. Orr, "The Beekeepers' Item.")

A BEEKEEPER'S DREAM.

Beekcepers are enthusiasts and they are often also enthusiastic fishermen. This one is from Waimarino: Our enthusiast had just caught his largest swarm. It was a record one. That night (was it honeymead supper?) he dreamt that he was on the banks of his favourite stream catching hybrid crabs and golden Italian trout.

HER MAJESTY THE QUEEN.

1

An interview?
Why certainly, with pleasure.
You understand,
I have but little leisure.
My royal duties? Only one,
But, till the winter, never done.

2

I do not rule;
For that I've no vocation.
My calling is
The work of propagation.
And I obey my subjects' will
That I that duty may fulfil.

3

My graceful form—
I'm glad that you admire it—
And stately pace?
Both work and state require it.
My size and colour are unique,
But modesty forbids me speak.

4

The cell was large
Where I, as grub, had dwelling.
By bees well fed,
With "royal jelly" swelling,
Until, full grown, I felt the urge
To pierce the cover and emerge.

5

My flights abroad?
But once or twice I take them.
The bridal day,
Before, and then, I make them.
And when the bees to swarm decide,
Again I venture flight outside.

6

Of yes, I sting.
But do not shrink, reporter.
I use it, yes,
Just once or so, for slaughter.
No rival queen may live to tell
Her advent from the natal cell.

7

The wedding day,
The drones are early spying;
My exit note,
And after me come flying.
The swiftest gives me his embrace,
And, mated, I lay eggs apace.

8

A queen by right,
My occupation's other.
You see, dear sir,
Of millions I am mother.
And oft, in summer, night and day,
Three thousand are the eggs I lay.

9

My life is long;
No other bees survive me,
Unless they "ball"
And of my life deprive me.
With age, no eggs can I supply
And thus it comes that I must die.

10

Your paper wants
The fullest information
About my birth,
My life and my vocation.
I hope you feel that I have tried
To make your readers satisfied.

11

And now, good-day.
I'd do a bit of sprinting—
You've stayed too long
The bees are rather hinting!
That buzzing is to let you know
They're very anxious you should go,
And, if the stings are not quite nice,
A royal favour's worth the price!

—"M" in September Bee Craft.

The simple sugars in honey are the easiest to digest for children as well as for older people having heart difficulties, tubercular troubles, inflammatory infections, etc.

The levulose in honey is much sweeter than ordinary sugar and while the dextrose is not as sweet as ordinary sugar, the combination of levulose and dextrose in honey is about one-third sweeter than ordinary sugar.

In addition to these two helpful sugars, honey contains small amounts of the useful minerals, calcium, magnesium, phosphorus, sodium potassium, chlorine, sulphur, and iron.

Honey also contains, in the pollen grains, proteins which are very helpful for infants who cannot digest casein or other milk proteins.

THE VALUE OF POLLEN AS A BEE FOOD.

("The Bee World," Research Notes.)

Pollen grains contain nitrogenous substances, carbohydrates, fats and mineral matter. The content of nitrogenous substances is the greatest per cent. Since the analyses of von Planta, who was really the first to occupy himself with the chemical composition of pollen, other authors have concerned themselves with this merely so far as the aims of botany demanded, and only a few dealt with the question from the standpoint of practical beekeeping—for example, Langer (Arch. f. Hyg. 1909), who determined the water-soluble albumins in pollen and used them for serological determination of the genuineness of honey.

The following substances were shown to be present in pollen:

Albumins: peptone, globulins, xanthin, hypoxanthin, guanin, vernin, trimenthylamin, amino-acids.

Carbohydrates: glucose, dextrine, pentosans, starch, cellulose, pollenin.

Fatty substances: lecithin, cholesterin, oils.

Various: e.g., viscin, malic and tartaric acids.

The peptones arise from albumins through decomposition by means of the enzyme pepsin, contained in gastric juice. Pepsin converts the albumins into albumoses and then into peptone; the splitting may proceed as far as the formation of very simple amino-acids. The process described illustrates the course of the digestion of albumins. Albumins decomposed thus are designated "digestible albumins."

Globulins are albumins which are insoluble in water, but soluble in dilute solutions of common salt; for example, vitellin and the edestins.

Xanthin, hypoxanthin and guanin are found in both animal and vegetable organisms; they are derivatives of uric acid.

Vernin or **guanosin**—a pentoside of guanin—occurs in fir pollen.

Lecithins, very important fatty substances, occur in the brain, nerves, blood corpuscles, in yolk of egg, in milk, in fats and especially in the vegetable kingdom — especially in seeds (soya beans).

Cholesterin occurs, for example, in the gall of man and all animals: it is a high-molecular, monatomic alcohol.

The **pentosans** are sweet-tasting substances like sugars, and are mostly of plant origin.

The outer layer of the pollen-coat consists of **pollenin.**

Viscin, which forms a sticky mass, occurs on many pollens and is identical with the sticky substance of the mistletoe (**Viscum album**).

Pollen offers to bees an albuminous food, which contains little fat and adequate amounts of mineral substances. It serves not only for the daily current replacement of nitrogenous matter for adult bees, but is more especially a very important constituent of the food of the young bees, which is necessary for the formation of the secretion of the pharyngeal glands, which serves for brood rearing.

Pollen constitutes a source of mineral substances, from which the necessary mineral constituents of the food are supplemented. Honey contains at most 0.5% of mineral substances; on the basis of this fact one can get an idea of the amount of mineral matter contained in nectar or honeydew—if one neglects the small quantity of pollen grains in honey, their mineral contents not needing to be taken into account. Pollen, on the other hand, contains nearly six times as much of these substances.

BEEKEEPING IN AUSTRALIA

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The Editor,
P.O. Box 20,
West Maitland, N.S.W.,
Australia.

SAVE THE BEES.

SPRAY REPELLENTS.

Beekeepers in some parts of the Dominion are unfortunately running into considerable trouble due to the carelessness or thoughtlessness of orchardists in using poisonous sprays on fruit trees before the blossom has fallen, with the result that bees are killed in thousands with disastrous effects on the hive populations. Without bees, fruitgrowers could not get payable crops from their trees, and yet they persist in murdering bees in the most stupid manner, and incidentally rob their beekeeping neighbours of much of the reward of their labour in tending the hives.

It seems that it is time the matter was effectively taken up by the Department of Agriculture, and orchardists should be compelled to use only sprays containing a repellent which will prevent bees from visiting trees until most of the danger has passed. That such a step is possible is outlined by Wm. L. Heuser in "Gleanings" for April. Mr. Heuser writes:—

"The use of dusting poisons in the vicinity of bees is a deplorable fact and is due to the carelessness of spraying crews. Here in my own orchards I have 50 colonies with no such results from spray poisoning. We never spray until the petals have fallen (called the blossom spray). In this spray mixture we use a repellent with other chemicals to keep the bees and insects away until the repellent has evaporated—at least 4 or 5 days. The repellent used is 2 oz. carbolic acid per 200 gallons of spray material."

Beekeepers of Louisiana are presenting a Bill which has for its purpose the reimbursement of beekeepers who have lost their bees through poison dust.

In Massachusetts a repellent is to be used in all arsenical sprays. It is stated that the use of arsenical sprays has become so general and continuous in some areas that beekeeping has become seriously curtailed.

Because arsenicals taste sweet, bees take it from the sprayed leaves, grass or puddles where the spray tanks are emptied. A minute dose of arsenic is fatal to the honeybee, but some bees live to bring the poison to the hives where it kills the young brood through the brood being fed poisoned pollen.

The Massachusetts State Superintendent of Moth Control has issued a circular which mentions that the cheapest material to add to the spray which by its odour repels the bees is common creosote. This should be used in the proportion of one pint of creosote to each 100 gallons of spray mixture, and should be mixed in well to avoid leaf burns. For small quantities, one teaspoonful to the gallon are the proportions. Creosote helps to stick the arsenate to the leaves making the poison effective for a longer period.

Fish oil is not a bee repellent, but creosote may be omitted when the following materials are used in the spray formula in the proportions of one pint to the 100 gallons of spray mixture: Nicotine (Black Leaf 40); Sheep Dip; "Milkol."

Creosote may also be omitted when lime-sulphur is a large proportion of the formula.

("Gleanings," May, 1941.)

"THE N.Z. BEEKEEPER"

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Literary contributions and advertisements must be in the hands of the General Secretary, National Beekeepers' Association of N.Z., Pungarehu, Taranaki, N.Z., not later than the first of month of publication.

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

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