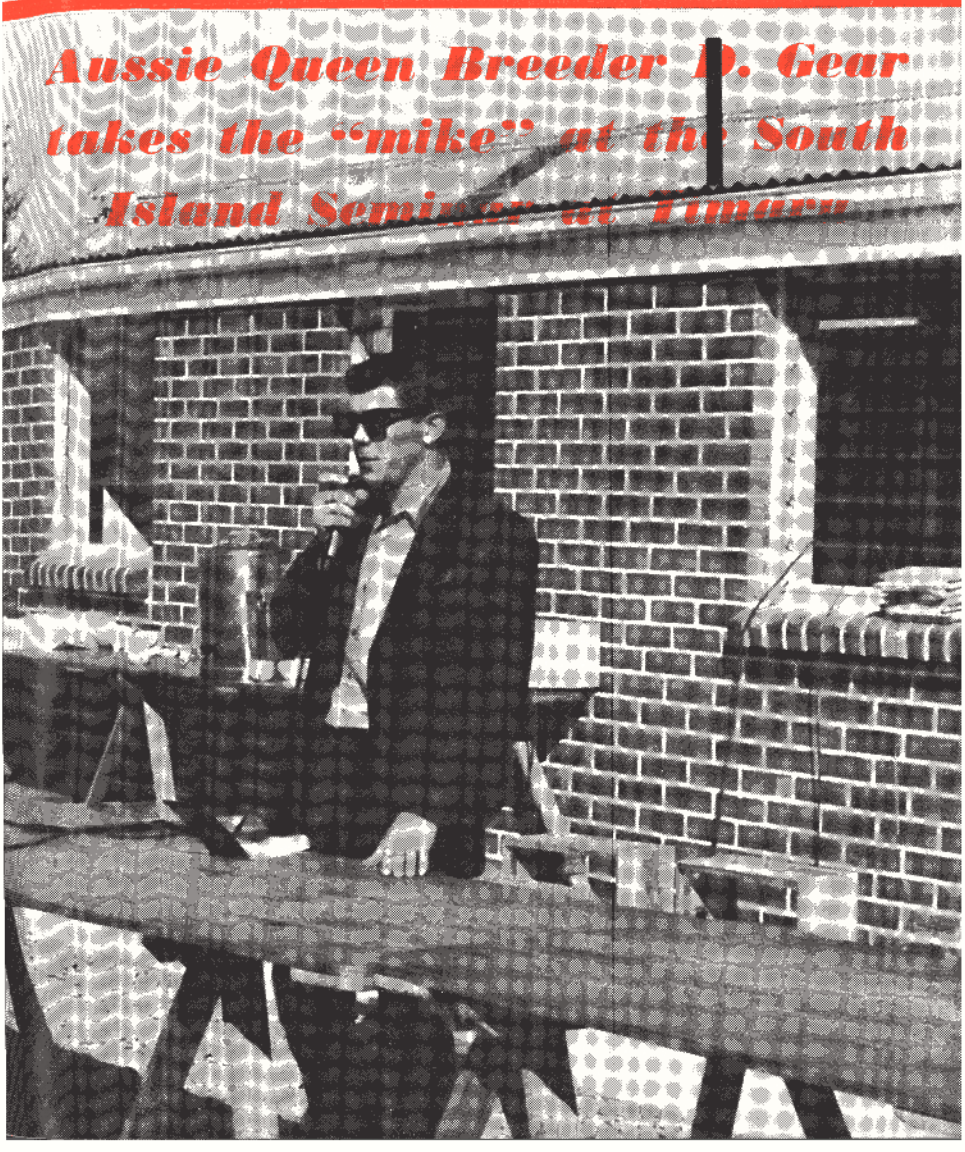
THE NEW ZEALAND BEEKEEPER

NOVEMBER, 1968



Aussie Queen Breeder D. Gear takes the "mike" at the South Island Seminar at Timaru

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44 Baycroft Ave., Tauranga.

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P.O. Box 3561, Auckland

Hon. Librarian:

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THE NEW ZEALAND BEEKEEPER

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CONTENTS

GUILTY OR NOT?

TO SIT DOWN and write on a simple subject is easy, but to express thoughts that are going to hurt people's feelings and cause resentment is an entirely different matter.

The truth invariably hurts when it is unpalatable and it will be necessary for each individual to search his conscience and decide for himself whether he is an offender or is beyond the realms of criticism on this subject of vital importance to the industry as a whole.

Travelling round the country and calling at apiaries and honey houses, the factor which shows the greatest contrast is the apparent difference between the interpretation of one beekeeper and another on standards of cleanliness and hygiene.

Some honey houses are so clean and freshly scrubbed that one feels constrained to remove footwear for fear of soiling the clean surface, and honey tanks and equipment are adequately covered with covers and dust sheets to minimise the risk of pollution by mere specks of dust from the atmosphere.

Unfortunately, there are other instances of utter and complete carelessness, where tanks are left without lids or covers, extractors open to pollution and floors a sticky, revolting mess, and even to the extent of infestation with vermin. Mice running around extracting tanks is disgraceful to a degree, and even making full allowances for meticulous straining and the natural properties of honey in destroying bacteria, the circumstances are such that they should not be tolerated for one moment.

In our industry, a good comradeship exists twixt apiary officers and health inspectors and individuals get to know each other on a personal basis uncommon in other trades, but those conditions of friendship should not for one moment stop a duty from being performed. Some of the filthy conditions which exist today should not be allowed to continue and should be rectified at once. The number of instances are numerically small, but it only needs one dirty plant to be seen by an indignant member of the public to cause the industry incalculable harm.

HONEY MARKETING AUTHORITY

The Chairman's Report to the 1968 Conference at Hamilton

The Authority has recently made some important decisions: in order that I may explain them as fully as possible, I am tempted to shorten this address by omitting the usual courtesies and statistics, which have limited relevance in a year when the intake of honey into the Authority's depots under the usual conditions of supply is one of the lowest on record—a reflection of the disastrous production season experienced in some parts of New Zealand. However, there are some things which should be said on this occasion; first, on behalf of the Authority, I wish to thank you, your executive and Branches of the Association throughout the country, for the co-operation we have received throughout the year. This has been the fourth year of the kind of partnership we have established, originally as an emergency measure and it sems to be working very well, to the advantage and satisfaction of all concerned. We will be very happy to continue it.

It is with regret that I have to record the loss to the industry of the services of Mr. Gosse, who took up his managerial post with us eight years ago. In the years since, he has given us outstanding service, and I am sure everyone will join with me in wishing him well in the future.

It is my pleasure today to introduce our new manager, Mr. Trevor Edgerley. Mr. Edgerley was appointed from a very wide and talented field, and comes to us with a broad background of business experience. We hope his time with us will be long and mutually profitable.

The supply of honey to the Authority's depots as at June 30, was 472 tons. This very low intake, the lowest on record, reflects the nature of the season. Only very small quantities were received in the Medium and Dark Amber ranges.

The latest seals levy figures suggest that over-all, local sales are continuing at about the same level as last year. This, together with the fact that the Authority's own sales are buoyant, shows that despite the poor season, most packers have been able to obtain sufficient stocks of honey within New Zealand.

In addition to the depot intake figure of 472 tons, the Authority has recently acquired stocks of several hundred tons consequent upon the purchase of two South Island packing plants, about which I will have more to say in a moment.

Sales of the Authority's packs for the period were:

IMPERIAL BEE

	This Year	Last Year
Local	162 tons	165 tons
Export	28 tons	36 tons
Total	190 tons	201 tons

HONEY GOLD

Local	101 tons	153 tons
Export	.63 tons	2 tons
Total	102 tons	155 tons

SPECIALTY PACKS

Local	96 tons	54 tons
Export	18 tons	8 tons
Total	114 tons	62 tons

The sharp drop in Honeygold is disappointing, and will be even more marked in next years summary, as no stocks of this grade have been available for some months, and will not be until next production season. The success the Authority has had in establishing a market demand for this grade is shown by the fact that many producers of this grade are now successfully marketing their own production. This stimulated consumer demand, can perhaps be regarded as the Authority's gift to the industry.

The sharp increase in sales of the named floral source packs is, I am happy to say continuing, both at home and abroad, and emphasis is being placed on our export sales in this line.

The Gift Parcel scheme is running at about the same level as last year.

I come now to the main part of my address, and I would like to begin by reminding you of three points that were made at last year's conference, and by painting the picture of our operations and our function as the Authority saw it at our meeting in March last—if the colours are a little sombre at the outset, perhaps we can see the hint of a more rosy glow in the future.

Last year I made reference to the evidence of a falling unit production, and the need for some research into the causes of this, if in fact there was a drop in the surplus honey gathered by bees in this country. This point was subsequently taken up with Mr. Carter, Parliamentary Under-Secretary to the Minister of Agriculture, who was sufficiently impressed to authorize a survey by officers of the Apiary Section. While the results of this survey have not yet been fully evaluated, there is a measure of agreement, that, seasonal hazards part, the changing nature of the country's flora, as a result of modern agricultural practices, is a factor in reducing hive surpluses. That is, even where total honey gathered is equal to past yields, more honey is required to carry hives over from one season to the next, owing to the reduction in the number of floral sources available to the bees. This is an important factor which must be taken into account in any attempt at long-term market planning.

I also stated the Authority's view that there was a need for a higher price for honey on the local market, and emphasised that the responsibility for maintaining a higher price level did not rest with the Authority alone, which was handling only a small fraction of the honey produced and sold in this country.

In March, the Authority met in circumstances which made it seem likely that less than 400 tons would be supplied to our depots, in which case our overheads would be of the nature of a little over 3 cents per lb, which would have been an insupportable burden.

The Authority then was faced with a series of crucial questions. Should the Authority continue to exist—was there, in fact any need or justification for its continued existence. If it was felt that the Authority still had a part to play in the continued development of the industry what should be its role? Should we revert to a purely regulatory and advisory function? In this, Mr. Chairman, we anticipated some of the very questions which are to be raised on the order paper of this Conference.

These questions were given serious consideration by the Authority, and if the conclusions at which we arrived were wrong, then doubtless we will be so informed during the course of the next day or two.

It was our opinion that there was a continuing need for our function as a trading body, and that, as prudent traders, every effort should be made to reduce the burden of overheads.

That in view of the low intake expected this season, resulting from the disastrous crops experienced in some production areas, we should adjust our policies to meet the situation.

The conditions of supply were cancelled, and a minimum final payment of 14 cents per lb pro rata was guaranteed. In addition, producers were encouraged to take advantage of an extended straight purchase system which proved to be particularly valuable in assuring continuity of supply for several of the specialty packs of named floral sources which were in short supply.

At this time, too, the Authority began seriously to consider the establishment of a subsidiary packing plant or plants in the South Island, consideration which resulted in the acquisition in June of the businesses previously operated by D. F. Penrose Ltd. at Hornby and by R. L. Holland & Co. at Pleasant Point, at a cost to the industry which was met from our own reserve funds.

New Packing Plants

The end result of these changes in policy, and the establishment of the two South Island Branches, was to increase the Authority's honey stocks from the 300 tons we had in sight in March to an estimated 1300 tons at this time, and I am happy to say that we have an assurance from the Minister of Finance that we will be able to pay for it.

While the South Island plants are at present fully engaged in supplying honey to the New Zealand market, as formerly, their purchase has enabled the Authority to greatly extend our operations on the export market, both in bulk and in retail containers.

These plants are at present being run as they were under the previous owners: it is the Authority's intention to translate to all our suppliers, in both islands, as many as possible of the advantages previously enjoyed by suppliers to packers. To this end, consideration has already been given to the question of the supply of containers, freights, and grading. While final details have yet to be worked out, I can say now that the Authority has decided in principle that:

(1) **The Authority shall arrange the supply of all bulk containers to Producers.**

(2) **Freights will be paid in all cases where honey is required to be sent past the nearest depot.**

(3) **The appointment of grading points is to be reviewed, to provide for grading in categories, as near as possible to realisations, with an incentive bonus for condition and flavour.**

At the moment, the Authority has larger stocks than at any time in the last four years—in only three years in the last ten have they been greater. The volume of Authority sales at the moment is the greatest ever on the local market. At the same time, we have appreciable stocks to sell abroad at prices which are an all-time high.

It would be foolish to attempt to forecast the future, but we are confident that the policy of decentralisation, which may well be extended, has given us a greater flexibility, to enable us to take advantage, in your interests, of the best markets offering, at home or abroad.

I am confident that these changed circumstances, together with the revised and improved conditions of supply, will justify the continued and increased support of producers in the coming season.

J. W. FRASER,

CHAIRMAN.

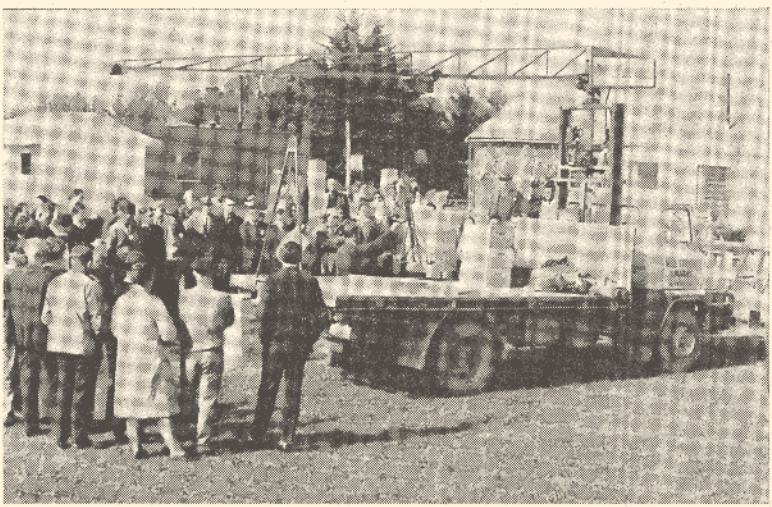
SOUTH ISLAND SEMINAR

A GREAT SUCCESS

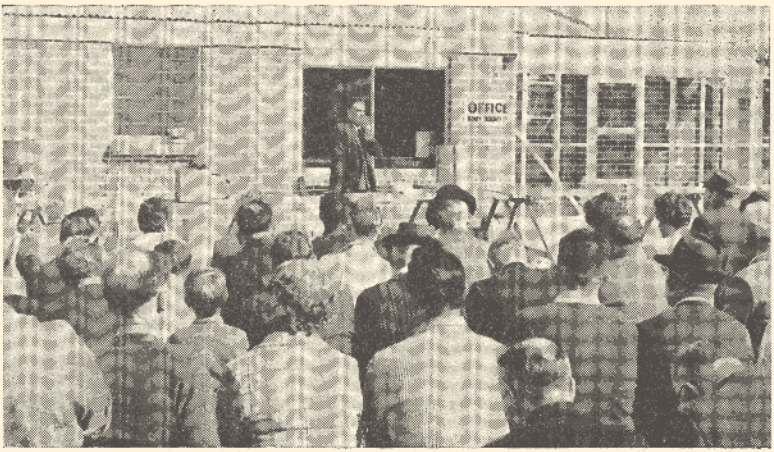
Reported by Vince Cook

It is doubtful whether the business side of beekeeping has ever been as intensively discussed as it was at the Seminar held at Timaru from 5 to 7 September. About 150 commercial beekeepers heard Mr E. Smaellie, Superintendent, Beekeeping, Department of Agriculture, Wellington, stress, in his opening address, the importance for beekeepers to carefully consider the business side of their operations. "I feel there is a great need for every beekeeper to be more cost-conscious and give more regard to the efficiency of management," he said. Mr Smaellie pointed out that whereas in the 1950's Department of Agriculture beekeeping advisers confined their efforts to mainly technical problems, they were now also involved in the economics of beekeeping.

My own address, "Planning Beekeeping Profits", was based on the results of an economic survey conducted in South Canterbury, Otago and Southland for the 1966/67 season. The survey showed that beekeepers are facing an intensifying honey cost-price squeeze. Faced with rising production costs, little prospects for substantially increased honey prices and no rise in the average honey yield per hive, many beekeepers will have to expand their enterprises in order to make



R. Poole demonstrates his versatile boom loader to onlookers.



Professor Burton's attentive audience when discussing beekeeping machinery.

reasonable profits. The results of the survey will be included in an article to be published in a future issue of the N.Z. Journal of Agriculture.

Mr V. G. Henderson, District Commissioner of Taxes, Timaru, who spoke on "Taxation of Beekeepers", urged beekeepers to take advantage of the deductions and concessions available to them. "We only want to take from you what the law demands", he said. Mr Henderson cleared up a confused issue when he explained that hives of bees owned by ordinary commercial beekeepers are regarded by the Inland Revenue Department as a capital asset and not trading stock. The advantage of having hives of bees regarded as capital is that when a beekeeper sells his outfit any accretion in the value of the hives is not taxable.

Mr H. J. King, Supervisor Appraiser, State Advances Corporation, Christchurch, discussed "Finance for beekeepers". He stressed the need to lower beekeeping costs and in this connection suggested co-operation between beekeepers. "Don't let your independence reduce your returns," he said. Mr King said it is the current policy of the corporation to lend up to $10,000 to beekeepers. Security required is mainly in the form of land and buildings, and the interest rate is 5½%.

Mr R. E. Glensor, Manager, Canterbury Division, N.Z. Institute of Management spoke on, "Better Business Management". Mr Glensor dealt at length with many aspects of business management under the broad headings of planning, organising, directing, controlling and co-ordinating. Any businessman would have found this excellent paper of great value.

Mr G. M. Walton, Apicultural Advisory Officer, Dept. of Agriculture, Palmerston North, who had recently obtained his M.Sc. (Apiculture) degree at the University of Guelph, Canada, gave an illustrated address on Canadian beekeeping. Mr Walton discussed various research projects he had seen which are leading to a better understanding of honey bee behaviour. He indicated that several of these projects would eventually make possible improved systems of bee colony management and more economical methods of beekeeping generally.

Mr R. S. Walsh, Apicultural Advisory Officer, Dept Agriculture, Auckland, gave an account of the recent establishment of a beekeeping industry on Nuie Island, and discussed the beekeeping potential of other South Pacific Islands he had visited. He considers many of the Islands have great untapped honey production resources, and it is his opinion that some of the Islands are particularly suitable for the commercial rearing of queen bees.

The field day section of the programme was staged in fine sunny weather at Mr F. A. Bartrum's property at Pleasant Point. The picture at Fig. 1 shows part of the large crowd watching beekeeper Mr R. Poole of Kyeburn, demonstrating a boom hive loader. Mr Poole very ably showed the versatility and efficiency of this device.

Mr F. A. Bartrum demonstrated his large-scale honey extracting plant and also showed a new type of press used for salvaging beeswax from old combs. Also on display was a New Zealand-built machine for handling honey supers in the honeyhouse, and two types of uncapping machines.

Professor J. Burton, Director, N.Z. Agricultural Engineering Institute, Lincoln College (Fig.2) first described the function of the Institute and then outlined what he saw as the most important needs for beekeeping machinery development. Professor Burton said that improved devises for separating honey from wax cappings were needed to cope efficiently with the large volumes of cappings from modern uncapping machines. He said there was plenty of scope for developing improved methods of handling supers, and he considered time and motion studies would lead to more efficient working of hives and beekeeping machinery.

Mr C. G. Rope, Honey Grader, Dept Agriculture, Auckland, stressed the need for beekeepers to preserve the natural purity of honey in his paper, "Preparing Bulk Honey for Delivery to a Packing Plant". Mr Rope very clearly outlined aspects of colony management and the correct use of plant to ensure even colour and condition of different lines of honey, avoiding incorporation of excessive air bubbles, efficient straining and clarification of honey, no overheating and no foreign taints.

Australian queen bee breeder Mr D. Gear (Front Cover) of Wyong, N.S.W. who was en route to the U.S.A. to study apiculture at an American University under a Rotary International Technical Award, was a most welcome visitor. Mr Gear described his own methods of queen bee rearing and showed the special hive he uses to employ the supersedure impulse for queen cell raising. He answered many questions relating to commercial queen breeding.

Mr H. Cloake of Fairview demonstrated his large electric hot-top cappings melter, and his son Mervyn put a motorised barrow through its paces.

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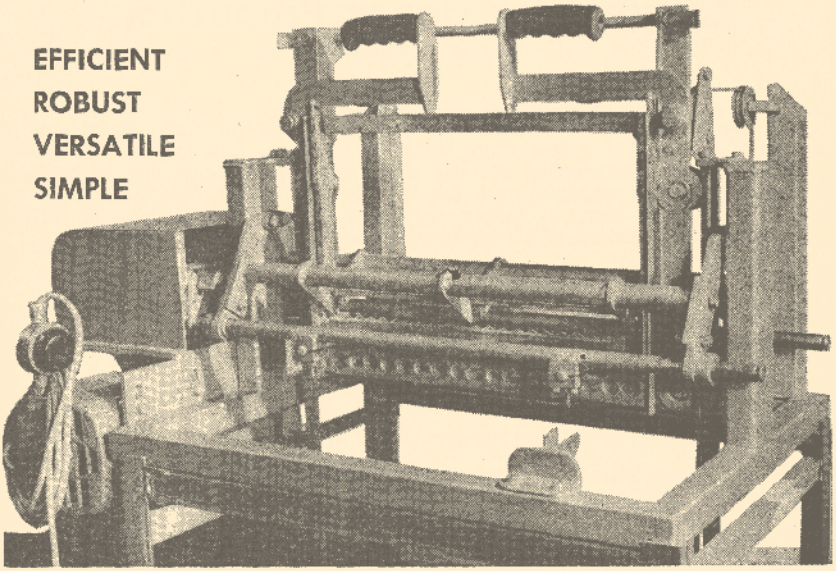

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Meeting the Cost Factor in Commercial Honey Production

In a recent address to a combined meeting of the Auckland Branch of the N.B.A. and the Auckland Bee Club Mr W. W. Nelson, formerly of Otorohanga, gave a detailed and interesting account of the system of beekeeping he practised when he was actively engaged as a full time beekeeper. Mr Nelson's system was based on the use of queen excluders and he gave the audience these 10 cardinal points that are the essence of his beekeeping methods.

(a) Maximum production from the minimum quantity of bee material.

(b) Control of swarming.

(c) Standardisation of apiary operations.

(d) Simplification of requeening.

(e) Assurance of maximum hive strength at the height of the honey flow.

(f) Handling supers instead of manipulating combs.

(g) Making the maximum use of unskilled labour.

(h) Replacing hive records with apiary records.

(i) Simplifying the estimation of honey quantities on the hives at any given period of the season.

(j) Allowing hives to be handled with the least possible disturbance to the bees.

Mr Nelson opened his address by recalling his early beginnings in the King Country some 45 years ago, when the bulk price offered for the top grade honey was 3 cents per lb delivered to the Honey Producers' Association. Even this price proved to be well in excess of market realisation and the H.P.A. collapsed with heavy reclamation demands on the unfortunate suppliers for refunds on money paid out. When this occurred bulk honey sold for 2 cents per pound which is the lowest price ever paid for honey in this country.

The circumstances were such at that time that producers were faced with the choice of one of three grim alternatives:

(1) Quitting the industry.
(2) Accepting an impossibly low standard of living; or
(3) Greatly improving efficiency by reducing the cost of operations and increasing production from capital investment in plant, buildings and bee material.

Mr Nelson said he chose the third course and in so doing had to evolve a very different system of apiary technique to that in vogue at the time. His early training as a mechanical draughtsman and pattern maker in the U.S.A. had taught him the basic essentials of the economic factors that must be observed in the production of any commodity to be sold in a competitive market. This training, he felt, was an advantage possessed by few beekeepers. He turned to close study of beekeeping literature and the methods advocated by recognised authorities in their particular fields. This naturally improved his knowledge of beekeeping but offered nothing to help solve the cost of production until he read about the queen excluder and the technique employed by Demaree.

This information provided Mr Nelson with the basis for the system he evolved to reduce the cost of field operations to a level where survival in the industry became possible.

In those days local beekeepers invariably condemned the use of queen excluders, often referring to them facetiously as "honey excluders". This attitude was to some extent correct because an excluder wrongly used is worse than useless. It should be regarded, said Mr Nelson, as an essential appliance in a specialised technique of hive management modified where necessary to suit area conditions.

Mr Nelson then went on to describe how he employed the system of beekeeping he had evolved.

Towards the close of the season all hives were reduced to nuclei strength and supplied with young queens. How he did this, he said, would be explained later. This meant that his bee stocks were carried through the winter with the minimum quantity of stores and no overstrong hives for early spring.

The first job in the spring was his usual careful examination of colonies for disease. If his autumn operations had been correctly carried out he said, there should be an even lot of hives of equal strength in the apiary and the queens should all be of the same age. A super of good combs was at this time placed on top of each hive as they would have become strong in bees by then. Neither the queen nor the brood nest in the lower box was interfered with but any feed honey required was placed alongside the brood in this box.

The hives were now allright until the next visit, said Mr Nelson, when he would expect to find the queens established in the second box. It is on this visit that queen excluders were placed on top of the second box, and another super of combs added above the excluder making each hive three storied. Thre was no actual need for the third box then but the purpose of distributing the boxes at this stage was to facilitate the work and save time on later visits. Truck space, which was limited, was also conserved for the distribution of other material on these visits.

Should spring weather prove to be unfavourable explained Mr Nelson further visits to the apiaries may be necessary to distribute feed.

His first actual manipulation of the hives, he said, took place from one to two weeks before the estimated time of the main honey flow and when sufficient early honey was coming into the hives to be plainly noticeable in the combs.

The first manipulation consisted of rearranging the contents of the bottom box so that it contained not more than two frames of brood and seven or eight empty combs. An empty super was then set above this rearranged lower box and all the bees from the two brood chambers were shaken onto the combs below. The idea behind this action, he explained, was to get the queen into the lower box without having to actually find her. If however she was sighted when handling the combs, no further shaking was necessary. When this was completed, said Mr Nelson, the excluder was placed over the lower box, then containing the queen, two frames of brood and and several empty combs. Above this in a second box was placed all the surplus brood followed by a third super which was filled with as much more brood as was necessary to give the hive a total of sixteen frames of brood. These were obtained from other colonies in the apiary that were found not to be up to the required strength for that time of the year.

If during this readjustment of brood and bees any hives were found to be making preparations to swarm, the two frames of brood placed in the bottom box below the excluder should be fully sealed. They should contain no eggs or young larvae, otherwise queen cells might be raised, when the whole aim of the manipulation which is to control swarming and increase hive strength to ensure the maximum field force at the height of the honey flow would be lost. With the

help of a good assistant, said Mr Nelson, the entire operation took much less time than it takes to describe. It must be remembered that the required amount of material consisting of three boxes was already on every hive. All hives received the same standard treatment and all were left with the same amount of brood and bee strength.

Mr Nelson made a point of again inspecting the apiaries about ten days later to destroy any queen cells that may have been raised above the excluder. These were usually found well away from the brood nest in the top box. The opportunity was also taken on this visit to add a fourth box to each colony as most of the brood was by then sealed and a good deal of it had hatched. The fourth box, said Mr Nelson, was always placed directly above the excluder and it could contain several frames of comb foundation if additional new combs were required. The boxes containing the remainder of the emerging brood of course now became the two top boxes of the hive.

Mr Nelson kept a scale hive at his home apiary and as the area in which he operated differed very little in climatic conditions or honey sources he was able to gauge from the scale hive what was occurring at the out apiaries. This enabled his assistant, who was not necessarily very experienced, to visit an apiary by himself and carry out the necessary work under Mr Nelson's direction from information obtained from the scale hive.

Assuming seasonal conditions were normal, continued Mr Nelson, the next visit to the apiaries would be for the purpose of taking off honey. This was carried out methodically. The top box of honey was removed from every hive. This made it possible to keep the various honeys separate. As the early spring honeys are normally of a lower grade than later honeys, removing all the top boxes which would contain this class of honey kept it separate from the later better quality honey which would be in the lower box. It is imperative, he said, that operations should be standardised in every phase of apiary management.

Because each hive contained a young queen below the excluder it was found that they usually became short of egg laying space sooner than was desirable. In order to remedy this condition several frames of brood were taken out of the brood nest and placed above the excluder, the space being filled with good combs. There was no risk at this time of the year of the bees raising cells on the lifted brood. Finally, said Mr Nelson, towards the close of the season when all surplus honey had been removed, the hives were requeened.

The method used was simple. Sufficient queen cells to requeen all hives in an apiary were taken there in nuclei boxes with enough adhering bees to avoid chilling the cells. Hives would by this time be reduced to two supers with an excluder between them. The surplus honey having been previously removed, Mr Nelson and his assistant placed the bottom box containing the old queen and brood on a new stand. The top box which usually contained some honey was then lowered onto the old stand. Into this box were placed two frames of brood taken from the original bottom box then resting on the new stand. A queen cell was then inserted between the two frames of brood. This was standard practice with all hives. Requeening in this way is absolutely reliable only in the autumn, he emphasised.

The boxes of brood with the old queens standing on the new stands were then gathered up and placed in piles about the apiary. Each pile would contain perhaps 6 boxes and as many as nine queens. Mr Nelson referred to the stacks of brood and queens as "The Dump" because neither the bees nor queens were of any further use. Empty combs were taken back to the honey house. A final visit to take away the surplus boxes was made later when "The Dump" would be reduced in bee strength with a single surviving queen in each pile. The surplus boxes and combs were then taken away, reducing each tier to two boxes with a queen in each.

Reverting back to hives recently requeened with cells, Mr Nelson said that by the time the young queens had emerged and become mated the season would be over; consequently the young queens would have no reason to lay heavily. So the hives entered the winter more or less as nuclei requiring very little honey to bring them through the winter.

Contining, Mr Nelso pointed out that he required some increase in hives in order to have surplus brood to boost his producing colonies in the spring so he selected a few hives in each apiary and applied a slightly different technique. The bottom box containing the old queen was not moved to a new stand as was done with most hives, but was reversed with the top box. This top box now on the bottom board had its frames readjusted in the regular way and a cell placed between the two frames of brood. The queen excluder was then taken away and replaced with a division board with a back entrance. As the original lower box with the old queen and bees then stood on this division board, the bees returning to the hive used the original entrance so few bees occupied the upper box. This made finding the queen quite easy, and, said Mr Nelson, this was the only time throughout the season that he looked for a queen.

Mr Nelson went on to give a rough estimate of the saving in capital cost of hive material by using the system he adopted compared to the general practice at that time of operating without excluders.

Where excluders were not used, he said, swarm control consisted of "Spreading the brood", with periodical visits to destroy queen cells. This also involved providing hives with an additional area of comb space equivalent to at least one box of combs per hive which was a waste as the bees did not require this extra room. The attention of the bees was also diverted to repairing the damage to their household arrangements that followed every "brood spreading" visit by the beekeeper. A super of combs, said Mr Nelson, must surely be worth $3 so an outfit comprising 500 hives with one needless box per colony has a capital outlay of $1500 that produced nothing and is a fast depreciating asset.

Some beekeepers who have tried his system had no success with it, said Mr Nelson, but usually it was quiet evident where they had failed.

They either did nothing about annual requeening, or only did so to part of the apiary so all queens were not of the same age and from the same stock. Sometimes colonies were boosted with extra brood when they had not sufficient bees to care for it.

It is possible, said Mr Nelson, to do the right manipulation at the wrong time. Of course, he continued, no system will produce honey if little nectar is available nor can hives produce large crops unless good young queens from selected stock are used.

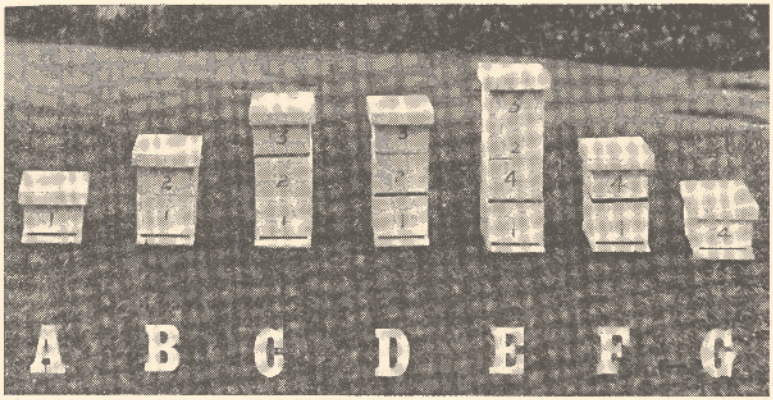
In conclusion, said Mr Nelson, by applying the system I have outlined my production per hive increased considerably over the level I had previously experienced by following the usual conventional methods then in general practice.

In addition, I kept no poor hives. Such hives produce nothing and so represent a loss of return from the invested capital in beekeeping material and are an unrewarded labour lost.

Over a period of five years my average production of honey from each hive was 145 lbs, including one year in which the hives returned 37 tons from less than 430 hives. During this period I was making steady increase which as you know is costly in honey.

Unfortunately this average became impossible to maintain in later years as the result of the destruction of blackberry and a lessening of the available spring nectar sources.

Any skilled beekeeper with a good semi-skilled assistant should be able to successfully manage 1000 hives with the system I have described.



The arrangement of hives in each stage of the Nelson method.
A. During winter until early spring.
B. In early spring hive 1 receives its first super of combs (2) to allow space for brood rearing.
C. Later in the spring, a queen excluder is placed over brood chamber 2 and a super of combs (3) is added.
D. About mid-November the bottom brood chamber 1 is rearranged and the excluder placed above it. Supers 2 and 3 now contain the bulk of the brood.
E. About ten days later a honey super 4 is added directly above the excluder. It may contain foundation.
F. The hive after the honey crop has been removed.
G. The final stage for re-queening with a queen cell and wintering.

THE TAX COLLECTOR AND YOU

By V. G. HENDERSON,

District Commissioner of Taxes, Timaru.

In recent years some very valuable incentives have been evolved to encourage increased production in the farming industry. Apiarists qualify for most of these. I will go over those that may be of help to you.

Beekeepers also have to take into account growth in number of hives when ascertaining their taxable incomes. We will look at this in some detail.

Finally a quick look at proposed changes in legislation as they will affect your group.

INCENTIVES:

(1) **Standard Values for Livestock:** I am sure some of you own livestock and use Standard Value method of valuing at balance dates. The advantage to be gained is an immediate tax saving in the first year of farming animals. This initial saving in tax is not forgiven but is merely deferred although the deferment can be passed on from one generation to another. We get our pound of flesh when the farm is sold to other than the child of the taxpayer. Even then there are valuable spreading provisions which minimise tax.

An extension of the Standard Value scheme allows for **increased numbers** of livestock run on a particular farm to be shown for tax purposes at a Nil standard value—an even greater tax relief in developing years. Again we collect the tax when the farm is sold or the farmer chooses to write up this livestock.

(2) **Developmental Expenditure:** This is to encourage the breaking-in and development of virgin land or redevelopment of land. Farmers are entitled to deduct what would be capital expenditure in other industries.

Typical items of this type of expenditure include:-

Access Roads and Bridges,
Drainage,
Eradication of Vermin and Pests,
Clearing of Land,
Construction of new fences.

The expenditure must be on farming land in New Zealand and be incurred by a farmer or the owner of the land.

The whole of the cost can be deducted in the year incurred or at the farmer's option can be spread equally or unequally over any one or more of the next five years.

(3) **10% WEST COAST INVESTMENT ALLOWANCE:** To encourage investment in the defined re-development region, a special allowance is available where additional plant, machinery or buildings are purchased for use in the area. The particular development has to be approved by the Minister.

If approved, a tractor costing $1000 immediately allows a claim of $100 under this heading. This is separate and in addition to depreciation so that over the life of the tractor it is possible to get deductions of $1100 for this tractor.

(4) **VOLUNTARY FARM INCOME EQUALISATION SCHEME:** Within the farming industry fluctuating incomes have been something of a problem. Steeply graduated rates of tax took the cream of the good years and left very little to cushion the leaner ones.

This scheme allows farmers (and bee farmers are included) to deposit up to 25% of their assessable farming income in any one year. Tax is not charged on this income until it is withdrawn and it can be withdrawn up to five years later.

There are various administrative rules to the scheme the main ones being:

Minimum deposit $200

Deposit to remain 12 months at least except where a refund required for urgent development work or on hardship grounds.

No interest payable.

Retirement from farming or death—any deposits still held are refunded and assessed as income at that point unless taxpayer or Trustee elects to have it included in an earlier year.

Although this is termed an Income Equalisation Scheme, there are other advantages. Farmers can plan ahead their development work (which as we have already seen can be a deductible expense) and have the cash set aside to pay for the work. Instead of having only the tax paid residue of the amount deposited, he has the full amount available and this amount, if spent on a deductible item need never attract tax. In this area many farmers are using the scheme and saving substantial amounts of tax by doing so. In some special cases it has even been advantageous to borrow money to make the deposit.

(5) **INITIAL AND SPECIAL DEPRECIATION:** New farm buildings (including employee accommodation) or extensions to existing buildings qualify for initial or special depreciation of 20%. This can be claimed when the building is first used in full or the claim can be spread under a table over four or five years.

Special depreciation is also allowed on purchases of plant and machinery. In this case the spread is over four years for the 20% allowed.

(6) **TRACTOR SAFETY FRAMES:** The whole of the cost of an approved safety frame is deductible. Once an allowance has been given a subsequent owner cannot have it again.

Although not exactly Incentives there are two or three general points which could also help you.

(1) **WAGES TO WIFE AND CHILDREN:** If your children help with your bees or honey, claim the wages paid for their services. Remember children are liable to tax only when their wages exceed $4.00 per week. So long as the amounts paid do not exceed the ruling rates paid generally in the District, the Department would not interfere. Check with the Tax Office if you want to pay a higher wage.

A farmer may claim wages paid to his wife as a farm expense if the Tax Office is satisfied that the wife is paid for genuine business services. We require a statement in the form of a Statutory Declaration to support a first claim. If you want to pay wages to your wife, I would suggest you call at a Tax Office first. They have a form for the purpose and there is always someone on the Staff who can witness your Declaration.

(2) **PROVISIONAL TAX:** Monday next is the last day for payment of the first instalment of Provisional Tax for the year ending 31 March 1969.

This is generally payable by two instalments—one-third by 7 September and two-thirds by 7 March each year.

However, a taxpayer who gets more than one-half of his assessable income from farming **and** has a balance date later than 31 March **and** can show that at least one-half of his gross cash income is regularly received after 7 February, may elect to pay in three equal instalments. Each 1/3 would be payable by 7 September, 7 March and 7 May in that order.

Any taxpayer can estimate or re-estimate the provisional tax payable right up to the last day for payment of the last instalment of provisional tax. Penalties only come into it if any under-estimation is persistent and deliberate. So there is no need to go on providing for tax on the basis of a good year if you know that the present season is a bad one.

(3) **BALANCE DATES:** In New Zealand the financial year ends at 31 March, a particularly unsuitable date for some farmers and, I should think especially Bee-Farmers. The Department is very happy to approve later balance dates, certainly up to 30 June. All you require is our approval before the Accounts for the year are taken out. Usually it will mean a Return of Income covering a period of more than a year. Fifteen months if the change was to be from a March Balance Date to one in June.

We then do the calculations necessary to make sure your tax is calculated over the full period at rates based on 12 months proportion of your income shown in the Return. Similarly, exemptions are proportionately increased so there will be no tax advantage or disadvantage.

So much for the general provisions and practices which could be of help to you.

Now let us look at the special requirements in your own field.

There are two types of Beekeepers in our book:

(1) Beekeepers who deal in Bees and Hives and manufacture Hives for sale.
(2) Ordinary Commercial Honey Producer.

In the first case Hives will continue to be treated as trading stock. We will watch the magnitude of sales of Hives in each case to see if the particular bee-keeper comes within this class. We would not be concerned with the odd sale of a few Hives, but as soon as this developed into a business, we would be looking for our share of tax.

To the ordinary commercial beekeeper hives are a Capital asset and not trading stock for the following reasons:

(i) The Hives as housing have a semi-permanent nature in the same manner as farm buildings, etc. have to a farmer while the bees themselves live only six to eight weeks during the honey gathering season.
(ii) There is no ready market for bees as such and it would not be economic for the beekeeper to raise additional colonies of bees for sale.
(iii) We know in fact that the ordinary commercial beekeeper does not engage in trading in bees and hives, and the final point,
(iv) Supers and bottom boards which comprise the hive buildings are often mass produced and purchased fully manufactured and not constructed by the beekeeper.

For the ordinary beekeeper then, it has been decided to treat the hives as **plant** and not to assess any accretion in value of such "plant" to him.

As hives can be fully maintained by repairs and replacements, depreciation will not be allowed.

The cost of hives or boxes to replace existing hives or portions of them (less of course any amounts recovered on the parts replaced) will be allowed as a deduction. So that we can see that costs of additional hives are not charged to revenue, we ask Apiarists to furnish a Memorandum Account showing hives or parts of hives each year. The purpose of this form of Account is to check the numbers of hives or portions of hives on hand each year and, if they have increased, then to ensure that the cost of additions is not charged to revenue.

We ask that hives be shown under three headings:

(i) Hives (containing bottom board, 2 supers with comb, and lid).
(ii) Extra supers with comb.
(iii) Surplus supers.

Here is an example of a Plant Account we want.

PLANT ACCOUNT — HIVES
Year Ended 30 June 1969

	(i) Hives	(ii) Extra Supers with Comb	(iii) Supers Surplus
Number on hand at end of year	1000	3200	200
Add Number sold during Year	Nil		
Total A	1000	3200	200
LESS			
Number on hand at beginning of year	900	3000	500
Add Number purchased during Year ..	100	—	—
Total B	1000	3000	500
Increase (or Decrease)	Nil	+200	—300

Cost of Additions: 100 Hives at $10 =	$1000	Capital Charge
200 Surplus supers comb added	$200	
	$1200	
Less: 100 Surplus supers discarded	$200	(Written Off)
	$1000	Charged to Capital

If the number of hives or parts under the above mentioned headings have been increased during the year, the cost of additions should be shown in the Memorandum Account. But the **cost** must not be claimed as a deduction in arriving at the assessable income returned.

If, on the other hand, the number of hives or parts has decreased, the amount received for the hives sold and not replaced may be excluded in arriving at the amount of assessable income. Any loss on sale or discarding, not made good by replacements, is a deductible item.

I have attached two copies of this Memorandum Account to my notes and I would suggest you pass one to your Accountant. If you have not already been supplying these details to us, I am sure you will soon be asked for them.

Stock on hand at Balance Date. This may be honey, wax, tins, cartons etc.

Once the honey is harvested it has a value. This value may be its cost price, its market selling value, or the price at which it can be replaced, at your option. Honey and wax would usually be shown at conservative market values while cost would be the obvious base for packaging materials.

Some points of interest from the Tax Amendment Act recently considered by Parliament.

(1) Under the old Law the Commissioner could not alter an assessment to increase the tax after a period of four years has elapsed from the end of the year in which an Assessment was made UNLESS he was satisfied that the taxpayer had made fraudulent or wilfully misleading Returns or had omitted all mention of certain income. In these excepted cases the Commissioner could alter an assessment back 10 years. The Amendment recently passed has removed this last 10 year limit, so if any of you have dodged your taxation responsibilities for longer than ten years and thought you were out of reach of our claws, you might have to think again.

(2) Some of you may have had to pay Land Tax under the old rules. I doubt if you will under the new provisions which require a holding of $60,000 Unimproved Value before Land Tax is payable.

(3) Until now, should a taxpayer incurr a loss, that loss could be progressively set off against subsequent profits for up to six years. The Amendment enables losses to be carried forward **without** limit.

(4) Gifts of money or money's worth aggregating $4,000 in any one year, may now be made without the payment of Gift Duty. This is double the old amount and is intended to encourage the handing over of assets to the younger generation before a taxpayer dies.

Other changes announced but which have not yet been presented in legal form are:

Change in individual tax rates and exemptions primarily designed to do away with the need to calculate two taxes.

A new method of taxing Trusts first formed after the Budget announcement. This is intended to help stop the fragmenting of income (for tax purposes) that has been going on.

If I am to look further ahead, I would see other recommendations made by the Ross Committee being adopted. As the Minister of Finance explained in his Budget, the Government considers that more time should be allowed for the effects of the 1967 fiscal measures and devaluation to work through the economy before embarking upon some of the more far reaching changes in our tax structure proposed by the Taxation Review Committee. I feel what has been adopted will make a firm base on which to proceed.

In conclusion I would ask you to take your Accountant into your confidence. Tell him what you propose to do. If he knows before you act he can very often suggest a slight variation which will save you tax. We only want to take from you what the Law demands. If you can take advantage of deductions and concessions available to you, good for you. They have been evolved for your benefit.

All Tax Offices will be happy to discuss with you any ideas you have. We do run Advisory Offices in most major towns from time to time and these could help you over a particular problem. Unfortunately we cannot always appreciate the details of your particular case at long range. Taxpayers to us are rather like bees to you. We handle over 30,000 from the Timaru Office, so the particular needs of any one may take a little time to investigate.

DONATIONS TO THE NBA TECHNICAL LIBRARY

The following donations have been made to the National Beekeepers Technical Library.

From the Librarian, Wallaceville Animal Research Centre—

Quinby's Beekeeping, 1910 by Root. 272 Pages.

Beekeeping for Profit, 1914 by Morley. 124 Pages.

First Lessons in Beekeeping, 1919 by C. P. Dadant. 170 Pages.

A Thousand Answers to Beekeeping Questions, 1919 by Dr C. C. Miller. 170 Pages.

From the Editor N.Z. Beekeeper—

Contact Dermatitis in Beekeepers due to Propolis, 1968 by Mary H. Bunny. 7 Pages.

Effect on Honey Bees of 2,4-D, 1964 by T. Palmer-Jones. 4 Pages.

Observations on the Pollination of Apple Trees, 1967 by Palmer-Jones & Clinch. 7 Pages.

The Residual Contact Toxicity to Honey Bees of Insecticides Sprayed on to White Clover in the Laboratory, 1967 by P. G. Clinch. 12 Pages.

Effect on Honey Bees of Dichlorvos and Bromophos applied as sprays to white clover, 1968 by Palmer-Jones & Clinch. 4 Pages.

From the General Secretary, National Beekeepers Association of N.Z.—

Nectar and Pollen Sources of N.Z., 1967 by R. S. Walsh. 56 Pages.

From an unknown source—

Honey—The Last Hundred Years, by Nykola H. Haydak. 4 Pages. 11 copies (for distribution).

The Nutritional Value of Honey, by Nykola H. Haydak. 7 Pages. 11 copies (for distribution).

North Island Beekeeping Training Seminar, Ruakura, 1965 — Outline of Organisation and Comments. 7 Pages.

From Arataki Apiaries Ltd (omitted from previous list)—

A Study of the Marketing of New Zealand Honey, 1967 by Malcolm D. Bale. 80 Pages.

All received with thanks.

BEEKEEPERS TECHNICAL LIBRARY

P.O. BOX 423

TIMARU.

From the 1964 Seminar

Tape recordings donated by David Penrose

1. "Beekeeping Economics" by Ivor Forster.

2. "Anatomy and Physiology of the Honey Bee" by Vincent Cook.

3. "Nectar Sources of New Zealand" by R. S. Walsh.

APICULTURAL RESEARCH AT WALLACEVILLE

This detailed report was presented by Mr T. Palmer-Jones, Scientist, to 1968 Conference.

RESEARCH REMITS:

Comment follows on the research remits carried at the 1967 Dominion Conference of the National Beekeepers' Association.

"(5) That the Executive approach the appropriate authority to investigate the nectar secreting qualities of new strains of clover with a view to encouraging the use of those strains with those qualities".

The most important source of honey in New Zealand is white clover (**Trifolium repens**) which is also one of the most widespread and valuable pasture plants. The variety of white clover sown in pastures throughout the country is Grasslands Huia. However, for some years the Grasslands Division of the D.S.I.R. has been working on the production of a superior variety, culminating in the development of Grasslands 4700. This variety may eventually, because of its superior qualities as a pasture plant, replace Grasslands Huia.

The new variety of white clover could be as satisfactory as the present one from the beekeeper's viewpoint, but there is some doubt. It will be judged solely on its performance as a pasture plant, and not on its qualities as a nectar producer. However, it is essential to compare it with Grasslands Huia as a nectar source so that the beekeeping industry can be given the facts and adjust itself, if necessary, to reduced crops of white clover honey.

Plans were made to compare the two varieties as nectar sources by estimating their attractiveness to honey bees (bee counts per acre), flowers per acre, behaviour of bees on the flowers, sugar concentration of the flowers' nectar, and degrees of pollination. However, through unseasonable weather the test plots at Lincoln were too small for detailed observations last season. The limited observations possible showed that the new strain flowered prolifically and attracted honey bees. This project will be continuing during the coming Summer.

Apart from Grasslands 4700 some crops of S 100 and S 184 high grade white clover are grown from seed supplied by firms in the U.K., and the seed re-exported there. Only a few acres are grown yearly, and the practice is unlikely to increase.

"(6) That Wallaceville Research Centre or D.S.I.R. carry out research into the failure of white clover flowers to yield nectar".

Nectar secretion is a complex process which is influenced by many factors. A great amount of work on these has been carried out overseas, often with somewhat conflicting results. This is not surprising as nectar secretion, even of nearby flowers, may vary greatly. Oertel (1956) in Louisiana found the yield per head of white clover (**Trifolium repens**) varied from one to twelve volumes daily in the same pasture. He estimated potential nectar production per acre of white clover, based on average yield per head, to range from three to thirtyfive quarts per season. Other workers also have found wide variations in nectar yield. In Germany the average nectar yield per 1,000 blossoms of a plant species may be eight or nine times greater one year than another. Nectar secretion therefore varies markedly, not only between nearby flowers under similar environmental conditions, but also from year to year. The efforts of many workers have under-

standably failed to resolve the problem of how to increase nectar secretion. The most practical suggestion came from Schuel (1957) who concluded to obtain maximum nectar production the level of nitrogen should be low enough to avoid excessive vegetative growth, and the level of phosphorus sufficient to promote reasonably good flower production, but not high enough to reduce nectar secretion or inhibit flower production. In brief, ensure healthy plant growth without excessive vegetation.

This work was carried out solely for the sake of acquiring knowledge. It would be unrealistic to suppose that nectar production could be greatly increased by altering the environmental conditions—air and soil humidity, soil, fertilizers, temperature, day length, periods of sunshine—even if it were feasible to change these. No apiculturist has suggested it would be economic to treat bee pastures on a large scale with fertilizers, say, for the purpose of increasing nectar production. In New Zealand eight acres of white clover are required per hive to provide an economic return of honey (Palmer-Jones, Forster, Jeffery 1962). The cost of applying the simplest treatment to such an area would come to more than the total value of the honey produced from it. There is no evidence that the nectar secretion of white clover or other floral species is unaccountably failing in New Zealand. To investigate the factors influencing nectar secretion of the major pasture sources would entail many years of research. Whatever the outcome, and however interesting results might be from the viewpoint of pure science, they could have no practical application. The apiculture section cannot undertake such work as it confines itself to research of practical value to the beekeeping industry.

REFERENCES:

Oertel, E. 1956: Nectar production by white clover. **Gleanings in Bee Culture 84:** 461-6.

Palmer-Jones, T; Forster, I. W.; Jeffery, G. L. 1962: Observations on the role of the honey bee and bumble bee as pollinators of white clover (**Trifolium repens** Linn.) in the Timaru district and Mackenzie County. **N.Z.J. Agric. Res. 5:** 318-25.

Schuel, R. W. 1957: Some aspects of the relation between nectar secretion and nitrogen, phosphorous, and potassium nutrition. **Canad. J. Pl. Sci. 37:** 220-36.

"(7) That Wallaceville Research Centre or D.S.I.R. look into the effect of hormones and sprays on the secretion of nectar and setting of seeds".

The Apiculture Section has studied the effect of the main hormone weedkillers on both honey bees and clover pasture. Steps have been taken to protect honey bees from toxic effects where necessary, as in large-scale applications of 2, 4-D for ragwort control. Palmer-Jones (1964) showed that white clover became unattractive to honey bees within four days of exposure to drifting 2, 4-D, applied to conrtol ragwort. Similar damage can occur through the action of 2, 4, 5-T and other hormone sprays applied for weed control. A sufficiently high concentration of such hormones may prevent the germination of seed.

The Apiculture Section can profitably contribute nothing further to this problem from the technical angle.

The National Beekeepers' Association may, perhaps, consider approaching farming organisations to obtain the co-operation of their members in preventing unnecessary drift of weedkillers. But it should be accepted that hormone spraying of pastures for weed control is usual farm practice.

The Apiculture Section has observed the effect on honey bees of a wide variety of insecticides applied to various crops throughout New Zealand during the last twenty years. During this work the behaviour of honey bees visiting treated flowers, and the attractiveness to bees of crops before and after insecticide application, have been studied for long periods. No evidence has been obtained that such treatment renders crops less attractive to honey bees, except for DDT which repels bees for a few days.

REFERENCE:

Palmer-Jones, T. 1964: Effect on honey bees of 2, 4-D **N.Z.J. Agric. Res. 7: 339-42.**

"(8) That the Department of Agriculture be requested to make a survey of New Zealand pollens to determine their protein and mineral value".

Protein deficiency in pollen, or simple lack of pollen would both be shown by reduced brood rearing. This can be met, if necessary, by feeding a simple, locally produced, pollen supplement. Reduced brood rearing occurs in only a few areas,

and then in a mild form for a short period. There is no evidence that lack of minerals in pollens affects brood rearing, and no useful purpose would be served by determining the mineral content of New Zealand pollens.

Eleven pollen samples, collected in pollen traps, were identified by the Botany Division, Department of Scientific and Industrial Research, as wholly or predominantly from Pohutukawa and Rata (**Metrosideros**), five finger (**Neopanax arboreum**), gorse (**Ulex europaeus**), willow (**Salix**), chou moellier (**Brassica oleraceae**), white clover (**Trifolium repens**), and the dandelion group (**Taraxacum**). Protein content of these samples was estimated at Wallaceville to average 23.3 per cent (variation 16.5—31 per cent). The average protein content of New Zealand pollens appears slightly higher than is usually found overseas.

"(11) That the Department of Agriculture carry out a survey on Nosema or crawling disease with regard to effecting a remedy".

For years the Apiary Section at Wallaceville has asked beekeepers to submit samples, through their Apiary Instructors, from hives suspected of being infested with **Nosema** or other bee diseases. Recently an appeal to this effect appeared in the New Zealand Beekeeper.

In 1966 four samples out of 22 submitted were positive for **Nosema**, and in 1967 one was positive out of 43 samples. Seven samples with one positive had been submitted by the end of May of this year. **Nosema** infection rarely builds up to serious levels in New Zealand hives, and large-scale fumigation of combs, and treatment with fumagillin, are not warranted.

The question of **Nosema** in New Zealand and treatment was discussed by T. Palmer-Jones in the May, 1967 issue of the New Zealand Beekeeper.

BAITS FOR WASP CONTROL:

Because wasps may be a nuisance to beekeepers, Wallaceville has worked since 1946 on the development of methods of control. Several simple and effective methods are now available for the destruction of nests. However, nests are very difficult to find in bush areas and for use there attempts have been made to develop control measures depending on baits. The baits contain sugar or protein to attract the wasps, and insecticides, such as DDT or dieldrin, to poison them. The disadvantages of sugar-based baits is their attractiveness to bees and birds as well as wasps. Protein-based baits have the disadvantages of poor keeping qualities and attractiveness to cats and dogs.

Commercially produced baits proved ineffective in tests conducted in 1961-62 by the D.S.I.R. in the Lake Rotoiti and Sounds areas.

Wallaceville has made every effort to collaborate with firms interested in the development of wasp baits. One local firm recently advised that in recent bait tests it had been unsuccessful in devising a sugar-based bait which would attract wasps but not bees. Contact has been established with one of the largest pest control firms with branches in New Zealand, and arrangements made to carry out field trials of its baits. Recently this firm advised that it had not yet found a bait that would attract and kill wasps without harming honey bees.

Wallaceville developed a CO-2 operated dust gun for destruction of wasps with DDT the sale and use of DDT being now restricted, search was made for an alternative insecticide. It was found that sevin (carbaryl) kills wasps as effectively as DDT. The sale of sevin is unrestricted and it is less toxic to humans than DDT.

PROJECTS BEING CARRIED OUT BY APICULTURE SECTION, WALLACEVILLE

Project WA/1 Agricultural Chemicals

The widespread use of agricultural chemicals, many of which are toxic to honey bees, has necessitated the development of field and laboratory tests for determining their toxicity. Recommendations for the safe use of these compounds can often be made as a result of the tests. Apart from field trials new laboratory tests are continually being developed. **This project is a permanent one** because new agricultural chemicals are constantly being developed. It is vitally necessary for the well-being of the industry, and the maintenance of present protective legislation. Results of tests are made available in publications forwarded to the

Agricultural Chemicals Board, the Beekeepers' representative on the Board, private firms, Apiary Instructors and others. Methods and results to date were summarised in "Pesticides and New Zealand Beekeeping" by T. Palmer-Jones which was published in the February 1968 issue of the New Zealand Beekeeper.

Project WA/3 Toxic Honey

Prevention of toxic honey reaching the export market is essential to preserve overseas markets. Current laboratory research is aimed at developing improved biological methods of testing. Field work is undertaken to assess the extent of the danger areas and to define the boundaries of the district closed to beekeeping. **This project is a permanent one.**

A survey of the area closed to beekeeping in the Bay of Plenty was carried out last February with Messrs. R. S. Walsh, Apicultural Advisory Officer, and D. A. Briscoe, Apiary Instructor, Tauranga. A report on the survey, together with a list of honey samples containing toxins collected in the closed area since 1946, have been forwarded to the Director, Horticulture Division.

Project WA/2 Pollination

The aim is to find the role played by honey bees in pollinating the main seed crops and fruits. Development of more effective ways of using bees for pollination, resulting in increased seed and fruit yields, stems from such studies. Work has been completed on white clover, lucerne, and Montgomery red clover. Full accounts were published in a scientific journal, and condensed versions in the N.Z. Journal of Agriculture.

We have just completed work which shows that apple trees are almost entirely dependent on honey bees for pollination. Apart from papers in scientific journals an article highlighting these findings appeared in the May 1968 issue of the N.Z. Journal of Agriculture. Another article is appearing in the Orchadist of New Zealand.

Brassica pollination is being investigated in the Oamaru district.

Project WA/52. Effect on Honey Bees of Kowhai Nectar

The yellow kowhai (**Sophora microphylla**), a tree which produces nectar copiously, is both widespread and highly attractive to bees. It has been found that kowhai nectar may sometimes act as a narcotic to bees, and cause mortality in apiaries. The problem is being studied in the Wallaceville and North Otago districts where nectar samples are collected for laboratory bee toxicity tests.

ECONOMICS OF BEEKEEPING METHODS

The economic worth of various beekeeping operations, such as swarm control, is being investigated on statistical lines. This work should be of great importance to the beekeeping industry at the present time when both operating and establishment costs are increasing faster than returns. Mr. Forster, the Technical Officer, carrying out this work, under supervision from Wallaceville, is located at Oamaru, the centre of a beekeeping district where the projects can be undertaken with a minimum of travel from base.

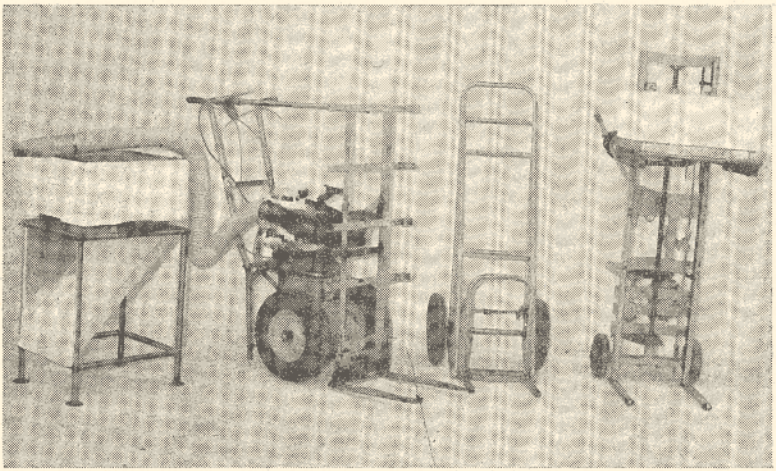
Projct WA/5. Evaluation of Methods of Swarm Control.

Swarming usually occurs not long before the main honey flow and is the most serious factor reducing the honey gathering potential of hives.

The five main methods of swarm prevention have been compared with untreated controls in four apiaries over the last three years. The great amount of information collected is being analysed by punch cards on a computer. When this task is completed by the Biometrics Section of the Department of Agriculture the results will be made known to the industry.

Project WA/4. Pollen Supplements

In 1947 Palmer-Jones found that there are a few areas in New Zealand where pollen deficiency, leading to reduced hive strength, may occur occasionally in a mild form for a short period. He developed a satisfactory pollen supplement which has since been used by beekeepers.



"WARD" BLOWER, LOADER, HAND BARROW & HONEY HOIST

MOTORIZED BARROW. Still the same Barrow that has been in use for a number of years. Reduced weight by use of tubular steel. Extra attachments available. Simple friction drive reverse fitted, also choice of 2 speeds for loading bees or honey. Blower for removing bees from honey fits neatly within frame of loader making very compact unit. This means you have a blower and have not lost any valuable space on your truck. The blower hose is removable. Just push it on and you are ready for business.

All those who are already using **"WARD"** motorized barrows can purchase the reverse and the blower as extra attachments.

HAND BARROW, Light tubular steel hand barrow with adjustable forks on 16 x 4, 14 x 3 or 12 x 2 tyres. Ideal in the honey house or field.

ELECTRIC HOIST. Automatically raises supers to a pre-set level for uncapping (save that back!). Can be used as fork lift for stacking honey on pallets in hot room or to conserve space in honey house. Will lift 400 lbs.

BLOWER UNIT separate from loader with 3 h.p. Briggs & Stratton motor mounted on tubular steel stand with bee chute and 2 wheels for moving about. Complete ready for work $180.

TUBULAR STEEL stand and chute for those using blower on loader $30.

DUDLEY WARD

KINTAIL APIARIES 47 GUY STREET, DANNEVIRKE

Attention has recently been focussed on new pollen supplements, particularly Krawaite, and trials of these have been carried out for three seasons. Little difference in effectiveness between new supplements and the original New Zealand one has been found. Under conditions of marginal pollen supplies sugar syrup, fed alone to hives, results in a greater brood gain than supplements. This work has been described in articles by Mr. I. W. Forster "Pollen Supplements for Honey Bee Colonies", and "Pollen Supplements for Honey Bee Colonies Trials during 1966" which have appeared in the August 1966 and May 1968 issues of the New Zealand Beekeeper. The project has now been completed and a final article will soon appear in the New Zealand Beekeeper.

Project WA/56. A Comparison of Honey Production from Hives Requeened with Locally Raised, Mailed Queens, Clipped, and Unclipped Queens.

This project will be commenced in the coming season to replace the completed swarm control one.

Project WA/57. A Comparison of Honey Production from Hives with First and Second Year Queens, Autumn and Spring Raised Queens, — Introduced and Supersedure Queens.

This project will be commenced in the coming season to replace the completed pollen supplement one.

DRY SUGAR FOR FEEDING

Dry sugar for spring feeding has few advocates in this area. Here, it is generally believed that at best dry sugar will merely keep the adult bees alive, and worst it is wasteful because some colonies dump it outside their hive entrances, much to the chagrin of the beekeepers! And this is exactly what does happen when dry sugar is fed in the wrong part of the hives, that is, on the bottom boards.

The secret of success with dry sugar is that it must be fed at the TOP of the hive immediately beneath the lid. In this position condensation, and warmth arising from the colony enable bees to utilise the sugar effectively. They dissolve the crystals and store this liquified sugar in their combs, consuming only as much as is required for normal development. Colonies make pleasing progress, but are not forced ahead too quickly for the time of year as is likely to occur if syrup or honey is fed. Dry sugar does not start up robbing in the apiary; it may be given at any time of day and during routine examination of colonies.

Method

A sheet of stiff brown paper is placed over the frames of the upper storey in the position usually occupied by a hive mat, leaving sufficient gap at one end for the bees to pass through. Place on top of this a queen excluder which has a wooden rim. This rim provides ¾ in. high walls which will prevent the sugar from spilling over the edges of the paper, and it also keeps the lid bee-tight and stable. (If you don't use this type of excluder, you will need to make up rims of similar dimensions). Up to 6 lb or sugar is then poured through the wires of the excluder before the lid is replaced. This amount of sugar should sustain an average colony for about 3 weeks. Incidentally, the bees remove the burr comb from excluders as they consume the sugar.

Letters to the Editor

"DOWN WITH BARBARA'S BAGS"

London,
24th July, 1968.

Sir,

The Breathalyzer measures the quantity of alcohol in the blood stream. Honey disperses alcohol in the blood stream approximately 20% faster than black coffee, exercise or natural process. The consumption of honey does not therefore 'beat the breathalyzer" but does in fact speed sobering up. The recommended dose, is about 2 ozs. before or immediately after taking the alcohol.

The scientific basis for the above statements can be found in a report published in the new Scientist, volume 36, no. 573. The extensive tests were carried out by a doctor at the Middlesex Hospital, London and reported in this article.

Practical tests have also been carried out and enjoyed by enthusiastic bee-keepers in this country.

for KIMPTON BROTHERS LIMITED.
M. J. Mortimer.

★ ★ ★

Havelock North,
October 11, 1968.

Sir,

Mr Fraser's comments on my letter in the August Beekeeper call for a reply.

Mr. Fraser: "The intake in recent years shows clearly that if there has been an exportable surplus it was not available to The Authority to export."
My reply: The Authority's sales on the N.Z. market for the 5 year period 1962-63 to 66-67 totalled 2406 tons, an average of 481 tons per year. This honey was available to the Authority for export.

Mr Fraser: "The Authority will export more than 100 tons surplus from the South Island businesses."
My reply: Is it not true that a member of the H.M.A., Mr Cloake, stated at a meeting in Timaru on 19th July that there was a 300 ton surplus which had to be exported because the money spent from the reserve fund had to be returned as soon as possible?

Mr Fraser: "Some packers will be quick to profit from an export market made attractive in certain years."
My reply: Lack of profits has stagnated honey production for the past 10 years. Most packers are also producers and a lift in profits would result in a lift in honey production.

Mr Fraser: "The Authority has a statutory obligation to operate on the export market every year."
My reply: The Authority does not have a statutory obligation to operate on the export market every year. In fact the H.M.A. does not have any such obligation to operate on any market at any time. As chairman of the H.M.A. Mr Fraser should know this.

Mr. Fraser: "The methods adopted by the H.M.A. to sell on the export market enabled the Authority this year to offer a substantial rise in the payment to producers."
My reply: There are two reasons for the substantial rise in pay out offered to producers. The substantial rise in local prices and, because of the low intake, seals purchasers will be subsidising the payment to suppliers by approximately $70 per ton.

Mr Fraser: "If no member of the Authority rose to dispute these alleged facts with Mr Berry at conference it was because the Authority's point of view had already been stated."

My reply: I certainly dispute that the Authority's point of view had already been stated. The H.M.A. members once again followed their usual tactics of avoiding open debate of their policies as far as possible. No good reasons were given as to why their export policy should have been in direct opposition to conference's expressed wishes. Also I was refused a copy of Mr Fraser's address to conference on the grounds that there were no spare copies available. However, I was assured it would be in the August beekeeper. Readers will no doubt have spent much time looking for the report of the Chairman's address 'on another page' as mentioned on page 5 of the August Beekeeper, only to find it was conspicuous by its absence.

Mr Fraser: "Finally sir may I ask as I did at Conference—would the industry be willing to entrust the export of honey to packers and leave the local market to the Authority?"

My reply: Producers and packers would have a much greater chance of receiving an economic return by exporting honey on their own account than by exporting through the H.M.A. with its excessive overheads and its ridiculously expensive methods of selling on the export market. As for the H.M.A. taking over the local market this is merely wishful thinking by Mr Fraser and would not be tolerated by the industry.

No doubIt Mr Dudley Ward who recently shipped a quantity of 1 lb jars of honey to Japan will have a few thoughts on Mr Fraser's invitation to packers to discuss exports with the Authority. Mr Ward's application to export was actively opposed by the Authority and only succeeded after government intervention. The industry will now benefit from Mr Ward's initiative in establishing a potentially valuable marketing connection in Japan and he has certainly earned his monthly export licence.

Sir, the big unanswered question is why do the present members of the H.M.A. actively oppose efforts by producers and packers to establish export markets especially when, unlike the H.M.A., producers and packers are prepared to render this service to the industry without any financial help to anyone?

Ian Berry.

★ ★ ★

October 24, 1968

Sir,

May I comment on two statements made by Mr Berry.

"The H.M.A. members once again followed their usual tactics of avoiding open debate of their policies as far as possible".

Sir, the H.M.A. members have no tactics at Conference. The present producer representatives have all served on the Executive, and do have an appreciation of the difficulties confronting a President, and certainly do not wish to needlessly prolong debate. The debate of Authority policy is initiated by branches by way of remits, and cannot be avoided by authority members, even if they wished to do so.

"Mr Ward's application to export was actively opposed by the Authority and only succeeded after government intervention".

Sir, there was no government intervention. In fact, government, in the shape of the Parliamentary Under-secretary to the Minister of Agriculture, made a point at Conference of advising dissident elements within the industry that differences of opinion should be aired and ironed out within our organisations—not run squealing to Government.

Finally, sir, may I make two further points.

At the last meeting of the Executive, which I attended by invitation, I discussed with Executive members a proposal which I hope will result in more effective debate at Conference of marketing policy.

Recent applications for export licences by packers have **not** been for markets developed or established by packers, but for markets which have been developed by the Authority.

J. W. Fraser,
Chairman, N.Z.H.M.A.

N.B.A. EXECUTIVE REPORT

Mr D. Barrow, Messrs G. Gavin, F. Bartum, I. Dickinson, B. Forsyth, T. Gavin, and K. E. Moody, Secretary.

GRADING FEE: The Association is to continue to make representations that a grading be not imposed on the industry for the services of the honey grader.

COMMISSION OF ENQUIRY: There had been no great interest at the recent Waikato Branch for members to serve upon a Committee to investigate the need for a commission. Resolved that the branch be advised Executive were of the opinion that in this particular incident the Apiary Instructor was acting within the terms of his responsibility.

IMPORTATION OF BEES: Nothing further had been heard from Mr Pearson of his intention to import bees. The Department made it clear that they would be required to be assured that tests would be meaningful and conducted by a competent person before allowing any importation. Any application would have to be made direct to the Minister and set out his precise programme of research.

CLOSED AREA: Draft proposals were considered and accepted with the amendment deleting the authority of the Committee to charge fees for the issue of permits. Mr Carter was approached and presented with the recommendations seeking approval for the amendments to the Regulations to be made. Mr Carter intimated that the matter would have to be discussed with the Minister of Health and the Association advised of the decision.

DEPARTMENTAL: Messrs Greig and Smaellie attended and were welcomed. **Apiaries Act.** The suggested amendments requested by the Association were considered and were required in writing. Marketing provisions in the Regulations were to be further considered and the method of conducting tests for toxic honey reviewed in the light of possible changes in the Food & Drug Act. **Visit — Waikato Branch.** Mr Greig commented on the invitation received to discuss the closed area and other problems concerning the branch, intimating that he would attend if the meeting was held in mid December. **Ministerial Influence** Comment was made that matters mentioned by Mr Carter during his address to Conference had had some bearing upon voting on some remits. **Training Seminar** Executive conveyed to Mr Greig appreciation of the availability of Instructors for the recent Seminar held at Timaru, and which had been most successful.

PROTOCOL: The desirability of Association members and beekeepers in general of keeping Executive fully informed of direct approaches to Government was emphasised, particularly when Association backing was necessary.

NATIONAL DEVELOPMENT CONFERENCE: Various aspects had been reported from the meetings held after Conference between packers and producers. It was considered that there was no shortage of honey on the local market and every effort should be made to export surplus production. The key factor was the nett return to the producer, and it was felt that the Authority, due to its high overheads. was reducing the return to the producer. The introduction of blight had been a factor in restricting the honey supply from manuka, but with a lessening of the disease, a greater crop could be expected.

FINANCIAL: The Secretary presented a budget for the year ending April 30 1969, but no allowance was made for attendance by members of Executive to branch meetings or Field Days not directly represented on Executive. One suggestion to

raise a further $200 income was for a membership drive or discuss with branches the possible reduction of the branch retention of fees from 40% to 30% in preference to increasing subscriptions. The matter was referred to the Chairman of the HMA that the budget with Executive's comments be considered with a request for a grant from the seals revenue.

GROUP INSURANCE: Only three members had expressed interest from the coupon published in the August issue.

TRAINING SEMINAR: A full report on the Seminar was tabled by Mr Bartrum, and a cheque for $81.00 was placed to the credit of the Seminar Fund. **North Island Seminar** A further Seminar would be held in the North Island in late August 1969 at Hamilton.

COST OF PRODUCTION SURVEY: Information already gleaned by Departmental offices and Mr Vince Cook was in hand.

TONGARIRO NATIONAL PARK BOARD: Following the remit passed at Conference asking the National Park Board to make sites available to all beekeepers it was decided that direct approach to the Minister would be made should the Board decline the Association's remit. Under proper supervision and the Apiary Instructor, allowing hives within the boundary of the Park would eliminate a danger to motorists. Under present conditions beekeepers were placing hives across the boundary road.

HONEY MARKETING AUTHORITY. Mr Jack Fraser, Mr Edgerley and Mr Lee joined Executive to discuss HMA business. **Buying Policy** Mr Fraser briefly commented on the change in HMA buying policy for the coming season. Some export licenses had been granted, and the basis of purchasing the two South Island plants was outlined. **Election Procedures** Discussion took place upon the proposed amendments to the Regulations and discussed twelve months ago and confirmed as acceptable to the Association. Acceptance had not, however, been submitted to all suppliers such as direct members and those who where not members of the Association. Full details of the proposed amendments to the Regulations would now be circulated to all suppliers and the result conveyed to the HMA by December 15. **Marketing** Operation of the South Island plant would be quite different from the Auckland plant and might develop into Auckland being used for export purposes and the South for the local market.

REMITS: Mr Fraser commented on the conflicting views expressed in Conference remits and asked that Executive consider the role it might take in particular to consideration of the industry's attitude to marketing.

HONEY HOUSES & TOWN PLANNING Information was being prepared so that members could be fully aware of the position relating to zoning and town planning regulations. It was hoped to publish an article on the subject in the February issue of the N.Z. BEEKEEPER.

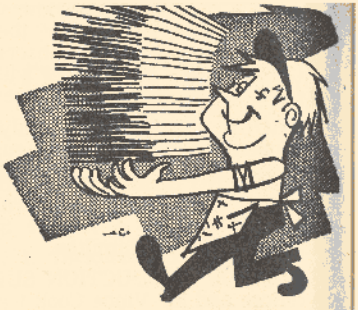
CONFERENCE 1969 will be held at Invercargill, organised by the Southland branch for July 16-18.

CADETSHIP IN BEEKEEPING. A report from Mr Heineman outlined a scheme for establishing cadetships which was considered to have merit, and further study is to be made.

RESEARCH: Mr Trevor Palmer-Jones advised that research was continuing into Kowhai nectar being a narcotic. Investigations into a suitable wasp bait had not yet proved satisfactory. **Pollen and Protein Sources.** Beekeepers are invited to submit samples for protein assessment and if the pollen source is named it is of assistance. Research on lucerne pollination continues.

INDUSTRY OPINION: The Chairman reported on comments made by Mr Carter when he stated that he looked to the Association to give him the industry's viewpoint on particular matters upon which he was receiving conflicting comment from individual beekeepers. Executive had a responsibility to keep him informed on industry matters. Marketing was one of the greatest problems facing industry, and in this regard it was resolved that Mr Carter be informed that Executive fully supported the actions of the HMA in purchasing the southern depots.

BRANCH NOTES



NORTHLAND

The cold weather is back again after a warm month of September and the chances are there will be plenty of swarms. There seems to be a shortage of Manuka flower this year so the result is a late start of the honey flow.

On October 12th a very successful Field Day was held at Mr Arthur Palmer's home yard in Dargaville with members from as far as Kaitaia in the north and as far south as Maungaturoto.

Unfortunately Jack Byers was laid low with the flu so the local boys did all the talking for the benefit of our young beekeepers.

Arthur Palmer demonstrated preparing honey for sale in the method anyone could follow. Malcolm Haines from Kaitaia had his mud grips for his truck and showed how they work in mud without tearing trenches in the farmers' fields.

Mrs Rose Quaiffe showed members how simple it was to contact foundation into sections. She has the know how.

Our thanks to Mrs Palmer for the tasty morning and afternoon tea she supplied and to Arthur for the use of his gear and time.

Reported by Arthur Tucker.

BAY OF PLENTY

Continuous cold, wet and windy conditions have been a constant headache to Bay of Plenty beekeepers this spring.

Following a very poor honey season last year beekeepers were not in a position to put away the normal amount of feed honey and at the time of writing hives are in a dangerously low condition regarding stores, and sugar is being fed in vast amounts.

Branch activities since Conference have included two meetings. First we had the delegate's report on Conference, followed by some interesting beekeeping films shown by Mr. D. A. Briscoe, Apiary Instructor.

The second meeting was a combined Bay of Plenty - Waikato Branch affair to hear the proposed new conditions of supply to the H.M.A. for the coming year. It also gave beekeepers an opportunity to meet the new Manager Trevor Edgerley. The meeting was addressed by the H.M.A. Chairman, Mr J. Fraser.

Crop Prospects—The chances of getting a crop in the bush areas appear much brighter this year, but unfortunately dead hives do not bring in honey, and that's how things are at the moment. Many hives could die out in the Bay of Plenty unless we get a rapid improvement in the weather.

Your President took the opportunity of attending the Hawkes Bay spring Field Day and congratulates them on their very interesting programme.

Reported by Don Barrow.

CANTERBURY

The Canterbury branch would like to congratulate the South Canterbury Branch for the outstanding South Island Seminar held at Timaru 5 and 6 Sept. All items of the Seminar were of a very high standard and arrangements excellently run. The domestic section of the Canterbury branch were very pleased to be awarded two queens as first prize in the Photographic Competition at Hamilton. Will one of them equal the Canterbury strain at our Annual Field Day in March? Spring has not been very kind. All seasons have prevailed at times, frosts and snow and gale force winds, consequently the willow flow was very patchy and the mating of virgins problematical. However plenty of rain has fallen and the country looks extremely good.

It was very interesting to learn that one hundred years ago, 28 Oct. 1868,

the Canterbury Chamber of Commerce was congratulated by the Press for the importation of bees. Previously frogs had ben imported, "now they were leaping ahead with the importation of some Ligurian (Italian) bees, bigger than the present bees, good at gathering honey in the day and into the night."

Reported by A. R. Eagle.

WAIKATO

Spring has not been very kind to one and all up here. Rain started early last April, and has hardly stopped for more than a day or two each month and as I write it is still raining. When it will settle is anybodys guess, but the sooner the better.

All Spring sources were very poor, the weather not allowing the bees out, and if they did venture out didn't get home.

With barbary about to flower, hives have plenty of bees, but generally are poor on brood, due to pollen shortage.

Queen breeding is nearly on the disaster level, no mating weather, and cold winds have wrecked neuclei.

Everyone is busy just feeding bees to survive them, and with the conditions prevailing it is quite a job. On our last trip to Rotorua, we watched snow flakes drifting by while we had lunch. One may expect it further South, but not up here in mid October.

Bees placed in the closed area suffered with the cold, and some early sources were finished by the time the bees arrived. Hives have not come away as expected, but there was evidence last visit that they were getting a little new honey.

Bush sources seem to have plenty of buds, so it is a case of if they endure until December we may get a crop.

We had a combined meeting at the Okorire Hotel to meet Jack Fraser, Chairman of the H.M.A., who told us of policy and supply conditions for the coming season. However the problem seems to be one that a lot of honeys can not be produced at the prices being offered.

Reported by C. Bird.

COMMENTARY from the Editor's Desk and Mail

POLLEN FOR PROSTATIS. Pollen is being used as a treatment for chronic prostatis in East Germany, Sweden, Belgium and Japan.

Three-year tests, carried out by the Drug Testing Institute (Arzneimittelwesen) of East Berlin, showed that after treatment a number of men developed a greater sex-drive and no longer suffered impotency and other sexual disturbances.

They were relieved of difficult and persistent prostatis that did not respond to earlier forms of treatment.

The pollen is contained in an extract, produced by the pharmaceutical firm AB Cernelle, of Vegeholm, Sweden.

★ ★ ★

OUR CANNY SCOTTISH FRIENDS in Cupar had good cause to suspect that a local shop was selling imported honey as the genuine Scottish article. With great great care and detailed planning, a local shops inspector asked for a jar of Scottish honey and, having been supplied, took the jar away for the contents to be analysed for pollen grain content, the result of which proved conclusively that honey could not have emanated from Scotland. The offending retailer admitted the offence and a fine of £10 was imposed for the false pretence. Quite an expensive experiment.

★ ★ ★

THE 1967-68 HONEY SEASON in Western Australia was the worst for twenty years from both a production point of view and for monetary returns to the beekeeper. There was an increase in home consumption, which seemed to be the only bright spot in a dismal scene.

★ ★ ★

HOLLAND IS SINGULARLY fortunate in that there is no Bacillus Larvae or European FB in the country, according to a report by two Dutch sicentists. Outbreaks have been defined as having emanated from imported honey and stringent steps are then taken to deal with the localised problem. A small amount of acarine is found near the frontiers of Germany and Belgium, but when the disease is found in the area ruthless burning is resorted to, and no movement of bees may take place in the area for a period of seven years.

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BRITISH BEE JOURNAL reports an anecdote worth repeating. Two experienced beekeepers in discussion on brood disease were putting forth thier ideas and one said "I've got enythromycic in my hives". The second voluntcered that he preferred streptomycin when an interested beginner chimed in that he had field mice in his.

THE ENGLISH PUBLICATION "Beekeeping" reports that trials are being made with a prototype fibreglass hive and a report on field conditions will be made in due course. Another reference is to a Catenary hive, and the writer had to refer to the dictionary to gleen information that the descriptive name refers to "the curve of a chain hanging freely between two points" The word "catena" means "a chain, a series of connected things". We live and learn and a fuller description will be awaited with interest. Whilst standardisation is essential—particularly for commercial application—it is a fact that there is always a better way of doing things, and that they have to be found and proved. Inventor is Mr W. B. Bielby, County Bee Adviser to the West Riding of Yorkshire.

★ ★ ★

A CORRESPONDENT in "Bee Craft" reports that he had trouble with condensation between the galvanised sheeting covering the wooden tops of hive roofs, with resultant rusting. To give year round ventilation, he cut away a portion of the roof and covered the aperture over with a piece of corruguated PVC sheeting nailed into position. The corrugations extended beyond roof area to permit rain water to fall clear of the hive back and front. Cost was around 3s-6d per hive and ventilation is excellent. No mention is made as to whether the bees used the top entrance or whether they tried to propolise the exit, or obstruct it with burr comb.

★ ★ ★

BEEKEEPERS IN THE UK are to be provided with de-natured sugar under a clause in the Finance Bill, which will mean that they will be able to buy for feeding purposes at a discount of 55% of the domestic price. It is thought that quantities of at least 10cwt at a time will have to be bought, so that domestic beekeepers will have to arrange between themselves for a central buying operation and divide the spoils.

★ ★ ★

THE ALFALVA WEEVIL continues to envelop the whole of the US and the only known control is the use of pesticides injurious to bees. Beekeepers are suffering because farmers do not always ensure that spraying takes place before flowering begins, with resultant decimation of stocks.

SKIMMING SCUM

by Roy Abernethy, Owaka

There are many methods for skimming honey tanks and after trying most of them I found one, with improvements, the quickest and best.

Four essential items are needed, in the form of a painters scraper, wire gauze, a fry pan and a basin.

First, the woven wire gauze is made by using it in its full width by 19" doubled over to make it 4½". At each end rivet a piece of galvanised iron 4½" wide by 8" long and double it, fitting gauze in between. Rivet these together making a skimmer 40" long by 4½" wide.

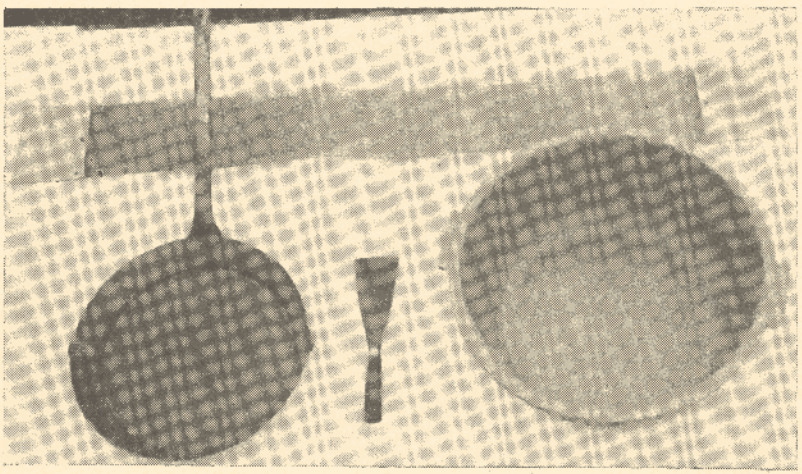
Having everything close at hand and holding the scraper against the side of tank at an angle of 45 degrees, insert into honey and keeping at that angle, move round the tank.

This brings the scum away from the side and if honey is cool will stop there until you insert gauze against the far side. Holding the tin ends of gauze, draw towards you until you have drawn the scum into a circle small enough to fit into your pan. Hold the gauze in one hand, and with the other, slip pan underneath, lifting near side slightly to give access. With a quick lift, withdraw the gauze into your basin which should be placed in position beside your tank so as not to make a mess.

After a few experiments you will find the operation very easy and not a particle of scum is left. The whole process takes only 2 or 3 minutes. To clean gauze and pan, take the basin to a part of the honeyhouse where you can hang both over a basin to drain, then wash in hot water.

A hole should be drilled in each end of tin so that the gauze can be hung up. A pan with a hole in the end of the handle is needed and the pan should be strong as there is a considerable strain on the handle when lifting. A tinned steel pan gives best results.

My tanks have a capacity of 1 ton each, and the de-scumming routine described works perfectly well for smaller containers.



The home made tools useful for the small man in his skimming operations.

BEGINNERS NOTES

By Sid Line

Onset of Hot Weather, and the Tendency for a Hive to Swarm

When the cold weather is past, there will be the need to guard against swarms suddenly leaving your hive, unless every weekend or 10 days from October to December you look over **at least the four middle brood combs** for Queen-cells.

Destroy all of these, unless the queen is an old one and you will know this by seeing if the brood is patchy. The **brood** of a young or vigorous Queen is formed in solid slabs or arranged in a pattern resembling half-moons.

If it is patchy, kill the old queen and leave one good cell. In the event of having two nice looking Q-cells, then place 2 or 3 frames of capped brood above a "division-board" with enough bees to nurse them, and insert one of the queen-cells in this nucleus. The division-board being above the main hive—the nucleus is kept warm.

Do not propagate or raise queen-cells where the drones in that hive are dark, for the queens—either hatching or to be mated—will become dark or "throw-backs" and their progeny will be vicious. Only utilise queen-cells where the drones are amber or tan coloured.

One or more nucleus-hives have these uses:-

To make increase and become new hives.

To borrow frames of brood—to boost weak hives.

To take a queen from when replacing a failing queen in another hive—by smearing honey over the young queen with a straw before dropping her between the frames.

Or to unite with a main hive by withdrawing a division-board and placing a sheet of newspaper between the 2 groups in December just on the main honey flow; the 2 queens will then fight it out and are unlikely to swarm.

When removing a queen-cell from a comb to insert in a nucleus—cut about ½" away with a pocket knife blade wiped thinly with oil, or honey, to prevent wax gripping the blade and distorting the queen-cell. Rest the queen-cell between the middle combs.

When weather becomes hot—don't hesitate to add another super. Give a good opening at the entrance for ventilation. Reverse the position of the two lowest boxes if the bottom one has fewest bees.

Keep every-ready, an unoccupied swarm-box or nucleus-hive, made of light fruit-case timber so that it is easily carried up a step-ladder or to difficult places. Have in the box preferably a few frames of foundation-wax ready for immediate use. A swarm usually leaves a branch or resting-place by 10 a.m. next day. A swarm-box made to hold 4 or 5 frames is large enough.

Disease precaution: Have with you regularly, a tin of water, tainted with antiseptic (Jeyes fluid). Wash hands and tools when sticky, between visiting hives.

What is meant by

SPECIFIC GRAVITY?

By C. G. Rope, Honey Grader, Auckland.

Control of specific gravity is the key to the processing and packing of honey.

$$\text{Specific Gravity} = \frac{\text{Mass of specimen}}{\text{Mass of equal volume of water}}$$

To the layman, S.G. is an easy way of comparing the weight of one substance with the weight of another.

Water has been chosen as the universal units of comparison, and therefore water has a specific gravity value of 1. So, a substance having S.G.2 would be twice as heavy as water in equal volume; and another substance having S.G.0.5 would be only half the weight of an equal volume of water.

Honey has been found to range in specific gravity between, say, S.G. 1.40 and 1.44 which indicates that it is 40 to 44% heavier again than water. This variation in S.G. is primarily brought about by differences in the natural water content of honey and by air bubbles.

In air-free honey, the moisture content is relative to specific gravity as follows:-

Honey containing—

15.6% of water has S.G. 1.434 at 20°c
16.6% of water has S.G. 1.426 at 20°c
17.6% of water has S.G. 1.420 at 20°c
18.6% of water has S.G. 1.413 at 20°c
19.6% of water has S.G. 1.406 at 20°c

Within a range of 6% of water content, enormous differences are evident in the natural physical characteristics and the behaviour of honey.

AT S.G. 1.441, liquid honey is very dense and extremely viscous. When granulated, it may easily break a knife in attempting to remove it and needless to say, it is unspreadable unless kept at temperatures above 85°F and no one is likely to do that. Produced in very low rainfall areas of New Zealand, this honey is so viscous the pressures it exerts within the honey house equipment are so great that it must be subjected to considerable indirect heating before it is at all manageable. The relative humidity should be raised in the warming and extracting rooms by exposing pans of water or by sprinkling the floor from time to time.

Honey having S.G. above 1.434 does not ferment. When granulated by the Dyce process, honey at this specific gravity has the major disadvantage that it will not spread easily unless it has been stored between 75 and 80°F which is above normal room temperatures. Because the sugar dextrose is in a highly supersaturated state, having a dextrose/water ratio of about 2.06 at this S.G., the honey has a natural tendency to granulate readily and it is not suitable for liquid packs.

At S.G. 1.426 Dyce processed honey has pleasing spreadability only when stored at constant temperatures around 70 to 75°F. Much honey is produced at this S.G., and many packers in an endeavour to make the honey spreadable at room temperatures subject it to agitation methods which incorporate air bubbles, a detrimental practice which hastens deterioration and reduces the shelf life of the honey. Liquid honey of this S.G. is unpopular being too sticky. Sandwiches become doughy beneath the butter, and the remaining bread drys out by lunchtime. The dextrose/water ratio of 1.87 favours re-granulation of liquid honey and if it is seeded with the slightest crystal nucleus, even dust, the honey will develop large granules within

6 months. At this S.G. one unpasteurised honey in ten will show evidence of fermentation after 12 months at room temperatures.

S.G. 1.420 is the best for granulated honey. Dyce processed honey will retain its pleasing plastic texture over the widest range of storage temperatures from below 60 and up to 90°F. One unpasteurised honey in five at this S.G. may show evidence of fermentation within 12 months at room temperatures. It is therefore a fair and reasonable level at which to set the export limit. At this S.G., honey has a D/W ratio of about 1.79 and liquid honey can be expected to exhibit an ⅛ inch layer of crystals after 6 months following pasteurisation.

S.G. 1.413 honey Dyce processed will become too sloppy if stored above 70°F. If unpasteurised, fermentation will become acute at room temperatures. Liquid honey is likely to show evidence of scattered coarse crystals within 6 months of pasteurising because the D/W ratio is around 1.71.

S.G. 1.406 is out of the question for granulated honeys but is **ideal for pasteurised liquid honeys.** At this S.G. liquid honey spreads pleasantly not being too sticky. Following pasteurisation, the honey is unlikely to regranulate in years because the D/W ratio of about 1.58 has reduced the dextrose to an inconsequential degree of supersaturation.

KEEPING HIVE RECORDS

Detailed notebook records of individual hives are less important to commercial beekeepers than records relevant to the apiary as a whole, such as the dates when feeding became necessary, when swarming was most prevalent, the flowering periods of nectar sources, when storeys were first needed, what materials will be required at next visit, and similar information.

To record the age and quality of the queen, attach to each hive a coloured, metal tag. This is well worthwhile and saves days of work in a season. Tags are cut about 2 inches by 1 inch, preferably from aluminium sheeting, and each has a nail hole at one end. The colour of the tag denotes the age of the queen, using a different colour for every six months. The spot where it is tacked on to the hive indicates whether the queen is sound, pure and has been clipped, and can also be used to convey any additional information required. For example, the ends of the tags can be easily bent upwards to identify a swarmed colony, or a vicious strain. It is then a simple matter at any time to assess the condition of an apiary by tallying up the tags. At requeening time one can see at a glance which hives are first in need of attention. If the apiary has to be shifted, the record goes along with the hive and is not lost as often happens with other systems. Those who use this system often wonder how they previously managed without it.

Beekeepers and Backache

By G. N. Lansdown

A common complaint among beekeepers as they get on in years is low-back trouble. With a little thought and planning, beekeepers could avoid a lot of low-back pain.

There is no denying the fact, that many people are insatiable gluttons for punishment; they appear to get a kick out of doing their work the **hard way.** It is not smart to lift or carry weights that are too heavy. I have seen outapiaries at the bottom of a hill. The beekeeper had to carry deep supers of honey up a hill, in order to load them on his truck—a very back-breaking job indeed, and quite unnecessary.

Psychiatrists tell us that there are some people in whose life the instinct of self-destruction far outweighs the instinct of self-preservation. These individuals feel the need to suffer. It all stems from the working of the Subconscious Mind.

There is a lot of heavy lifting to do in beekeeping. It is very important that beekeepers should stand back and take a really objective look at themselves, to see if a lot of unnecessary back-breaking work could be eliminated in their business.

A beekeeper I was speaking to one day, picked up a box of matches, and could hardly straighten up again—the next day he was in bed with low-back pains. Thi strouble of his did not come on all of a sudden as some people think, it had been building up over a long period. On any day, nearly 6½ million people in the U.S.A. are in bed with low-back trouble. Several beekeepers who suffer from low-back troubles, have told me that they have visited several Physiotherapists and have had Chiropractic and Osteopath treatment, with little or no relief. To my way of thinking, a beekeeper should find out just how much his back can stand, and then try to keep **within those limits.**

If a beekeeper has suffered from low-back trouble and has found a cure for it, I am sure readers of N.Z. Beekeeper would be glad to hear of it. I am not over-optimistic about ever reading or hearing of a cure for low-back trouble.

The
National Beekeepers' Association

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

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

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front page story

LET'S FACE IT. Far too often meetings of beekeepers resolve themselves into social gatherings when everyone has the chance and takes good advantage of it to indulge in a natter, criticism of neighbours, the iniquity of Government officials and how hard it is to earn a decent living from keeping bees.

Fortunately, there are exceptions, and some particular meetings and gatherings are remembered for the knowledge gained and the help and assistance beekeepers are able to give to each other.

The South Island Seminar held at Timaru in September benefited every visitor who cared to listen to the experts there to address them and the organisers are to be congratulated for their practical coverage of beekeeping problems.

Pictured on the front page is Aussie queen breeder D. Gear who was able to be present at the Seminar en route to the USA on a Rotary International Technical award, and it would indeed be fortuitous if he could call in on New Zealand again on his way home and impart some more of the knowledge he will have gained during his stay in the States.

As will be read in the full report by Vince Cook, the Apiary Instructor at Timaru the experts covered a wide range of subjects, and the local tax collector went out of his way to try and show how to SAVE tax, explaining that the Department simply wanted their just share and no more. A few years ago such an attitude would have been unthinkable.

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