# THE NEW ZEALAND beekeeper

DECEMBER 1977

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# THE NEW ZEALAND BEEKEEPER

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**In this issue....**

...two pages of letters start p 2; we hear more from the Southland financial survey on p 7; a feature on tail-gate loading of hives starts on p 10; David Williams gets satirical on p 15; Vince Cooke advises on bee trees for planting on p 17 and our compleat amateur waxes lyrical on p 19. On p 25 Pat Clinch describes his latest research which attracted world interest at Apimondia. Keeping these features apart are news items, book reviews and research summaries. May the value of the reading be only exceeded by the worth of your honey flow. Happy New Year!

## Editorial

by Trevor Walton

# APIMONDIA — so near and yet so far

THE TWO-YEARLY Apimondia extravaganza presents one of those organisational challenges which either makes or breaks the organisers. Handling 1500 visitors from 45 countries, organising two field days, and translating papers into five conference languages is a logistical challenge which this year the Adelaide organisers met and surpassed.

However, no matter how successful the conference was in logistical terms, there is the matter of relevance. Is such a huge conference which attempts to combine the needs of pure scientists, extension workers and apiarists the most sensible form which could be devised?

For the scientist, the extension worker and apiarist, the sheer size of the event is such that it is near impossible to discuss conference papers with others in the same discipline. And the need to cram so many papers into a relatively small time span rules out formal conference discussion of them.

We are sure that for the 80 or so New Zealanders who attended the 1977 Apimondia Conference, a congress which specialised in one level of beekeeping technology would have been more relevant. For the few who need to keep up with the pure research as well as the boys in gum boots two conferences would be a more satisfactory — if more expensive alternative.

Nevertheless, New Zealanders acquitted themselves well in Adelaide. The "NZ Court" — a co-operative effort by the HMA, Alliance Bee Supplies and the Penrose Organisation — was awarded a gold medal for its impact in the trade displays. The NZ Comb Honey Producers made considerable impact with their stand and won third prize.

Four New Zealand papers were well-received: Vince Cooke on pesticide legislation; Murray Reid on requeening without dequeening; Grahame Walton on the influence of weather factors on honey production and Pat Clinch on honey bee mite control.

A paper by Harry Cloake was deferred because of time and then later cancelled. Our sympathy goes out to him for what must have been an extremely hurtful experience — to be invited to speak at a world conference, only to be turned down at the last minute because of bad organisation. For New Zealanders present this must have been the one sour note of the proceedings.

If many of the papers were disappointingly technical for the practical beekeepers present, their impact was not lost on our DSIR and MAF representatives. They were planning to get together in the last week in November to discuss how to relate what they had learned at Adelaide to their future research effort.

Much was said at Adelaide of the largely disease-free status of the Australian honey industry. Indeed, compared with the problems faced in Europe and America, Australia has much to be proud of.

New Zealand, however, is even more fortunate than Australia in this regard and as a result of lessons learned at Apimondia it is possible that MAF staffers may move to tighten even further the quarantine net which protects the NZ industry.

Perhaps what is needed is another — more practical — Australasian conference to be held in New Zealand in two or three years' time. It would give enough time for southern hemisphere bee scientists and extension workers to try out the latest in world research in local apiaries before disseminating their findings to the people who make their living out of bees.

We may not be able to make Apimondia more relevant for commercial beekeepers, but we can run a more relevant conference of our own.

How about it MAF, DSIR, HMA, NBA?

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Advertising at these rates is available to bona-fide beekeepers advertising products or services relating to their beekeeping enterprise only. In cases where the appropriate rate is questioned, the decision of the editor will be final.

Rates: Full-page, $60; Half-page, $40, Quarter-page, $20; $2 a column cm. No deductions for contracts will apply.

**Commercial Rates** are currently being revised.

**SUBSCRIPTIONS**
The NZ Beekeeper is distributed free to all beekeepers owning more than 49 hives who, after paying their compulsory hive levy, automatically become members of the National Beekeepers' Association of New Zealand (Inc.).
Beekeepers owning less than 50 hives and others who may wish to may not wish to join the association, will pay an annual subscription of $7.50 which includes the cost of a subscription to the NZ Beekeeper.

# CORRESPONDENTS

## APIARIST NEEDS KIWI JOB

Dear Sir,

I am a young English bee farmer just starting keeping bees in a commercial way. Before I establish myself in this country I would like to work on a bee farm in New Zealand to gain practical experience in efficient bee farming and with a view to possibly setting up in your country myself.

I would be most grateful if you could let me know of any bee farmers who could employ me for about a year over the 1978/79 season.

Yours,

D. Wainwright,
East Cottage,
Springhill Farm,
Dinton, Aylesbury,
Bucks, ENGLAND

## CONGRATULATIONS!

Dear Sir,

I will take this opportunity of offering my congratulations to you and your staff on the production of a first class magazine, and hope that you will continue to give us your unbiased editorials. The industry surely needs comment from someone who can observe from the sideline.

Yours,

Milton McKenzie,
Waimate

## BEEKEEPER NEEDS JOB

Dear Sir,

The theme of this letter is quite straight forward. I am emigrating from Britain to New Zealand when I have found some employment in New Zealand. For about the last nine years I have been working in horticulture and during this time I have worked on market gardens, fruit farms, glasshouse holdings and amenity estates.

During those years I have taken, completed and passed a three year course at Writtle Agricultural College and now hold a Higher National Diploma in Commercial Horticulture. For the last two years I have been working as a technician at the College.

I have had connections with this college for the last five years, and during this time have taken an interest in beekeeping — much assisted by the presence of the county beekeeper and his apiary housed within the college estates. As far as horticulture is concerned, my interests are wide ranging and my present employment is sufficiently flexible such that I can be involved to a degree, in all of the horticultural activities of the college. I should like, in the future, to increase my experience in beekeeping and would be interested to work in commercial beekeeping.

I haven't any formal qualifications in beekeeping, but I have a young interest which is growing fast. If you know of any persons who might be willing to offer me suitable employment they could write to me at the address below.

Yours,

Alan J. Busher,
Writtle Agricultural College,
Chelmsford, Essex, ENGLAND.

## WATCH THOSE LIMES

Dear Sir,

Caught this snippet from a British journal called the "Gardeners Chronicle and Horticultural Trade Journal" 181 (11):15, 1977, by Mary Armitage of the Agricultural Development Advisory Service, MAFF Guildford Surrey:

"Substitutes for elm: the bee killers."

It seems that limes are being advocated as replacement trees in Britain for elms killed by Dutch elm disease. But, it has been reported that last July thousands of dead honey bees and bumble bees were seen under specimens of Tilia oliveri. Dead bees were also seen under specimens of T. petiolaris and a T. petiolaris cross, T. orbicularis. Mary Armitage presumed there was a toxin in the nectar produced in the heavily scented blossoms. There could be other reasons for the noticed mortality, but at least we should perhaps be a bit more specific when advocating limes as bee trees and recommend other varieties or species than these ones.

Yours,

G.M. Reid
Apicultural Advisory Officer
Hamilton

## QUOTATIONS PLEASE!

Dear Sir,

We recently received a sample of honey from your Honey Marketing Authority. It is good quality and we have a market price for it in Iran. We will place an order if domestic honey production is not enough within several months.

Would you please supply a sample of your bees-wax (crude and refined and comb foundation) with respective C&F costs. We also like you to help us in locating some queen breeders and producers in New Zealand.

Yours,

M.B. Bagherzadeh, A.
68, K. Omumiha, KH. Ordibehesht,
Isfahan, Iran

## SWITZERLAND TO SPAIN

Dear Sir,

I wish to request your assistance in solving a problem which is important to your New Zealand apiculturists and myself. Some time ago, in Switzerland, I was engaged in manufacturing apicultural machines of world renown. My Spanish wife had to be repatriated for health reasons, and the machine factory had to be transferred to Spain.

Numerous letters written by your citizens have been lost in Switzerland, and now, to put this matter right, would you please be kind enough to publish in the New Zealand apicultural journals an advice with the following text:

J.J. Dayer, Switzerland, the factory of world-renowned steam honey-comb machines, has been transferred for the health reasons of a member of the owner's family, to the following address:

Etablissements d'Apiculture/
Apicultural firm/,
J.J. DAYER, EL RULO TOTANA,
(Murcia), Spain.

Yours,

J.J. Dayer,
Spain.

## NO GORSE POLLEN

Dear Sir,

In the September issue of "The New Zealand Beekeeper" I note that you

have reported on the remits considered by Conference. Included are summaries of some of the points raised by speakers during the discussion. Although this is an excellent idea, I know from experience just how difficult it is to summarise points without altering the meaning. This applies particularly to technical matters.

I think that you made an excellent job of Remit 27. However, in Remit 24 — Herbicide controls — in condensing my comments you have written "... and it was fortunate that pollen wasn't being collected for sale". This infers (1) I said that no-one in New Zealand is collecting pollen for sale, and (2) that there is always a high risk of pollen being contaminated. I did not say that, nor do I agree with it. I knew, as did beekeepers in the hall, that pollen is being collected for sale. I was careful to point out that I did not consider that the risk of contamination was high, except in areas where there was large-scale spraying of gorse, and pollen for sale was not normally collected in these areas. I can only conclude that the sentence should read "... and it was fortunate that the pollen referred to by Mr Foote wasn't being collected for sale".

It is very difficult to correctly report on technical matters from oral statements, and that is why I distribute duplicated copies of my research report. However, it is vital that the facts are correctly reported, because with three months between issues in the case of the "Beekeeper", corrections tend to lose their point. If it would be of assistance to you I would be very happy to check technical statements attributed to me, before they go into print. This is often done at scientific conferences, before the discussion is reported in the post-conference proceedings.

Yours,

Pat Clinch,
Scientist,
Wallaceville Animal Research Centre.

**The editor also knew pollen was being collected for sale and thought the comment was particularly unusual. In the future, "unusual" comments will be submitted for a technical check. Sorry about the misunderstanding.**



## SMALL BEEKEEPER VOICELESS

Dear Sir,

In March of this year I joined the National Beekeepers Association of NZ. I have only four hives, but I felt even so that I wanted to support an association which I believed to have the interests of all beekeepers at heart. Likewise, I felt I wanted a voice however small in an association which either directly or indirectly could affect my honey production. The September 1977 issue of your excellent magazine has raised two points which I find of great concern:

I quote from Remit 21, "Cheaper Hobbyist Supplies":

> *"Mr Jansen and Mr Mitchell spoke against the remit, saying that the conference was a forum for commercial beekeepers....This attitude was dominant at the conference."*

I hope I am not correct, but it seems from this that the association is concerned only in representing some of its members and has no interest in the hobbyist minority group. I would have thought that the association should be interested in representing all its members. After all as J. Elworthy, M.P., says in the same issue:

> *"It is pleasing to see that the ranks of the smaller beekeepers are swelling, for it is from this group that many future commercial beekeepers will emerge."*

If the attitude expressed at the conference truly reflects the views of the association then it would follow that the hobbyist has no moral obligation to be bound by any regulations promulgated by government as a result of the association's recommendations.

The second point which concerns me is allied with the first. I understand that steps are being taken to wind up the Auckland branch because of a lack of quorum at meetings. It may be significant that although I live in the Auckland area I have had no invitation extended to me to attend any Auckland branch function.

I have sent a copy of this letter to the president of the NBA and Mr J. Elworthy, M.P., and would be interested to know whether the association is prepared to publish the names of those who voted for and against the above resolution.

J.L. Vague,
Titirangi,
Auckland.

- The conference of the National Beekeepers' Association is a forum for delegates representing *all* NZ beekeepers. In practice, however, it is dominated by commercial beekeepers who are most concerned to protect their livelihood. In this context, it is easy to understand the emotional and in our view, unfortunate, reaction which greeted this remit.

You will also note that the full text of our report on the discussion of this remit read: "...the conference was a forum for commercial beekeepers and that if it had been economic to make small extractors in New Zealand someone would have done so by now". Thus the attitude dominant at the conference was not merely one of pro-commercialism.

- The officers of the association are, of course, at great pains to emphasise the fact that the association represents all beekeepers regardless of their size. Branch activity in most districts is in fact geared to the needs of local hobbyists.
- Voting on this remit was done on hands and no record has been kept as to the way in which delegates voted.
- As regards the now-defunct Auckland branch, former branch secretary, Mike Stuckey, says he laat tried to convene a branch meeting in January of this year. Because he was unable to get a quorum and because no-one else has been willing to take over as secretary, he has taken steps to wind up the branch. He is pleased to hear of your interest and is approaching you to see if you would like to take over branch organisation.


### Russell Poole retires

The October meeting of the HMA recorded its thanks and appreciation of the many years of service and support of the retiring chairman, Mr Russell Poole. All but one year of his term had been as the authority's chairman. The longest term by any one chairman.

Although having resigned from the chairmanship, Mr Poole accepted the deputy chairman's position.

At the conclusion of his term and before stepping down, Mr Poole had the pleasure of accepting on behalf of the authority, a beautiful gavel and stand, the stand recording on it the names and dates of past chairmen of the authority. The presentation was made by the general manager on behalf of the staff in recognition of Mr Poole's long and friendly association.

### Not an inspection service

The Ministry of Agriculture and Fisheries has told the NBA that the onus of hive inspection lies with beekeepers, but that the ministry is maintaining a check inspection and disease follow-up service despite staffing difficulties in recent years.

In reply to a conference request that an adequate apiary inspection service be based in the Hawkes Bay, MAF's deputy director (horticulture), Iain Forbes, said four part-time inspectors were employed in that district. Also, he said, the ministry was holding training programmes so that qualified staff would be available for the 1978 check inspection year.

### Amendment to Apiaries Act

Beekeeper objections to the current hive inspection form have been noted by the Ministry of Agriculture and Fisheries and will be considered when the Apiaries Act comes up for revision. This revision is expected to be undertaken in the next two years.

### Lead Arsenate requested

The NBA executive is investigating a Waikato branch request that Lead Arsenate poison be once again made available to registered beekeepers for the control of German wasps.

### Allan Bates celebrates

Recently featured in the Matamata District Chronicle was Allan Bates, a retired Matamata beekeeper who started a queen rearing business at Peria 30 years ago. The occasion was Mr Bates' 90th birthday which was attended by members of the Bates family, some of whom travelled from as far afield as Whangarei, Waiwera, Auckland, and Hamilton to help him celebrate. Allan has had 70 years' beekeeping experience but the business he set up is now in the hands of his son, Don.

## DON'T FORGET

THE APIARIES Act requires every beekeeper owning 50 or more hives to pay an annual levy to the Honey Marketing Authority. The rate of the levy is set each year by the minister of agriculture after consulting with the HMA and NBA.

The rate this year — unchanged from last — is 15c a hive, payable to the HMA on or before February 20, 1978. The number of hives on which the levy is paid is determined by the number owned on January 1.

- The HMA has the power to defer payment. If you can't afford to make your levy payment by the due date, write and ask for a deferment of your obligations. If your reasons are good enough, the authority will probably agree.
- The HMA has the power to impose a penalty if payment is not made by March 31.
- Payment has to be made on a form provided by the HMA. The authority gets your name from the MAF list of registered beekeepers. If you haven't received your form by the end of January, you'd better start checking. You may not be a registered beekeeper, and that's illegal.

## BEEKEEPERS LIBRARY

The Library deeply appreciates the donation of the following books:

- "Bees and Beekeeping", by Roger A. Morse, 300 pages, 1976 reprint. Presented by Foundation Life Member John Glynn of Balfour.
- "Life of L.L. Langstroth", America's Master of Bee Culture, by Florence Naile, 220 pages, 1976 reprint. Presented by Foundation Life Member R.W. Blair in memory of Dawson Roberts (Robbie).
- "The Hive and The Honey Bee", edited by Dadant and Sons, 760 pages, 1976 edition. Presented by Dadant and Sons Inc., Hamilton, U.S.A.
- "First Lessons in Beekeeping", by C.P. Dadant, 128 pages, 1976 edition. Presented by Dadant and Sons.
- "Beekeeping in the Tropies", by Francis G. Smith, 266 pages, 1960 edition. Presented by Roger Peake of Tiki Road, Te Awamutu.
- "Bees and Pollination", by R.P. Macfarlane and B.J. Donovan, 20 pages. Reprint from New Zealand Insect Pests, pages 221 – 240. Presented by anonymous donor.

Books, magazines and pamphlets are available to National Beekeepers' Association members. Send stamped addressed envelope for copy of rules and catalogue.

**Beekeepers Technical Library,**
**P.O. Box 423, Timaru,**

### Fumidil B approved

The minister of agriculture has approved the use of Fumidil B for the treatment of Nosema in bees, subject to the condition that the drug should not be fed to bees during the honey flow or immediately before the honey flow.

### No levy bill

Associate minister of agriculture, Jim Bolger, has informed the National Beekeepers' Association that the government will be unable to introduce legislation this parliamentary session to enable the hive levy to be collected by the association.

### Sweetening the sugar blow

Agriculture minister Duncan MacIntyre has told the NBA that the decision by Cabinet not to proceed with investigations into a prospective sugar beet industry was made in the light of the high cost of such an investigation and the lack of information on key factors such as future price movements. It was decided that the planned study could not satisfactorily assist the government in coming to a decision as to the feasibility of the proposed sugar beet industry.

"Although government has decided not to investigate the sugar beet industry further, your association can be assured that government is concerned with the supply of sugar and will ensure that consumers continue to receive adequate supplies of sugar at a reasonable price," he said.

### Phase out 900g pack

The NBA executive has written to the Honey Packers' Association asking for their support for the association's stand that honey packages should be in 1 kg multiples after 2 kg. The executive has also resolved that the association recommend the 900 g pack be phased out over a period of up to five years.

### 1978 Conference

The 1978 conference of the National Beekeepers' Association will be held in Hastings during the week July 25 to July 28, 1978. The Angus Motor Hotel has been booked as the conference venue. Tuesday July 25 has been earmarked for executive meetings and meetings between the HMA and NBA. The Wednesday and Thursday have been reserved for the conference.

### No new chemical warnings

The Agricultural Chemicals Board has turned down a 1977 conference request that the labels of toxic agricultural and horticultural sprays should communicate the danger of the chemicals to bees and the best methods of application and timing to minimise these dangers.

The board believes there are adequate label warnings and provided the user reads and follows label directions the chemicals can be used safely. The board specifies a minimum type size and in many cases it is impossible to use larger than the minimum because of the large amount of material which must be included on the label.

# SOUTHLAND FINANCIAL SURVEY

**This article by T.G. Bryant, apiary instructor and P.J. Hook, farm advisory officer, Ministry of Agriculture and Fisheries, Gore, is the second part of an analysis of a financial survey of beekeepers in Southland. The first article appeared in the June 1977 issue of the NZ Beekeeper.**

**The authors have disassociated themselves from our headline "MAF survey shows Southland apiarists sinking" and the first paragraph of the June article. They consider that both the headline and the first paragraph misconstrued the purpose of the survey which was to "define objectives and suggest recommendations as to when and where apiarists could improve their financial position during years of crop failure".**

**"From the table in this article," they explain, "it can be seen that in 1975-76 beekeepers were able to hold or trim costs in some cases, in spite of inflation. This year, after another poor crop, it is to be hoped that a similar trend has occurred."**

**The June article dealt with the position of the average honey producer and the problems facing the industry. This article compares the average producer-packer with the average bulk producer and analyses their respective strengths and weaknesses.**

## Bulk suppliers put producer/packers in the shade

ANALYSIS OF data collected during a detailed financial survey of 10 Southland beekeepers dispels some long-standing assumptions about the financial structure of the industry. The analysis also shows beekeepers do not appreciate the value of their accounts as a management aid.

Using data for the 1974/75 and 1975/76 financial years (Table 1) derived from actual book figures, the researchers have drawn the following conclusions:

- The volume of door sales has increased significantly, but this has been achieved mainly by those beekeepers able to give personal service to customers.

- Contrary to popular belief the bulk honey producer is better off financially than those packing more than 25 per cent of their crop and selling their honey on the local market.

- Fulltime beekeepers owning less than 500 hives generally achieve a higher return per colony than those with significantly larger enterprises. But while the expenses/colony of the smaller-scale beekeepers are on average higher, they are still left with a higher net return/colony.

- Less sugar is being used; 5.81 tonnes in 1975/76 compared with 11.20 tonnes in 1974/75. Hives are being wintered heavier than previously and beekeepers are taking greater advantage of available spring nectar flows. The survey has shown that, even with the high cost of running a vehicle, it is cheaper to move hives to a good nectar flow than take sugar to the hive.

- That either beekeepers are raising more queens themselves rather than purchasing queens, or alternatively less requeening is being carried out. We believe it is the latter and this could be detrimental to future production. If beekeeping is to remain profitable, production/colony must be lifted as costs/colony are rapidly catching up with income/colony.

- There is an increase in short term and long term indebtedness, due partially to a crop shortfall.

- In order to balance the books, beekeepers have accepted a lower standard of living by reducing personal drawings.

Other points of interest:

- That the bulk honey producer is more able to control expenditure than a producer-packer. The bulk honey producer is able to operate more colonies/labour unit, and his vehicle expenses per colony are considerably lower than those of the producer-packer.

- That in years of good honey crops some beekeepers stockpile beeswax as insurance against possible future crop failures.

It is obvious from the survey that production/colony must be increased. While more hives/labour unit is a means of reducing some costs, at the same time a greater return per unit is essential. A move towards larger hive holdings to increase income does not necessarily keep profitability at a reasonable level.

Beekeepers are able to reduce some expenses, in particular vehicle and labour expenses. For example if apiaries were enlarged (the average is only 19) this would reduce the distance travelled and travelling time, allow labour to be more fully utilised, and enable beekeepers to work more hives/labour unit. Those beekeepers who feed little or no sugar had considerably lower vehicle costs/hive even though they move hives to spring nectar flows. Their crops were also above the average.

More money should be invested in producing items (hives). The high capital cost of plant which is only used for a short duration each year and is duplicated by all producer/packers on the one hand, and all bulk honey producers on the other, is a very real and heavy drain on the industry's profitability. It is worthwhile asking the question "Are we beekeepers or processors?"

Those beekeepers who sell their honey on the local market must look more closely at their production, packaging and marketing costs if their businesses are to be as profitable as those of bulk honey producers. The price

obtained for the product must be related to costs with some margin for profit.

Beekeepers generally do not fully utilise or understand their accounts. The researchers suggest that beekeepers should remember accounts are not just for calculating taxation.

"You, as a beekeeper, can use them. Chat to your accountant and sort out the headings of use to you: For example, vehicle expenses, running costs, repairs and maintenance, electricity. Remember, you are probably the accountant's only beekeeper client. He may not know your business or your requirements unless you state them.

"You should keep a cashbook and record all money transactions in and out. Accounts figures are generally compiled only once a year. By using a cashbook you can perhaps carry out quarterly trial balances. After all, you want to know month to month what expenditure there was and what your income is. A 32 column cashbook is preferable; it enables you to itemise expenditure and income and to enter monthly subtotals."

Mr Hook and Mr Bryant advise beekeepers to ask their accountant to include the following items with their annual accounts:

- *A revenue statement:*
  This statement summarises the year's transactions and contrasts with the balance sheet.
- *A cash flow statement:*
  This gives a summary of all cash transactions and when completed it will enable you to reconcile the tax accounts with your working capital position.
- *A schedule of fixed assets and depreciation:*
  This is a list of plant and the book value is purchase price less accumulated depreciation.
- *A report on taxation:*
  This will show you how the tax was assessed and compares it with the provisional tax and shows how much terminal tax you will be required to pay at the end of the financial year.

"You should use a cash flow as often as possible, preferably every three months, but every six months is the minimum requirement," they advise. Cash flows are invaluable when asking for overdrafts or loans. They will allow bank managers and other lending institutes to see when and for what reason you are most likely to need cash. Also, they may show you have money to spend in order to avoid paying unnecessary tax."

**TABLE 1**

| | AVERAGE PRODUCER PACKER | | AVERAGE BULK PRODUCER | | AVERAGE OF ALL PRODUCERS | |
|---|---|---|---|---|---|---|
| | 1974/75 | 1975/76 | 1974/75 | 1975/76 | 1974/75 | 1975/76 |
| Number of Colonies | 687.4 | 693.2 | 1 092.5 | 974.6 | 867.4 | 918.9 |
| Labour Units | 1.2 | 1.2 | 1.75 | 1.4 | 1.3 | 1.3 |
| Colonies/Labour | 572.8 | 577.6 | 624.29 | 696.14 | 667.2 | 706.2 |
| Total Capital | 66 377.8 | 67 527.8 | 109 537.25 | 95 600.9 | 85 559.8 | 81 564.3 |
| Capital/Colony | 96.56 | 97.41 | 100.26 | 98.09 | 98.6 | 88.76 |
| Total Production | 25 100 kg | 18 000 kg | 45 168 | 40 294 | 38 464.2 | 35 947.1 |
| Production/Colony | 36.5 kg | 25.97 kg | 41.34 | 41.34 | 44.3 kg | 39.12 |
| Honey Income | 18 438.13 | 14 966.6 | 27 946 | 24 691 | 22 663.9 | 19 828.8 |
| Non Honey Income | 1 894.96 | 3 212.2 | 1 468.5 | 2 668.4 | 1 705.4 | 2 940.1 |
| Total Income | 20 333.05 | 18 178.8 | 29 414.5 | 27 359.4 | 24 369.3 | 22 768.9 |
| Income/Colony | 29.58 | 26.22 | 26.92 | 28.07 | 28.10 | 24.78 |
| Administration | 656.64 | 601.8 | 497.75 | 387 | 586 | 520 |
| /Colony | .96 | .87 | .46 | .40 | .68 | .57 |
| Crop Expenses | 2 899.42 | 2 023.83 | 3 276 | 3 704 | 3 066.8 | 2 864 |
| /Colony | 4.22 | 2.92 | 2,99 | 3.80 | 3.54 | 3.12 |
| Packing Expenses | 1 628 | 1 554.31 | 271.75 | 204 | 1 025.3 | 879.2 |
| /Colony | 2.37 | 2.24 | .25 | .21 | 1.20 | .96 |
| Wages | 3 631.06 | 2 336.2 | 3 924.75 | 2 511 | 3 761.6 | 2 423.4 |
| /Colony | 5.28 | 3.37 | 3.59 | 2.58 | 4.33 | 2.64 |
| Vehicle | 1 416.43 | 2 464.92 | 2 014.5 | 2 438 | 1 682.2 | 2 630.2 |
| /Colony | 2.06 | 3.56 | 1.84 | 2.50 | 1.94 | 2.86 |
| Other Expenses | 3 300.26 | 3 891.72 | 4 857.86 | 5 721 | 5 166.2 | 4 809.1 |
| /Colony | 4.80 | 5.61 | 4.45 | 5.87 | 5.96 | 5.25 |
| Total Expenses | 13 531.81 | 12 872.78 | 14 741.37 | 14 965 | 15 288.1 | 14 125.5 |
| /Colony | 19.69 | 18.57 | 13.49 | 15.36 | 17.63 | 15.37 |
| Surplus | 6 801.21 | 5 306.02 | 14 672.85 | 12 395 | 9 081.2 | 8 643.4 |
| /Colony | 9.89 | 7.65 | 13.43 | 12.72 | 10.47 | 9.41 |
| Standing Charges | 955.48 | 1 146.8 | 1 430 | 1 621 | 1 166.3 | 1 384.1 |
| /Colony | 1.39 | 1.65 | 1.31 | 1.66 | 1.35 | 1.51 |
| Personal Expenses | 6 135.76 | 5 931.6 | 9 915.13 | 7 534 | 6 633.93 | 6 738 |
| /Colony | 8.93 | 8.56 | 8.16 | 7.13 | 7.65 | 7.33 |
| Cash Surplus | - 290 | - 1 772.38 | 4 327.73 | 3 773.8 | 1 280.97 | 521.3 |
| /Colony | 0.42 | -2.56 | 3.96 | 3.87 | 1.48 | 0.57 |

# Bolger announces base price, other decisions pending

THE BASE price for honey supplied to the HMA during the 1978 season has been increased by the government to 81c a kg. The 1977 base price was 66c a kg.

In a letter to the chairman of the authority, associate minister of agriculture, Jim Bolger, said that if actual realisations are 81c a kg or less, the payout will be 81c, with any shortfall drawn from industry reserves. For realisations between 81c and 85c, the payout will be actual realisations.

If, however, realisations exceed 85c, the payout will be 85c plus 50 per cent of the amount by which the realisations exceed 85c. The money not paid out will be transferred to industry reserves.

The base price scheme is one of a number of government primary produce price stabilisation schemes which have been introduced at state behest. When announcing the details of the current scheme last year, Mr Bolger said the fundamental objective of government policy was that primary producers should receive a price for their product reflecting long term market realisations.

The Honey Marketing Authority and the National Beekeepers' Association made submissions to the minister before the 1978 base price was announced. The two organisations recommended base and 'trigger' prices close to those announced by the minister.

However, a recommendation that the cost price of honey into packs for the local market should be based on the expected payout by the authority, rather than the base price, have yet to draw a decision from the minister. Similarly, there has been no response to a recommendation that there should be an automatic review of the pricing formula if the differential between the local and export market prices for honey exceed 15 per cent.

Last year's base price was considerably lower than the actual realisations for export honey and a large differential developed between the base price and the price actually paid out to authority suppliers. However, government regulations used the base price, rather than the payout price, to determine the "cost price" of honey being sold on the local market. The result was that private packers were forced to sell their produce packed for less than what they could have obtained from supplying the authority in bulk.

It is expected the minister will make a decision along the lines recommended by the two organisations, for the following reasons:

- The large differential which developed between export and local market realisations last year resulted in a relatively small contribution to industry reserves, despite record overseas prices.
- A continuation of the present local market pricing regulations for honey will result in the collapse of the private packing sector. This is contrary to the wishes of the industry and conflicts with government policy in many areas.
- The failure of local market prices to even approximate export returns conflicts with the government's desire to encourage export production and its "fundamental objective" that primary producers should receive a price for their product reflecting long term market realisations.

# Contamination study approved

AFTER SOME initial rebuffs, the government has decided an investigation into possible toxic residues of agricultural chemicals in pollen and honey might not be a bad idea after all.

There is no scientific evidence that agricultural chemicals have ever contaminated NZ honey, but there is considerable concern among many in the industry that if there is contamination the industry should find it first. Of particular concern is what happens to herbicide-contaminated pollen when it is gathered into a hive.

Unlike pesticides, which are likely to kill contaminated bees before they get back to the hive, herbicides could conceivably be stored in a hive without affecting the inmates.

On September 1, Mr MacDonell MP for Dunedin Central, asked agriculture minister Duncan MacIntyre in parliament whether he would consider banning herbicidal sprays during the flowering period to prevent the possibility of contaminated honey.

In his reply Mr MacIntyre said the Apiaries Act prohibited the application of any substance toxic to bees to a whole range of flowering crops.

He went on to say he had no report of honey being contaminated by herbicides following field use of these chemicals and did not propose to limit the use of herbicides on flowering weeds.

However, on October 27, the associate minister of agriculture, Jim Bolger, informed the NBA that he was pleased to inform the association that it was possible to undertake a limited investigation into possible toxic residues of agricultural chemicals in pollen and honey.

In giving this advice he said the investigation must necessarily be limited because of the great pressure for similar kinds of work on the staff and facilities available.

# Tail-gate loader helps southern beekeeper

**In the December 1976 and March 1977 issues of the New Zealand Beekeeper, Murray Reid described two palletised systems for shifting beehives. In this article, Trevor Bryant of Gore describes another system.**

BRIAN RISK of Te Anau decided he wanted a loader which would allow him to move his beehives without the expense of the palletised system. Brian's situation isolates him somewhat from other beekeepers. He is a one man band and Brian wishes it to remain so, as labour can be a problem.

Modern farming methods and the settlement of Lands and Survey blocks in the area, have considerably reduced the amount of spring nectar and pollen sources necessary for building up hives in the spring. This means that bees need to be moved to areas where pollen in particular is available and in early December hives returned to their sites on good white clover pasture.

In choosing his loader, Brian had several criteria in mind: Weight of loader, loss of deck space, portability and a loader which would not involve his having to make structural changes to his existing truck bay in the honey house.

After looking at the numerous alternatives and types of loaders he chose the tailgate loader. The loader, manufactured by Walto in the U.S.A., was imported from Australia.

Unlike most tailgate loaders and particularly those manufactured in New Zealand, the one Brian required folded away under the deck. New Zealand manufactured loaders swing upwards, hence the name "tailgate", the disadvantage of these is when unloading from a truck bay they become an extension of the truck deck. This would have meant extending the loading bay, which Brian wanted to avoid.

The fold-away type is just that and unless one knew it was there it looks like part of the truck and in no way interferes with everyday use of the vehicle.

Brian ran into all sorts of problems in dealing with the red tape to get the machine into the country, and Kevin Eckroyd of Alliance Bee Supplies proved a great help in finally getting the loader into the country.

Brian's truck, a Ford D1010 diesel, has a deck 5.195 metres long and required very little modification to fit the loader. With the help of a local engineer, the loader was no trouble to put on to the truck, and modifications were minimal.

When delivered, the loader came complete with an excellent instruction booklet which catered for all eventualities and made the fitting simple. Minor problems were: the tapering of the two rear chassis members to accommodate the loader in its fold-away position to conform with Ministry of Transport warrant of fitness


*Tailgate loader lowered and ready for action.*

standards. Also the rear tail lights and number plate had to be moved closer to the rear of the vehicle.

The existing tail door was cut in half and swung from each side. The approximate cost of the loader fitted was $2 000.

Its specifications are: Weight 226.8 kg; lifting capacity 725.8 kg; a small deck extension of 25.4 cm; the lifting platform is 91.44 cm x 182.88 cm and is tread patterned to give greater footing.

Operation is by a single action hydraulic ram powered by an oil pressure pump, in turn operated by an electric starter motor, the power to this is supplied by the 12 volt truck battery.

A small lever at deck height activates the loader with an extension lever that can be fitted to enable the operator to lower the platform from the deck without bending.

In the field, Brian robs the honey and stacks the full supers on pallets five high. These are barrowed to the platform, raised and then wheeled into position for transporting to the honey house.

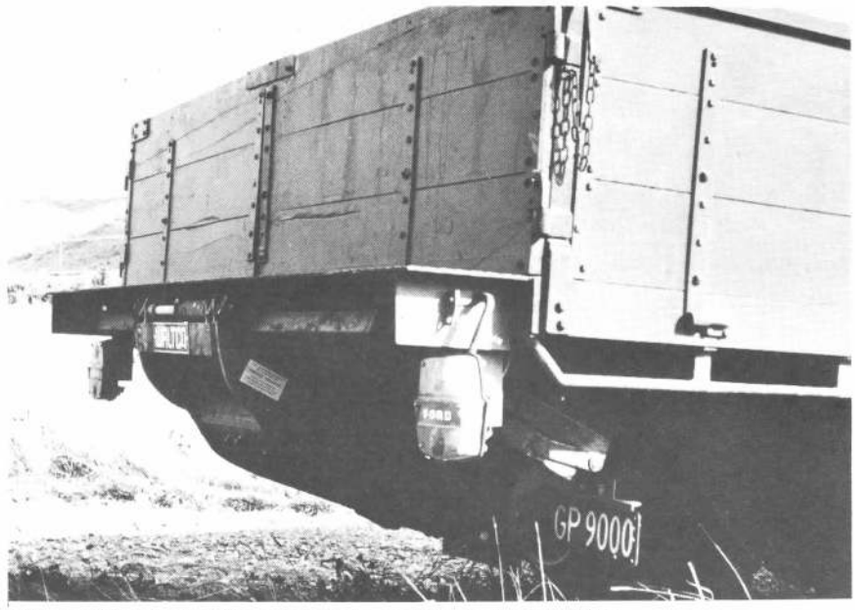
The loader will lift three pallets of five full boxes comfortably, though four pallets have been lifted. It will lift two 200 litre drums with ease and when moving bees, six hives doubled up are placed on the platform, lifted and wheeled into position.

Brian has found the loader performs well in most situations, but in undulating country he makes sure the front of the truck is lower than the rear to prevent hives tumbling from the platform as it is being raised.

The deckspace of Brian's vehicle allows 44 hives with telescopic lids to be carried on the deck, or 88 doubled up.

With migratory type lids this could be increased to 55 hives or 110 doubled up.

The biggest disadvantage with this loader is that hives must be doubled up by hand if a full load is to be carried. The barrowing of hives to the loader is not particularly easy, especially in seasonal




*The loader in folding position, ready for travelling.*

apiaries, where clumps of grass and hollows in the ground make spillages common.

In Brian's opinion, these disadvantages are far outweighed by the loader's many advantages:

- ☐ The loader is relatively light and the truck's unladen tare is increased to only 4460 kg.
- ☐ The additional weight on the rear of the vehicle has increased its traction on wet slopes (a common fault with forward control vehicles is their propensity to get easily bogged or just spin their rear wheels on dewy slopes).
- ☐ The loader is out of the way when not in use and can be readily activated.
- ☐ No deck space is lost.
- ☐ It is easy to operate and is cheaper to purchase than most other forms of mechanical loaders.

Most importantly to Brian, because of its simplicity there is very little to go wrong and provided the battery is well-charged he should not be left in the lurch too often. In his own words "If it can't be fixed, I can still load by hand, something you cannot do if your hives are attached to pallets".

*Brian Risk wheeling hives into position off the loader and onto the deck. Daughter Cora gives Dad a hand.*

# BETWEEN THE COMBS

## ANTIBIOTIC–FREE HONEY

Bees can be treated with antibiotics for disease control, using antibiotic extender patties, and still produce antibiotic-free honey.

These findings should clear the new disease treatment method for commercial use. Antibiotic use is necessary to protect bees from colony-killing diseases. The antibiotic extender patties were made from sugar and non-medicated petroleum jelly or vegetable fat, to which two level teaspoons of the antibiotic, Terramycin, was added. Extender patties greatly cut labour and transportation costs in administering antibiotics to bee colonies.

Invertebrate pathologist William T. Wilson, entomologist James J. Lackett, and technician James R. Elliot at the ARS Bee Laboratory (University of Wyoming, Laramie, WY 82071) developed the patties and proved their effectiveness. However, questions arose as to whether or not this new method would result in antibiotic contamination of honey.

Seeking answers to these questions, Dr Wilson treated nine colonies of Italian-stock honey bees in the spring with antibiotic extender patties or with conventional antibiotic dusting treatments. Three colonies were treated with patties in both spring and summer. Honey taken from the "supers" and extracted and marketed commercially, remained contamination-free regardless of application method, duration of antibiotic treatment, or season applied. Some residue did occur in the brood nest honey (less than four parts per million), but this honey is used by the bees for themselves and is not generally processed for consumers.

## STORING BEE SEMEN

Progeny have been produced from honey bee sperm stored in liquid nitrogen (—320 deg. F). For American scientists, this storage capability may lead to a great expanded inventory of breeding stock.

Liquid nitrogen is a long-term storage medium used for semen from cattle, humans, and a few other animals. Cattle semen has been stored in liquid nitrogen for as long as the technique has been used — about 20 years.

Entomologist John R. Harbo of the Bee Breeding and Stock Center Laboratory (Route 3, Box 82-B, Ben Hur Rd., Baton Rouge, LA 70808), reports storing bee spermatozoa in liquid nitrogen for 48 hours.

"Forty-eight hours is not a long storage duration," says Dr Harbo. "Well-established storage techniques at non-freezing temperatures are more practical when storing semen for only 48 hours. But the 48-hour storage in liquid nitrogen is significant because it shows that bee spermatozoa can survive the harsh transition into and out of extreme cold. Hopefully, bee sperm, like cattle sperm, can survive in liquid nitrogen for many years as easily as it can for 48 hours; only time will tell."

The key to success was the chemical DMSO (dimethylsulfoxide) DMSO somehow protects the sperm cells from the extreme cold. Eye markers were used to prove the progeny came from the frozen sperm. Virgin queens carrying the eye marker gene, snow, were inseminated with previously frozen semen from drones with tan eyes.

Worker and queen progeny with red eyes indicated that these bees had inherited the snow gene from their mother and the tan gene from the frozen sperm.

If storage for two years or more is successful, laboratory labour for propagating and maintaining the live colonies will be replaced in part by sperm storage and record keeping, thus reducing operating costs and permitting a great increase in the storage capabilities at the laboratory.

## SHIFTING CUTS STORES

Colonies of honey bees that are moved in late autumn may need more sugar as supplemental food for wintering than colonies left undisturbed.

Moving causes colonies to break their tight cluster, become excited, and lose heat, says American entomologist Floyd E. Moeller (Department of Entomology, University of Wisconsin, Madison, WI 53706), who conducted experiments in cooperation with the Wisconsin Agricultural Experiment Station. Colonies that he moved once in late November consumed 30.4 kg of honey in winter and early spring compared with 25 kg consumed by undisturbed colonies. Colonies that he moved twice consumed 34 kg.

Dr Moeller also measured effects of moving colonies 13 to 21 miles in early July. The bees lost foraging time during the first week after moving while they oriented to clover fields similar to fields from which they had moved. Their disorientation was reflected by a smaller weight gain of the colonies compared with gains of other colonies that were already accustomed to foraging in the same fields.

Colonies that Dr Moeller moved twice in the same evening — to new locations and back — stored as much honey as colonies that he did not move. Moving bees on two successive evenings to new foraging areas caused colonies to store less honey than colonies that were moved to only one new foraging area.

Beekeepers move colonies to obtain maximum pollination of a crop or to increase honey production. Before moves are made to increase honey pro-

## BIOLOGICAL CONTROL OF FOULBROOD?

A mould of the family of penicillins (Penicillium wakesmani) was found to be able to develop on the AFB scales; this causes the scales to detach themselves from the cell wall, and bees are able to remove them. The development of the mould itself stimulates the bees to remove the scales: They consider them as a foreign matter and act accordingly. The cleaning behaviour in combs infected with American foulbrood includes inter alia the reduction in height of cell walls, this being also stimulated by the presence of the mould.

Research is being made for determining the actual value of the mould as a biological control (S.F. TUTT and W.T. WILSON, J. Invert. Pathol. No. 3/1975).

duction, says Dr Moeller, beekeepers should consider whether the bees' loss of foraging time will be more than offset by forage quality of the new bee pasture.

*Editor's note: Months refer to Northern hemisphere seasons.*

## IMITATION HONEY

Imitation honey is no longer something to worry about in the future — it's here! Rich-Federal Foods of Buffalo, New York, says its imitation honey, called Bee Rich, has all the characteristics of pure honey, including flavour, bouquet, humectant (moisturising) properties, and high heat stability. The colour and viscosity are almost identical to those of pure honey, but the product will not crystallize and will not bake out.

The description of this product in *Food Engineering*, July, 1976, did not mention how it is made. In 1972, however, Romania issued a patent for a man-made honey produced by inverting sucrose with lactic acid at 100° C. for 90 to 150 minutes. A water extract of corn pollen was added to provide a honey-like flavour and aroma. The taste and physical properties of this product are reported to be nearly identical to those of honey.

Fuji Oil Company has also entered the honey market with a method for producing a liquid with a honey-like flavour. They cook dihydroxyacetone, phenylalanine, sugar, and water for 30 minutes. The final product is a fluid much like honey with the aroma of heather.

## NEW IBRA REPRINT

"The past and possible future spread of Africanized honeybees in the Americas" by O.R. Taylor (Reprint M89) is a wide-ranging survey giving up-to-date authoritative news of the hybrid descendants of the Central African honeybees introduced to Brazil in 1956, and the European honeybees previously in occupation in South America. Many sensational stories have been published, but this is a cool appraisal by an ecologist appointed by the US Department of Agriculture to monitor the spread of these "Africanized" bees in the Americas. His assessment of their rate of progress towards the USA, and their likely spread within that country, is based on all the information so far available.

One map shows the spread through South America to date; three others indicate possible routes of most rapid movement through Central America and Mexico, and the line that may constitute their northern limit in the United States.

Price 35p (or $0.65), plus 10p ($0.20) postage, from International Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 ONR, England.

## BEE KEEPING UNIT

The British Ministry of Agriculture's bee keeping unit, recently moved to Luddington experimental husbandry farm, near Stratford-on-Avon, Warwickshire, will be carrying out development and research work affecting many aspects of bee keeping which are likely to influence not only the advice given to bee keepers, on subjects such as bee management, housing and disease, but also that given to fruit growers and arable farmers on problems of adequate pollination.

Initially the unit has been planned as the base from which a small commercial unit of some 100 colonies can be operated.

## NEW PUBLICATION CATALOGUES

The International Bee Research Association has just issued two new catalogues, both with full descriptions of each entry.

List 1: "Publications of the International Bee Research Association" has 92 titles in print.

List 2: "Book Selection of the International Bee Research Association" describes 62 recommended publications on beekeeping topics, issued by other publishers throughout the world. IBRA stocks these publications for sale, many of them being difficult to obtain outside the country of origin.

Copies of List 1 and List 2 can be obtained from the International Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 ONR, England, for 25p. There is no charge to members of the association.

# NBA BADGES RE-STRUCK!

## ONLY $5 EACH

The original NBA badge, thought to have been first struck in the early 1920s, has been re-struck by the Otago Branch of the NBA, to commemorate the holding of the 1977 conference in Dunedin.

Although some copies were sold at the conference, a breakdown in the manufacturers' machinery prevented more than a few fortunate beekeepers from obtaining one.

A beautiful example of the badge-makers art, the NBA badge is now widely recognised as the mark of the well-dressed and distinguished beekeeper.

If you wish to become one of the hallowed ranks of distinguished beekeepers, send your $5 and return address to:

**Mr J. Garraway,**
**28 Main Rd,**
**Brighton,**
**DUNEDIN.**

# Bee more successful with printed Lily cartons


## To bee more successful and to increase your sales, sell your honey in attractively printed Lily cartons.

■ Printed paper cartons offer you a bright attractive package for maximum sales appeal on retailers shelves.

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■ Lily cartons are made in New Zealand under the authority and supervision of Lily Tulip Division, Owens, Illinois, U.S.A.

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# HONEY FOR HEALTH

by David Williams

IT IS A LITTLE unfortunate that honey and health are almost in the realms of the radical faddists. Honey is a good energy food, easy to assimilate and pleasant to eat, but why would our local supermarket have cappings for sale at 98 cents per very small jar? Cappings are the wax coverings with which the bees seal the honey in the comb.

Upon enquiry, I am told that sinus sufferers buy them. The theory seems to be that the honey and wax residue contains pollen grains from local plant species which set up a slight allergic reaction when chewed. This reaction is not enough to bring on a significant attack, but is enough to alert body defence mechanisms.

I have a nasty, suspicious mind. I also suffer from sinus troubles when exposed to paint fumes or dust clouds. I don't propose to eat paint, even in small quantities, but the old saying 'You eat a peck of dirt before you die' must be true. Every breath we take in contains innumerable motes of dust. Why is there no protection from a dust reaction?

The same supermarket has pollen for sale at over five times the price of honey. Nicely packed in little glass jars, the contents are *almost* guaranteed to cure sterility, acne, palpitations, loss of energy, falling hair, fallen arches and scribbler's itch.

In beekeeping, pollen is a growth substance necessary to the larvae to enable them to grow through the various stages and assume their adult shape.

I like my size and shape the way it is, don't like the taste of pollen, and cannot see why the public should pay more for pollen than for steak, when both are protein and little else. Away with old wives' tales. If the old wives want to, let them eat pollen.

**What cures acne, palpitations, fallen arches, sterility and scribblers itch?**

Logically, if nectar and pollen are so good for humans, why not go right back to the source and eat the flowers? By doing this it is possible to ingest all the goodness promised and a host of unheard of trace elements, all doing us more good than we deserve.

Imagine munching a few choice blossoms, or chasing blossoms through the boughs in spring and so getting exercise and nourishment at the same time. The exercise in climbing the tree, the nourishment in the blossoms and assorted leaves, all adding up to bulk, roughage, carbohydrate, protein, dilute chemicals in solution. A real gourmet's delight.

If you are not prepared to go to this extreme, then you may have to deal with the agents after all. The answer here is to allow the bees to do the gathering and then to eat the bees. All you have to do is catch them.

Imagine the advertisements for the commercial product: "A tasty morsel, full of delicately flavoured ambrosia. lightly dusted with nature's magic, prepared for your individual taste buds, untouched by human hands. Contains no artificial flavours, preservatives or colourings" and then, in very small print "Eat head first."

You cannot say it is wrong, or even grossly inaccurate, and it might be just what the market is waiting for.

Is there any other way? Not perhaps in New Zealand, although we do have a starling that eats our bees here. However, remembering that early vaccines were made by infecting animals and then innoculating humans with the antibodies produced (which may still be the case for all I know, and all those gleaming chemical labs and white-coated technicians merely a glamorisation of the process), why not allow some extraneous agency to ingest the bees and then ingest the agency oneself? In the United States, for example, predators of bees are bears and skunks, so that all one has to do there is to catch one of these and eat it. Hey presto! Instant relief.

With which whimsical thought we must close. And not a moment too soon.

# HMA REPORT

## PAYOUT

The final payout for the 1976-77 season for 100 point honey is 15.292¢, making a total payout of 75.292¢ per kg. This has been made possible by the continued efforts of the general manager in obtaining the best prices for our honey. However, it must be appreciated that had the authority not been held down by Price Stabilisation Regulations on the local market this payout may well have been more. In addition to this payout by the authority, a further contribution of $65,145 was made to stabilisation reserves.

The 75.292¢ is in effect the net payment to suppliers and the following figures indicate what a supplier would have grossed for 100 point honey in the 0 - 9 mm colour range if delivered to the authority before the end of April:-

| | per kg. |
|---|---|
| Payout points 100 | 75.292 |
| Premium bonus | 1.00 |
| Pre-weigh bonus | .308 |
| Early delivery bonus | 1.00 |
| Freight & Freight rebates | 2.340 |
| Containers supplied | 5.150 |
| Total gross return to supplier | 85.090 |
| Contribution to reserves | 3.7 |
| Total return | 88.790 |

| | per kg. |
|---|---|
| Payout points 100 | 75.292¢ |
| Premium bonus | 1.00 |
| Pre-weigh bonus | .308 |
| Early delivery bonus | 1.00 |
| Freight & Freight rebates | 2.340 |
| Containers supplied | 5.150 |
| Total gross return to supplier | 85.090¢ |
| Contribution to reserves | 3.7 |
| Total return | 88.790¢ |

Taking all these factors into consideration there is a lot to be said in supplying to the authority. Even if you do not produce the top grade honey the additional monetory incentive paid to suppliers is not insignificant.

## PRIVATE EXPORTS OF BULK HONEY

Remits 12 and 13 of this year's conference dealing with this matter were referred to the board by the association's executive, and after some lengthy discussion of the problems associated with it, especially in the area of contributions to the reserves on an equal basis with suppliers to the authority, the board agreed that the matter be referred back to the association indicating the areas of concern and suggesting that they circulate their members on the point raised seeking their submissions on how these problems may be overcome.

*Horse Chestnut Flowers*

# Trees and shrubs for bees

by V.A. Cook, Apiary Instructor, Ministry of Agriculture and Fisheries, Oamaru

THE MAIN source of our honey crop is white clover, and surplus honey is also obtained from a number of wild flowers, trees and shrubs. However, a wide range of nectar and pollen sources is needed to provide food for honey bees during the spring and early summer. This is because honey bee colonies have to be able to breed at a fast rate to produce the thousands of bees needed to gather the main honey crop, and to pollinate fruit, vegetables and seed crops.

The nutritional requirements of honey bees are carbohydrates which they get from nectar (the raw material of honey) water, and proteins, fats, vitamins and minerals which they obtain from pollen. Worker bees gather pollen from the anthers of flowers, pack it into 'baskets' on their hind legs and carry it back to their hives. The pollen is moistened with nectar or honey and stored in the combs.

Adult bees usually eat pollen but they can, if necessary, survive on

*Black Locust Blossom*

carbohydrates alone. But proteins and the other constitutents of pollen are essential for the rearing of immature stage bees. When nurse bees consume pollen, glands in their heads secrete royal jelly which is fed to all larvae for the first three days of life, and to the queen throughout her larval and adult life. Colonies of honey bees each consume on average 35 kg to 40 kg of pollen each year.

Outside honey flow periods, honey bees can be given food to supplement their natural diet. This is given in the form of sugar (sucrose) which is usually mixed with water and fed as syrup, and pollen supplements which consists mainly of protein rich soya bean flour. Sucrose syrup is a satisfactory carbohydrate food for honey bees but none of the pollen supplements so far developed equals natural pollen. And both products are expensive. It is preferable, therefore, for honey bees to have adequate supplies of nectar and pollen.

Unfortunately weed control, bush clearance and higher stocking rates tend to reduce the amount of minor nectar and pollen sources. The interest now being shown in the establishment of shelter belts and ornamental areas is most welcome and opportune. It provides an opportunity for farmers, the various organisations engaged in tree planting, and beekeepers to include in their planting programmes species which not only have beauty and give shelter, but also provide nectar and pollen for honey bees.

The following is a general list of spring and early summer flowering trees and shrubs which can be usefully grown for honey bees in most parts of New Zealand. More detailed lists for particular areas can be obtained from MAF district apiary advisory officers.

### SPRING

| | |
|---|---|
| Tree lucerne | Cytisus proliferus |
| Willows | Salix caprea |
| | S. baylonica |
| | S. fragilis |
| | S. incana |
| | S. booth |
| | S. daphnoides |
| | S. viminalis |
| Five finger | Neopanax arboreum |
| Kowhai | Sophora microphylla |
| Prunes | Prunes sp. |
| Wattles | Acacia sp. |
| Prostrate rosemary | Rosemary officinalis prostratus |
| Eucalyptus: | |
| White iron bark | Eucalyptus leucoxylon rosea |
| Cider gum | E. gunnii |
| Snow gum | E. pauciflora |

(Note: the flowering periods of eucalyptus species vary according to locality and season).

### EARLY SUMMER

| | |
|---|---|
| Sycamore | Acer pseudoplatanus |
| Horse chestnut | Aesculus hippocastanum |
| Rosemary | Rosemarinus officinalis |
| Rowan | Sorbus aucuparia |
| Native flax | Phormium tenax |
| Cabbage tree | Cordyline australis |
| Black locust | Robinia pseudoacacia |
| Kamahi | Weinmannia racemosa |

# THE COMPLEAT AMATEUR

**Being an truthful account of the trials and tribulations, the failures and rare triumphs of one honest, if unskilled, labourer in the ancient and honorable art of apiary during one annum.**

*Rotorua. Anno Domini MCMLXXVII.*

January: Left hives alone, being hopeful of good harvest. Hope springs eternal in the human breast!

Jan. 30 Sunday: Returned from beach late. John Harris rang, had bees in starling box. Unwired box, brought it back home, put hose in entrance to cluster bees, took top off, threw bees, nest and all on landing board to spare hive. Returned nesting box.

Feb. 2 Wed.: Examined. Perhaps two frames of bees, eggs laid solid in centre of three combs. Honey and pollen coming in, Queen seen. Obviously set on getting established.

Feb. 8: Swarm in Kibblewhite's phebelium. Collected after dark, threw it on landing board of prepared hive. Swarm spent night clustered on front, swarmed to nearest tree in morning. Was recollected and settled in grapefruit — four times! A real shambles. Finally lost temper and flung in top of starling bees, and let them fight it out. Took a couple of days to settle down, but in!

Feb 13: Talked on Autumn requeening and queen cell check, interested some of beginners. At least nobody said I was wrong. Demonstration of fuming — benzaldehyde versus carbolic. Both cleared supers nicely, but not much honey on either hive.

Feb. 16 Wed.: Slipped up road to check other two hives. 2½ supers full on each. Amazing considering history was identical i.e. split and requeened last March.

Feb. 23 Wed.: Everything happens at once — Post Office rang 7 am to say queens arrived. A little earlier than I like but they look good. White's still using wood cages — looks like mangeao or pukatea. Took afternoon off and requeened, using last year's plastic cage and some very sloppy candy and one of last year's queens on starling box bees. Rest went well. Started 12.45, finished five hives at 2.05, and a good chance to check on stores; three adequate, one to keep an eye on and starling to feed up.

March 4 Fri.: Checked starling bees, new queen accepted and working well. Checked other stores, no change — proves what I've always said, that anything you have't got by the end of Feb., you haven't got around these parts in spite of fine weather. Suddenly realised haven't used gloves or overalls all year. Lucky.

March 9 Wed.: Ruth Gadgil proudly showed me her bee sting, the first since she started her course of injections of which she has now had 15. Only slight reaction so delighted.

March 15 Sun.: Amateur Beekeeping Club meeting. General discussion on honey, requeening, etc.

March 17 Thurs.: Russell Hume, just up from Wellington, rang, couldn't find old queens in his hives. Neither could I, but did find in one of the two hives on third try, other hive most odd with a few scattered eggs and some pale, half-sized workers wandering around like dwarfs.

March 18 Fri.: Lady rang. She had bees in her roof. Would I please come and take the queen away? Were wasps. Sprayed.

March 20 Sunday: Bottled rest of honey, getting fairly soupy in barrel, about 200 kg for season. Washed everything, cleaned up, put fresh paper down. Should produce all sections and save mess. Local health shop has them for $1.50. Might be worth it.

March 26 Sat.: First cool snap for year. Closed hives down, extra honey in, entrances closed to 50 mm.

April 17 Sunday: Bee meeting. Talk of films we can get and spring queen breeding proposals etc. News of pollen at $2.95 per 100 gm. at local supermarket and cappings (cappings, mind you!) at almost a dollar. I've got a fortune sitting out in the honeyhouse.

April 25 Anzac Day: Young Ivan proudly trampled grass all through the house to tell me he'd killed seven wasps at the beehives.

May 2 Mon.: First good frost. That should keep the wasps down a bit.

May 22 Sun.: Wasps still very active in spite of vicious frosts. Beat half a dozen of them round the head with a newspaper. Very satisfying. Bee Club meeting. Sounds as though we'll all be

| | |
|---|---|
| | breeding black bees to beat the wasps if this goes on. |
| June 6 Mon. | Queen's Birthday. Two beautiful trailer loads of well-rotted chicken manure. Bees loved it! Settled all over and buzzed happily, horrible little coprophiles! |
| June 7 Tues. | Reject from American Bee Journal saying my article making mock of munching pollen and sucking royal jelly "might upset some readers" — which is what it was supposed to do! |
| June 14 Wed. | Nice mild day, bees happily working camellias, proteas, etc. in large numbers — could even hear hum in garage. |
| June 16 Thurs. | Cutting in local paper — schoolchildren in Mangere will be able to borrow beehives, ducklings and geckos for the weekends when a pet library opens there. Imagine taking a hive home for the odd day or so. The mind boggles. |
| July 1 Fri. | First colour on wattles. |
| July 8 Fri. | Showing of three films from National Film Library, one English on bumblebees, one American, one Japanese, an artistic and scientific triumph. Shows bees in detail we've never seen before. A must for every bee club. |
| July 23 Sat. | Been a warm, wet winter so far. Wattle well out, first plum blossom. Bees romping through stores, must keep an eye on them. |
| Aug. 7 Sun. | Club meeting. Members decided to publish a newsletter to keep everyone in touch. Good idea. Not everyone can get to meetings. |
| Sept. 4 Sun. | Another club meeting, mostly on queen rearing. Very interesting. |
| Sept. 10 Sat. | First fine day for months. Looked through my five hives and not a bee sting raised in anger. Just how we like it. Two had ten frames of eggs and brood, three of honey, two were medium colonies and needed a bit of extra, but the fifth was crammed top to bottom with brood and perhaps 1½ frames of honey. Took off an 8-frame nuc and gave 4 full frames honey. All had clean boxes and floors given. |
| Sept. 1 Sun. | Alan Warren up to take photographs of queens and drones. He still hasn't realised bees sting and does things I wouldn't dare. |
| | Made up two 3-frame nucs from home hives. Will give queen cells tomorrow when settled. |
| Sept. 19 Mon. | Gave queen cells, left one in the 8-frame nuc of 10th, but the one photographed the bees had broken down. Over exposed? Or did blowing on it to clear the bees away give it strange non-hive scent? |
| Oct. 2 Sun. | Bee club meeting. Always interesting but not much new this time — weather far too wet to do anything. |
| Oct. 3 Mon. | Visited Hamilton, saw Disabled Citizens' hives, pollen traps, solar wax melter. Very neat effort and very reasonable prices. |
| Oct. 9 Sun. | Looked through three home hives. In perfect condition. Left 3 nucs for another fortnight. |
| Oct. 19 Wed. | Looked through 3 nucs and the one hive with last year's queen after work. One nuc had occasional egg, or 3-4 in few cells. Virgin killed on mating flight? Could be, or they should have made another. Other 3-frame nuc beautiful — lovely lemon-yellow queen, two frames sealed brood, others coming on. Combined two with newspaper. |
| | 8-frame nuc, superb! Romping ahead, lovely new queen. Gave second box with spare honey. |
| | Last years, two boxes full of brood and pollen. No sign of queen cells. Gave third box, 8 frames foundation, two outer ones of honey. Should be good. |
| Oct 29 Sat. | First real day of summer we've had. Looked through everything. Everything —ta! —ta!—ta! is beautiful. |
| Oct. 31 Mon. | Ray Collett, Club President, rang. It's swarming time again for all those who don't read the Beekeeper or don't take it seriously enough if they do. He now has eight colonies instead of six. |
| Nov. 2 Wed. | First brood of starlings hatched in our box. Also first mother starling pinching our bees. Quick glide down, quick hop on landing board, grab, spring back, on to next hive, and back to nest with a beakful of juicy bees. Maximum reward for minimum effort. |
| Nov. 6 Sun. | Amateur beekeeping club visit to Arataki at Waiotapu. Fantastic! Great show by Wick Baker who knows more about beekeeping than all the rest of us put together and who does more beekeeping in a day than the rest of us together do in ten years, and Dawn makes a pretty good ginger loaf too! |
| Nov. 12 Sat. | Queen cell check. Everything fine. |
| Nov. 26 Sat. | Full re-arrangement of all hives. Everything fine. A couple still only moderate sized, but building up. Put on queen excluders and piled up the supers. Here's hoping this is the year we've all been waiting for! |

# SENCO

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**Christchurch**
3 Garlands Road, Woolston, Christchurch. Phone 897-091

# Readers' queries

**Mail your questions to: "A Fresh Start", 26 Otonga Road, Rotorua. They will be answered by Mr Williams personally and suitable ones submitted for publication.**

*Further to the enquiry of D.J.S. Ingram on queen supersedure (March issue) the following letter from Dr Keith Doull will be of interest to all readers:*

Dear Mr Williams,

The disappearance or supersedure of young queen bees is frequently the result of the queen being infected with Nosema disease. This is well documented in U.S.A. In one study I found 25 per cent of queens infected and in most cases they disappeared within seven to 14 days after introduction.

In my experience a queen that begins to lay and then subsequently disappears has almost certainly been infected with Nosema disease. Considerable variation occurs in the ability of the queen to continue egg-laying after infection. Some supersede early at low levels of infection while others persist for a long time.

Infection of nurse bees has adverse effects on their ability to secrete food for larvae and for the queen and this too can have an effect on the survival of the queen. I expect that your correspondent's colony which had become queenless would have an abnormally high proportion of infected bees and would not have been able to rear queen cells.

Alternatively the queen although infected would have still produced enough queen substance to prevent the construction of queen cells and I would expect that brood production would have been very low immediately before her death.

Brood and eggs on two or three frames would mean an oviposition rate of no more than 500 to 700 eggs a day at the very most, so after three weeks the population of new bees would be very small and the queen could easily control this population.

Queen breeding is an activity that leads to continuous stress on colonies and Nosema was at comparatively high levels in all the queen breeding apiaries I examined in California in 1961. I believe that this is one aspect of beekeeping where the use of antibiotics may be justified.

Yours,

**K.M. Doull**
**Senior Lecturer in Entomology,**
**Waite Agricultural Research Institute,**
**University of Adelaide.**

Dear Mr Williams,

I have been very interested in trapping pollen and after reading your recent article in the "New Zealand Beekeeper" was wondering if it would be possible for you to send me a sketch of your pollen trap.

Yours,
**L.J. Pedlow,**
**Napier**

*The sketch and pollen trap originate with:*

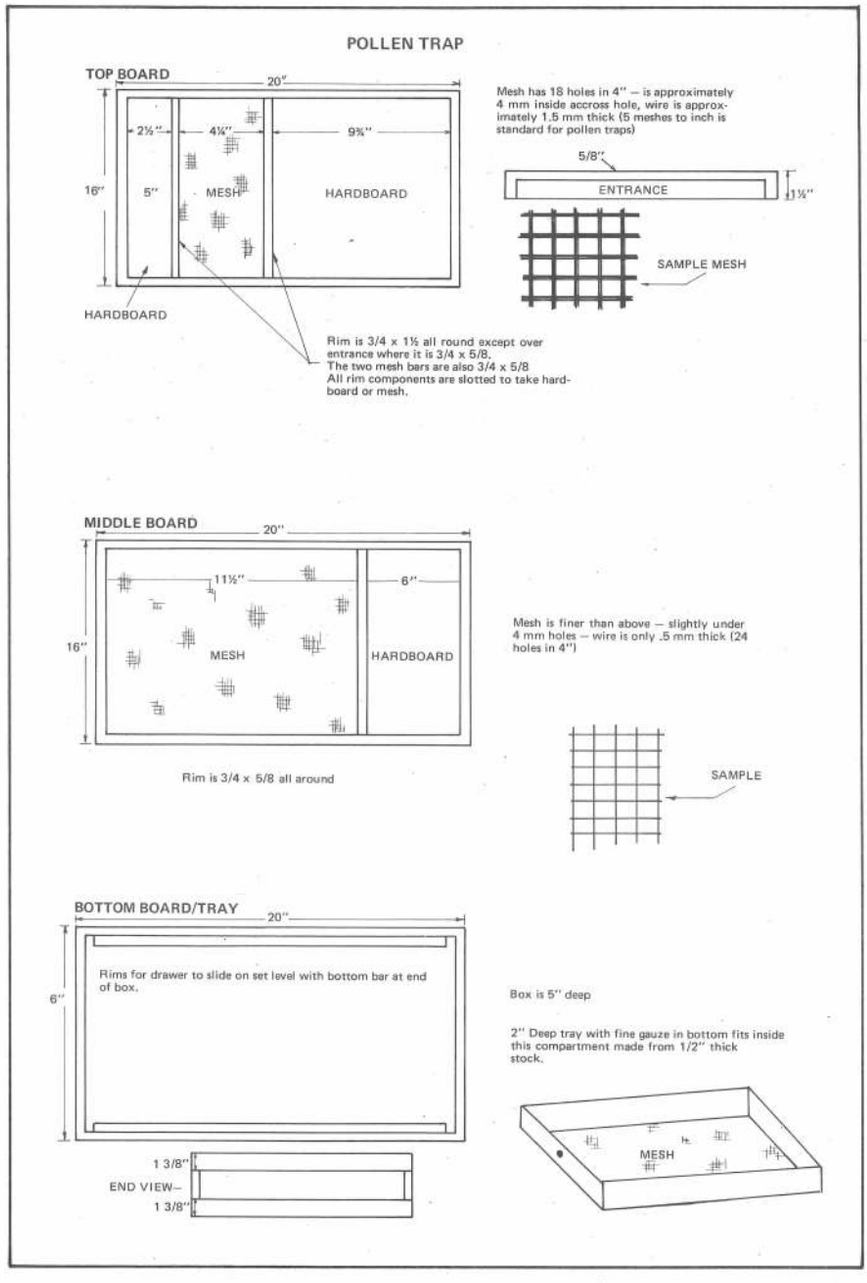
*Bruce Rae, 35 Bell Rd, Rotorua.*

*who would, I am sure, be only too happy to answer any further queries you have on it.*

*I would be most interested to hear how you get on, as would readers.*

*I also enclose a price list from The Disabled Citizens Society (They advertise in the NZ Beekeeper), in case you decide to save time by buying instead of making!*

*Yours,*
*David Williams*



# BOOK REVIEWS

## GUIDE TO BEES AND HONEY

**by Ted Hooper,** *Blandford Press; $13.50*

COMING SO soon after Frank Vernon's "Teach Yourself Beekeeping" leads to inevitable comparisons between these two English publications but, happily, neither suffers by comparison. Both have the same faults and the same virtues, Vernon's is soft-covered and this is hard, both are recording the change in beekeeping from art to science without quite managing to break away from the past.

There is still this terrible dichotomy in English beekeeping between what is known about the bee and what the grass-roots practitioners do with this knowledge.

Nevertheless, Ted Hooper's book has a solidity and attention to detail that is most commendable.

Anything strange to our way of thought tends to be regarded as being wrong. Thus his advocacy of peculiarly attenuated Hoffman frames, of frame sizes differing from the Langstroth, of frame spacers, of brood spreading, of foundation making, of queen rearing, and a host of other major and minor facts and aspects that are not part of the New Zealand scene do seem wrong — and in many cases are.

If one could take this book and superimpose our own meagre "Beekeeping in New Zealand" upon it the result would be superb. As it is the reader will have to do this transposition for himself, which will prove an interesting and useful intellectual exercise.

So the verdict on this book must be — good all the way, but a little foreign to our ways. And we can be grateful that we do not have all the enemies of bees he describes here so graphically — rats, mice, children and green woodpeckers!

*Reviewed by David Williams, Rotorua.*

## DISCOVERING BEEKEEPING

*by DAPHNE MORE, published by SHIRE PUBLICATIONS Ltd., Cromwell House, Church Street, Princess Risborough, Aylesbury, Bucks. HP 17 9AJ UK. 40 pages text, 8 pages plates.*

*". . . . . more, more I prithee, more. . . . "*

This was the reaction of Jaques to the song by Amiens in the Forest of Arden (Shakespeare's AS YOU LIKE IT). If the reaction followed the reading of

**DISCOVERING BEEKEEPING**
**by Daphne More**

I would heartily agree. Her book has just hit the bookshelves and it fills quite a need in beekeeping literature.

From most books on beekeeping produced in the British Isles one gains the impression that the keepers of bees must treat them as pets and indulge their many whims.

It is most refreshing to read a book written by a British beekeeper who departs from tradition and advocates methods now used by more progressive beekeepers in other parts of the world.

This is the best small self-instruction book from Great Britain that I have ever read, and for the beginner, would be an excellent introduction to the craft of beekeeping.

Into its 48 pages this beemistress has crammed all essential instruction including information as to why the methods used are advocated.

She is the first writer I have known to have the courage to say "Having decided to keep bees. . . I strongly advise new beekeepers not to consider the . . . WBC hive even as a gift." This is but the first of many snippets of excellent advice from an expert.

More, more, I prithee more please Daphne.

*Reviewed by Chris Dawson, Timaru.*

## BACKYARD BEEKEEPING

*by William Scott, Prism Press, Stable Court, Chalmington, Dorchester, Dorset DT2 OHB. 112 pages.*

WITH A SUB-TITLE of "An introduction to the gentle art" the author has taken care to instruct his readers in handling bees the quiet way. No clouds of smoke for this beemaster, but the careful use of methods that make it easier to secure a crop of honey.

All the instruction necessary for a learner is given in simple language illustrated with pen and ink drawings.

Several interesting techniques are described. I would like to watch the making of a cement mould to manufacture wax comb foundation. The wax is removed after being moulded between layers of cement and the resultant sheet is reputed to be a money saver. I wonder.

The novice could become confused by inaccuracies. He is told in one place that a full super of honey "is not going to weigh much less than 20 pounds" and later that this super is 30 pounds while near the end of the book the full super has reached about 50 pounds. One way of gently introducing the back-breaking news.

The exponent of the "Gentle Art" dressed in his plus-fours pictured on the back cover would make an interesting cartoon obeying the instruction on page 44 — "Bees will happily forage two miles, but if pushed, will travel 10." Whew! those British B.s. Pushed by the shop steward, I suppose. Even he would get tired pushing a bee for 10 miles.

The book is mostly pleasant reading but I hope that before a second edition is printed, the inaccurate statements will receive attention.

*Reviewed by Chris Dawson, Timaru.*

NEW FRONTIERS

# Wallaceville researchers develop system for controlling external mites on honey bees

by P.G. Clinch and J. Faulke, Wallaceville Animal Research Centre, Ministry of Agriculture and Fisheries, Upper Hutt.

LABORATORY and field studies were carried out to determine if it was possible to control the external mite by feeding infested honey bees with sugar syrup containing pesticides. Endosulfan was the most effective of 23 compounds tested in the laboratory, and its activity was confirmed in the field.

A single dose of 40 mg endosulfan in two litres of sugar syrup fed to infested colonies reduced the number of infested bees by 85 per cent. A second dose 19 days later resulted in a 98 per cent reduction of infested bees. Few bees died. The effect of the pesticides on the mites appeared to be achieved systemically through the bee, and thus the method could probably also be used to control the internal mite *Acarapis woodi* Rennie.

Mites of the genus *Acarapis* are parasitic to honey bees. The internal mite *A. woodi* Rennie is regarded as highly injurious, whereas the external species *A. externus* Morgenthaler, *A. dorsalis* Morganthaler, and *A. vagans* Schneider are considered unimportant. Because little experimental work has been done to determine the effect of the external species on honey bees, a study was undertaken.

In this work it was necessary to eradicate the mites from colonies. The acaricide chlorobenzilate applied as a smoke to infested colonies has been used successfully to control. *A. woodi.* However, the compound applied by the same method failed to control *A. externus.*

It was considered that the disparity was caused by the difference in location of the two mite species on the bee, and not by a difference in response to the acaricide. *A. woodi* breeds in the trachea of the bee and is exposed to vapour present in the hive carried by respiratory air currents. On the other hand, *A. externus*, located on the ventral side of the neck, is shielded by the prothorax and head capsule from direct contamination.

It occurred to one of us that because the mites feed on host haemolymph, it might be possible to affect them systemically by feeding bees with sub-lethal doses of acaricides. This possibility was investigated.

In 1961, J. Eckert found it was not possible to determine the life cycle of *A. dorsalis or A. externus* on bees kept in cages in the laboratory, as many of the mites and their developing stages disappeared or died. Our initial laboratory test supported this, and as a consequence earlier tests were carried out only in the field. Later it was found that if the bees were held at a low relative humidity (40%) in the laboratory, the loss of mites was greatly reduced. This discovery enabled a screening test to be developed.

The pesticides tested were all agricultural formulations of acaricides and insecticides. Twenty-three were tested in the laboratory, and four (bromopropylate, chlorodimeform, demeton-O-methyl, and endosulfan) in the field.

Blue food colouring was added to sugar syrup (4 ml/100 ml syrup) in one laboratory test to determine if direct contamination of mites occurred when the bee mouthparts were retracted after feeding.

Worker honey bees, Italian hybrid strain, in the brood-nest region of a colony known to be heavily infested with *A. externus* were collected by vacuum into wooden six-hole queen cages. Two cages of 24 bees were collected for each treatment, including initial and final controls. Soon after collection, 20 of the 24 bees in each of two cages (initial control) were examined for *A. externus*, using a stereoscopic microscope and 45X magnification. Twenty live bees in the remaining cages were examined at the end of each experiment.

The oral toxidity of the pesticides was determined and the compounds were diluted with 33 per cent sucrose in water to a concentration of one-tenth of the standard toxidity.

Glass feeder bottles held vertically on the gauze tops of the cages by wire supports were used to feed solutions to the bees. All cages were stored in an incubator at 30 degree C and 40 per cent relative humidity. Bees were allowed to feed *ad lib.* on test solutions for three days, and sugar syrup for a further seven days. Final controls were fed only sugar syrup. An endosulfan treatment was included as a standard in every test.

**Field experiments**

Experiments were confined to the late autumn and early spring when mite numbers were known to be at a maximum. Three colonies known to be infested with *A. externus* in an Upper Hutt apiary were allocated to each treatment. Hives were reduced to two brood chambers with an empty storey above.

At the start of each experiment bees were collected from the broodnest of each colony, and 25 from each sample examined for mites. Selected acaricides were diluted with 66 per cent w/v sugar syrup to the required concentrations. Two litres of treated syrup were fed to each hive in two 1 litre preserving jars inverted on top of the uppermost frames. The lids of the jars were perforated by several small holes. Controls were fed untreated sugar syrup. At intervals after feeding, further samples of 25 bees were collected from the colonies, and examined for mites.

The results of laboratory tests with pesticides showed that no more than eight out of 48 bees died, usually less than two. Examination of bees fed coloured sugar syrup showed that 38 out of 40 had no blue colouration on the ventral side of the neck. The remaining two had colouring only in a central position, away from mites.

Field tests with bromopropylate at 100 mg, chlorodimeform at 100 mg, and demeton-O-methyl at 3 mg active ingredient per two litres of syrup showed that none gave a significant reduction in the number of infested bees.

Endosulfan was the most effective of the compound tested in the laboratory, and its activity was confirmed in the field. It killed only a few adult bees.

This work has shown that it is possible to control *A. externus* by feeding some pesticides to infested honey bees. Although the most effective compound, endosulfan, gave good control of mites, it would be preferable to use a compound with a lower mammalian toxicity.

The technique allows control of the dose received by each bee, so that compounds which would be too toxic to bees when applied as fumigants or aerosols, can be used. By confining treatment to the autumn or spring, when only the brood chambers are on the hives, there should be little risk of pesticides contaminating honey in the following summer. General contamination of the hive and frames, which is unavoidable with fumigation, would be avoided if pesticides were fed to bees.

Tests with coloured sugar syrup showed that mites were not directly contaminated by pesticides. It therefore appears that the effect on the mites was obtained systemically via the bee haemolymph, and for this reason the method could probably be used to control the internal mite *A. woodi.*

**Acknowledgements**

Dr M.A. Jorgensen, Biometrics Section, Ministry of Agriculture and Fisheries, Wellington, gave advice on statistical analyses. Thanks are also due to the firms who supplied pesticides.

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# FROM THE COLONIES

## WEST COAST

We have had an excellent winter and spring, with long spells of fine weather favouring early queen rearing for this area.

The rata vine continued to flower through the winter, and with the favourable weather the bees appeared to be able to collect some nectar, with the result that some apiaries had almost an embarrassing amount of stores on most hives when spring broodrearing commenced.

Swarming has occurred early in some areas possibly as a result of over-ample stores restricting queenlaying space where supers haven't been added early enough.

Some bush flowers are in evidence earlier than usual, but kamahi hasn't shown up at the time of writing.

***

To mark the retirement of our very popular Apiary instructor, Jack Varley, a representative gathering of West Coast beekeepers attended a dinner at the Kokatahi Hotel.

We appreciated Jack's visits, and his advice, even if he had occasion to place the occasional nasty black cross on the odd hive.

Word evidently got out that he was building a woodturning lathe to occupy his leisure time when retired, so, as a token to remember us by, he was presented with a set of woodturning chisels.

Although his official visits have come to a close, Jack has promised to keep in touch, and visit us frequently, probably with his fishing rod.

Whenever he comes he will be welcome, and we all wish him many happy years of retirement.

Peter Lucas,
Harihari

## WELLINGTON BEEKEEPERS ASSOCIATION

Our beekeeping calendar tells us that hives should be stimulated. There should be approximately 12/16 frames of bees with 10/14 frames of brood. Watch for queen cell buds. The whole hive should be checked if queen cells are found along the bottom bar and thereafter every 10 days.

November can be a month of deaths in honey flows, so watch hive stores.

Attendances at our monthly meetings are at last increasing. This is very encouraging to the committee who try to make them as interesting as possible. Two good films were shown with some lively discussion on different aspects of current apiary work.

The committee was sorry to be informed that the publisher of our newsletter, Mrs M. O'Connor of Churton Printing, is moving to Auckland. We wish her well and will endeavour to keep our publication to the present high standard.

The treasurer has just done a purge on the books and finds that only about 60 members have payed this year's subscription. By now half of our subscribers shouldn't have been receiving the newsletter, so if there is a comment on your newsletter please pay your sub promptly otherwise your November newsletter may have been your last.

If there are any enquiries please address them to the Treasurer. There may of course be a few errors.

## CENTRAL/SOUTHERN HAWKES BAY

The weather in Southern Hawkes Bay kept most hives in during the willow flowering. A scale hive in Takapau showed weight gains on only three days, the largest being 2 kg (4.5 pounds). Bees did manage to collect pollen in abundance, however, and brood rearing has had little set-back in spite of some cold wet weather. October 25 saw a snowfall in Dannevirke, and only two days later a hot clear day of mid-summer proportions.

Hives are much stronger than last year and it is hoped that within the next three weeks they will become self-sustaining. Clover is showing a bit on the roadsides, though the manuka buds still seem some time away. Beekeepers are holding out for a good flow, with foundation at the ready.

It's been very pleasant having a few travellers from the Apimondia Congress pass through the area on their way home. Several Americans, Canadians, and Italians have stopped by, with the possibility of more this week.

Nick Wallingford,
Dannevirke

## SOUTHLAND

Spring in Southland has been very patchy, August was good and got the bees off to a flying start, along came September and cut them down to size again.

The willow flow was good in some areas and poor in others.

I have not heard if anybody actually lost any hives in the floods, but some were washed against fences and others surrounded in water which would have destroyed the brood in the bottom boxes at least.

During October, Trevor Bryant organised a discussion group day at Central Apiaries' property at Drummond where their method of cell raising was demonstrated.

Members of the Southland Branch were honoured to welcome a group of Canadian beekeepers led by Professor Townsend of Guelph University. A very pleasant afternoon was spent at Greevale Apiaries.

The Southland Field Day is on Saturday, January 28, at Mr G. Toogood's property, Pukerau.

A game of golf has been organised for the Sunday morning at the Waikaka course.

Stewart Booth,
Drummond

## HAWKES BAY

The Hawkes Bay district has come out of its wettest winter and spring for some time. For the third year in a row the willow flow was non-existent and feeding with sugar or, if still available, frames of honey is the order of the day. This job was made more difficult with the prevailing muddy ground conditions and many beekeepers did a lot of walking and humping of feed into apiaries. However, the weather over the last two to three weeks has improved, paddocks dried out and the bees were not only fed with the minimum of fuss, but were bringing in some nectar.

A spin-off from these weather conditions has been the record demand for hives into orchards for pollination. At this time of the year a useful source of income to those who carry out this work. Although the risk of spray damage to the bees is ever-present, only one case has been reported so far this year.

At the end of October the branch was pleased to act as host to Professor Townsend's tour group of Canadian beekeepers, who I hope enjoyed this visit to the Bay as much as we did in entertaining them.

Paul Marshall,
Napier

## WAIKATO

Well, it is 22 years since I left Palmerston North to join Bates Apiaries at Matamata and become a Queen Breeder. Looking back over these seasons, there is no doubt that a complete change has come over the production of honey up here.

Who thought of buying sugar? There were plenty of sources of spring honey. In fact we used to extract a few drums to clear all the combs of the dark stuff so as not to mix it with the white honey. We got weather suitable for the bees to work these sources; not one day a month as it was this spring.

We had regular mating weather for the queen mating, at least one a week, but then it changed to one every two weeks, and we stopped queen raising. This spring we wouldn't have raised enough queens to pay petrol.

We used to get a period of wind in late September, the equinoxes, but now it blows most of the time, in fact I have a safetypin to see my tuck-in veil stays there.

We used to get a box of honey from the barbery, it was once misreported as box berry, it dripped out of the combs all over you. Now the bees seem to pass it by. Maybe if we fitted snow shoes to the bees and insulated coats they may venture out and brave the elements. We had quite a fall of snow this spring, and the heavy frosts destroyed a lot of barbery bud.

Now you West Coasters, or should it be wet coasters, where it is said to only rain once a year and that is all the time, watch out because we can nearly prove that that happens up here. Yes sir, about three days without rain in 2½ months. Great fun trying to put out queen cells in the pouring rain, or checking hives for BL with the ground white with hail, just to say they had been inspected.

Gathered the hail up at 5 pm one day and made a small snow man, and was surprised to see it still there at 9 am next day on top of the hive I had made it on.

There is a big pollen shortage at present due mainly to the weather, hormone spray, and the MWD who mow the roadsides.

The Labour Department have been active in wanting to register some honey houses under The Factories Act, and served big lists to be done forthwith. A ruling has been sought and we now know that this only applies where honey is bought in for packing.

Prospects are for good crops of RewaRewa and Taweri and the usual from pasture sources. Surely it must be time for a good clover crop from the Central Plateau.

Of much interest is a new cappings pump, designed by Goodmaster Pumps of Matamata. This has been fitted under a Davidson Mini uncapper, and tests have shown that it will pump cappings O.K. down to 60°F. At 70° after the cappings had been left to stand for one hour, it pulled through the heavy wax layer very well. It will pump honey out of a drum; just put the tube in through the bung and away it goes.

Honey is quite short up here, as most have sold out Those who still have honey are getting 78c — 79c a kg for it.

**Cliff Bird,**
**Matamata**

# WALLACEVILLE RESEARCH REPORT

THE STAFF of the section now consists of Messrs P.G. Clinch, scientist (section leader), R.C.R. Tustain, scientist, and P. Nixey, technician. Mr Nixey replaced Mr J. Faulke, who resigned in March.

## Agricultural Chemicals

■ *Fungicide sprays on apple trees*

Field trials were carried out at Greytown to determine the effect on honey bees of the fungicide metiram applied as a spray to flowering apple trees. Comparison was made with the fungicide captan. Results indicated that both compounds were safe to bees. Neither was repellent to honeybees.

■ *Insecticides on oilseed rape*

Further work has been carried out to find an insecticide that can be applied to flowering oilseed rape without harming honey bees. This is necessary in some seasons, because aphids can multiply during the long flowering period, and damage the crop.

Three compounds were tested in the laboratory. Two other insecticides were applied in the field, but because of frequent rain it was not possible to complete work on either. Experiments will be continued next season.

■ *Granular insecticides*

When sowing oilseed rape crops, growers usually apply a granular formulation of an insecticide to provide persistent control of aphids. There was the possibility that these pesticides might persist sufficiently to affect honey bees visiting the crops at the flowering stage.

At the commencement of flowering, bees were collected from 10 crops that had been treated with either disulfoton or thimet at sowing time, and from three untreated crops. Results indicated that the granular treatment caused no bee mortality. However, because last season was exceptionally wet, it is proposed to repeat the work next season.

■ *Test method investigation*

Laboratory tests were carried out to investigate two possible causes of the mortality that occurs occasionally when honey bees are collected from untreated flowers during field trials with pesticides.

In groups of bees held at different densities in cages, there were significant differences in mortality between some densities when the bees in each cage were combined from two colonies, but none when the bees were from one colony.

In groups of bees held at different temperatures, longevity was greatest at the highest temperature (35 degree C) and least at the lowest (25 degree C).

Minor modifications to the field method, made as a result of these laboratory tests, appear to have overcome the problem.

■ *Controlling Acarapis externus.*

Fumigation of honey bee colonies with chlorobenzilate smoke failed to control the external mite, Acarapis externus. Laboratory and field studies were carried out to determine if it was possible to control the mite feeding infested honey bees with sugar syrup containing pesticides.

Endosulfan was the most effective of 23 compounds tested in the laboratory and its activity was confirmed in the field. A single dose of endosulfan fed to infested colonies reduced the number of infested bees by 85 per cent. A second dose 19 days later resulted in a 98 per cent reduction of infested bees. Few bees died.

The effect of the pesticides on the mites appeared to be achieved systematically through the bee, and thus could probably be used to control the internal mite, Acarapis woodi, and possibly also the mite, Varroa jacobsonii. Although not present in New Zealand, these mites are a problem in some countries overseas.

Some years ago we felt that not enough work had been done on these mites. Because they are so large in relation to the size of bees, we felt they might have effects on production which otherwise hadn't been noted. This latest trial is the latest in this series of trials in the effect of mites and the results will be incorporated in our production variability research.

## Pollination

An investigation of the role of the honey bee in the pollination of oilseed rape has commenced in Mid-Canterbury.

Observations of insect visitation were made on crops last season. In addition, cages were erected over a crop near Ashburton, to exclude honey bees and the larger insects. Seeds developed on the plants in cages, indicating that oilseed rape is not entirely dependent upon honey bees for pollination.

## Toxic Honey

Testing of samples from experimental hives has continued as in previous years.

## Colony Variation

Initial work has commenced on an experiment to determine the causes of variability in the performance of honey bee colonies. We now have the equipment to do this and should be getting some results soon.

## Nosema Disease

Samples of bees, collected from the flower of brassica crops during experiments with pesticides, were stored and later examined individually for Nosema spores. Bees were taken from crops widely distributed over Mid and South Canterbury.

Examination of bees collected from eight sites during the period December 8 to December 15, 1976, showed that on all crops sampled, over 40 per cent of bees were infected, and on two crops the infection level was more than 75 per cent. In bees taken at seven sites from December 29, 1976 to January 12, 1977, over 20 per cent of bees on all crops were infected, and on two crops the infection level was more than 50 per cent.

These levels of Nosema infection were particularly high for the time of the year, and were probably caused by the exceptionally wet weather.

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**BEE CRAFT** – Official (monthly) magazine of the British Beekeepers Association. Contains interesting and informative articles. Annual Subscription £2.50. Post free. The Secretary, 15, West Way, Copthorne Bank, Crawley, Sussex, RH10 3DS.

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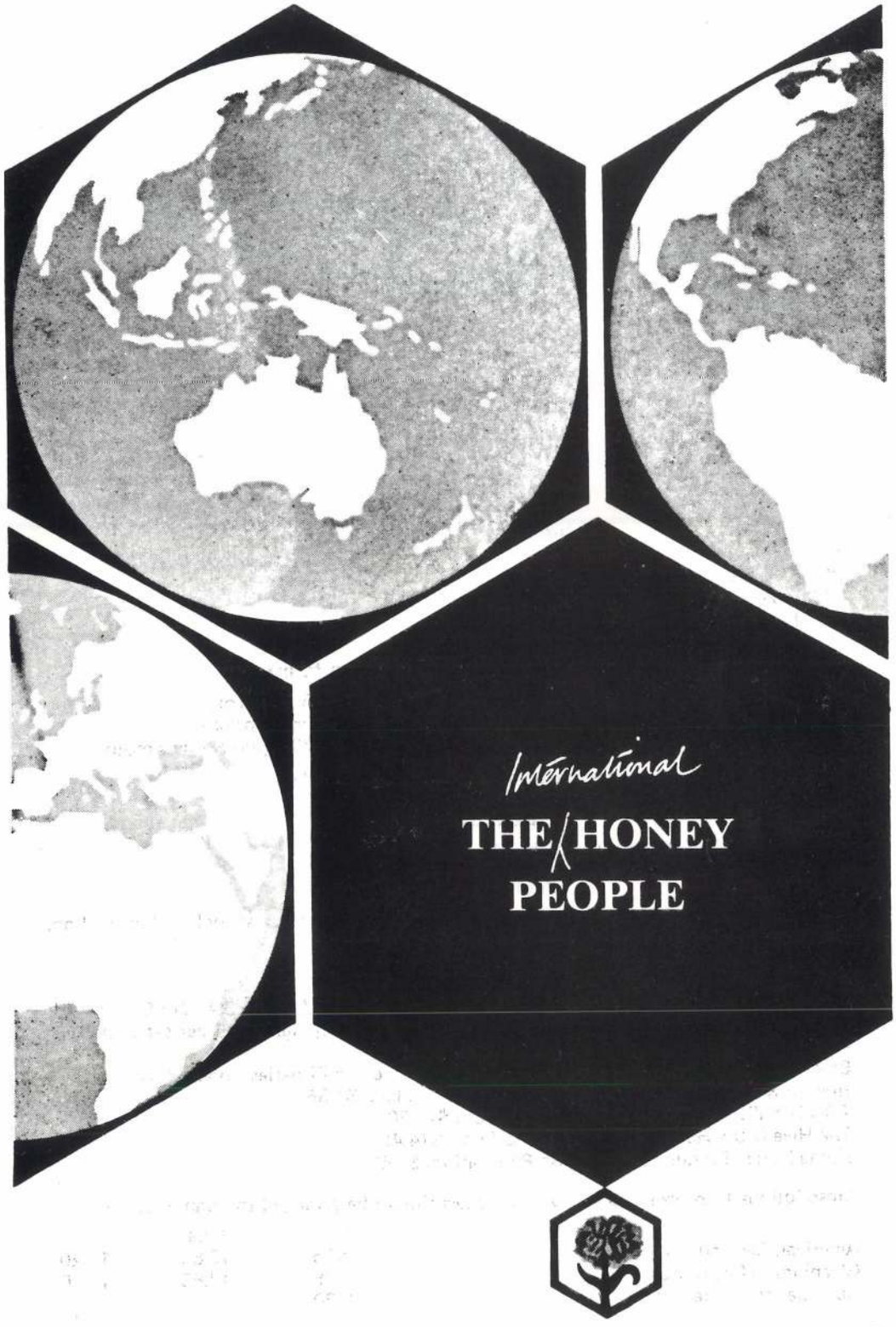

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