THE NEW ZEALAND beekeeper

JUNE 1982

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In our very special containers, your valued product has a distinct market advantage. Why?
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Signature.....

4153

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Don't be seduced by deviations

by Simon Mill

THE FIRST-RATE DFC profile of the beekeeping industry by research analyst Ms Sue Martin will probably be to our industry what Dr E.G. Bollard's "Prospects For Horticulture . . . " has been for that industry, an invaluable reference for future trends.

There is of course nowhere near the scope for diversification in honey that there is in horticulture at present, but potential there is.

In spite of the cautions Sue Martin repeatedly makes, for instance that the honey crop is one of the most uncertain of our agricultural commodities and that well-planned limited diversification may be an advisable management tool, she hints at the impetuosity of financiers and financial advisers making their analyses purely on paper. She strongly suggests that they should consult MAF apiary advisers when assessing the merits of individual beekeeper applications for finance.

And well she might! For the practitioners of the art of agricultural financing and farmer motivation from ministers of finance and ministers of agriculture right on down, are adept at distorting agricultural industries, be they pastoral livestock, horticulture or beekeeping. Consider SMPs, dairy beef incentives, honey price smoothing schemes, etc., etc.

They distort because in their attempt to analyse and project, they make assumptions which are later magnified as their analyses proceed. While the liquid crystal display on their computer proves uncontestably that 'this' is the viable angle, and that 'that' is not, the real answer inevitably lies somewhere in between.

Taken to their ultimate, Ms Martin's findings, over-emphasised and misinterpreted, could lead to a positive swarm of beekeepers deviating to any one of a number of specialised branches of their vocation – honey dew, queen bee raising, pollination, etc.

It could lead to these deviations because most are interesting and attractive financially. But all are delicately poised between supply and demand. Or overseas variables. Or the advent of new technology.

Written to give potential financiers the 'ins' and 'outs' of beekeeping market possibilities, the Martin report conclusions are not panaceas for an industry 'suffering current marginal profitability'. (An observation one could no doubt make of the sheep, forestry and fishing industries as well.)

The danger however, for our industry, is that beekeepers may feel their future lies in major diversions and deviations from the true, but mundane, direction of traditional beekeeping.

The media always focuses on the new at the expense of the mundane and nothing fans faster and burns more fingers than the latest 'in' diversification project.

Fruit, flowers, goats, deer, exotic cattle, fish and forestry, have all had aspects oversold and in so doing, burnt more than a thumb or so.

Risk ventures must be recognised as such and should be approached with care. The capital invested should be risk capital, not life savings nor the working capital of an existing marginally profitable business.

So heed the DFC report carefully, and if deviation seduces, take heed of its own comments about one aspect of export honey production (comb honey) . . . 'make hay while the sun shines; but don't get too reliant on it'. Then apply the same caution to its other product prospect analyses.

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(per insertion)

Full page $225 (4 insertions $205), Half page $130 (4 insertions $105), Quarter page $70 (4 insertions $65), 1/8 page $40. Special locations $30 extra. Spot colour $75 extra.

Production charges
Advertisements should be provided in a camera-ready form or as photolitho negatives. Where copy has to be typeset, or where film work or bromides are required, these will be charged to the advertiser on a time and cost basis. Minimum charge $10.

Beekeeper rates
Registered beekeepers selling queen bees, used hives, used plant and other used apiary equipment are eligible for an advertising discount of 20 per cent of the appropriate commercial rate. The same concession applies to situations vacant and situations wanted advertisements. Where the appropriate rate is in doubt, the editor's decision will be final.

Production charges only apply to single insertion beekeeper advertisements or where special artwork, filmwork or bromides are required.

Classifieds
Available only to registered beekeepers and those seeking work in the industry. $5 a column cm. No discounts apply. No production charge. Maximum size: 1/6 page.

SUBSCRIPTIONS

Commercial beekeepers: The NZ Beekeeper is distributed free-of-charge to beekeepers with 50 or more hives, subject to payment of hive levy.

Others: Beekeepers with fewer than 50 hives and other subscribers: $12.50 a year. This includes (for New Zealand subscribers only) membership of National Beekeepers Association of New Zealand (Inc).

KING BEE

(WHERE THE NBA HAS ITS STING)

Free desensitisation

Following the official endorsement of the Albay Bee Venom desensitisation kit by the Department of Health, the National Beekeepers Association has requested that the treatment be made available free of charge under the national health scheme.

If this proposal is accepted by the Health Department, it will enable any doctor to administer the treatment free of charge to the patient. Currently the Health Department will only allow subsidised treatment to take place where the doctor has been properly instructed in the use of the kits and where the patient has been given suitable tests to determine that he or she is indeed allergic to bee stings. (An article describing the use of the kits appeared in the March 1982 edition of the NZ Beekeeper.)

What, no money?

The South British Insurance Company which operates an insurance scheme for beekeepers which includes losses resulting from European Brood Disease has failed to reply to a query from the National Beekeepers Association regarding commission due to the association. This was a request for an explanation regarding an apparent shortfall in commissions dated December 14, 1981. A verbal request made by the NZ Beekeeper when researching the matter for the March issue, has also failed to win a response.

Book chosen for bee education

Despite an enthusiastic response from the Department of Education to an NBA request for a tertiary education correspondence course for beekeepers, a formal course is not likely to eventuate. Instead, it was agreed at a joint meeting of the NBA executive committee and staff of the Education Department that a book on beekeeping would probably serve the interests of the industry better than a formal correspondence course.

Departmental officials were concerned about the expense of preparing a course and about tying up teachers for end-of-year examinations. Instead, they indicated that they would be better to provide the technical skills and back-up to prepare an educational book. They also would liaise with a commercial publisher to assist in having it printed.

Video cassettes produced by the Country Calendar team were another option suggested at the meeting.

Mr Lawson Robertson of the Department of Education will now prepare a written report on the continuing educational needs of the industry and the best way to meet these. If his report endorses the book concept, such a book would probably include questions so that industry trainees could examine themselves on the progress they were making with their studies.

NBA executive members have already gone to considerable trouble preparing detailed section headings covering the various areas that an apiary apprentice would need to study before becoming competent at his trade. These headings could be used to structure either a formal course or an educational book.

NBA man on Pesticides Board

The long-awaited Pesticides Board is expected to be in operation shortly. The board replaces the Agricultural Chemicals Board upon which the NBA has traditionally had representation.

In response to a ministerial request, the NBA executive has nominated Mr Ian Berry to be the association's representative on the new board.

Association vice president Mike Stuckey has been appointed to succeed retiring executive member Paul Marshall on the Apiary Advisory Committee, another official body. It deals with the closed toxic honey zone in the Coromandel/Bay of Plenty district.

Multi-storey forum

NBA president Tony Clissold recently attended an agricultural forum meeting in Wellington convened by the president of Federated Farmers, Mr Rob Storey.

While Mr Clissold was doubtful of the value of these meetings considering the cost and time involved, Mr Lyttle said that he felt it was important for the NBA to expect to attend all these meetings because of the need to liaise with members of the horticultural sector.

The Federated Farmers Agricultural forum has been criticised by some other smaller agriculturally-related groups who have criticised the Federation for apparent empire building.

No trust money yet

The NBA has already received one or two hopeful requests from beekeepers seeking sponsorship from HMA trust funds. Unfortunately, the dispersal of HMA assets is far from complete and it will be some time before any applications can be considered. (See story in this issue regarding the status of the wind up of the HMA.)

Adverse events relief for Nelson?

Tony Clissold, president of the HMA, will be visiting with agricultural under-secretary Rex Austin when he is next in Wellington. A major topic requiring discussion is the need of Nelson beekeepers for financial assistance after an extremely low honey crop.

NBA secretary Len Jones has already written to the Rural Bank requesting their assistance. However, an area must be deemed to be an "Adverse Area" before the Rural Bank will make any payments to assist beekeepers or other primary producers. This normally requires the intervention of the minister or under-secretary of agriculture.

1982 NBA SEMINAR

(organised by Northland Branch)

at Waitangi THC

July 27

Registrations start 9 a.m. ($3).

SEMINAR AGENDA

- Problems associated with queen breeding in relation to the industry.

  Morning tea.
- There's more to introducing queens than meets the eye.
- Liaison between beekeeping industry and MAF – as MAF sees it.

  Lunch.
- Liaison between beekeeping industry and MAF – as beekeeping industry sees it.
- Trees for bees.

  Afternoon tea.
- Horticulture and its impact on beekeeping.

NEW DETAILS

NBA 1982 CONFERENCE

At Waitangi, Bay Of Islands

July 27, 28, 29

Venue: Waitangi T.H.C.
Phone: Paihia 27 411

PROGRAMME

Monday	26	Social "Get-together" at Waitangi T.H.C. 8 p.m.
Tuesday	27	Seminar.
Wednesday	28	Conference.
Thursday	29	Conference, and Social evening. Experience the luxury of a Dine and Dance on board "Tiger Lily". We need your support to make this an unforgettable night. Maximum price $23 per person.

ACCOMMODATION

Waitangi T.H.C.	Single $55/Twin $61
Waitangi T.H.C. Motels	12 – 2 B/R units; 4 – 1B/R units: $40 + $6 extra adults.
Motu Maire	5 – 2 B/R units; 2 – 1 B/R units: $28.
Awon	5 – 2 B/R units: $26-$30; 3 Bed/Bk room $10-$12.
Blue Pacific	5 – 1 B/R units (4 persons): $30 (all 2 B/R units can accommodate 6 persons).

Tariffs are applicable only if **all units are full.** Save money and share a unit with friends. All motels listed have been block booked and are within 10 minutes walking of T.H.C. All very quiet. Motels in Paihia will be reserved if necessary. **July 1st is the latest date to book for discount accommodation.**

To get the maximum discount offered, the Branch suggests reservations be made through:

Mrs T. Gavin,
R.D.2,
Whangarei.
Phone Mangakahia 891.

Please reserve accommodation from July..... to July..... for.....persons

at Waitangi T.H.C. or ..... Motel.

I/We will be arriving by ..... (method of transport).

LADIES: As there is plenty to see and do in the Bay, would you be interested in more organised outings . . . YES/NO.

Name: .....

Address: .....

Phone No: .....

As the honey season closes, beekeepers are probably itching to hear how the NZ Honey Producers' Co-op is faring. Has it been more successful than the HMA in payouts and trading? Has it been well supported by its members? Has the membership reached expectations? Simon Mill investigates.

New co-op exceeds targets

THE NZ HONEY Producers' Co-op has had a good first season.

Membership now stands at 132, an increase of 12 over the number when the co-op started in October, so support is in no way flagging.

Mr N.H. Dellow, co-op chairman, said last month that he was most pleased with the way things were going. "We have got $150 000 in subs, which is nearly $30 000 more than we started with, and $50 000 more than we originally estimated we would need before we could begin operations.

"Another heartening aspect has been that we have had more than double the tonnage of honey from the North Island compared with HMA days.

"Even so, it has not been an easy season in the South Island and north of Timaru the crop would have been half of normal because of the dry weather. In Southland it would be about 75 per cent of normal, and from Timaru to Gore about normal," he said.

"This has meant that we have had to cut out our export of some 300 tonnes of bulk honey to Japan. We have met the Japanese importers and have explained the position to them because of the poor season, and they understand, and it won't affect our trade with them for next season.

"We have just done some sums and we are running right on budget which is most satisfactory in view of the poor season, and the fact that there is more honey to come in yet.

"A new pack has been designed for the co-op and it will be ready for our honey this season. All in all things are going very well, and we have even had other packers asking us if we can supply them because of the poor harvest – which of course we haven't been able to do, as Curtis Wicht has our marketing all organised."

NBA executive member and co-op director Steve Lyttle said he was agreeably pleased with the response that they had to the first year's trading. "Members are going to be happy with the payout too," he said. "It will be fairly good – a bit better than the HMA's, but it hasn't been finalised yet as there is still a bit more honey to come in. There is still a little in members' sheds. The earlier honey was a very good colour, but being a poor season overall, the later honey has been a bit darker. However, it will blend up quite satisfactorily," he said.

Steve said some of the old HMA drums had been in poor condition, and there had been a bit of a debate about them and the number of them at stocktaking, but these minor problems had been resolving themselves.

All told, it is probably a little early yet to make a blow by blow comparison between the trading of the old HMA and the new co-op, but it would appear that it is indeed, proving very successful.

Success breeds success, of course, and will engender a confidence which will be reflected throughout the NZ honey industry.

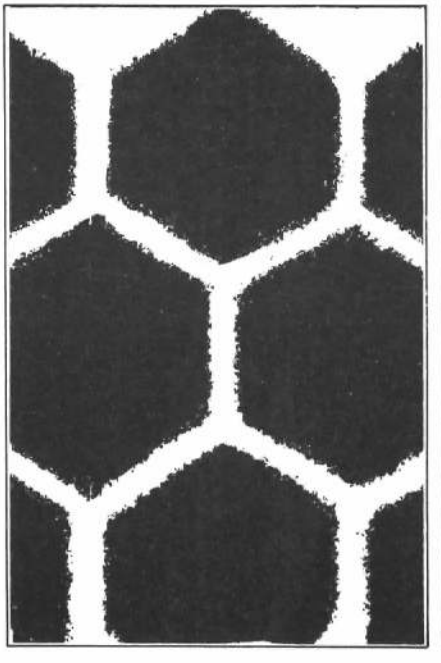
HMA saga continues

IT WOULD be good to close the HMA saga with a final story stating that all loose ends had been tied up. But that will have to await our next issue.

By now beekeepers can be forgiven for thinking that the HMA saga should lead in with ". . . the continuing story of . . ."

As Mr David Kay said when he was asked for the latest – "all these things are a lot slower than one would hope."

Mr Kay says, however, that there are no major stumbling blocks in the way of the three major outstanding matters involving the HMA: The settlement date; the two trusts; and the value of stock taken over by the co-op from the HMA.



The settlement date for the purchase of the HMA premises was the end of May. But since that hurdle hadn't been passed at the date we went to press, it can't be absolutely confirmed.

The deeds for the two trusts, much as reported in the last NZ Beekeeper, have been drafted and all but approved. The choice of the three trustees (one from the North Island, one from the South Island, and one independent) who will serve on each trust, has even been made by the NBA.

But at press date MAF had raised some points of clarification which were delaying final trust formation. These points were considered no problem, but once again they had not been sealed and signed.

Thirdly there was the question of the price of some stock taken over by the co-op from the HMA. So the "housekeeping matters" as they were referred to in the last Beekeeper, aren't finalised completely yet.

"I have been quite struck by the amount of goodwill I have encountered in this whole affair," says David Kay. "I have encountered reasonableness all round, and I am quite sure that when everything is finalised as envisaged the whole industry will benefit. But all these things are a lot slower than one would hope."

So this time there is sure to be a happy sequel to the whole affair in the next issue of the NZ Beekeeper. (We hope.)

DFC advises cautious lending to an uncertain industry

THE SMALL Business Development Division of the Development Finance Corporation of New Zealand has published an excellent profile on beekeeping in relation to honey and other hive products.

Researched over a two month period by Ms Sue Martin the profile is meant as a guide to institutions (or even maybe individuals!) who may be asked to finance would-be beekeepers.

From her report Ms Martin concludes that there is much uncertainty in the beekeeping industry at present, and combined with the current marginal profitability of beekeeping there should be a conservative approach to lending.

She points out however that the viability of beekeepers varies enormously and should therefore be individually assessed, and MAF apiculture advisory officers could assist in this respect.

There is a tremendous amount of clear thinking and deduction in the topics she covers.

Backed up by statistics there are sections on bee production, bee venom, pollination, beeswax, and many other topics apart from the more fundamental aspects of honey production.

The profile concludes with a section on "Hives as Security".

From her research she deems it is quite possible from a legal point of view to accept hives as security under the Chattels Transfer Act. Again however she advises restraint. She regards their security as "of last resort" and then only in cases where the client has a very good probability of success.

Ms Sue Martin.

When interviewed in Wellington in mid-May, Ms Martin said that because of the two great uncertainties she saw in beekeeping – the effect of the industry's increased marketing freedom resulting from the demise of the HMA, and whether or not kiwifruit pollination becomes essential or some artificial pollination replaces bees – she was reluctant to see too much emphasis being placed on the figures she projected.

By 1990, for instance, the number of hives required for kiwifruit vines could be 119 210. At the present fee of $48 per hive this would bring beekeepers a gross revenue of $5 722 080 in that year. But, to provide this service, the beekeeper loses about half his honey crop as there is no nectar produced. Also the bees find kiwifruit pollen difficult to pack and will consume around 5 kg of the honey still in the hive.

Ms Martin considers pollination should increase gross hive income by about 50 per cent, even after taking these factors and other costs into account. But there is a fly in the ointment.

She further points out that if an effective artificial pollination system is developed subsequent to the development of a major bee pollination service (and strenuous research efforts are being made, so as to overcome the limitations of bee pollination) then beekeepers geared to providing pollination services could face difficult times if they had to fall back on mere honey production. This would have a ripple effect throughout the industry.

On the export side of beekeeping, Sue Martin points out that New Zealand's exports of honey account for about 1 per cent of the world's exports (we are about 15th in the world stakes), and the big factor in world trade is the phenomenal increase in Chinese honey production. Its growth has increased world export honey availability by 5 per cent a year. In a bid to gain new markets China has offered honey substantially below world prices, which

Apiary acumen main security for beekeeper loans

THERE IS nothing to legally debar hives from being an adequate source of security for lenders with respect to their woodware, and perhaps to their bees. This comes from Ms Sue Martin in the final section of her report.

"However, the state of the beekeeping industry at present and the variable resale value of hives would suggest that hives should only be used as security as a last resort and only in cases where the client has a very good probability of success taking into account product, location of operation, experience of apiarist etc.," she says.

She adds however – "Should the industry (or sectors of the industry) improve financial viability in future years, a more liberal approach could be taken."

Mr A.B. Fear, assistant general manager of the Rural Banking and Finance Corporation, told the NZ Beekeeper that the bank was not keen to lend on hives as they were a very quickly depreciating asset, however, they do take collateral security over hives to raise finance.

There was no problem he said, for acceptable, aspiring beekeepers, obtaining finance through the Rural Bank, and in fact, in the last month alone the bank had financed four or five.

Mr Fear said the alleged failure of the bank to accept hives as security for loans was a hardy annual. He said that while some beekeepers feel each hive should be worth so much as of right, the bank dealt with individual cases, and that the prime consideration in granting the loan was the track record of the applicant. If the case was viable, then there should be no problem raising a loan.

▷ of course has had a downward effect on the prices obtained by other exporters.

New Zealand does have some things going for it, however. We have traditionally enjoyed above-world prices because of the quality, colour and flavour of our extracted honey. With better presentation and marketing there is a chance for New Zealand to greatly extend "the gourmet or top shelf market for retail packs".

With comb honey and honeydew there are small but lucrative markets. But our pitch in the first may be spoilt by the much bigger honey exporting nation of Mexico, who has tumbled to the demand for comb honey. So the motto for comb honey exports is: 'Make hay while the sun shines, but don't get too reliant on it'.

And she cautions a more co-ordinated marketing approach to minimise the opportunity of importers playing one exporter off against another.

Honeydew has been a good export to Germany, delicately balanced between supply and demand. However, the entry of Greece, another honeydew producer, into the EEC means New Zealand has to face a 27 per cent duty.

So again tread warily. Sue Martin's conclusion for honey production is that profitability will largely depend on the ability to export 1000 to 3000 tonnes of honey annually, and this could very much depend on China's export success.

Surprisingly she finds that the profitability of the individual beekeeper is better with the fewer activities (such as processing, marketing and packing) he is involved in. She also finds the profitability of single operator units is no less than that of larger units which are greatly dependent on the quality of additional labour.

As yet, the various sidelines to the main thrust of honey production – such as bee venom, beeswax, bee-raising – have limited potential.

All in all, Sue Martin's excellent summary of beekeeping deserves to be read and kept on hand as an excellent summation of a small industry with so many facets, and made up of so many independent practitioners.

This great diversity of both product and producers makes it sometimes impossible to sort the wood from the trees, but here done so well through the unbiased research of an outsider.

No one could quibble at her analysis of the general lending deserts of the beekeeping industry. And repeatedly she stresses that much assessment by a would-be lender must be made of the individual and the circumstances of the case – locality, type of beekeeping intended to pursue etc.

This realism and the possibilities and limitations of the different avenues may save many aspirants future heartaches; and for that, beekeepers yet unstung may live to thank Sue Martin.

HONEY PRICING

(a schedule of NZ wholesale honey prices prevailing as May 14, 1982)

Size	Pack	Quantity per carton	$ price per dozen to wholesaler		
			Highest	Average	Lowest
250 g	Bottle	24	8.14	8.14	8.14
500 g	Bottle	24	14.76	14.63	14.50
500 g	Glass jar	24	16.87	16.87	16.87
900 g	Bottle	12	26.42	26.26	26.10
1.36 kg	Glass jar	12	43.12	43.12	43.12
2 kg	Plastic	6	57.00	57.00	57.00
2 kg	Tin	8	60.65	60.65	60.65
4 kg	Tin	6	113.00	113.00	113.00
14 kg	Tin	–	31.50 ea.	31.50 ea.	31.50 ea.
15 kg	Tin	–	30.40 ea.	30.40 ea.	30.40 ea.
30 kg	Tin	–	65.00 ea.	63.71 ea.	62.42 ea.

All prices include freight for orders of 10 cartons or more within the home island of the packer concerned.

This table will appear regularly in the NZ Beekeeper. Packers who issue wholesale price lists are urged to send copies of their lists whenever they are amended to: Honey Price Monitor, NZ Beekeeper, P.O. Box 4048, Wellington.

This June list has been compiled on the basis of returns from three major honey packers. A better cross section of prices will hopefully appear in future issues.

Farm ownership accounts

FARM OWNERSHIP Savings accounts are a popular method of saving for farm purchase. They may also be used to buy a beekeeping operation, though this depends on Rural Bank discretion. At March 31, 1981 there were nearly 7 000 account holders and deposits totalled approximately $29 million.

The investment returns on these accounts are very much dependent on the savings period, as has been shown in a recent Lincoln College survey.

For Special Farm Ownership accounts the return on capital invested can be in excess of 40 per cent a year where the saving period is three years, but is only 15 per cent a year when the savings period is ten years.

For Ordinary Farm Ownership accounts the return on capital is approximately 20 per cent a year for savings over three years, dropping to approximately 10 per cent a year for ten years' savings. As a result, "ordinary" accounts are the least popular of the two options.

As inflation increases the cash deposits needed for farm purchase, the ability to save such a deposit through these schemes is likely to be outstripped. The Lincoln College researchers say they should therefore be considered as a secondary means of saving for farm purchase.

Furthermore, they advise aspiring farmers with limited assets to consider saving for their business in a Home Ownership account, which is a more attractive option than either of the Farm Ownership options.

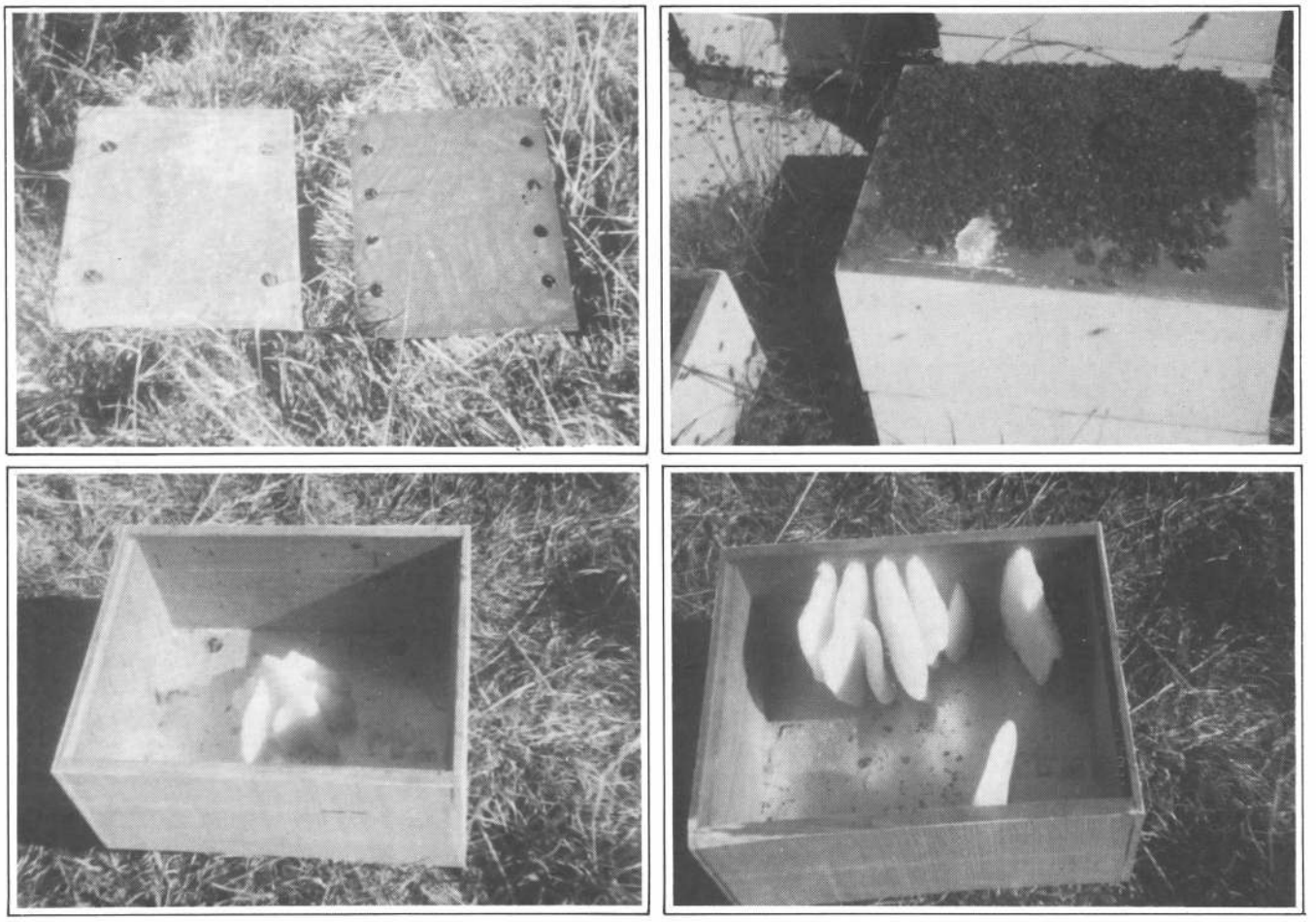
Still no bee stamp

DESPITE THE importance of a century of beekeeping in the NZ economy, the post office was not impressed by an NBA request to have a special stamp issue featuring some aspect of the industry.

Although a stamp issue could not be granted, the post office told the NBA that it would be pleased to provide a special pictorial date stamp to commemorate the 1983 centennial, and that the NBA might also like to issue their own first day cover to enhance interest in the special date stamp. The executive decided not to carry the matter further.

Editor's note: Perhaps the post office will recognise the role of beekeeping in 2083. Though we may then be competing with important events like the bicentennial of Martinborough, or a century of Falkland Islander settlement in New Zealand.

A different honey and wax system



Technically illegal, perhaps, but yielding more wax for less cost and less effort.
Photos top left, clockwise: The two vital components; active workers building from the bottom of the box upwards and examples of their early work.

WHILE WORKING for beekeepers in the past, I sometimes became dissatisfied with the systems employed because of the work involved in building and maintaining the honeycombs, especially with the machinery in the honey shed being so insensitive to such a delicate item.

Also there seemed to be an inordinate amount of time and energy spent on protecting honeycombs from wax moth and rodent infestation.

As I was in the process of building a small number of hives from scratch, I decided to do things differently from what I had seen so far.

Slowly, the idea evolved that I might be able to do away with frames altogether in the honey boxes: I designed and built a variety of equipment before settling on the present plan.

What I now have is the standard two full depth brood chambers with ten frames per box, no queen excluder, and an open box system for the surplus honey and wax.

To facilitate individual handling of the boxes I have made sheet metal dividers to sit underneath each honey box just 5 mm smaller each way than the box, and sheet wood inserts to sit in the rebates. One sheet of steel sits directly on the frames of the upper brood chamber and quickly becomes gummed to the top of the frames.

by W.T. Stewart
Hamner Springs

Both the steel and wood sheets have four holes near the corners which line up with the other sheets and the frames below, for the bees to move through.

When the honey flow starts, the bees fill up the bottom boxes first, thereby tending to naturally keep the queen in the brood chamber as her brood nest gets surrounded by honey.

They always fill up the bottom boxes first before starting to build comb in a new box – an interesting feature is that most hives build from the bottom of the box upwards.

Although my experience with this system is far from extensive, in the last three years I have only found small quantities of drone brood above the brood chamber. This is probably because the bees tend to build mostly drone comb to store the honey in, and these particular hives had very little drone comb in the brood chamber.

My suspicion is that the workers carry the eggs in the same way they sometimes do through a queen excluder.

Economics

The economics of this set up are interesting: It's too early for me to say how much extra wax is produced as yet, but I'm assuming it will be at least twice as much.

The 'experts' differ greatly, depending on their bias, as to how much honey it costs to produce wax. Some say as low as 4:1 and others as high as 12:1. ▷

▷Either way it's unlikely that the extra wax will cover the loss of honey to produce it with a price difference of around 4:1. But there are other things to be considered.

For example, I now use a motor cycle to visit my bees for all rounds except removal of crop and shifting hives, and I've been known to do both of these in a limited way on the bike.

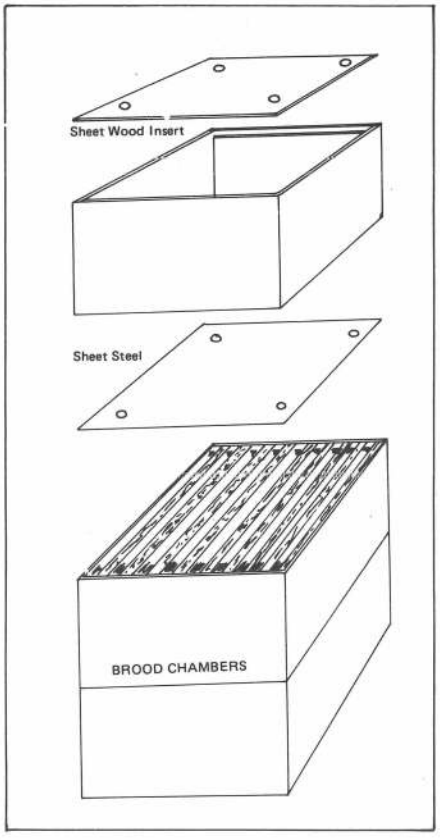
When I need to, I can hire an appropriate vehicle to bring the drums of honey home, or to shift hives which I don't like and do very little of anyway.

Needless to say, at 90 mpg the motor cycle cuts costs in a big way.

I am able to do this because to take the crop, I just lift the escaped boxes onto an open topped drum, remove the partitions and scrape everything clean into the drum. Thus, the boxes can go straight back on the same hives, lessening the disease transferral risk and enabling the boxes to stay on the site all year round.

Also to be considered for someone starting up is the cost of machinery needed to deal with honey frames, i.e. uncappers and extractors and the maintenance of honey frames.

For those people who have thick honeys such as kanuka, this system has the advantage of no worries about getting the honey out of the frames. Also, in clover areas where the bees don't pack down well or the honey granulates quickly, there are advantages.



Granulated honey can be warmed back to liquid in the drums it came home in or any other heating device.

Practicality

As far as practicality goes, I guess the big commercial operators won't be too interested, but for the hobbyist or small time operator just starting up, it could work well.

My main hope is that it may make the efficiency of the moveable framed hive more available to the poor of the world, by eliminating a lot of the costly frames and complex equipment needed to deal with those frames.

Most poor people don't have electricity available even if they did know what to do with it. I have dealt with some of my crop this year with a nybolt bag and a tall tank. You can't get much simpler than that.

The sticky wax may be handled in a solar oven.

Potential

I know of some areas in NZ where there is no way in but to fly. With the new microplane technology and this system some of these places could be worked, with a helicopter to remove the crop.

Technically the system could be classified as illegal, as there are fixed frames in the hive, if only for a short time. When I mentioned this to my apiary instructor some time ago, he encouraged me to continue, so I hope the rest of officialdom can overlook this technicality when they see the advantages for some.

Anyway, I see the potential for this system not within NZ, but in the third world where the moveable framed hive would be a big step forward, and the economics are not geared to capital intensive industry.

Queen course oversubscribed

A THREE day short course was held just after Easter for beekeepers who were interested in learning more about raising queens for their own outfit. Twenty two beekeepers attended and half as many again had to be turned away because the course was full.

An illustration of how keen beekeepers can get for this type of course would be Peter and Sharon Hobson who are starting up a commercial unit at Riwaka. They gave up a week of their honeymoon to attend!

Tutors were Andrew Matheson and myself from M.A.F., and Gavin White of Takaka who provided valuable contributions from his experience in commercial queen production.

A balance of talks, discussion groups, films, slides and practical covered all aspects of queen raising from the importance of larval nutrition and grafting skills to breeder selection and planning a timetable.

South Otago weather was kind to us but little brood was available. It is always difficult to choose a time that suits both bees, beekeepers and the Farm Training Institute. From the comments at the evaluations at the end of the course, it was of practical value and if it helps the beekeepers who attended to raise their production by even 10 per cent next season should see an extra $35 000 worth of honey production on today's bulk rates.

Gavin White demonstrates grafting at Telford.

With the high demand, we will obviously have to consider offering another such course at Telford next autumn. And should beekeepers further north over the water see the need for a similar course at Flock House, then let your adviser know, so that such a course (or any other topic) could be planned.

– **Kerry Simpson**

BURRCOMB

Foreign interest

There has been a sudden influx of letters from France, England and Holland from people interested in either working here or corresponding with New Zealanders.

So, if you are interested, here are the requirements:

Laura New, who is an agricultural science student, an experimental amateur beekeeper, and a member of the British Beekeepers' Association, would like a temporary job on a bee farm from October 1982 to March/April 1983. Write to her at Lane End, Thrifts Walk, Cambridge, England.

Marcelle Lidouren, 42 Cite Marie Bernard, 29270 Carhaix, France, is 56 and would like to exchange ideas with those interested in beekeeping and gardening, nature, knitting and stamp collecting.

G. Hagemeyer, a beekeeper, is very interested in New Zealand apiculture and would like to correspond with an amateur beekeeper. You can write to him at Grotestraat 1, 6617AH, Berghaven, Netherlands.

Beekeeping course for Third World

Beekeeping has great self-help potential for rural people of developing countries; the International Agency for Apicultural Development has organised a two week seminar at the Ohio State University Agricultural Technical Institute, with the main focus being on tropical and rural subsistence level beekeeping

Led by Dr James Tew, the seminar will cover the basics of hive management, honey production, honey and wax processing, disease and pest control, pesticides, crop pollination, bee biology and behaviour.

The seminar, which is July 12 to 24, will also be concerned with apiculture as an appropriate technology, stressing the hands-on practicalities of development apiculture.

Beware of duster gun misuse

Beekeepers troubled by wasps may be tempted to beg, borrow, or otherwise obtain an old or specialist duster gun to eliminate them.

The Department of Labour has asked the NZ Beekeeper to let beekeepers know that early model duster guns may explode if there is a blockage in the tube. Made by the Wanganui Poison Factory for the Animal Pest Destruction Council in the 1970s, early model guns can explode if there is a blockage in the tube.

The department stresses that anyone using one of these devices, should as far as possible receive training in its operation. A duster gun comprises a detachable bowl filled with chemical and connected to a carbon dioxide fire extinguisher. The CO_2 propels the chemical through a long steel tube.

Mr Michael Sewell, supply secretary of the Animal Pest Destruction Board, said from Wanganui that he was aware that there was possibly misuse of the instruments.

The duster guns were designed and built by the apiary section of MAF in the 1970s when wasps were a mounting problem. They were designed solely for use with Carbaryl, and about a 2lb CO_2 fire cylinder. Later models had a safety pressure release, which was quite evident. Only about 100 were manufactured.

Mr Sewell felt that the APDC would not be making any more, as there were both commercial instruments and operators now available to deal with the problem of wasp destruction.

Tragic accident

P.H. KORFAGE, 37, secretary of the Northland Branch of the National Beekeepers' Association was killed in a car accident just before the NZ Beekeeper went to press.

On behalf of all the industry, the editor and staff of the NZ Beekeeper extend their sincere sympathy to Mrs Korfage and her family at their tragic loss.

For do it yourselfers

A lot of interest was generated by Andrew Matheson's 'Doing it yourself cappings spinners' article in the September issue of NZ Beekeeper; and particularly in the Detlaff model. So much so that Andrew is having plans drawn up for beekeepers who wish to make their own.

The plans will be available from all MAF apiary officers in a few months.

Honey on burns

Staff of the Melbourne Royal Children's Hospital Burns Unit are interested in any literature on the use of honey on burns – with winter upon us the number of casualties are expected to rise with the increase in the use of heating devices.

If any reader has any literature or experience in using honey on burns could he please contact Mr G.A. Hammond, 29 Hamel Street, Wattle Park, 3128, Melbourne, Australia.

LIBRARY NEWS

I am still waiting for that consignment ordered overseas.

'The Art and Adventure of Beekeeping' by Ormond and Harry Aebi was presented to the library by Bill Houston, Dunedin.

It may not be a work of science but it is good reading. I for one have enjoyed it, perhaps most of all because of its simplicity and sincerity. All along one feels the love and deep interest the authors have for their bees. As they say: The beekeeper cannot readily change his bees, it is he who must make the required adjustments. A lot of truth in that.

Part 2: Mastering the Art of Beekeeping – is on order.

It is winter time. Catch up on a bit of reading. It's your library, make use of it.

NBA Technical Library,
Box 112,
Milton.

An advertisement in the December issue of the New Zealand Beekeeper sought the assistance of a New Zealand beekeeper visiting India to give practical help in establishing an apiary in a mission community of a central Indian village.

While unable to actively assist in the project, Havelock North apiarist Jeff Whittaker welcomed the opportunity while in India to learn firsthand of the Indian bee scene.

The article which follows is a personal account of the life of Rao, a successful Indian beekeeper.

Mr Whittaker says his appraisal of Indian beekeeping operations would suggest that New Zealand beekeepers wishing to assist would be well advised to seek assistance from the Beekeeping Institute in Puna to make themselves fully conversant with Indian beekeeping conditions.

Bicycle-borne beekeeper profits from small-scale enterprise

Madhu Nagisawara Rao with transport, extraction equipment and tools of trade.

MADHU NAGISAWARA Rao is an Indian beekeeper in the rural community of Vijayawada, 250 miles north of Madras. This district supports a population of three million in an area of less than that of Hawkes Bay's Heretaunga Plains.

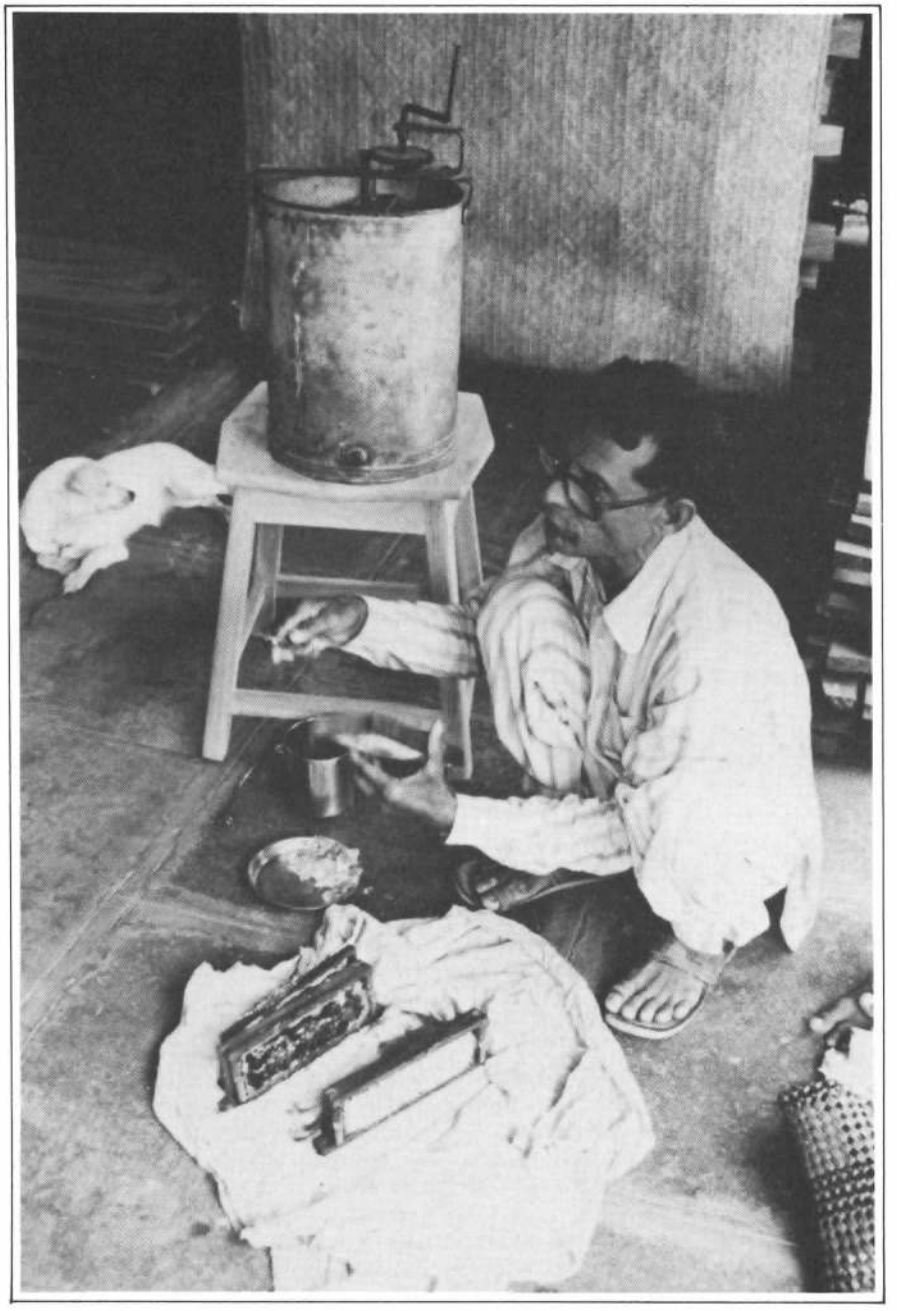
Rao is aged 55 and owns 150 hives. The best of these yield 20 kg, in a four-month honey season. In a good season his crop totals 1 000 kg.

Since Rao is able to sell his honey for $24.20 a kilo, he has a very good income by Indian standards of around 30 000 rupees ($NZ4 000).

Honey in Vijayawada is not readily available and Rao's product is keenly sought after and is generally pre-sold to government servants who are able

Honey is gravely adulterated in India. By extracting his honey on his customer's doorstep he shows his product is pure and, as a result, he can often get premium prices of R30/kg (NZ $4/kg).

Note the size of the frames, the size of the cells and the uncapping equipment – a pen knife and a plate.



to afford to purchase the honey. Fortunately for Rao, India does not lack for government servants.

The honey is packed in wine bottles, but no thought is given to granulation as heat makes granulation almost impossible. However, many Indians are suspicious of adulteration of honey with sugar cane syrup and for that reason Rao often extracts his honey on his client's doorstep.

Rao's bicycle takes the place of the New Zealand beekeeper's 4 tonne truck. All his equipment including hives, honey frames and a two-framed hand powered extractor is carried on the carrier and handle bars of his bicycle. His transport costs by New Zealand standards are exceedingly low.

The uncapping equipment is a simple pocket knife and a plate to contain the cappings. About 5 kg of wax is recovered from the wax each year and is sold for about $4.20 a kilo.

Indian bees

The native Indian bee Rao uses is much smaller and produces a very much smaller cell structure than the Italian bee kept in New Zealand. It is one of at least three species of honey bee found in the subcontinent.

Rao's bee is very quiet and easy to handle, requiring little or no smoke and generally will only sting when physically threatened. Combs can be cleared by blowing or shaking.

Everything associated with the keeping of the Indian bee is on a reduced scale when compared to the New Zealand operation. The hives are very much smaller. The brood chamber frames measure 10" x 8" and the brood chamber contains eight frames. The honey frames measure 10" x 4" in comparison with a 14" x 8" New Zealand frame.

A production hive houses 20 000 to 30 000 bees, with natural swarming usually occurring once a year in December when bee numbers exceed 30 000. The tropical climate seems to have a bearing on optimum bee numbers in each hive.

Rao allows up to five swarm cells to develop and splits his hives of more than 20 000 bees. Expertise and knowledge of queen bee rearing is not available to Indian beekeepers in this area and swarm cells give the natural means of making an increase in the number of hives.

"The flavour of the Indian honey varies with the nectars, but overall I found it strong and sweet and reminiscent of some of our gum honeys. A sample of New Zealand clover honey when eaten by Rao produced the enthusiastic response that it was, "Nectar of heaven," and the finest he had ever tasted and that, from the land of chillies and curry!"

Twelve nuclei hives are kept to requeen in case of failure. If nuclei are not available, brood is transferred from one hive to another to allow the natural production of queen cells.

Full foundation is provided in the brood chamber frames. In the honey frames 1" of foundation is provided and the bees are encouraged to produce drone comb for easy extraction.

Indian nectar sources are limited by the intensive cultivation and agricultural development. The December sources of nectar are from banana palms, coconut palms, lemon trees, drumstick trees, soaknut trees, and January nectar comes from lotus, grains, sunflower, jute and grasses. Neem trees, palm and sunflowers produce nectar in March.

Destroying

by Nick Wallingford

SINCE THE accidental introduction of the European or German wasp *(Vespula germanica Fab.)* to New Zealand in 1945, beekeepers have worked to eliminate this threat to their colonies. Complete eradication is perhaps not possible, but a substantial reduction can be made by systematic destruction of any nest found. The offer of a small payment to local children will usually result in turning up an amazing number of nearby nests.

In the 1975 NZ European wasp survey, wasps were responsible for destroying 1.9 per cent of colonies and seriously affecting 4.9 per cent more. Many individual cases are far worse, and in most areas the destruction of wasp nests will at least make picnics more enjoyable.

I have used Carbaryl with success to destroy a number of wasp nests this season in buildings, in the ground and one aerial nest.

After being contacted because I was a beekeeper to 'come and take these wasps away' I developed a routine to exterminate wasp nests for a set fee to cover my time, cost of chemicals, travel, and adrenalin. I think that no matter how many nests I deal with, there will always be that heart-pounding and sweaty palms of the first time; I would be lying to say that wasps do not intimidate me.

In the kit I carry with me are a good pair of overalls with elastic to seal over the footwear. Wasps will sting through them but they give some protection. A tight-fitting veil, a pair of rubber gloves (preferred because of the freedom of movement) and a pair of gumboots complete my protective clothing.

A good torch is needed as some of the work is done in attics or under houses.

Anti-histamine tablets to carry with you or your favourite remedy should be at the ready, just in case you do get stung. I actually use dock leaves, either rubbed onto stings or made into a poultice.

To apply the insecticide I use a plastic squeeze bottle with a 200 mm length of hose attached through the lid. I carry a longer hose that slips tightly over the first in case it is needed. A well-labelled metal tin with a tight-fitting lid and a funnel to ease getting the powdered insecticide into the bottle complete my equipment.

Most of the nests I destroy are in an urban situation, in the walls, roof and underneath houses; many necessitate a ladder. If the entrance to the nest is readily accessible the job is eased considerably, but it must be noted that wasps will sometimes travel a distance from the entrance to the nest itself.

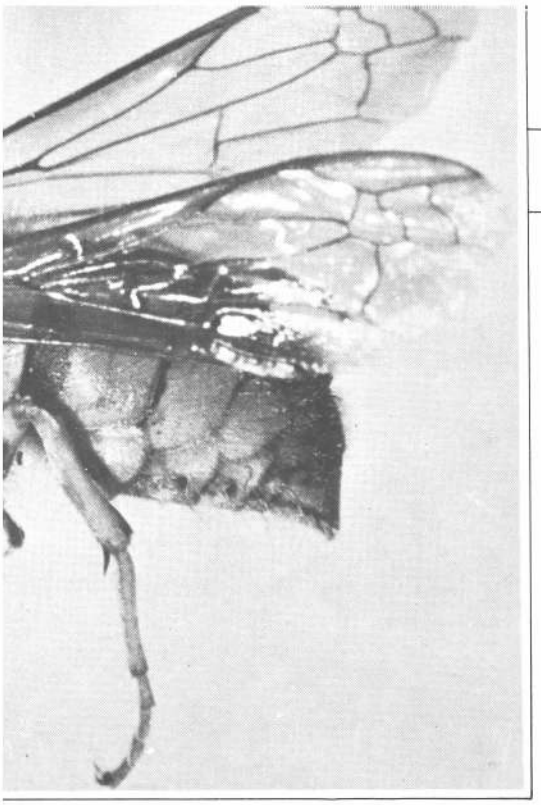
I have had good results with the application of about 300 gm of Carbaryl puffed into the entrance hole or into the nest itself by poking the plastic hose through the paper-like outer envelope.

G.M. Reid, AAO in Hamilton, has told me that even a quarter of this would probably be lethal to all but the largest of nests, but I prefer to use this margin of overkill.

If the nest has several entrances it is possible that one portion of the nest may escape destruction. I believe in liberal and widespread application of the insecticide followed by a judiciously hasty retreat.

Carbaryl does not seem to cause excessive aggression near the entrance as DDT is reported to cause.

The nests die out over a period of several hours to a day or so, but I cannot really verify this as I do not wait around. I tell my clients to ring me after two days if there is any activity at all so I can return to finish the job, but so far my original applications have been successful in all cases.



wasp nests

If the nest is in an attic or crawlspace under a house, it can be removed when all the wasps are dead. If it is in a wall, removal becomes a job for a builder or handyman.

Before commencing the job, a clear understanding should be made regarding removal after destruction. The decay of a wasp nest can cause quite an objectionable odour so removal is advisable if at all possible; there is no problem with other wasps re-occupying the nest as it would be with honeybees.

Several other methods of control are worth mentioning. If the nest is underground a bottle of petrol poured down the entrance will usually kill them. Do not light it, though I realise the temptation to do so is strong. It is actually the fumes that kill them, not an explosion.

Mirex is an insecticide that is not repellent to wasps, and can be used at a feeding station even if the nest has not been found. It must be mixed with a food attractive to the foraging wasps, and they then gather it and take it back to the nest where its accumulation causes the destruction of the nest.

As a general rule, wasps forage on protein sources in the spring and only change to carbohydrate later in the season. To avoid accidental bee poisonings and to be far more effective, it should be used early in the season with a fish meal or meat attractant.

Peter Pegram, of Wairoa, uses a mixture of equal parts of borax, boracic acid and icing sugar. He puts this into tin cans with the ends cut half out so as to provide access and weatherproofing for the mixture. The cans are hung near any of his apiaries that are troubled by wasps.

Sid Line, formerly an apiary instructor, wrote an interesting article for the NZ Journal of Agriculture in February, 1965, titled 'Preventing Wasp Raids on Bee Hives': The entrance was first reduced to about 20 mm by 15 mm. By placing a small pane of glass on the alighting board and tilting it against a small block on the hive front, most wasps are tricked into not being able to enter the hive, while the bees quickly accustomed themselves to the modified entrance.

This works on the same principle as a robber screen as used on mating nuclei. All other entrances however small must be closed off, and the problem of the wasps is not really solved as the nest is still there. It may give a beleaguered hive some respite however.

Ivor Forster designed a 'tunnel' entrance for a bottom board that caused all bees and foraging wasps to have to enter the hive near the centre. If the colony is of good strength, the cluster would be over this point and better able to repel invaders, as opposed to the normal entrance which allows the wasps to duck in around the corner.

Di-chlorovos, the active ingredient in the plastic pest strips, can be used to kill wasp nests. Using a sharp knife a small strip of the plastic can be cut off and inserted in the opening where the wasps come and go, taking care to leave them enough room for continued passage. Over a period of time the chemical will kill the nest, though the use of a powdered insecticide is quicker and more certain.

One last control measure will be mentioned for any of you who care to carry the work further. 'Denizli' chickens can be used to control wasps in the apiary according to one abstract I have read. It seems to work best if the chicks are fed from the start with dead wasps, then enclosed in the apiary and fed still on dead wasps for a while until they get the idea.

The paper didn't mention how well they discriminated between bees and wasps!

BEEKEEPING

I yamma a fine beekeeper
A modern Robin Hood
I pinch the surplus honey
Like all beekeepers should.

In Summer I put on boxes
And hope they fill 'em up
But there never is sufficient
When they think there is enough.

In Autumn is extracting
I go for all I'm worth
But I must save some honey
For when there is a dearth.

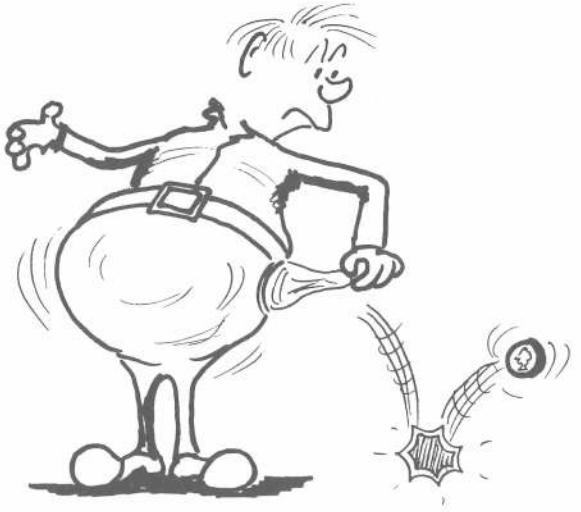
Doggerel by
Illustrations l

FOR PROFIT

In Spring I get around 'em
I feed and replace queens
And generally I con them
To make honey like in dreams.

In Winter time I sell it
To those who have the money
But though I may be big and fat
I'm broke and that's not funny.

But I yamma poor beekeeper
A modern Robin Hood
I'd pinch their surplus honey
If they had some and I could.



Don Gibbons
ugh Rawlings.

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FMW 80 1

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* HARD WORKING HONEY HUNTERS
* GENTLE TO MAN

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150 plus . . . $4.75 each

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payment in full.

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POSTAL ADDRESS: .....

.....

.....

TELEPHONE .....

Whiteline Queens

TELEPHONE 893, MANGAKAHIA
TELEGRAMS: WHITELINE, WHANGAREI.

FROM THE COLONIES

HAWKES BAY

A very interesting field day was held at the Community College on Saturday, March 13 with the theme queen raising.

Ian Berry and Trevor Bryant were the speakers and demonstrators, both men being an expert in their field.

About 45 people attended and the questions came thick and fast during the demonstrations and subsequent discussions.

As an added bonus Trevor gave a talk on beekeeping in Canada with slides to back it up. No wonder they can produce honey over there with the abundance of flower and no animals to compete with.

A very enjoyable day at the college where they have their own apiary.

Our crop has been a good one in the Bay although towards the ranges it was only average with the rest of the province a bumper with the two queen hives doing extra well. It is a season like this that gives us all a real kick.

Manuka (which used to be a dirty word) is now the premium honey it seems, so whoever can produce it in large quantities go to it.

Strange when the bulldozer was flattening vast areas of manuka nobody wanted the honey; and now?

Better beekeeping.

Keith Leadley
Hastings

BAY OF PLENTY

Average crops were taken this season with high and low yields in isolated pockets.

The late summer yield from thistle was excellent. Rewa rewa flowered the best we've seen it and yielded well in some places. This important source may well now revert to a low flowering cycle as it is prone to do after a peak year.

Honey from outside sources is on the shelf at near last year's prices and is having a depressing effect on local prices, causing us serious concern. Gate prices vary considerably but average $5.00 per 2 kg pack.

Pollination of kiwifruit required 8 000 hives this season. This demand continues to be easily met by existing and some new suppliers each year. No spray damage occured during the pollination period, although on one site 100 hives were written off by pre-blossom spray.

This branch has now formally set up a pollination committee. All those who have not already advised, should write to me as branch secretary, requesting that they be placed on the mailing list.

It is expected that matters relating to pollination may be discussed at branch meetings, but possibly twice a year, in September and February, notice will be given to all of special meetings.

Bruce Stanley
Whakatane

WEST COAST

Of all the periods of the year to compile notes, this is the hardest.

In most cases the bees have been tucked away into their winter quarters, with their hopeful owners contemplating the good season that might come along next year.

Not all bees are content to stay at home and consume the winter stores so kindly left for them by their thoughtful owners.

The red rata vine, if not flowering prolifically, has a reasonable show of blossom, and with the long spell of fine windless days that have prevailed, the bees here in the south have brought in as much, or more, nectar than they have consumed, thus saving their stores for a rainy day, which on average we are bound to get.

One good thing about the rata vine is that when it starts flowering as late as it has this year, it is likely to continue into the spring, and be of immense help storewise.

This is the time of year for beekeepers to go on holiday if they can afford to, or perhaps by choice get stuck into preparations for the prospective good crop.

There is nothing more comforting than to know that there is ample gear on hand to cope with a heavy flow when it comes. It is too late to rip around trying to make up supers when the flow has started.

With the poor season just past, and some beekeepers expanding heavily, wax for foundation will be an expensive item if they haven't stockpiled surpluses from previous seasons.

Rivers changing course without notice in our deluge of a couple of months ago wiped out one outyard and isolated other yards as far as access was concerned.

The long fine spell and diligent work by the catchment board should by now have put things right.

Peter Lucas
Harihari

NORTH OTAGO

The season has come and gone and North Otago, like most other areas of the South Island, had its share of problems with the drought. Overall we would be below average, so it means a little bit of belt tightening with the prospects of that new truck or car put off till next year.

However, there does not appear to be many signs of lamentation with our members; most take the optomistic view that with the bad season all round, the price of honey has been pushed up to a more realistic price in keeping with our rising costs. We will all reap the benefit of it with next year's big crop, so it is quite true good does come out of adversity.

One thing that we will have to do is to keep a watchful eye on all hives wintered down early. With the continuing fine spell queens in most areas are still on the lay and hives are at exceptional strength for this time of the year.

Our annual meeting was held on April 23 and officers were re-elected for the ensuing twelve months

George Winslade
Oamaru ▷

NELSON

After a disastrous summer season, a warm autumn with plenty of sunshine and some rain in early February brought on a reasonably good honeydew flow with most hives getting good winter supplies as well as helping financially in the worst season for many years.

Our AGM saw us with a new club president and we all wish Mr Rex Boswell a good term in office. Retiring president Mr Mike Boskitt, who stepped down because of overseas commitments, has done a good job, under sometimes difficult circumstances and we are very sorry to lose him.

Seemingly endless anticyclones have given us a good autumn. Let's hope for the same for winter.

Jeff Lukey
Richmond

OTAGO

Summer was not much, that is to say January when it counted for the beekeeper. But autumn has made up for it, weather-wise. We have had some beauty weather with sun day after day and mainly calm conditions. Colours have been and still are the best they have been for years.

Most of the extracting is finished, early for this part of the country, but then there wasn't all that much: Listening around, if one has got three tonne per 100 hives it is not too bad.

It has been patchy with some sites barely heavy enough for winter with no surplus and in odd corners a return of five to six tonne per 100.

The good autumn weather has helped considerably to winter down colonies, and especially, pollen stores are good.

We are planning now for the Tuesday after Queen's Birthday, when we will have the Otago-Southland Convention. A good programme is promised.

A queen breeding course has been held at Telford Farm Training Institute. Those members of our branch who attended are full of praise for what was offered.

Our new chairman is Bill Houston from Dunedin, a keen hobbyist, the secretary, John Foote (son of Charlie, well known), and the treasurer is Neil Walker.

A fair number of hives seem to come on the market; four storeys with floor, roof and excluder in good condition are selling for $100. I bought my first lot a good 20 years ago for £5.

John Heineman
Milton

SOUTH CANTERBURY

After the very hot summer we have at last had rain, which was sufficient to break the drought but was of course, no use at all to beekeepers.

The country greened up nicely but the frosts have come early so that has stopped all grass growth. Even though we did have rain the autumn weather was ideal for finishing up our beekeeping work. Those who do autumn requeening had a great run with the mating, in many apiaries close to 100 per cent mating was obtained.

Most local beekeepers have now finished up their beekeeping work for the season, and with such a poor honey crop that they are looking at ways and means of supplementing their income, or stretching their income to spread over the rest of the year till next season.

The local branch has been almost inactive but with the annual meeting and remits for conference to be considered we should see the locals getting together again.

To look back over the past season is interesting: First South Canterbury has had the poorest honey crop since 1956 when an almost total crop failure was experienced. Second, the very poor honey crop came in a season when early prospects were so very good and third, even though

so little honey was harvested the hives have wintered down very heavy in the brood nest.

Now that this season is behind us, many are looking forward to the next one with optimism, but if my memory serves me correctly, I am not able to recall a bumper season after a very poor one. It appears to me we can only expect an average honey crop next season, so fellows, do not place your hopes too high.

Harry Cloake

FAR NORTH

A final assessment of the honey season, after a heavy late flow, seems to be that the crops turned out to be about average. We trust that the hives will come safely through the winter on the remaining stores, particularly as large areas of gorse and red ti-tree are being cleared radically in the Far North.

We held our annual general meeting on March 8, calling for nominations for office of president and secretary. None were forthcoming and so a special meeting was called for March 22. Again no nominations were put forth and so the branch has gone into recess.

However, with the large number of beekeepers, particularly hobbyists with one or a few hives, there is plenty of interest in beekeeping and maybe an informal bee club will be formed.

Wendy Macpherson
Kaitaia

WAIKATO

Well, one thing that has shown up this past season has been that it pays to chase the honey crop, and those who did a lot of shifting got a lot of honey. In many places poor crops were gathered simply because the hives were left where they were.

As our Canadian friend told us, get the extractor going and keep it going, get the boxes back, and you will double your production, and be finished early.

In our March report I mentioned our season was two weeks late; it extended well into February due to really lovely sunny weather, but a cold wet snap put a stop when nodding thistle was still good for another box.

Crops seem to vary some as low as two tonne per 100 up to about seven tonne per 100. Demand for honey is strong, so it may be worth a little more later in the year.

C. Bird
Matamata

SOUTHLAND

The season of falling leaves is with us now, and winter is knocking on our door. Time for some to tidy up and look back on the past season and to plan next season's operations.

Although there was a general down turn of honey crop, hives are entering the winter with plenty of honey in the second box.

Autumn weather has been calm and sunny without our usual winds, and we have had a month of fine calm weather. The mind boggles and the body shakes at the thought of what would have happened if January was as good as this.

The Southland branch, to celebrate its 75th year of operation, is compiling information, experiences, etc; from the old timers of beekeeping from the Southland/Otago area to add a supplement to the book "Bees in their Bonnet" to cover the twenty years or so following the time that "Bees in their Bonnet" was published.

The branch feels that there is a mine of information and human interest stories available and good use of this should be made.

Alister Lee
Balfour

"We lead the world"

by Nick Wallingford

NOT LONG ago I managed to spend a week at the Ministry of Agriculture central library, thanks to the help of Mr Grahame Walton, chief apicultural officer. Among many other things, I found a lovely little volume that helped me understand a little more of what beekeeping was like before the turn of the century.

Forty-two years Beekeeping in New Zealand by Isaac Hopkins impresses me more than Cotton's "Manual" and Hopkins other work, because of its wider outlook on beekeeping. It deals not so much with the details of handling hives, but rather with the background against which early beekeeping took place. The larger issues of early marketing, organisations, and particularly the divergent attitudes of the box-hive beekeeper and the adherents of the moveable-frame hive.

Though bees came to New Zealand in 1839, their keeping was rather a personal concern until that period of the 1880s when the advent of the moveable-frame concept, extractor and comb foundation swept the world, giving the push into modern beekeeping as we know it.

Until the first moveable frame hive arrived in Auckland in 1876, all beekeeping was done in boxes or skeps, with the bees building their combs in a hodge-podge. At the end of the season, the bees would be killed with acrid sulphur fumes and the honey taken.

Skeps used were made of twisted straw laced with supplejack cane. The moveable frame hives that allowed the beekeeper easy access to the brood made both examination and manipulation impossible, and beekeeping was opened as a rich field for observation of behaviour and experimentation.

By 1879, Isaac Hopkins had already cut and made, by hand, fifty hives on the Langstroth style. The laborious tedium involved in such an endeavour must surely have weighed down even the most bouyant of hobbyists, and he shortly afterward turned over the supply of bee-ware business to Bagnall Brothers.

With the lure of vast acreage of white clover blossoms on the estate of J.C. Firth, Hopkins relocated to Matamata taking 45 hives by steamer up the Waitoa River – what a trip it must have been. Here he established, just about 100 years ago, the first commercial bee farms at Matamata, and continued to raise queens from the breeding stock he imported.

After his first importation of two hives of pure Italian bees from California in 1880, he continued to bring in various strains of bees, including Syrian, Cyprian, Holy Land, Carniolan, and Swiss Alpine bees.

Tanging the swarm.
"The Beekeeper Book".

After successfully transporting nuclei of some of these strains, he secured permission from the post office to enable him to send queen bees by mail in shipping cages, presumably similar to the Benton cage still much used today. He claimed virtually a nil loss with these after exporting queens all over the South Pacific.

Early foundation mills were discussed extensively, reminding me again how self-supplying our early beekeepers had to be. After importing a number of such presses and rollers, Hopkins became quite adept at producing fine comb foundation and buying and selling beeswax. One of his visitors went away and created a set of rollers of his own, using two wooden rollers studded with hob nails!

The early attempts at forming a national organisation were described, with the first meeting on March 21, 1884, and the first national conference one year later, in Auckland with beekeepers from Gisborne, Taranaki, South Waikato and North Auckland attending.

The scourge of foul brood through the 1880s, appearing first in Hawkes Bay and Taranaki, then becoming an epidemic throughout the country caused a 'dreary, disheartening period' up until 1905. Box-hive keepers, unable to regularly inspect the brood nest, allowed colonies to die of the disease, then hived new swarms in the contaminated boxes.

Only through serious measures, including the appointment of two apiary inspectors to cope with foul brood, assist legitimate beekeepers, and abolish box-hives, was beekeeping again put on a viable basis.

The inspector for the South Island, incidentally, was W.B. Bray, the father of Canterbury beekeeper, Jasper Bray.

The early honey trade on the domestic market and the early exports to England and New South Wales revealed interest in cost of transport and the quality of the product. Some of the early honeys for sale were grossly mishandled, and it was through the influence of men such as Hopkins that quality products were eventually available. Unscrupulous and unhygienic dealings were brought into line, but not without several confrontations and marketing changes.

Hopkins took extreme pride in the introduction of compulsory grading for export honey in 1915.

From the introduction page of this fine book, 65 years old now, Isaac Hopkins makes a bold claim for New Zealand, one which I am proud to say could still be made:

> "I have kept abreast of all movements in the beekeeping world during (the last 38 years) and am therefore able to form a fairly correct estimate of the status of our beekeeping as compared with that in other countries, and I have no hesitation in saying that we lead the world in beekeeping."

He goes on to count an effective Apiaries Act, to fight brood disease, grading of honey for export, annual registration of hives, supervision over all imported bees, and the permanent inspectors of apiaries as our accomplishments.

I found it quite thrilling to see the inscription penned on the top of the page, Mr C.E. Cuming, with kind regards, I. Hopkins, and know that Isaac Hopkins himself opened the book once. I certainly was glad he put the book together from the articles he wrote during that time, as it gave me a much clearer picture of the adversity and challenges that beekeeping met in that critical era.

Spring pollen feeding

by T.G. Bryant, apicultural advisory officer, Tauranga.

THE ART of successful beekeeping is having all colonies at maximum population for the commencement of the major honey flow (Fig. 1).

To achieve maximum populations at the target period is fraught with pitfalls and pollen shortage is one that is all too common, yet least catered for by beekeepers.

The protein derived from pollen provides honey bees with the structural elements from which muscles, glands and other tissues are built. It is essential for the development of hypopharyngeal glands, fat bodies and other organs.

The rearing of a single bee from egg to adult requires between 120 to 145 mg of pollen. Pollen consumption diminishes at between 8 to 10 days of age by which time the young adult will have consumed 120 to 140 mgs of pollen.

Any shortage of pollen not only has a major effect on the ability of bees to rear brood, it also has a profound effect on the longevity of the adult bee, a point covered by Andrew Matheson in 'Autumn Pollen Feeding' in the March 1982 NZ Beekeeper.

Pollen deficiency can occur at any time and may be attributed to a number of causes such as climatic (too windy, wet, cold), shortage of flowering plants or overstocked resource (bees or grazing animals).

Don't be fooled by the fact that there may appear to be adequate pollen in the hive. One full frame of stored pollen weighing approximately 2.5 kg will feed just 10 000 bees and not all pollens are equally nutritious:

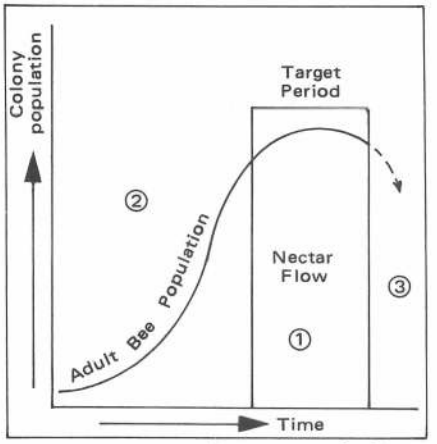
- Excellent – Clovers, tree fruits, willows, heather.
- Good – Dandelion, gorse.
- Poor – Pine, birch, poplar.
- Toxic – Karaka.

The symptoms of pollen deficiency are drones and late stage pupae in front of the hive, reduced brood, especially eggs and larvae and cannabalised brood, assuming the colony still has a queen as they are often reported to 'go queenless'.

Swarm cells or supercedure cells may appear and a white power-like substance is often observed on frames and combs.

The most obvious symptom is either a little or no pollen in cells, and the colony not responding to sugar feeding.

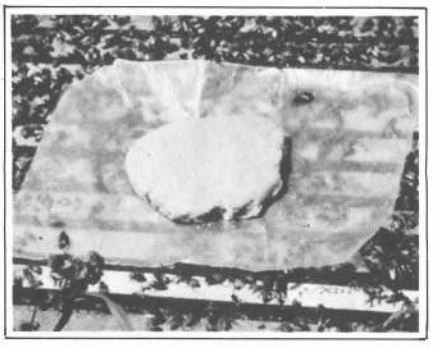
Figure 1.
Ideal relationship between colony build up and nectar flow.
Numbers on diagram indicate the various "problem areas".



When considering the implications of the above, it is difficult to understand why many North Island beekeepers regard a short pollen dearth in the spring as a good thing; it checks colony development and helps to prevent later swarming.

The more progressive beekeepers 'artificially' swarm the colony by making a top or taking a nuc, for either boosting failing colonies or making an increase which all things being equal, assures them of producing a honey crop.

Technically, there is a clear distinction between pollen substitutes and supplements but regardless of what you use, it should be used to supplement natural pollens.



How not to feed a pollen supplement patty. Paper must be up!

If a pollen deficiency is evident, then the development of the colony has been retarded, and the adult bees weakened as they will have depleted their body protein levels attempting to feed the developing larvae. To get the colony back on an even keel will take twice as long as where supplementary feeding had been commenced earlier.

The provision of pollen supplements/substitutes will *not* lead to the initiation or maintenance of brood rearing in colonies devoid of pollen; an addition of 10 to 20 per cent natural pollen is required to improve the acceptability of the supplement and provide the necessary stimuli for bees to feed.

The most common method of feeding supplements is to make up a candy patty and place it directly over the brood nest (see photo).

The patty should have the consistency of a good dough and while small lots can be kneaded by hand, for larger batches a commercial dough mixer (see your friendly local baker) is preferable. When mixed, make up balls of 500 to 600 gms, flatten to patty thickness, separate each with grease proof paper and store in the freezer until ready for use.

Where there is a severe pollen dearth and bees collect pollens they normally shun, – pine, corn, grass, – it is possible to take advantage of this strong stimuli to collect pollen and feed supplements in a dry form. Put the material in a tin and place it in an empty super on a floor board, cover with a lid. A relatively high percentage of natural pollen (15 to 20 per cent) is enough to attract bees and they will readily scrabble in the mixture, and pack it into their pollen baskets to carry it back to the hive.

This method, while having the advantage of being easy, is wasteful and some loss can be expected from dampness, particles not adhering to bees' body hairs and being lost en-route to the hive, and pests such as mice, pollen mite and weevils.

Another method used is the addition of yeasts to sugar syrups. This will assist the maintenance of body tissues in older bees and prolong their lives, but it is not known how this tech- ▷

▷nique assists brood rearing as it is essentially a means of feeding protein to adult bees.

While in Canada, Dr H. Shimanuki, apicultural scientist, Bioenvironmental Bee Laboratory, Beltsville, US Department of Agriculture, described tests with lactalbumen, a protein extender produced from milk. This product while in the early stages of development as a pollen substitute, is readily accepted by bees, and early results indicate bees can raise brood for nearly twelve months when fed lactalbumen alone. The product is now being manufactured in New Zealand (New Zealand Dairy Co-op, Tirau) and we hope to test it this spring.

Recipes

Pollen supplement (1 feed to 45 colonies).

Mix 2.25 kg of pollen in 8 litres of warm water. Stir in 12 kg of sugar until dissolved. Add 6.75 kg soybean flour (see footnote) and mix thoroughly.

Place 6.75 kg of supplement on a piece of wax paper and put directly over the brood nest, paper up. This should last 10 to 20 days.

NB: Soyflour – use only low fat expeller type; eg Staley 1-200. Dry pollen does not readily soften in sugar syrup and should first be moistened with water.

Without pollen

Sugar (2 parts by weight) plus water (1 part)

Soybean flour	(20 per cent)
Casein	(30 per cent)
Brewers Yeast	(20 per cent)
Dry Skim Milk	(20 per cent)
Dried Egg Yolk	(10 per cent)

NB: Skim milk contains lactose which is toxic to bees. Use sparingly.

Beltsville bee diet (Shimanuki):

Lactalbumen	35 gm
Sucrose	65 gm

Makes one patty.

Fish meal has been used successfully (fine powdered meal) when diluted to 23 per cent protein with sugar syrup, but regardless of what form of protein you use if you adhere to the desired final diet formula given you should be able to provide the desired final diet.

Desired final diet

$$x = \frac{(\%P)\,(WT)}{(\%S)} = \frac{(23)\,(100\ gm)}{45}$$

x = 51 gm; Add 49 gm sucrose
x = Weight of source proteins needed to make (WT) gms of diet.
%P = % protein desired in final diet.
WT = Total weight of diet desired.
%S = % protein in source.
(From Shimanuki)

Conclusion

The objective of beekeeping is to manage bees to attain a crop which can be converted into cash; to achieve that objective honey bees are required. To produce bees a good queen is needed in a colony of bees on a well balanced nutritional diet and that the colony be disease free.

To achieve maximum populations of bees it is often necessary to provide additional protein and carbohydrate to supplement stores within the hive and available food outside.

Best results are achieved when the colony is fed before natural pollen and honey supplies in the hive have been reduced too much. All too often potentially good honey crops are lost because colonies are built up on a honey flow rather than prior to the flow.

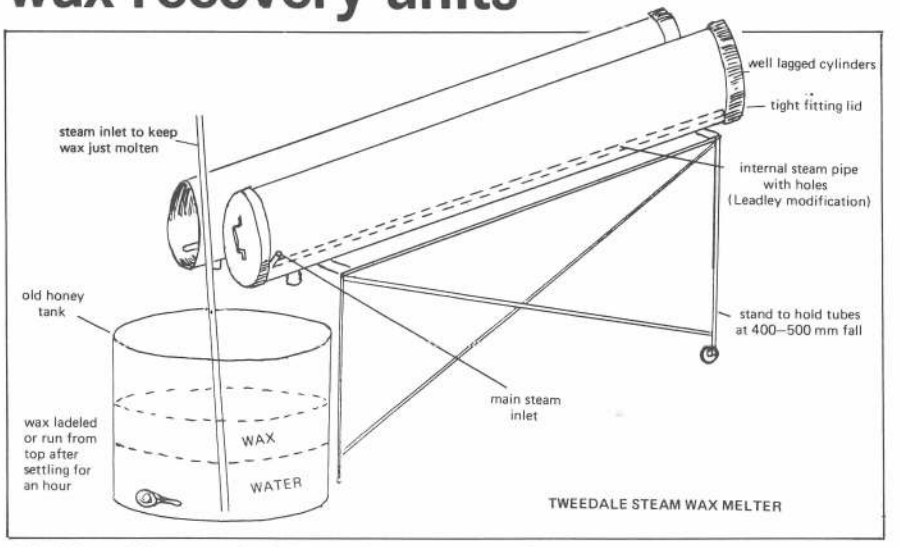
NB: An extensive list of references is available from the Editor.

No place for Heath Robinson wax recovery units

For some time Timaru apiarist Harry Cloake has intended to write an article for publication in the NZ Beekeeper. Following the publication of two articles in our March issue extolling the virtues of certain types of wax recovery units, he has put pen to paper.

"The articles give no indication of the efficiency or otherwise of the units", he writes. "Indeed, both can be classed as 'Heath Robinson', totally useless wax recovery units which would cost those who use them a lot of money."

For the September issue of NZ Beekeeper, we have asked a correspondent to evaluate a wax recovery unit which Mr Cloake claims is both efficient and cost-effective.



The Tweedale unit which Harry Cloake discussed

OVER THE years there have been articles published in the "New Zealand Beekeeper" on ways of recovering wax from old combs, slumgum etc. The March 1982 issue contained two such articles accompanied by drawings which would enable anyone to construct these units if they wished to do so.

Unfortunately, the writers of the articles have not given any indication of the real efficiency of these units and this is why I write this.

Sandy Richardson's unit was the first wax recovery unit described. It is simplicity itself and probably for the purpose he devised this unit, to melt out spun cappings, serves his purpose. However, as a unit to recover wax from any other material such as old combs and slumgum, its efficiency beggars description. Anyone considering constructing such a unit would be far better bundling up all his old combs and so on – and send them to the experts.

The Tweedale unit is specifically designed to cover the whole range of wax recovery. It appears it takes nine supers of combs at a time, taking about one hour to complete the recovery cycle and from this one must presume will process about 50 supers of combs a day, giving a wax recovery of 50 kilograms of wax or about 1 kilogram per super of combs. This is what one would expect from such a unit.

I would like to compare this with a wax press operated by Steve Robins at Pleasant Point, a press his late father, Len Robins designed many years ago.

Steve can process about 50 supers of combs a day, but recovers on average 2.04 kilograms of wax per super. He would use about the same volume of steam, same labour, very little greater capital investment and I am sure better quality wax. The Tweedale unit would recover (say) wax to the value of about $250 each day while Steve Robins $500.

Let us take this a little further; a small commercial beekeeping business of say 500 to 600 hives would have about 2 500 supers of combs in use. Giving a 20-year life to each super of combs, he would or should process about 125 supers of combs each year.

At a wax recovery rate of 1 kilogram per super would recover wax to the value of $625 while an efficient press would recover $1 250 and this just from the old combs.

Therefore, taking into account scrapings, other slumgum etc., the difference between the two methods could well be in the order of $800 or more and, with no more time involved. Of course, a large beekeeping business could well find the difference around $2 000. I know this actually does happen.

In my early days of beekeeping I used a press, a copy of the one Steve Robins now uses, and I obtained the same results as he. In fact, I actually recovered as much as 2.26 kg of wax from some very heavy old combs.

To further prove my point, some years ago a well-known North Island beekeeper found it difficult to believe the results obtained by efficient pressing, so he decided to put it to the test. He sent to me 23.1 kg of very dry slumgum, from which he extracted all the wax possible by his method.

I pressed this and recovered 7.7 kg of wax, exactly one-third of the weight of the slumgum. That convinced him. (Stuart, next time you know where there is a couple of loads of slumgum, please let me know.)

It is a pity articles such as these last two appear from time to time without giving the full details of the performance of the units described. Also, while suggesting to beekeepers how inexpensive they are to construct and operate, they neglect to advise that they could be one of the most costly pieces of plant a beekeeper could install.

There are many very efficient wax recovery units in the country, all using efficient presses, but I am sure for pure efficiency and comparatively low capital investment Steve Robins' press beats the lot.

Several large beekeeping businesses are now using air-operated presses. These are extremely efficient, but as a large air compressor is required, would be costly for a one-man operation to install. Nevertheless, a co-operative plant owned by several beekeepers would be a sound investment.

The day when beekeepers spend their time poking about with 'Heath Robinson' affairs has long gone, and the day of efficient modern plant has arrived.

One day's wax recovery in a good press would go a long way to paying for it.

A FRESH START

PART FOUR

The season's end

SOMEHOW MY plans always get modified. A year ago I started to write a series of detailed articles in logical sequence on amateur beekeeping and then along comes a flood of enquiries on something or other, crying out for answers and not to be denied.

This time, because of the time of year, the subject is honey and the honey crop and what to do at the end of the season. I will start with specific points that have been raised and then hopefully fit them into a general background.

First, what to do as the honeyflow tails off but all supers are full? Do you add an extra box? Perhaps you only have foundation-filled frames if you are in your first season. Do you use these?

You do not slap an extra box on. The commercial people might, or not bother and settle for what is already there, dependant on how busy they are or when they visit, but you can be more precise than this.

All that you do is to remove a couple of sealed centre combs and replace with empty ones, with foundation of that being all you have. That gives the bees the storage space they need without giving them a complete extra super to mess up.

If they have such a super it will be only partly used, honey will be unsealed, and the complications are endless.

You could, of course, extract and replace supers but it is often most convenient for the beginner to extract all at once and at the end of the season, particularly if he does not yet own his own extractor, and if he is going to extract and replace, this is best done at the height of the honeyflow when the bees will immediately start to re-use and re-fill and re-seal those frames, not towards the end when only remnants of nectar are coming in.

What is to be done with frames that remain only partially filled and partly or wholly unsealed at the end of the season? This is a query I am asked all the time and am happy to answer here once and for all (Be warned! Any future enquirer will simply be sent a copy of this article).

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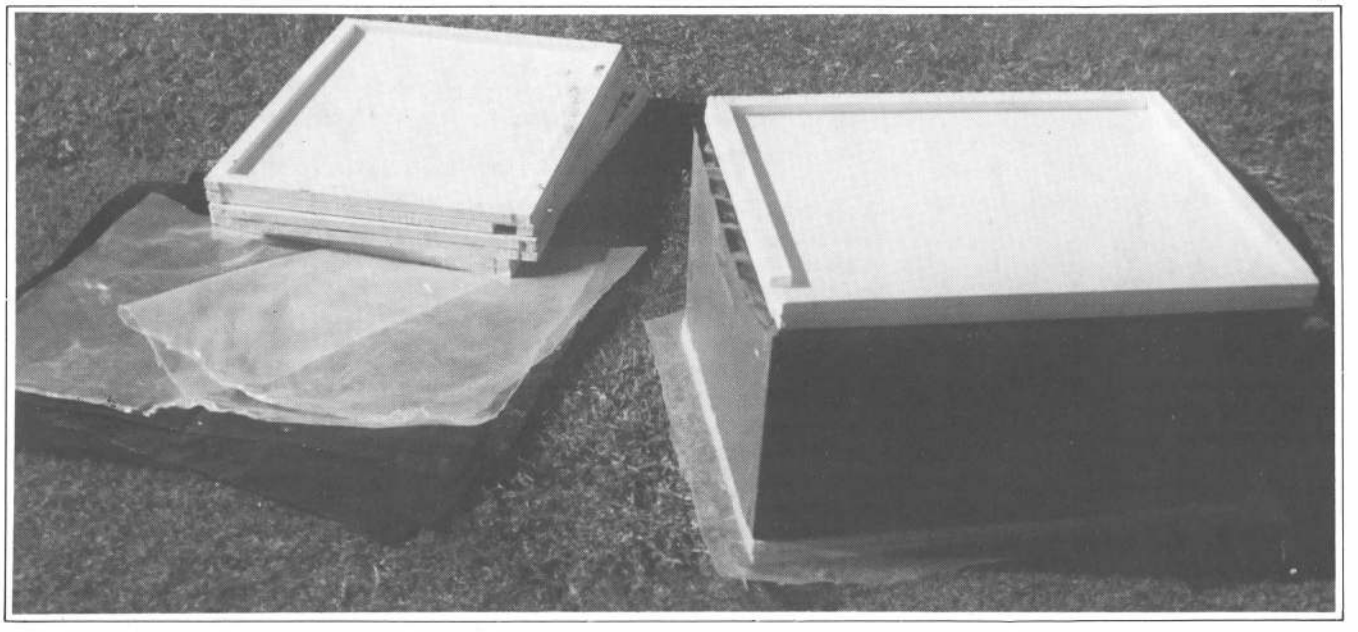
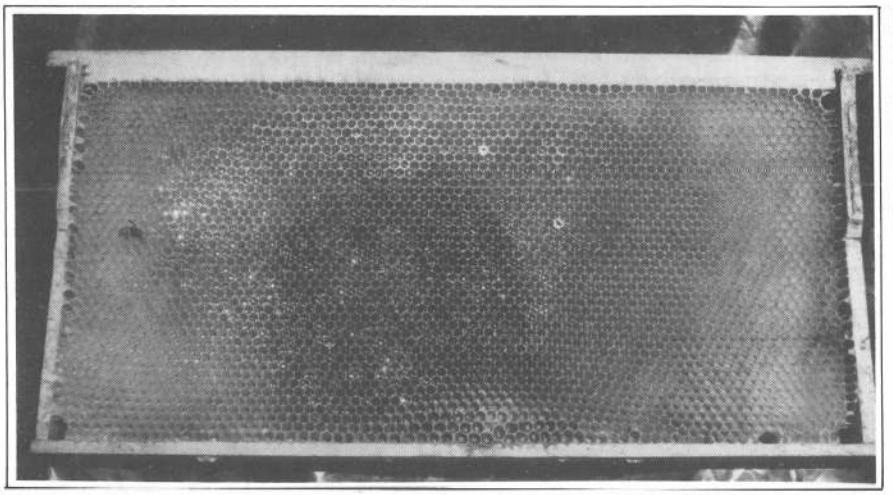


The least-mess, least-fuss way to store – inner cover-type stands, plastic drip catchers.



Unsealed April frame. Ripe but vulnerable.

Points I would like to make are:

• This problem arises partly because of the incurable optimism of amateurs. They pile supers on well in excess of the bees' capabilities to utilise them, and the bees go happily up the centre frames scattering honey as they go.

Come the end of the season, the nectar flow comes to a gentle or abrupt halt, and the large numbers of workers required to go up there, concentrate and seal this scattered honey into just a few frames, sensibly stay down the bottom and get on with the job of preparing for winter as the temperatures drop.

So that, from mid-March on here in Rotorua, I can leave unsealed frames on my hives until the cows come home but they won't get finished. The bees simply don't see the point of sealing half-filled cells, nor of going up there when it's much nicer down here, although a few might take a stroll up there in the heat of the day.

• The problem will be only slight if the beekeeper keeps supers only just ahead of the bees' needs – they should always have ample room to store and ripen nectar but not ridiculously so, and sealed combs should be either removed or moved to the sides, and partially filled combs moved to the centre of the super throughout the honeyflow. That makes for maximum efficiency and maximum crops.

Bees work best on centre combs directly above the brood nest so that this is where unsealed combs should be concentrated.

• Note that even unsealed, this honey is 'ripe', at a moisture content at which it will not ferment, that it will crystallise if left unsealed in the comb and that it is quite okay for winter stores.

• These frames may be either extracted along with sealed honey or used as the central frames in the second brood box when settling them for the winter.

The bees will be happy to cluster round and munch their way through.

Bees will almost invariably devour unsealed honey ahead of sealed, for obvious reasons and, I must confess, that I have no hesitation in overwintering in three boxes incorporating some unsealed feed frames if I feel like it.

What do you do with the sealed frames taken off at any time, or even with the supers taken off ahead of the extraction date?

This is one reason you need your own beekeeping corner, a clean garden shed, the spare bedroom, the second garage, or whatever. Frames and supers taken off always drip honey. It is one of those laws of nature.

The way to store with minimum mess is to upturn a hive lid or inner cover on the floor and cover it with an oversize oblong of plastic.

Everyone can lay their thieving hands on a bit of black plastic or the remnant of a large plastic bag. Put a spare super on that and put the frames in, then cover top as for the bottom to make it dust and dirt and bee and moth and wasp proof.

You can pile up the supers on such a base as high as you like or until they meet the roof.

When extracted the frames go back to the hives to be cleaned up, the honey-catching plastic is carefully picked up by the edges and corners and disposed of, to be replaced by a clean piece, and the supers with now clear frames stored on it in the same way until required next summer.

One thing to remember at this stage is, if you are painting top covers and using them for this sort of thing as well, latex paints absorb honey and then grow a nasty black mould. I use two-pot Epiglass undercoat on mine which will stand up to anything – including being washed in boiling water.

And that is all for this issue. Good beekeeping, and see you in September.

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.

HIVE MATS AND COVERS

Dear Mr Williams,

I would like to ask you why you promote the use of hive mats over inner covers.

When I started beekeeping I used hive mats which were being glued down very hard with propolis. I have since changed to inner covers after attending a beekeeping seminar and the bees seem quieter and the hives are also easier to open.

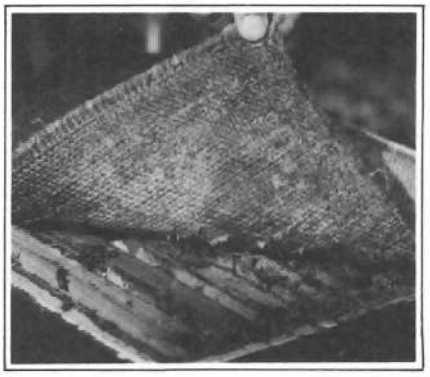
I approached a local semi-commercial beekeeper who used only mats for the reason of condensation which is a great problem for bees, especially in winter. But this is overcome by placing hive lids up on matches to give a ventilation gap during winter. The bees do not appear to block the gap with propolis. ▷

Could you please give me your opinion on this and what material is recommended for the mat/lid and also what is the general practice overseas.

Yours,
David Adamson

You will have already concluded that the use of hive mats or inner covers is not a 'right' or 'wrong' situation. I have tried both on my few hives and, from using hive mats for the first ten years and inner covers for the next five have reverted to hive mats and continue happily with them.

When I first rushed into beekeeping, I discarded the mats as soon as they were even moderately propolised and probably went through two or three mats per hive per year. Then I came to my senses, and realised that the bees actually liked sealing themselves in with a nice propolised wax covering over the top and that the original raw sisal of the mat was alien and abhorrent to them.



A nice, sweet-smelling hive mat, easily peeled back at the corner for a quick, low-disturbance-level check on the colony.

I now only replace when the edges or corners are too eaten out or there are too many holes in the centre.

Certainly the bees attempt to seal them down but, unless the hive is grossly neglected, this never gets to a stage where an overwhelming display of force is required to remove it and through spring, summer and early autumn, with weekly or fortnightly checks and examinations, mats remain easy to remove.

Concern[illegible] inner covers; it is unnatural for bees [illegible] cause they prefer to form their combs from the top down, to have any space above this they will constantly try to fill it. I have seen the space between inner cover and top frames solidly wedged with comb and honey many times. Removal of those inner covers certainly disturbed the bees!

As for overseas practices, perhaps other readers may be able to tell us of those.

You must decide for yourself which – either hive mat or inner cover – you prefer using, of course bearing in mind, availability and your own beekeeping techniques.

An inner cover is an extra piece of equipment that must be bought or made, carried, stored, cleaned, and all the other things that one does with equipment. A hive mat is a hive mat is a hive mat! Soft, floppy, easily carried and stored and used and disposed of – a very low technology item.

Yours,
David Williams

QUEEN LAYING, CULL COMBS, VENTILATION AND ROBBING

Dear Mr Williams,

I have just completed my third season of keeping bees, and now that I know more about bees, I have several queries.

Queens: When would you expect queens to stop laying? For the last two weeks neither of my hives has had either eggs or any brood, which means that egg-laying stopped in early March. Is there a temperature factor in egg-laying? We had frosts on 15 March, and severe frosts with snow at Easter.

Culling combs: My initial hive had several very dark and distorted combs which I wish to cull. What is the best time and procedure to have them empty of brood and almost of stores? What is the best method of processing for wax recovery? I made a solar wax melter this season for cappings wax, and it produced temperatures of 115 degrees C, and I presume this would do for the cull combs.

Ventilation: I have seen references to additional hive ventilation, either by staggering the supers or partially raising the cover, to assist with nectar evaporation, or to prevent comb melting. Is this likely to be necessary in any part of New Zealand?

Entrance reduction and robbing: I have reversed the bottom boards, and reduced entrances to three inches, and yet on inspection found a bumble bee and wasps inside the hives. Wasps have been very bad here this year, but I am more concerned about introduction of disease. What more can I do? With very little nectar around now, apart from some brassica, any time I open a hive there is soon an aggressive cloud of robbers in the air, so I am reluctant to spend any time looking for a queen, or any other detailed examination.

I look forward to hearing from you.

Yours,
Jon Dumble

A queen lays at a rate determined by her food intake. Her food intake is, in turn, regulated by her attendant workers. Their rate of supply to the queen is determined by a number of factors but primarily by the size of the colony, the state of stores in the hive, any nectar brought in by the field bees both as to quantity and and quality, and by external factors such as temperature. A sudden spell of cold weather would inevitably result in a cessation of egg laying.

In culling combs, the technique is to move them to the outside of the brood chambers when nearly empty, in easy stages if with brood, to allow it to emerge before actually at the cooler outer edge, and to remove at the first spring examinations. There is no urgency over this. It should merely be done as and when convenient to the beekeeper and safe to the brood and bees.

Wax melts from 45 degrees C, a little higher for darker wax, and it is reported that it suffers progressive time-dependent thermal degradations from 120 degrees C on. It is the general experience with amateurs that old, black combs are never worth rendering. They do not give up enough wax to make the effort worthwhile and it is better merely to cut them out and burn them.

Extra, formal hive ventilation is never necessary in New Zealand.

Your query on entrance reduction is a timely one, as is the question of the wasp nuisance.

There should be no necessity for you to open any hive at this time of year. The main stress on queens is in spring and, after the honeyflow starts, they really coast along safely into autumn and winter as a general rule. Apart from ensuring that hives are strong and have more than adequate stores from early autumn on, hives should be left undisturbed.

And now to the vexed question of wasps and entrance width. I have no hesitation in closing my entrances down to as narrow as one bee width if wasps are about, and even on my strongest hives and with no wasps about have an entrance no more than 30 mm wide at this moment. That helps to ensure that the hive micro-climate is easier to maintain, keeps out the worst of the wind, and will certainly assist the bees in repelling any visiting wasp. In the worst cases of wasp attack I recommend **immediate** *hive removal to a wasp-free area.*

Yours,
David Williams

ABOUT TIME we had a good argument going in the N.Z. Beekeeper, something to boost circulation and get the old red corpuscles going.

Single or double brood chamber?

SINGLE	DOUBLE
• All frames may be examined without complication	• Two storey gives more natural shape i.e. oval through centre of 2 storeys, stores on outside and above.
• militates against use of 9 frames per chamber, 10 mean first difficult to remove	• two storey reduces congestion, gives bees more room to move and rest in
• encourages swarming, does not allow easy queen cell check	• more room, less stress, less swarms, easy queen cell check
• insufficient room for stores and bees at end of season	• allows ample room for winter stores and for bees to move into them
• economical – only one box and set of frames	• cost factor only minor for amateurs

IT ALL COMES down to shape, size, and convenience.

To me there is something unnatural about a brood nest ("nest" being used to describe the actual area used by the queen) squashed down on one set of frames and I would find this particularly so because I do not use inner covers, but hive mats so that the bees would not be able to easily circulate over the top of the frames in their winter cluster.

The natural shape for a brood nest is oval and in the centre. In "wild" colonies where combs have been drawn freehand, as it were, the queen and her brood are tucked away in the warmest, least exposed and best protected section in the middle. There is no extension out to any outer boundary.

In a hive, a two storey brood nest hive, this corresponds to an area roughly bounded through the bottom two thirds of the two storeys, with brood being absent at the bottom edge, in all outer combs, and at the top.

I have in the past known beekeepers who managed very well with a one-storey brood chamber but these have been of either a "Jumbo" or a "Super" size i.e either holding frames larger than we are accustomed to, or more frames (usually 12) than we are accustomed to.

I have no objection to "investing" two boxes of 9 frames each in my brood nests. In the past I have usually made my own frames and always made the boxes so the expense was minimal, but even with full purchase price paid it is only a small amount, once.

And I certainly like a bit of extra room to play with in my bottom boxes. Nine frames means they are easy to remove and replace without upsetting the bees, I can pop a frame feeder in if ever required, I can swop top to bottom without a qualm.

I swear, with right hand held high, that two boxes keep the bees happier and healthier and that anything that has that effect on them has the same on you!

Now let's hear from the one-storey men.

– **D.W.**

Drilling through glass

I WAS INTERESTED in Murray Reid's article (N.Z. Beekeeper June issue) on getting bees out of the honey house. It seems a very cunning device, to have GO/NO GO zones up the windows leading to exit holes at the corners.

I made the mistake of having non-opening windows when my small honey shed was built and inevitably found that bees once in were difficult to get out. I too tried to drill holes in the window corners to let them out, and a very expensive exercise it was.

Having read Murray's article with its casual statement "There are drill bits made for glass" I asked Nigel Cummins, our friendly industrial chemist, how to get those escape hatches in.

- A short piece of copper tubing, end plugged with an extension to fit in an electric drill, is used. This is used by dipping in a mixture of carborundum dust, or grinding paste, and glycerine. The copper tube does not have to be sharpened – in fact, better not.
- A carbide tipped masonry drill will drill through glass. The drill bit may be centred by scratching a small X with a diamond cutter at the desired location.

  It is necessary to drill against a backing of some sort such as a block of wood very firmly wedged against the glass.

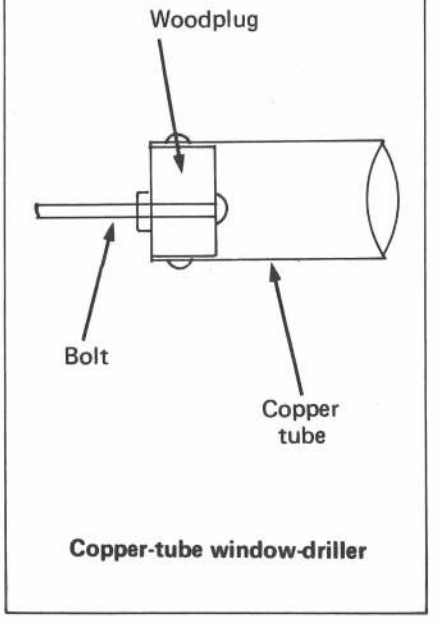
In both cases it is essential to go slowly and not heat the glass up or it will crack. An assistant with a water spray may be essential with the masonry drill.

I did follow up Murray's glass drill possibility. The hardware department of those indefatigible advertisers Smith & Smith said they had heard of such a bit but never seen one. Their glass department stated that their specialities were finger holes in sliding glass panels or X-pel air vents in windows. They doubted if they "could drill holes in windows like that." This was reinforced by a phone call to the local branch of the Auckland Glass Co. who said, "pretty impossible in ordinary glass like that."

So there we are. Perhaps I'm not the only one to break windows when I try to put holes in them.

PS. One of my colleagues thinks he remembers something about something on Of Course You Can Do It or one of those TV programmes. He doesn't remember anything about it except that it involved Plasticine.

– **D.W.**



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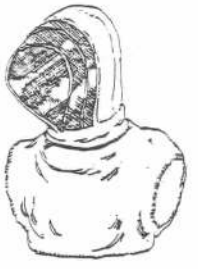

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Shedding the hobbyist mentality

by Andrew Matheson, MAF, Nelson and Kerry Simpson, MAF, Oamaru.

MANY PEOPLE in New Zealand currently building up their hive numbers are now passing through (hopefully) on the rocky road that leads to a promised land somewhere called 'commercial beekeeping'.

Those wanting to build up their own beekeeping business from scratch (a process rather like pulling yourself up by your own bootstraps) find that they encounter many difficulties:

All these people have started out life as a hobbyist. That isn't necessarily a black mark against them forever (like a form of apicultural apartheid), but it does mean that at some point along the line they have to stop thinking like a hobbyist, and start thinking like a person who is in it for a living. That's a hard process and it doesn't happen overnight, but will probably make the difference between success and failure.

Beekeeping is simple. All you need to do is get strong hives for the honey flow. Anything that happens after that, like 25 rain days in January, is completely beyond your control.

We get strong hives for the honey flow by having: Young queens; adequate feeding; disease-free colonies.

All these three are bonded together with a common theme – TIMING.

It's all very well having a young queen, but this year there was a lot of requeening close to the honey flow. The methods used resulted in a break in brood-rearing for a week or so, which meant a break in emergence three weeks later, and a break in forager recruitment three weeks after that. Those hives didn't produce anything in a season like last one.

If you can't buy queens early enough in spring (a common problem, especially for new customers) then either buy them in autumn or raise your own. If you don't know how to raise them, ask your MAF adviser to show you or to organise a field day or Farm Training Institute course.

A well-fed colony; simple enough, but again timing is the most important thing. A lot of feeding is simply wasted because it is not regular enough. The momentum of the colony's development must be maintained – feast or famine feeding during spring is of little use.

It's amazing how many colonies (last season especially) built up on the flow and are now wintering well. Remember that workers generally don't forage until they're three weeks old, and before that they have spent another three weeks developing, and remember that you want peak population of foragers at or prior to the beginning of the main flow.

Learn your local conditions and do your sums correctly.

When you're desperately trying to make increase by thrashing your own hives for nucs, burning them is a fairly counter productive sort of exercise. Matheson's maxim of beekeeping states that every person building up a beekeeping business will suffer a plastering of BL at some time. Murphy's corollary of this law states that this plastering will happen at the worst possible time.

In our experience as advisers this often seems to be at the 100 to 150 hive stage, and it seriously hinders an expansion programme. If you were intensely philosophical about it, you might welcome this disease outbreak as a good thing, which it probably is as it may prevent a huge outbreak when you've got five times as many hives to deal with. However, most people would be keen to prevent it happening at any time, so:

- Study healthy brood and learn what BL looks like. Go out with a commercial beekeeper when he finds some.
- Always check brood before taking honey off.
- Check brood before swapping brood or stores.
- Never allow diseased hives to be robbed out.
- Don't worry about the other bloke's hives more than your own.

That list is obviously not comprehensive, but following it will eliminate most of your disease problems.

The hobbyist mentality shows itself in many ways. It may sound too obvious to mention, but of course you harvest boxes of honey from your hives, not frames (given a good season). And then you can take the frames/boxes thing one stage further and start to learn to manage apiaries, not hives.

One of the main secrets of beekeeping (and the sign of a 'bee master') is to have all the hives within each yard as even as possible. This simplifies management no end, and saves a lot of time – when you've studied a few hives you'll know what the rest need doing to them.

How is this achieved? It really only comes with practice, but you should try to be able to treat each hive the same; requeen them all together, feed them the same. Even them up in brood and stores (BL!) and stop drifting – that's where foraging bees 'drift' down rows of hives so that some get super-strong and most get super-weak.

Drifting to ends of rows (and downwind) is painfully obvious in many yards, and is definitely costing quite a few people some honey. Don't paint your boxes all the same colour and don't put your hives in straight rows.

Drifting is definitely costing quite a few people some honey. Don't paint your boxes all the same colour and don't put your hives in straight rows.

One person we visited had some hives of beautiful natural wood boxes – they were in two straight lines, and he was quite worried about the obvious drifting to the ends of the rows (and especially downwind):

Adviser: "Paint the boxes different colours."

Shocked beekeeper: "No I couldn't do that, it would look terrible. Can't I just nail little bits of coloured tin on the front of each hive?"

Adviser: "Not big enough – get out there with a spray can and do the whole front."

Remember that we should learn to think like bees, rather than expect them to adopt a human sense of artistic values.

Having just a few passenger hives reduces overall honey production per hive (which is what really counts). You can kid yourself for a while by doing crop estimates over 'the hives that produced' and ignoring passengers, but the bank manager isn't so easily fooled when the bottom line shows the true picture.

The same goes for crop estimates which include feed, or five tonne crops which needed four tonnes of sugar to produce.

Passenger hives are usually the result of a poor queen and/or slow build up, and both of these can be overcome if plenty of nucs are run throughout the business. Some people suggest that the ratio of nucs to honey-producing units should be as high as 20 per cent – distributed throughout the apiaries. I wonder how many people don't even have 10 per cent.

As your hive numbers expand so will your number of sites – but make sure that as you consolidate, sites are fully stocked to cut down excess running.

'Holding down an area' with understocked apiaries is by no means the sole prerogative of hobbyists. It's a sign of beekeeping maturity to define the area of your operations and stock it fully. Some beekeepers reach maturity sooner than others.

Remember the fundamentals of site selection – closeness to nectar and pollen sources, shelter, sunlight, air drainage, protection from floods, and access. That last one is quite important – it seems that hobbyists are quite prepared to perform death-defying acts while carting full-depth supers of honey out of bizarre apiary sites.

Recently I had to inspect some hobbyist hives in Nelson city, and as I banged in the last piton on the traverse across to the hives I enquired whether anyone had ever fallen down from the site. "Oh yes, I fell down once while carrying a brood box. Killed the queen too."

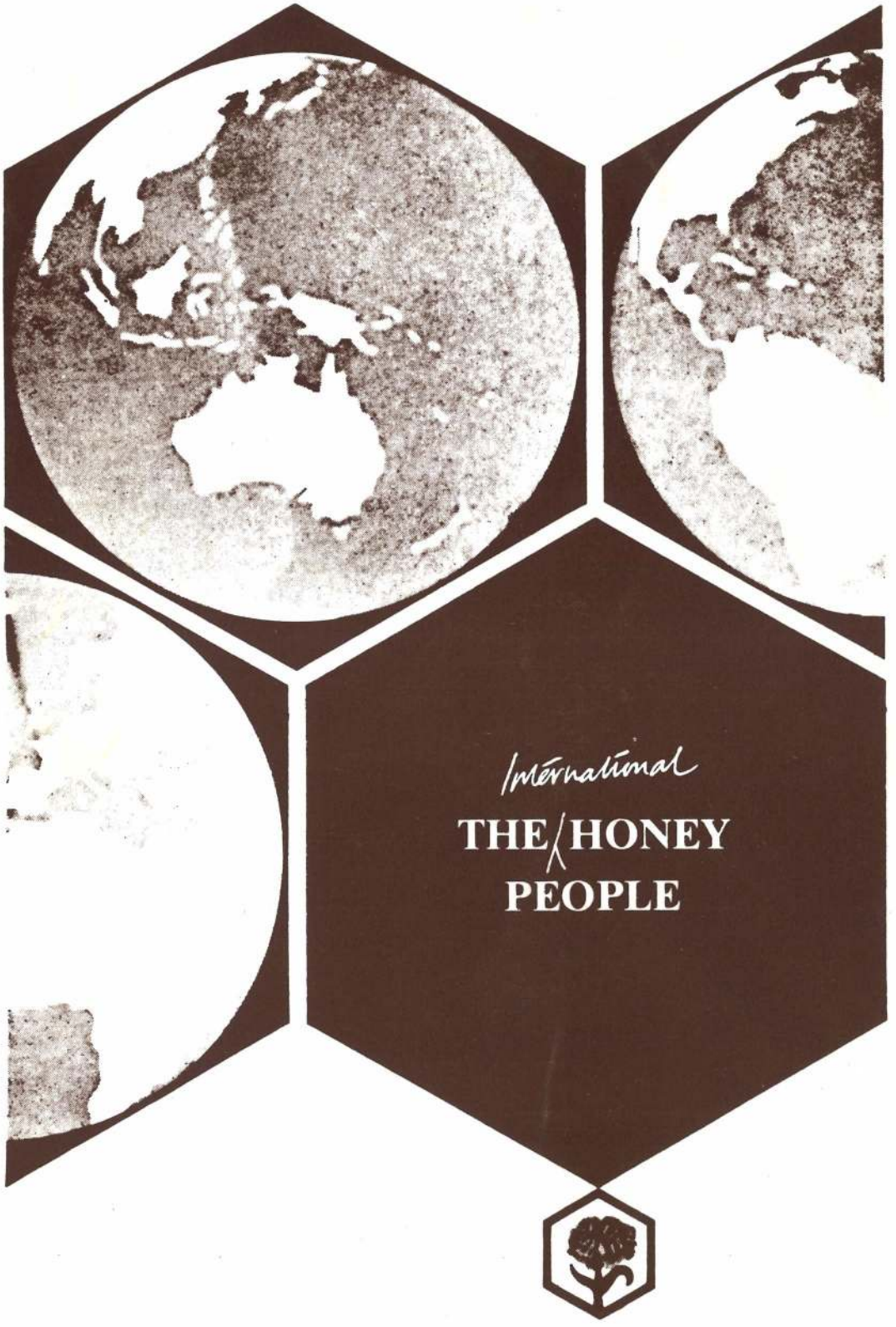
Minor inconveniences like this become major drawbacks when multiplied enough times – year round vehicle access is essential for apiaries.

When we advisers go to do a day's work with beekeepers, it soon becomes obvious that one of the reasons for the invitation to come along is so that we can open gates.

It is completely baffling the way farmers can bear to spend half an hour disassembling and assembling a gate each time they want to go through, but it's none of our business.

Just remember that bees can fly over gates more easily than you can open and shut them (even good ones). Is it really worth going through 10 gates, two creeks and a swamp just to get your bees a couple of hundred metres further on?

This jab at beekeepers' consciences will conclude in the next issue with ideas on how to spend $3 000 on custom-made firewood, how to guarantee eviction from the Rural Bank's offices, and when 'enough is enough' in the honey shed.



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