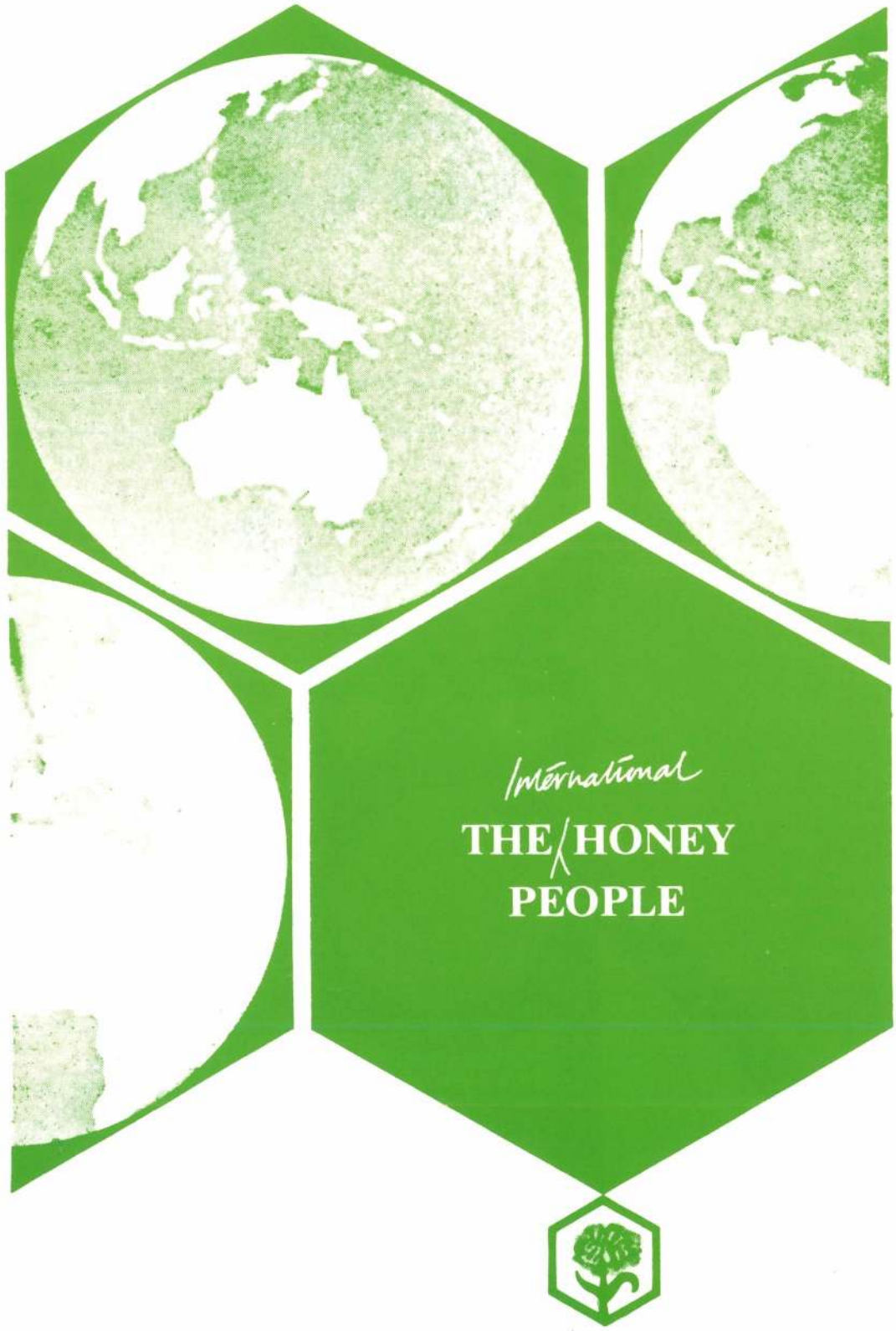
THE NEW ZEALAND beekeeper

JUNE 1980



International

THE HONEY PEOPLE

KIMPTON BROTHERS LIMITED

Honey and beeswax specialists

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EDITORIAL

Goodwill marks industry debate

AS THIS issue went to press, the top brass in the New Zealand beekeeping industry were making plans to join the board of the Honey Marketing Authority at their June 4 meeting.

The main topic on the agenda would be the Dellow report – a document which will hopefully have clearly outlined the financial, political, administrative and marketing structures necessary for the success of a proposed Honey Marketing Co-op (see story on page 5).

The outcome of the meeting will be awaited with considerable eagerness by many in the industry. For the decisions made by the HMA and its suppliers will affect all of our livelihoods.

It is to be hoped that detailed minutes of the meeting and explanations of decisions reached are widely circulated by the HMA so that when the National Beekeepers Association meets in conference on July 22, all delegates are fully informed on what has transpired.

For the first time in many years, the annual conference is not going to see a lush sward of remits. Hawkes Bay and South Canterbury branches, traditional sources of remits, are forwarding none and we hear that many other branches are in a similar position.

Instead, the scene is being set for the larger issue: The restructuring of the industry. And it is to be hoped that the conference might become a large learning workshop where all delegates and interest groups might help constructively plot the future path of the industry.

To date, progress has been rapid and goodwill evident everywhere. It's going to make for one of the best conferences of all time.

See you in Tauranga!

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Beekeeper rates

Advertising at these rates is available to registered beekeepers advertising products or services directly relating to their beekeeping enterprise only. In cases where the appropriate rate is in doubt, the editor's decision will be final.

Half page $65, Quarter page $35, 1/8 page $20, $3 /col.cm. Production charges will be made for single insertions of a minimum of $5. (This does not apply to classified advertisements.) No deduction for contracts. Colour extra.

Subscriptions

The NZ Beekeeper is distributed free to all beekeepers owning more than 49 hives who, after paying their compulsory hive levy, automatically become members of the National Beekeepers' Association of New Zealand (Inc).

Beekeepers owning less than 50 hives, will pay an annual subscription of $9.00 which includes the cost of a subscription of the NZ Beekeeper.

KING BEE

(WHERE THE NBA HAS ITS STING)

Little help from MAF

As MAF is unlikely to contribute more than $150 toward Dr Peer's expenses during his visit to New Zealand, the balance will have to be met by the National Beekeepers Association. At the time of the last association executive meeting in Wellington, committee members agreed to meet all Dr Peer's expenses above the $1 000 originally anticipated, and to seek reimbursement from MAF at a later stage where possible.

Clinch to the rescue

MAF's bee expert, Mr Pat Clinch has been asked by the NBA executive if he could do some work on the effect of the insecticide Sumicidin 10, an agrochemical used for aphid control on lucerne. A reply by Mr Clinch to an earlier request for information from the executive indicated that without a field experiment it would not be possible to measure the precise effect of this insecticide on bee colonies. Sumicidin 10 is known to be a potent insecticide.

An advisor for Hawkes Bay

The NBA executive has sent a supporting letter along with a request from the Hawkes Bay branch of the association to the Ministry of Agriculture and Fisheries requesting that an advisory officer be located in the Hawkes Bay area.

Long-term honeydew permits

Honeydew producers have told the Forest Service that the three year permits for honeydew producers gave an insufficient period of tenure. The association told the Forest Service that 10 to 15 years tenure would be more satisfactory.

Of concern to the NBA executive, is the need for honeydew producers to have a fire insurance cover when using bush apiary sites. As a result, the Honeydew Association is to approach the executive secretary of the NBA regarding the possibility of obtaining a national cover policy for these fire risks.

1980 elections

NBA president Paul Marshall, and South Island executive members, Mervyn Cloake and Tony Clishold, all come up for re-election to the NBA executive this year. Nominations for the elections close at 5 pm on June 11 and votes will be counted at 9 am on July 14.

Chairman's honorarium upped

At its March meeting, the NBA executive committee agreed to increase the honorarium paid to the chairman from $500 a year to $850. In the future the honorarium will be adjusted annually in line with general wage orders.

Subscriptions increased

The subscription to the NZ Beekeeper will increase from $9 to $10 per year, effective from January 1981.

Graham Beard retires

Secretary of the National Beekeepers Association, Graham Beard, has retired from employment as secretary to the Pork Industry Council and the National Beekeepers Association. A farewell to Mr Beard and a presentation will be made at the annual conference in Tauranga.

The new national secretary of the NBA is Mr David Dobson, who is also the new chief executive officer of the Pork Industry Council.

Canada — NZ exchange

The secretary of the NBA is to write to the Department of Labour outlining the problems of obtaining sufficiently experienced labour to work in the beekeeping industry. He will point out the advantages of an exchange of people with beekeeping experience between New Zealand and Canada.

According to Mervyn Cloake, the aim is to provide a pool of skilled seasonal labour for both industries which would not jeopardise the full time employment of New Zealanders.

Latest HMA honey price list

Effective from April 1, 1980
Cancelling all previous price lists

	Size	Pack	Price/Doz To Wholesale $	Recommended Retail Price $
*	250 g	Plastic Pot	6.08	0.73
3x	250 g	Gift Pack	20.19	2.42
	500 g	Wax Pot	11.03	1.32
*	500 g	Glass Jar	12.50	1.50
	900 g	Wax Pot	19.75	2.37
	2 kg	Tin	45.61	5.46
	12 kg	Tin	21.26 ea	–
	30 kg	Tin	52.25 ea	–

Price Includes:

1. Freight into store for all orders of thirty (30) cartons and over.
2. Freight to nearest railhead for orders of fifteen cartons and over.
3. Freight to client's account for orders under fifteen (15) cartons.

* Available in Floral Sources

The various varieties of Selected Sources are:–

White Clover	Tawari	Niue
Rata	Buttercup	Rewarewa
Pohutukawa	Lotus	Manuka
		Kamahi

However because of seasonal influences on variety sources, we reserve the right to substitute.

PRICES SUBJECT TO ALTERATION WITHOUT NOTIFICATION – DELIVERIES SUBJECT TO AVAILABILITY – NO CLAIMS WILL BE ACKNOWLEDGED AFTER 7 DAYS OF RECEIPT OF GOODS

Compensation for Varroa

VARROA DISEASE has been included by the Ministry of Agriculture and Fisheries in the first schedule of the Apiaries Act 1969. Chalkbrood disease has been added to the third schedule of the same Act.

Varroa joins acarine disease as the only two diseases in the first schedule of the Act. This means that in the event of an outbreak of either disease, beekeepers who had their hives destroyed as a control measure would be entitled to compensation.

Not so significant is the addition of chalkbrood disease to the third schedule. This schedule to the act is reserved for so called minor brood diseases. Chalkbrood is a fungus disease of particular concern in North America and Europe. It has not been identified in New Zealand.

The second schedule of the Apiaries Act is reserved for the major brood diseases, European and American.

Trees for bees

Just back from the Tree Crop Association Conference is NBA executive member Tony Clissold . . . .

THE NEW ZEALAND Tree Crops Association 1980 conference was held in Queenstown over Anzac weekend and I had the pleasure to be one of the few beekeepers there.

The conference had an attendance of about 400 people, from all sections of the community, with some of the best speakers and lecturers talking on planting, grafting, growing and harvesting of trees available in New Zealand.

The two days were taken up with morning workshops, where one could attend any of the 15 workshops at 30 minute intervals and learn how to care for the trees of your choice. There were also workshops on irrigation, shelter belts, beefodder, also trees for practical beekeeping.

The main emphasis of the whole conference was on nectar and pollen bearing trees; John Smith Christchurch MAF advisory officer was to the fore with workshops on beekeeping and beefodder. I did not attend his lectures but I heard he made quite a lot of folks keen on the idea of becoming owners of beehives.

The afternoons were taken up with the seminar on tree crops in the high country. Ivan Dickinson presented a paper on the joys and pitfalls of keeping bees in the highlands compared to the lower levels. Judging by the questions asked, Ivan had a most successful paper.

The Alliance Bee Supplies had a trade exhibit at the conference along with other trade related businesses.

One of the things that became quite clear to me is that if you are a beekeeper, and not taking an interest in tree crops, it is about time you did. There are tree crop association branches throughout New Zealand, so come on beekeepers, let's help ourselves by joining a NZTCA branch. Plant some of these lovely trees and help make New Zealand a nice place to live in.

Dellow report awaited by HMA and co-op

by Trevor Walton and Bronwyn Falconer

THE PROPOSED honey marketing co-operative is no longer a dim light on the horizon. At a special meeting of industry representatives held in Wellington on March 18, the chairman of the HMA, Mr Percy Berry, said that the HMA had decided to support the formation of the new co-op and would disband at the appropriate time.

This move has the support of agriculture undersecretary Rob Talbot. In a message to the meeting, he said that the government was pleased to see beekeepers were prepared to take upon themselves the responsibility of marketing their own crop.

Although the HMA has decided to support the formation of a new honey marketing co-operative, there are still many details to be decided.

At the time this issue went to press, Mr Noel Dellow, a Timaru consultant was preparing a feasability study on the establishment of the co-operative on behalf of the HMA. Originally engaged by members of the South Island Honey Suppliers Association, Mr Dellow will now report to the HMA board in the first week of June.

Talbot: Has given government support to the establishment of a co-op.

On the basis of his report and their statutory responsibility to protect producer funds in their care, the HMA board members will decide how they will assist the establishment of the new co-op.

Among the matters to be decided are:

- Will the new co-op operate in both islands?
- What proportion of the HMA's assets should be transferred to the new co-op?
- When the new co-op should start up and when should the HMA's honey packing and marketing operation close down?
- Should the industry continue to have an export licensing authority and if so, should this function be carried out by the HMA board as presently constituted?

The March 18 meeting did not make any major decisions about the future direction of honey marketing in New Zealand as this would have pre-empted the Dellow report. However, it did enable each of the industry organisations represented to state their positions.

A report was received from the Honey Packers Association in which they gave their views about industry reserves, rebuilding, exporting and the formation of the new co-operative. Their greatest concern was what would happen to the assets of the HMA if it was wound up.

President of the packers association, Mr Herron, argued that the HMA's assets did not belong to the suppliers alone: That packers also contributed because returns for their honey were sent by price ceilings made by the HMA. The HMA also raked in profits from its monopoly on external markets. Mr Herron also reminded the meeting of the contribution made by packers through the old Seals Levy.

Mr Hayman, the government representative on the HMA, argued that 80 per cent of the industry's funds should be lent to the establishment of the new co-op because the HMA's capital belonged largely to its suppliers. He spoke of an interest rate of 1 per cent.

The remaining 20 per cent of the HMA's funds, said Mr Hayman, could be left in trust through the National Beekeepers Association to provide an industry fund which could be used for scholarships or other activities which would benefit the whole industry.

Percy Berry started a discussion on export policy for the proposed co-op. "It is a question," he said, "as to whether the present system (export under licence) is appropriate or whether an open market system is better. At the moment the authority has control of who can export. This stops fly-by-nighters from speculative exporting, ensures goods are of reasonable standard and prevents undercutting of prices on the export market."

Mr Berry said he thought control through the HMA was adequate in the meantime, but he suggested that export policy should be looked at if the proposed co-op became a fact.

"The system already developed cannot be thrown out until the new proposals are known to be more efficent," he told the meeting.

Percy Berry: Wants to see export policy review if co-op becomes a fact.

THE NEW BEEKEEPING

Adapted by Chris Dawson, Timaru, from a lecture by Dr. Don Peer of Nipawan, Saskatchewan, to the South Canterbury branch, National Beekeepers Association.

I'M GOING to get down to the bread and butter of what I consider to be "The New Beekeeping – producing more honey"

At the outset it is necessary to say that I am going to mess with your minds. I hope you will turn off all the negative and reject buttons knowing it won't work, etc., and when I finish, if then you want to switch on all the "No" buttons and chuck it all out of your head, it's fine.

But this stuff – some of it – is going to be new. Most of it is not written in the literature – certainly the second part. Since it is so new, and since it runs against most of the concepts already known, it will bother you.

I will simplify things to make them easily understood – genetics, new concepts, etc. What I am really going to tell you about are some new concepts and the reason that we came up with these is that we realised that in our area **we had to produce more honey.**

We had to produce more honey because our costs were very high and because we must compete with most of the honey exporting countries of the world.

Where did we start and where are we now?

For about five years, we have had poor crops and high costs. Average production in our area last season was 140 lb/hive. The average cost per colony was 125 to 135 lb/hive.

We realised about 10 years ago that we had to change. Inflation and world competition were big problems but, also, productivity in our area was going down.

That bee stocks from the United States were no better than they had been, and perhaps worse, was one reason. Of greater worry were problems with colonies and losses of honey.

Also, the cost of package bees and queens was rising rapidly – one year there was a rise of 150 per cent.

We did not believe, nor do I believe now, that over any period of time, three to five years, that the increase in price received for product will be the same or greater than the inflationary factor.

Therefore, we were faced with two choices: Either get bigger and pick up on that, or get better doing what we were doing. We decided to get better. That is easy to say but difficult to do.

Our first step was to form a group which under our law is classed as a co-operative. Our small group of eight members representing seven outfits has a total of 10 000 colonies.

We decided to closely examine ways to increase productivity – not to reject the post, but to take a hard look at it – not new hives or technology, but ways to increase production and economic survival.

After some time we made some headway. When I said that average production last year was 140 lb/hive, that was with those who are not using this New Beekeeping.

The average production of the group reached from 250 lb to 310 lb.

So you Kiwis think that's fine for Western Canada or elsewhere, but it will not work here. Well, I don't think I have brought much that won't work here. What I have brought is of benefit to you and to us.

To get a new concept, we discussed, read, talked etc. It is difficult to start a new concept on top of what we already have. We decided that the way we were going to beat this and the way to get better was to go back and start over again somewhere in the system.

At this stage, slides were shown. These gave visual information on points in the lecture.

Siting of apiaries

By the use of special bees and thousands of observations, the foraging range of these honey bees was recorded. For two summers, tens of thousands of observations were recorded on a chart showing visits up to a three mile radius.

Within a circle of one mile radius, 27 per cent of the bees foraged; within a two mile radius, 50 per cent and within a three mile radius, over 20 per cent.

Over half of the bees were working within a two mile radius. Bees fly a long way from their hives. We set down our colonies to cover all the pasture in a two mile radius.

Colony management

The next three slides were considered by the speaker to be the most important charts of management and management behaviour. The first showed thousands of bees in a colony relative to egg laying of the queen.

If the queen lays 700 eggs a day, it is because the bee population is very low. As the population rises the egg laying rate rises. When the colony reaches maximum population of 30 000 bees (about half strength of the colony) the queen lays 1 500 eggs per day. When the colony gets up around the 40 000 level the egg laying starts to decline. We do not understand why – we only know it happens.

Let's look at the ratio of sealed brood to bees. When only 10 000 bees are in a colony there are 85 000 cells of sealed brood, plus unsealed brood. This represents 85 per cent. As the population rises, the percentage goes down. So what? When you have a small colony, it has, per bee, and per total number, a very large task to look after brood.

As they get to full strength, a much lower percentage of bees in the colony is looking after brood. Therefore there are more bees in the field gathering nectar.

The second chart showed the productive potential of a colony relative to the population.

A half strength colony of 30 000 bees would produce about a 45 per cent crop or 45 lb and as the population goes up from 30 000 to 60 000 so the production would go up from 45 lb to 100 lb.

We can now look at efficiency/bee: From two colonies each of 30 000 bees at the start of the honey flow, less honey would be harvested than from one colony of 60 000 bees. If the honey flow goes on longer, it could be possible for the two 30 000 colonies to produce more and overtake the 60 000 colony.

It is important to realise that having weak colonies is a very inefficient thing. By keeping the population of a hive growing, it is possible to bring a 100 000 colony to the honey flow with two-queen management.

Surplus wax cappings

The slides we now viewed showed how to recognise the points of difference in the cappings on frames of capped and partially capped honey.

Of special significance were first, the ridges of surplus wax left by the bees across the surface of the cappings and secondly the white coloured cappings of cells that were not full of honey compared with the darker coloured cappings of full cells.

When breeding stock is being selected, it is wise to select those that do not accumulate surplus wax on the cappings and those that fill the cells up to the cappings with honey. Surplus wax represents many wasted working bee hours that would have been better spent out foraging.

Other characteristics to select away from were surplus wax on wooden parts of frames, heavy propolising and burr or brace comb between frames.

It is bad economics producing wax. To produce one pound of wax takes 6 lb to 12 lb of honey and thousands of bees have been hung up in the hive for days; thousands of bees and tens of thousands of bee hours are used to put surplus wax where it is not needed. When the bees are doing this they are not collecting nectar.

The first thing we changed to increase honey production was the selection of breeding stock for non-wax production. We consider this returned us 5 per cent.

Honey wax ratio

In beekeeping, we don't have any efficiency scale. Stock breeders are able to give definite characteristics by which they can measure the quality of their stock. But when two beekeepers meet in any country of the world, they don't have any scale for comparison.

The dairy man has his butterfat per cow production, and the poultry keeper his eggs, while the sheep-farmer has his wool and meat per animal, but the beekeeper has no scale of production.

We arrived at an efficiency indicator during production – the honey flow – and it tells how efficient you are to yourself or somebody else or anywhere in the world.

It is this – "How many pounds of honey have you produced to each pound of cappings wax? (not rendered comb). When we started, my ratio was one to just over 80, rising from five years ago, to 1979 to just short of one to 160 – almost doubled efficiency.

The aim is to produce less wax and more honey – not just to produce less wax – but, when you do this, colonies will produce more honey. This, in itself, produces problems that have to

Hey man, the foreign market is a war zone!

by Bronwyn Falconer

DON PEER, the Canadian NBA-sponsored visitor, told a group of industry leaders invited to discuss the future structure of HMA that "all's fair in marketing and war".

A honey marketing co-operative, he said is only as good as the people it services.

He advised beekeepers contemplating the establishment of a co-operative, "to clearly define what services they expect the co-op to provide".

"For example, whether you want to market the honey in bulk or packed lines, handle comb honey too, it's all a matter of where to draw the line. If the policy isn't clear in the minds of all concerned, shareholders may want to add bits and pieces to the co-op and strife may occur as soon as you have your first meeting of directors."

A honey marketing co-op is in direct competition with those producers who choose not to join it; "the foreign market is a war zone," and the co-op will need more than Canadian charm to get by!

Dr Peer has travelled widely and noticed the effect that good packaging has on sales; "Right! New Zealand honey is the best in the world but these Frenchmen sure know how to pack theirs to attract the buyers – colourful red, white and blue".

The danger to the honey exporting market is coming from an increasingly less isolationist China – this time round a dreaded "green peril". Dr Peer says green barrels of Chinese honey are "coming onto the world market faster than the Chinese reproduce" and making Canada's annual honey exports of 6 000 tonnes look like "peanuts".

The actual running of the co-op should be done by the board of directors elected by the shareholders. To avoid the top executives having time to play mini-putt golf in their offices – "the old age spread"; he advised shareholders to keep in close contact.

"Conversely," he said,"if you as shareholders want the board of directors to carry the weight, make sure they are paid for their troubles or they'll sit back and vote for whatever the management wants."

Through his experiences with provincial co-ops and what he describes as Canada's super co-op, Don Peer's best advice for co-op business success would seem to be "you need volume huh?" and that means the support of the majority of present HMA suppliers.

be solved. Can we handle more honey and more questions?

We wanted to get the bees to produce more honey and less wax so we took the supers off at 37 to 39 lb weight – not 42 to 55 lb weight. We took supers away before bees had done all cappings – before they had spent all that time on wax because we want bees to bring in nectar.

You say "That's good if what they bring in is thick." That is what we have the eight dehumidifiers for – to remove surplus moisture mechanically. (A slide was shown of these dehumidifiers.)

With this method of colony management, everything works less – honey extracts faster – colonies are not stacked so high – honey supers are clearer and not clogged up. Bees will produce more honey when there is not a lot of honey in the boxes.

We now produce 300 lb of honey/colony in the bad years and up to 400 lb/colony in other years. Every person in this room can double honey production – it does work and it will work here.

Breeding better bees

In addition to selection of breeding stock to reduce surplus wax making and colony management to improve the honey-wax ratio, we stomped the room and argued and searched the world to find how we could breed better bees.

If you have got better stock, I wish you would show it to the world and tell us why it is better. Don't say it's better because everybody buys it. Don't say it's better because you say it is better and it produces more honey.

You have to tell me why it is better. Some people say thin bees produce more honey. How do they prove it? Is it better because it is gentler, up-storer or down-storer, pollen hoarder, intolerant of rosema, early brood rearer, low propoliser – or what?

How do we get a better bee? (Using the boxes again, he put the first one down). Assume that these are the best bees you've got.

. . . *Incidentally, whatever you do, don't let anybody con you into importing stock into this country.* It would be the dumbest thing you could do. You have got enough genes in your gene pool. You don't need to import anything. Gene stock – you have got it right here now – as good as any in the world and better than lots.

(Returning to the box) – There's the stock you have got. Why do you like it? Why do you say it is good? Perhaps you say it is gentle or it produces well, or it winters. That's fair enough. You probably have got a stock as good as anybody.

Now you want a better bee. What makes it a better bee? It's better if you add one thing – one or more. Let's say you want to reduce propolising.

Select one that has your present good stock qualities plus low propolising. Now you stack one characteristic on the stock you already have got. Do you want low swarming? Select again and add it on.

Select what you want, not what I want. Select for three or four seasons. I have told you how to do it: Stocking the characteristics.

If we had done this over the years, we would have better bee stock now. How do we accomplish this?

The bee has developed a system of reproduction – seeking, wanting, needing and based on variability – not based on closed or tight mating systems. The last thing you do to accomplish this is to go into a closed breeding system.

Let's say you have 1 000 colonies, 500 or 100 colonies. In those you have the good stock potential. I'm fairly certain that for several years you could go out into those colonies and find the next characteristic you wish to stock. (Here he stacked box on box.) Next year you will do it again . . . and later again. You can find them, select them and you don't get rid of your characteristics.

This part of the lecture concluded with some explanations first on the subject of "queen mating" and then on the technical aspects of "behaviour acceptance". Questions were asked and answers given in excellent detail.

In answer to one question unrelated to the subjects of the lecture, Dr Peer told how he introduces ripe queen cells to the top of the top super at the highest point of the main nectar flow. Using this method he has secured a very high percentage of queen acceptance and supersedure – over 90 per cent. He later described their highly organised method of rapid removal of wet honey when robbing makes harvesting difficult.

The lecture concluded with information on the management of co-operatives in Canada.

Although the hour was late, they were enthusiastic hands that showed their appreciation of the lecture.

There are lessons to be read

THE PUBLISHED accounts of the HMA are, in the words of the authority's accountant, Mr Chadwick, highly simplified. But it is possible to compare the effect of turnover and realisations on the financial efficiency of HMA.

As the table shows, there is a close relationship between the profitability of the HMA and its turnover. It would appear that turnover (or volume of sales) is the most important single factor in the profitability of the HMA.

Inflation is another important factor. The accumulative effect of inflation between 1975 and 1979 was 75 per cent – in other words, for the real honey realisation in 1979 to have equalled the $853 a tonne achieved in 1975, it would have had to have reached $1492 a tonne. It didn't. It was $1263.

Thus, if the HMA or any honey co-operative which replaces it, is to survive, it must continually increase real returns/tonne at a rate greater than the rate of inflation. Or, it must increase turnover and settle for a lesser real return/tonne of produce sold . . . the probable course of action.

It is impossible to do accurate calculations from the figures contained in the HMA accounts, because of the lack of differentiation between fixed and variable costs. But if the HMA had only sold 1179 tonnes in 1979 (as it did in 1974), costs would probably have reached a staggering 60 per cent of total sales.

The end result of such an eventuality is open to imagination, but with current costs and realisations, there is no time like the present for working out a new marketing structure for the industry.

–T.W.

Year	Tonnes sold	Gross sales	Total HMA expenses	Operating expenses as % of sales	Gross realisation/ tonne
					$
1973	2 373	1 742 000	–	–	734
1974	1 179	1 008 000	–	–	854
1975	1 675	1 429 000	569 336	39%	853
1976	2 950	2 569 000	802 335	31%	870
1977	1 639	1 867 000	691 570	37%	1 139
1978	1 569	1 911 000	866 036	45%	1 217
1979	2 730	3 450 000	1 147 939	33%	1 263 *1
1979 *2	1 179	1 489 077	900 000 *3	60%	1 263
1979 *4	1 179	1 862 702	900 000 *3	48%	1 580

*1 $1263 is approximately $723 in 1975 dollars.

*2 Hypothetical, assuming same sales as 1974.

*3 Assuming half of 1979 actual expenses are fixed, plus variable expenses @ 20% of total sales.

*4 Hypothetical, assuming same sales as 1974, but with return in inflated 1974 dollars.

BURRCOMB

from the editor

PVA or not?

What is the real truth regarding the use of PVC beehives and will it give a "super" performance?

"Yes it will", say beekeepers in Europe who have put it to the test. It came out tops too as far as supers are concerned.

PVC (Poly Vinyl Chloride) is remarkably strong and light. The surface is solid – about ½ mm thick but the inner core is foamed PVC. With very little initiative the hive can be made weatherprooof and draughtless.

In October 1976 two colonies were housed in PVC hives and left to brave the cold European winter. Throughout winter and in the spring, checks were made to see that there were no serious grievances in the hives. Normal casualties were noted and there was no crazy flight patterns observed, the bees were as healthy as their wooden counterparts come spring.

PVC has been imported from Holland and is in use on a bigger scale in Italy. It seems a better idea for these foreign beekeepers, as wood prices in Europe are very high, the cost to New Zealand beekeepers would be about $8 which is relatively expensive compared to our wood prices.

According to Mr A.M. Tromop who gave us this information, he has already added two PVC hives to his apiary. The material for this kind of hive is available sold under the name "Plastilit" in Germany and "Celuka" in the Netherlands.

Belgian scientists doing research into PVC hives have come up with no revelationary discoveries, but they say PVC will only prove itself superior to other hive materials if it is used in commercial beekeeping.

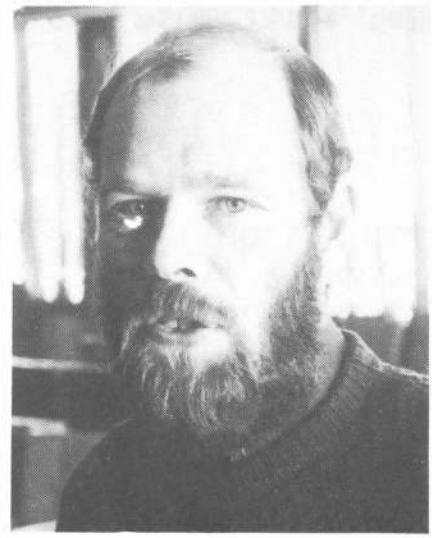
Sam McGregor dies

A world authority on honey bees and pollination has died.

Mr Samuel McGregor was 74 years of age and working at the Carl Hayden Bee research centre in Arizona, up till his death on February 4, 1980.

Throughout his 45 years in the bee industry, Mr McGregor wrote many articles for scientific journals, beekeeper trade publications, and wrote one of the two major textbooks on honey bees and pollination.

Southland adviser to Canada



Mr Trevor Bryant, apicultural advisory officer, Gore has been chosen as the MAF advisory services division candidate for its exchange scheme with the Agriculture Department in Canada. Mr Bryant won selection in competition with advisory officers in other agricultural disciplines. He left New Zealand in late March and will be stationed in Alberta for the year-long exchange.

No herbs for health

Since honey is often used with other natural foods, you may be interested in knowing about some possible toxic effects from drinking herb teas. Chamomile tea may cause anaphylactic shock or allergic rhinitis in persons highly sensitive to ragweed pollen. Preparations from the senna plant (Cassia spp.) may cause severe diarrhoea and even death. Comfrey contains alkaloid compounds that can cause liver damage or death at high concentrations. The recommendation is not to use comfrey internally until more research on its possible toxicity is completed.

This problem came up because not all newly available plant products have been tested on humans. If they have, their effects may not be known to the average person. These details were found in the Journal of the American Medical Association for July 14, 1978, and the October, 1979, issue of Sunset.

–E.R. Jaycox "Bees and Beekeeping", Illinois University.

British Bee Books

British books dealing with bees and beekeeping constitute the richest collection of material on the subject in any single language. The new publication "British Bee Books" is a comprehensive record of 830 printed books and 12 early manuscripts which together span 1 500 years.

The task of finding and recording all these books, annotating the entries and establishing which libraries possess copies has taken 25 years. "British Bee Books" will be a valuable source of reference for librarians, collectors of bee books, and to specialist booksellers, as well as to interested beekeepers.

"British Bee Books" is published by the International Bee Research Association and is available direct from IBRA, Hill House, Gerrards Cross, Bucks SL9 ONR England, price £13 or $US 30 a copy, post free.

Resignation of Oamaru adviser

We are very sorry to hear the Mr Vince Cook, apicultural advisory officer, Oamaru, has resigned from the Ministry of Agriculture and Fisheries. He left in April to take up the important post of national beekeeping adviser in the United Kingdom.

Vince has been with the ministry and stationed at Oamaru since 1961. To the beekeepers of his district, and throughout New Zealand, he has been an effective adviser and communicator of beekeeping information, on a one-to-one basis, at meetings, and by means of written word. He has penned many excellent articles over the years for the NZ Beekeeper. We express to Vince our appreciation of his work and wish him and his family well in his shift back to England and in his new job ahead of him.

The vacant position at Oamaru will be taken up shortly with the transfer of Mr Kerry Simpson from Palmerston North.

Bee stings in beekeepers' families

One little-known aspect of beekeeping is the uncommonly high incidence of sensitivity to bee stings found among the spouses and children of beekeepers. The members of the family who do not work with the bees appear to have a much greater chance of becoming sensitised than the person who is stung regularly.

Dr M. David, an allergy expert from Winnipeg, Canada, found in a survey that sensitivity to bee stings is 50 times more frequent within the families of beekeepers than in the general public. Dr David believes that the allergic reactions may develop because stings and venom are brought into the house on gloves, coveralls, and other clothing used by beekeepers.

Dried venom particles in the air and dust of the house, cause family members to become sensitised when they inhale the particles. Later, these individuals exhibit allergic reactions when they are stung. Dr David reported that workers in laboratories where bee venom is prepared for use in medicine become sensitised by being in contact with the dried venom.

To protect the family members, beekeepers would be wise to store their beekeeping clothing outside the house or in an air-tight container. If stored in the honey house, the clothing may also sensitise the workers there.

Dr David feels that the person who actually works with the bees may receive protection from allergic reactions by being stung. Therefore, beekeepers might actually help themselves by not wearing gloves while working with bees under normal conditions.

–E.R. Jaycox, University of Illinois.

Tropical apiculture

There is an enormous unexploited beekeeping potential in tropical countries, which stand at the threshold of beekeeping expansion as important and far-reaching as that in the temperate zones 120 years ago, when moveable-frame beekeeping was being spread from country to country. For example, plant resources in India could support 50 million hives instead of the present half million.

Until now, the greatest hindrance has been lack of co-ordinated knowledge that would make attempts at development maximally effective. The Bibliography of Tropical Apiculture by Dr Eva Crane remedies this situation once and for all, and opens a new pathway to beekeeping as a source of food and income for people in half the world's inhabited land area.

The bibliography presents a compact key to over 4 000 publications; it is divided into 24 subject parts and includes sections on beekeeping in the Pacific, Asia, bee types, diseases and pests, and pollination.

The bibliography cost £30 or $US 68 and is obtainable direct from the International Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 ONR, England, post free.

CORRESPONDENTS

GEORDIE NEEDS WORK

Dear Sir,

It is my intention to emigrate shortly to New Zealand, and I wish to obtain beekeeping employment.

I am 44 years of age and am an engineer by calling. I have been keeping bees in a semi-commercial capacity for around 10 years, and have obtained the 'Export Beemaster Certificate' and the 'Honey Judge Certificate' from the Scottish Beekeepers' Association.

If any beekeeper can offer employment prospects my address is:

Melbourne House
Dalmuir G813QN
Dunbartonshire
Scotland

Yours,
A.E. McArthur

WILL ANYBODY HAVE ME?

Dear Sir,

I am presently working for a beekeeper in the Peace River area of Alberta, Canada. Following the 1980 season here in Alberta, I'd like to work one season for a beekeeper in New Zealand. I'd be available to start work in October 1980.

This is my fourth season working with beekeepers in Alberta. Most of my experience with the bees has been in management for honey production, but I have experience and a great deal of interest in queen rearing. I am 25 years old and single.

I would be grateful for any assistance you might be able to give to me.

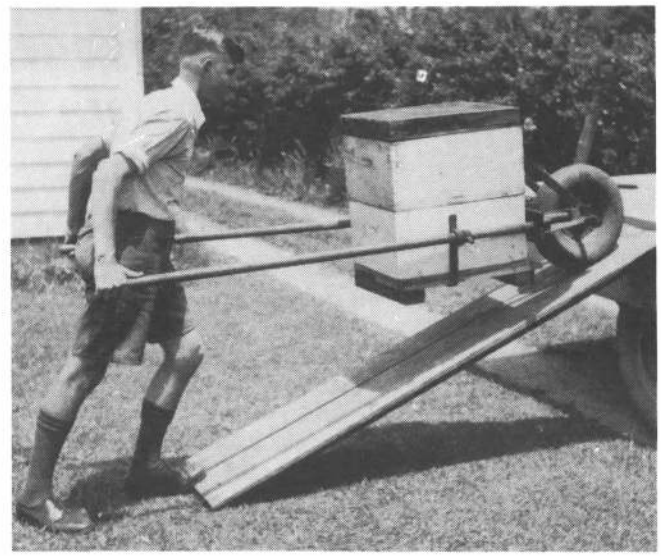
Yours,
Dave Yanke
General Delivery
Sangudo, Alberta, Canada TOE 2AO

Disease Insurance?

The general secretary of the NBA and a representative of South British Insurance are to discuss the possibility of preparing a special insurance policy to cover beekeepers against the possibility of the introduction of exotic bee diseases.

NZ queens compare

The March 1980 issue of the "American Beekeeper" notes that Canadian Department of Agriculture researchers have been looking at NZ bred queens at their Beaverlodge research station in Northern Alberta. Colonies headed with queens from New Zealand and California were very similar in brood rearing, disease and honey production during a three year period. This was confirmed in a later three year study which showed there were no significant differences in brood build up or honey production between queens from California or New Zealand cross California stocks.



The first hive loader, designed in Northland twenty years ago.

We've come a long way in a few years

by Colin Rope, Advisory Officer, MAF

IN AN EARLIER article I said that the industry lost more honey because of under-supering in good seasons, than for any other reason. Some of my readers have commented on this, and although there is general agreement with my statement, interested persons tend to say that 'enough work is enough' and 'enough honey is enough'. Enough money in the bank is enough and enough tax is enough too!

This approach puts a different slant on things; what people want, apparently, is a steady and adequate income resulting from a 'comfortable' amount of organised work. They don't want bumper crops followed by little crops – a series of 'bumps' and 'hollows'; they want a predictable, even and stable existence. They want to be their own boss too.

Over a period of 20 years, the average crop for most beekeepers in the North Island is about three tonnes per 100 hives. Some do a little better, others do a little worse.

The aim of the "many-hive" beekeepers is not to gather all the honey available. It is to cater for the 'average situation' and they plan to squeeze the most out of that, largely by good design and less by good luck. This approach to the business has paid off in post-war years.

The general idea is to go for as many hives as possible – providing equipment for a maximum of three storeys per hive, and keeping labour-input and essential management practices down to an absolute minimum.

This would involve:–

Disease inspection and feeding on an apiary wide basis (not a hive basis). Dead hives produce no income at all, and they cost money to re-establish. Hives must not be allowed to die from starvation; and Foul Brood disease must be mastered if one is to succeed. Likewise, colonies with failing queens must be put right by a cheap, simple and quick means.

Ensure hives are supered early and extraction must start immediately the crop is ripe, in order to recycle a significant number of top storeys in the same season.

The more hives one owns, the more difficult it becomes to provide them with a fourth storey, to extract the extra boxes, to store the extra gear and control wax moths. For example, if you own 5000 hives, where will you house 5000 extra storeys and fumigate them?

Problems that can be easily overcome by beekeepers with 1000 hives, become 'insurmountable' for beekeepers with 5000 hives. It is not simply a matter of duplicating things five times; things like space and weight and time factors come into it as well.

The key to it all has to lie in simplicity. Even little things that go wrong, become big things as the operation becomes more extensive.

Sufficient apiary sites become a must, and that means good reliable transport in country areas removed from cities, or farms under close sub-divisional fencing.

Restriction of food supply and subdivision of the bottom brood chambers by permanent vertical dividers can be employed successfully to control swarming and to provide spare 'commercial quality' queens, that will later earn their keep. When a second storey is added, the queen can lay on both sides of the permanent divider in the chamber below.

Some extensive beekeepers provide their hives with a 'top-box' in bumper seasons. This has five permanent sides but no frames (hence no combs to look after in winter). They are fitted above a queen excluder, and bee-escapes are used to clear the natural honeycombs of bees. A piano wire is used to cut the combs free of the excluder and nothing can fall out when the 'top-box' is inverted. Made cheaply out of old timber of any width, the empties can be stacked anywhere under cheap shelter until next required – perhaps two or three years later.

The honeycombs are chopped up by pushing them through 10 mm bird wire-netting to render them like cappings, free of black specks. After draining for 24 hours, the remaining honey is pressed or spun free of the wax. The process is as fast as extracting and the quality is good.

The innovators . . .

Ivan Muncaster, Percy Berry, John Wright, Ted Vickers, Bill Haines, Albert Deadman, Peter Pegram, Heinie Belin, Mike Stuckey, Malcolm Haines, Brownie Sharp.

NBA 1980 Conference and MAF Seminar

at Tauranga July 22, 23, 24.

Programme

Tues July 22	MAF Seminar. Organised by Doug Briscoe. B.O.P. Branch N.B.A. "Get together". Informal social, 7.30 pm at Willow Park Motel
Wed July 23	NBA conference at Willow Park. Coach tour for those not attending conference.
Thurs July 24	NBA conference. Evening social and dance at Erinlea Lounge. 7.00 pm refreshments, 7.45 pm dinner.
Accommodation	Reservations to be made direct with motels.
Willow Park	P.O. Box 764, Tauranga. Tel 89-119. Single $30.00 Double $35.00, Extra Adults $5.00.
Domain Motel	(200 yards) Cameron Rd, Tauranga. Tel. 89-479. Single $18.00, Double $24.00, Extra Adults $7.00.
Roselands Motel	(50 yards) 21 Brown St, Tauranga. Tel. 82-294. Double $26.00, Extra Adults $6.00
Tauranga Motel	(1 km) 1 Second Avenue, Tauranga. Tel. 87-079. Single $20.00, Extra Adults $6.00.
Registrations	A fee of $10.00 will be charged to cover conference catering etc., payable now, or at conference. (Your early advice will assist in our planning.
Social	Tickets will be available at conference at $11.00 per person.
Coach Tour	Kindly advise your interest when registering. Bring your togs for "Hot Salt Water" swim. Lunches arranged.
Travel Discounts	Air New Zealand 10%. Travel discount vouchers are available on request to the B.O.P. Branch secretary.
Further Information	Send registration or further enquiries to B.O.P. Branch secretary Bruce Stanley, Fosters Rd, R.D.1, Whakatane. Phone 35D Taneatua.

Massey University

"INTRODUCTION TO BEEKEEPING"

November 12 – 14, 1980

Brochure available in September from:

University Extension,
P.O. Box 63,
Palmerston North.

Fill in this coupon and mail to Box 63, Palmerston North.

Please send me information about the course **"Introduction to Beekeeping"**

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Beekeeper back in PNG

BEEKEEPER Gavin McKenzie, of Waimate, is going back to Papua New Guinea on a Bilateral Aid posting just 15 months after completing a two-year assignment aimed at spreading the taste of honey around the Eastern Highlands.

Over the next two years Mr McKenzie will be based at Port Moresby as officer in charge of beekeeping in the Department of Primary Industries.

Besides policy work in marketing and export fields, the job will involve staff training, extension, and advisory programmes, including the development of queen bee breeding stations.

His first major task will be to set up an expanded lowlands pilot project. Projects in the highlands will also be initiated or expanded under his supervision.

The Goroka (Eastern Highlands) project he was assigned to in 1976-78 established the viability of beekeeping in a country which had only piecemeal experience with bees previously. In one four-month period about 350 hives in the Goroka area produced 20 tonnes of low-moisture honey – double the New Zealand production.

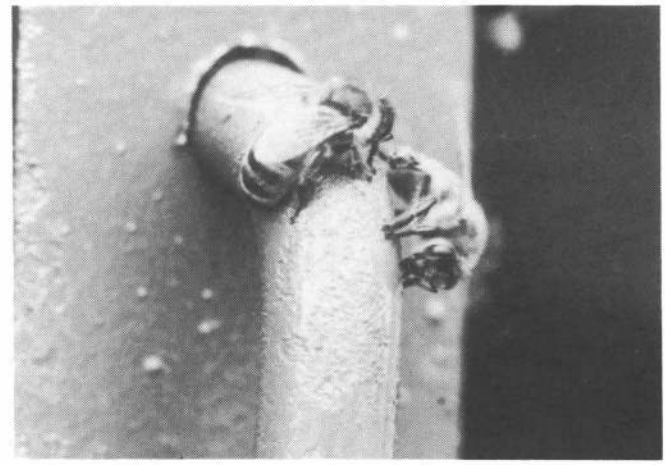
New Zealand contributed equipment and training awards to the Goroka project in addition to Mr McKenzie's expertise and there is provision for more equipment and technical advice in conjunction with his new assignment.

A former apiary instructor with the Ministry of Agriculture and Fisheries in New Zealand, Mr McKenzie has been managing a 500-hive business in the Waimate district in recent years. He is an executive member of the National Beekeeping Association of New Zealand.

This week Mr McKenzie is in India to attend the second international conference on apiculture in tropical climates, a meeting organised under the auspices of the International Bee Research Association.

Following a post-conference workshop to be held in Bangalore on 10-12 March Mr McKenzie will travel to Port Moresby to take up his new job.

The conference and associated workshops are expected to provide valuable technical and commercial contacts for the development of the Papua New Guinea beekeeping industry.



Little strippers at work

by W.A. Jones, Senior Livestock Officer, (Apiculture), and A.P. Murphy, Agricultural Mechanisation Officer, Dubbo, New South Wales.

A LARGE agricultural machinery manufacturer, Allbulk (Jetstream), manufacturer of the Domino Farmline range of machinery at Dubbo, have a serious bee problem.

Over the past three years the factory has experienced an increasing number of bees visiting their spray shop and newly painted equipment to collect paint, which is used to joint and seal hive parts. This causes serious problems at the factory, all the machinery before sale requiring either repainting or time-consuming hand touch-up.

Various types of industrial enamel paints from various well known paint manufacturers have been used. The bees do not strip the red oxide primer being used (Mirotone ROZC532), but the bees have damaged all brands of industrial enamel tried from different manufacturers.

It is not possible to remove the bee problem, as the factory is located within flying distance of the Macquarie and Talbragar Rivers which have numerous feral bee hives in the river gums. Some buildings and other trees in the area also have feral swarms. Bee hives located on market gardens and other farms to pollinate vegetables and other crops are also causing problems, and the removal of these hives will only slightly reduce the problem.

Repellents have been tried in the spray area, also in the areas where the newly painted equipment is held to allow the paint to dry. The bees are visiting the machinery right from when it comes out of the spray shop until the paint is fully hard, which can be up to two days.

Carbolic acid and Benzaldehyde have been used as repellents. In the open areas the bees were not repelled by these repellents but workers at the factory were. These compounds are not compatible with the paint.

The addition of poison or spraying the area with insecticide is out of the question due to associated problems.

What is required is a repellent that is compatible with the paint and can be mixed with the paint.

Allbulk as factories at Dalby in Queensland, Belmont in Western Australia, Swan Hill and St. Albans in Victoria. These factories do not have a bee problem.

The bees are so well educated to collecting paint at the Allbulk factory in Dubbo that it does not matter what type of industrial enamel is used, they will collect it for use in the hives. The factory only closes down for short periods of time, no more than a few days, which does not allow the aged field bees causing the problem to die out.

The solution would be a repellent that will repel bees for a couple of days, to enable the paint to dry.

The company uses 1 500 litres of industrial enamel each week. The machinery is massive, also too numerous to enable protective shedding until the paint has dried.

If any reader of this article has solved a similar problem to that experienced by Allbulk, or knows of a repellent that may help, we would like to hear from them. Also from chemical firms or others that may have repellents that are compatible with paint, and can be used or tried.

Contact: Warren Jones, Senior Livestock Officer, (Apiculture), NSW Department of Agriculture, P.O. Box 865, Dubbo, 2830, Australia.

A question of ethics

by G. Nichols, Nicholbee Honey, Hokianga

THE DEAR OLD LADY comes to my honey house door. "Ah, Mr Nichols, can you tell me about the vitamin content of honey? I've heard it's so good for you."

Well, what do I tell her? The truth? She won't believe me and I'll probably lose a good customer. Tell her a lie and make her happy? I generally mutter rather lamely, "It's a very high energy food" and she buys a jar and goes off happily.

A week or so later a weedy earnest young man wants to buy some royal jelly, keen to pay a good price too. I tell him if he's really that desperate I'll give him some, but he'd be much better off with a jar of marmite. I suppose I could keep some condensed milk in stock and sell it at $5 a drop! Do him just as much good.

The next oddity is a very old man, "Scientists in America have proved that you can live for months on a diet of honey and milk – John the Baptist lived on locusts and wild honey. "Well, Prof. Heydah certainly lived on honey and milk for a long time, but I failed to tell my customer of the professor's eventual state of health, there's no record of John the Baptists state of health after his weird diet either.

However can you convince people that genuine scientists never "prove" anything, they work on probability instead.

A fake scientist claiming to prove anything is trying to make a quick buck out of "mugs" by selling them an expensive book. I suppose they prove that fools and their money are soon parted.

The young school marm wanted to buy some propolis. "Making a violin?" I asked cheerfully, (she is an old friend). Apparently scientists in America (again) have proved that there is an antibiotic in propolis. I scraped a rather grubby piece of propolis off a frame and she ate it solemnly and declared she could feel the antibiotic fizzing and had made her mouth feel wonderfully fresh. (Note: Must get some toffee for future addicts. How about adding bicarbonate of soda?).

The two spinsters gush to me about honey – "Mother Nature's wonder food, we always take it in our tea, never touch white sugar."

Oh dear, how many more of Mother Nature's wonder foods am I to be inflicted with, Russian comfrey, stone ground bread, ginseng? Anyway, if they try my lovely manuka honey in their tea they won't taste the tea.

Just as some rogues sell pieces of the True Cross to Christians or hairs from the head of the prophet to Mohammedans, it looks as if beekeepers can sell religious relics to the worshippers of Mother Nature. It might do them some good as a pyschological placebo.

Honey not easy on containers

HONEY HAS three characteristics that are important in terms of handling and storage: A tendency to take up moisture from the air, the ease with which it picks up strange odors, and the ability, because of its acid content, to react with metals such as tin and zinc.

U. Siegenthaler of the Federal Beekeeping Laboratory in Liebefeld, Switzerland, studied the abilities of different retail honey containers to protect honey from absorbing moisture when stored in damp locations, such as cellars. He looked at several plastic containers with push-on lids, a metal container with a push-on lid, a glass container with a screw-on lid, and a waxed carton with a push-on, plastic lid.

Siegenthaler found that all the containers except the waxed one kept the honey from losing or absorbing moisture from the air at relative humidities of 35, 66, and 92 per cent. The waxed container was totally unacceptable at the highest humidity. Honey in the waxed cartons gained 2.5 per cent in moisture content per month when stored at 92 per cent humidity.

In some cases, the honey leaked out of the containers because of its greater volume. At the lowest relative humidity, the honey lost as much as 0.3 per cent of its weight per month in the waxed cartons. After three months of storage, the net-weight statement on the label was incorrect.

Herr Siegenthaler was also interested in the effect of honey on tin-plated containers. Using a new and accurate method of measuring the tin content in honey, he found that honey can dissolve a fair quantity of tin over storage periods of six months to a year. Forest Honey, or honeydew, has a higher acid content than flower honey, and reacts more strongly with the tin coating. Also, the greater the surface of the storage container in relation to the quantity of honey stored, the higher the amount of tin that can be detected in the honey. Siegenthaler found as much as 2.8 milligrams of tin per kilogram of honey after a year's storage. There was more tin (2.8 mg/kg) in honey near the wall of the container than at the centre (2.2 mg/kg).

The tin content determined by Siegenthaler is not dangerous to human health. It may, however, contribute a metallic taste, which we do not want in our honey.

These studies show that waxed cartons may be unsuitable as honey containers, including those used for creamed honey, because they do not prevent losses or gains in moisture by the packaged honey. The studies also show that the honey residue must be removed from storage tanks, cans and metal utensils to keep them from being damaged by the acids in the honey. It is false economy to use 5-gallon cans more than once because they rust so easily after having been attacked by the honey the first time. The experiments were reported in the April, 1978, and June, 1979, issues of Schweizerische Bienen-Zeitung.

– E.R. Jaycox "Bees and Beekeeping", Illinois University.

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Please check your accounts if you are in doubt.

WE VALUE OUR SUBSCRIBERS

FROM THE COLONIES

WAIKATO

Well, we have just had a couple of weeks of the weather we should have had in January, but too late except for those who are still getting the last of their crop in.

Production has been well down, and quite a few are about one tonne per 100 hives. Those who shifted inland in early January when it became evident that it was too wet to get crops in the Waikato, did get more and are quite happy, but would have done better if the weather had improved in February.

Honey is going to be in short supply soon and I doubt there will be enough to get through to next season.

We had a very interesting evening with Don Peer, but it was only half long enough. This season where honey was removed early and the boxes put back it was quite evident that the bees produced more.

C. Bird
Matamata

HAWKES BAY

After a fairly promising start, there followed a long dry spell when rain was needed to put clover roots into good order and subsequent flowering.

This brought about an almost nil clover surplus, manuka turned up in unusual areas and darker honeys predominated in a very much lower than average crop.

An early April field day at Keith Leadley's Honey House, Hastings was very well attended by commercial producers and hobbyists. In spite of travel problems some folks came from far away and enjoyed a warm welcome from the branch.

Messrs Kerry Simpson and Murray Reid were greatly appreciated as speakers along with Jack Bilkie from MAF who covered trees for pollen and nectar sources.

Gisborne has been a hive of activity with a beekeeping seminar and more recently a field day, both arranged by Kerry Simpson to cope with a considerable upsurge of interest by local hobbyists. A great deal of effort went into both meetings following up earlier work in the field around the area.

It is estimated there could be a shortfall of some 1 500 hives for pollination of kiwifruit planting in Gisborne.

What a blow to learn we are to lose the services of Kerry to the South Island. A very happy landing there and many, many thanks, Kerry, for all the time and effort spent during your all too short stay with us.

Some areas have again suffered considerable spray damage during the season and a further thrashing from 'clean up' sprays within the month of April.

Kiwifruit plantings are dashing ahead madly in the district – I only hope there are sufficient bees left alive to pollinate the fruit.

Walter Watts
Taradale

SOUTH WESTERN

With a most difficult season behind us, it is a relief to be at the tidying up stage of our out-apiary work, and now looking forward to a few months away from the bees. With the crop hovering on either side of two tons per hundred, over most of the South Western districts, it was a most disappointing year.

There was a very good muster at our Annual General meeting held in Wanganui recently, and while the chairmanship remains in the capable hands of Trevor Rowe, we now have a new secretary – Keith Rodie of Feilding. Thanks to Phil for a good job over the last two years. The attendance of P. Berry was most helpful to the meeting, as there was quite a lot of discussion on different methods of marketing, with a lot of work going on behind the scenes it was good for those present to be brought up to date.

Whatever the future holds for the marketing of our honey, we must try and cut down on the freight costs involved in transporting our crop out to distant places, only to have it shipped back again into our home towns and cities as packed lines. Hundreds of dollars are involved for each beekeeper in having his beeswax sent to the South Island for conversion, and then have it sent all the way back again.

One would think that a branch of the firm doing this work would find it a viable proposition to be positioned somewhere in the central North Island. While this could be a major saving in freight costs, it might also do away with hassles of rough handling and delays in transit.

Anyway one good thought to leave you with, is that when you have your crop on the hives, the surplus is all yours. This is not as you sometimes see with the orchardist, their crops rotting on the ground after a storm, or the wheat farmer unable to harvest his.

Stuart Tweeddale
Taihape

BAY OF PLENTY

We are saddened to report the death of Mr Charlie Barrow. Charlie was one of natures gentlemen, never known to do anyone a bad turn.

For the second year in a row we have had a poor season where 30 per cent crops are reported for this season. The Rewa Rewa had good flower but failed to yield due to unsettled conditions. The clover flowered a month later than usual and failed to yield well.

With the rapid increase in horticulture, we become increasingly concerned with the disappearance of pasture nectar sources and toxic spray problems.

Kiwifruit pollination was well monitored by Ministry of Agriculture and Fisheries for toxic spray problems, as a result of serious beekeeper concern of previous years losses. The season proved to be as bad as ever for bee losses. Some orchardists are showing no regard at all for the welfare of our hives.

Sorry there is no good news, however, we look forward to next year with optimism.

Bruce Stanley

SOUTH CANTERBURY

Statistics – average rainfall for South Canterbury 550 mm or 22 in. Rainfall for the first four months – 418 mm or nearly 17 in. 59 days rain in the first 120 days.

In spite of all this rain, beekeepers in South Canterbury have had an average or better honey crop. How the bees achieved this we do not know, but we did have some hot sunny days; and because bees fly they didn't become bogged like many trucks did. It could be as this was the third above average rainfall season, the bees have now learned to use gumboots and oilskins.

The removal of the honey crop did present some problems, especially on the heavy land. Quite frequently it was necessary to use two vehicles, leave the large truck on the roadway and use a light or four wheel drive vehicle to travel into the apiary and transport the honey back to the road.

Those who had apiaries on light land did not have this trouble and did have another exceptional season – up to eight to ten tonnes per hundred hives.

As was the case last season, the clover flowering was excep-

tional and thistles – well – in some places just like a wheat crop the plants were so thick. Also in the upper Waitaki basin vipers bugloss made exceptional growth and good crops were gathered from this.

Wet honey was troublesome for some beekeepers, especially at the end of the season. There is little which can be done to stop this problem when weather conditions are the cause.

We had Dr Don Peer from Canada speak at a combined North Otago – South Canterbury branch meeting, his radical philosophy on several aspects of bee breeding will be debated for some time; but one point he made, the co-operation between the local beekeepers in his area, Nipawan, shows just what can be achieved when people are prepared to communicate fully with each other.

No doubt this attitude to assist each other, which is practiced to some extent in South Canterbury, has made this area a leader in honey production. We regret we did not have more time with him.

Harry Cloake

OTAGO

When sitting down on the first day of May to write these notes one cannot help to reflect the past season. Not too good in general for this part of the country, but we have had a glorious spell of autumn weather in April which has been a great help for re-queening, taking off the last of the crop and getting the colonies settled for the winter.

The field day held in early March at Waitahuna was not as well attended as we had hoped. Much of the programme was prepared with the beginner in mind, but not a great number of those in that category turned up. We all enjoyed the day and there is always something to learn, no matter how long one has been chasing bees.

The annual meeting has been duly held. John Garraway was elected president. John has already given much to this branch in the past in his capacity as secretary. We are pleased to see him fill this position and no doubt the branch will benefit from his efforts.

A number of us joined the North Otago branch at Oamaru to say farewell to Vince Cooke who has taken up a position in the U.K. Vince has left his mark on the New Zealand beekeeping industry in general, and on this part of the country in particular. We are very sorry indeed to see him leave. No doubt that any beekeeper who has had contact with him while he served the industry as apiary advisory officer, has respected him highly because of his personality and the quality of his work and service.

Trevor Bryant, our Gore MAF advisory officer has gone overseas for a year. At least he will be back in due course, but in the mean time, it leaves a very large vacuum indeed.

We noted with regret the passing away of Tom Jackson. Tom was a keen member of this branch for many years, when he lived in Dunedin and later in Milton. Tom was a deeply religious man, who always tried to put into practice what he preached, and was highly respected by those who knew him. He died very suddenly at Arrowtown where he and Mrs Jackson took up residence during their retirement

The next item on the agenda of this branch, is the Annual Otago and Southland Beekeepers Convention in Dunedin on Tuesday the 3rd of June. Open house to any beekeeper and others interested.

M.J. Heineman, Milton

NORTH OTAGO

Poor seasonal weather resulted in a much lower crop than usual, with some areas not yielding at all. While this was depressing enough, the announcement by our advisory officer Vince Cooke that he was leaving the department to take up a position in the U.K. was a move that the industry could ill afford. Beekeepers were quick to congratulate Vince, but they condemned a system that does not recognise first class ability, but what is our loss is the U.K.'s gain.

A farewell evening was held in the Brydone Hotel for Vince and his family. To show the esteem in which he was held, over 80 beekeepers came to wish them bon voyage and to thank him for what he had done for the industry over the last 19 years. Beekeepers came from Otago, South Canterbury and North Otago.

On behalf of the three branches, G. Winslade of North Otago presented an inscribed silver tray and crystal glasses. Bob Mackie of the North Otago branch presented a life membership certificate from the branch and a scroll with a list of all those present.

Harry Cloake spoke on behalf of the South Canterbury branch and said of the respect in which Vince was held by all, and also quoted some amusing anecdotes about when Vince was working for him.

Steve Lyttle spoke on behalf of the executive and of the help he had been to them.

Ivan Dickinson on behalf of the Otago branch thanked him for the valuable contribution that he had made to their conversion over the years, and also to the H.M.A. in regard to the Pleasant Point and Auckland depots.

Vince replied thanking all speakers and those present for all the kind words spoken not only for himself, but for his family as well. He particularly stressed how he had enjoyed working with everyone connected with the industry over the last 19 years, and the knowledge he had gained in those years which had helped him and would be of invaluable use in his new position.

A brief resume of what was involved in the type of work to be done was explained to all, and our hope is that we will get some spin off from the research that will be done.

Vince will be stationed at Stratford on Avon, the home of William Shakespeare. He concluded by assuring everyone of a warm welcome if and when they came to the U.K.

Good luck Vince.

G. Winslade

NORTHLAND

This season has been wetter than average with the rain spread throughout, resulting in unchecked pasture growth and farm production. This is an unusual pattern of honey flow.

The pre-Christmas flow was light and sporadic, but in January the pasture flow really turned it on. The Penny Royal then began to yield heavily until it was cut off abruptly on February 12 by heavy rain which didn't stop until we had had about 300 mm.

The clover flower this season was the best in Northland for many years and those who were prepared for it took average crops.

Graham Richards
Whangarei

SOUTHLAND

Southland hasn't been wasted away altogether although the nectar was, before the bees could collect it.

Weather and clover were looking good, bees working flat out towards a good honey crop, then down came the rain. Floods in mid-summer – unbelievable; hence another poor season for Southland. Beekeepers in coastal areas did better.

Our field day was held at Herron's honey house, Greenvale, Waikaka. Their extracting plant was operating and there was also a demonstration on cutting and packing comb honey.

Guest speaker was Grahame Walton who spoke on European brood disease. Trevor Bryant spoke on products from the bee hive, he also reported from HMA and NBA.

A good day was had by all, thanks to Keith, considering he had 24 centimetres of water swirling round his sheds the week before.

A bar-b-que tea and social was held at Tony Clissold's for the Australian Beekeeper tour party.

Also the branch held an evening to hear Dr. Don Peer from Canada talk on his beekeeping techniques which were very interesting and thought provoking.

The same evening the branch farewelled our apiary advisor, Trevor Bryant, who was leaving for Canada on a one year exchange trip.

Now the days are drawing in and beekeepers are wintering hives down and thinking of the big crop next season.

Andy Booth
Drummond

WEST COAST

The bees have been tucked away into their winter quarters after a season that was unpredictable from beginning to end.

Early conditions favoured queen rearing and increasing stock; then when the kamahi flowered, and should have provided ample stores, it rained. The beekeepers were faced with the horrible decision, as to whether to let hives die of starvation, or embark on an expensive massive feeding project and hope for a good rata year to keep them from going broke.

Even when the white rata vine and the tree flowered prolifically, which eased the necessity to feed, troubles were not all over, there was heavy flooding, which after Christmas drowned many hives and cut access to others.

Finally the weather favoured the bees. The beekeeper was happy, but still in trouble. In many cases he couldn't get the nectar off the hives, extracted and packed before it started granulating either on the hives or in the tank.

If the nectar started granulating on the hives, the granules block up the strainers and if the nectar granulates in the tank it goes solid overnight. In many cases the nectar went solid in the frames at the latter part of the season.

Beekeepers toiled on until two and three o'clock in the morning on some occasions, to get the honey into containers, knowing that the honey wouldn't flow by daylight.

The season finished up with a good crop and everyone happy, including the bees because the red rata vine is flowering more prolifically than for many years. With fine mild weather they are packing out their food chambers so there should be no starvation next season.

Owing to the cost of fuel, management of apiaries is likely to change in the future to minimise travelling. In this respect we may be lucky because it is possible to have a lot of hives on one site, making it worthwhile to errect a shed at each site, so that they can be stocked up with supers by one visit with a heavy vehicle.

Supering of the hives could be done as required in subsequent visits using a vehicle as light as a motorbike, or for real saving of fuel, on a pushbike.

May the beekeepers and their bees have a restful winter and a prosperous season next year.

Peter Lucas
Hari Hari

CANTERBURY

We have experienced an atrocious autumn with more than two months of rain, cold and wind; which hampered autumn brood rearing and any re-queening. As a result the autumn honeydew crop was virtually non-existent.

The summer clover crop was quite good in most districts of Canterbury in spite of the intermittent shunshine and rain in December and January. With record pasture and clover growth during February, a bumper crop could have been achieved given much more sunshine.

For those who left hives up on the bush during the summer, an above average honeydew crop was gathered when two periods of hot, dry nor'westers were experienced in late December and January.

The branch held an autumn field day in Ashburton with inspections of two very modern and impressive honey houses, thanks to the hospitality of Len Hunt and John Syme.

The Malvern County Council is initiating a tree planting programme for Arbor Day June 5, along with the assistance of the Commission For The Environment; at Darfield. The branch is involved in planting of pollen and nectar bearing trees; and hopefully other district counties will continue this programme.

With wintering of hives being completed, now is the time to catch up on repairing gear and for holidays.

Tony Scott
Rangiora

FAR NORTH

Far North beekeepers are of the opinion that it is extremely important for good beekeeping practices to be handed on to new enthusiasts. This is the main purpose of having a club hive as a teaching/learning experience.

In December a swarm was hived and this formed a second club hive, this time put into three-quarter gear so that we now are able to compare this equipment with the standard club hive. It has been noted that hobbyists learn a tremendous amount from experience with the club hive and therefore field days are invaluable in this respect. From the viewpoint of disease prevention in hives, obviously in the interests of all beekeepers, it is clear that by teaching good clean beekeeping practices, disease can be reduced and not spread.

A field day was held toward the end of March to inspect the club hives and to plan for extracting the season's honey. The summer was over and clearly showed that both hives had almost completely organised themselves ready for winter, packing honey down into the second box, reducing to only one box of brood, with pollen frames on the outside of the brood frames. There were also notably less drones and obviously the worker bees had been very busy at home putting their hives in order as the season was colder than is usual for that time of year.

A subsequent field day was held on Saturday, April 19, for extracting. Methods of extraction were firstly discussed and three members demonstrated their extractors, from a two-frame reversible hand-operated model, a new four-frame hand-operated unreversible plastic model to an electrically operated two-frame machine. We used the electric extractor, kindly supplied by Mr Bill Olsen, and various members of the club took turns in uncapping the honey and helping to operate the extractor. Members learned a lot by being involved in this annual harvesting event. A picnic lunch followed the morning's activity.

The Mangonui A and P Show was held late in February and members exhibited in the newly-revived beekeeper classes; this gave opportunity for members to have practice in preparing honey for show purposes, although it was felt that February is a little too early for extracting honey in the Far North. It has been an unusually wet summer and autumn with the resultant honey crop being a lean one for most hobbyists. Also the public showed considerable interest in the exhibits which, hopefully, will widen the field of beekeepers.

The Annual General Meeting of the Far North branch was held at the beginning of March and the offices of President and Secretary remain unchanged. The year's programme was discussed; each meeting has a special topic and a round-table discussion of members' problems, questions and difficulties takes place; we find this to be an invaluable way of learning more about beekeeping. Five new members joined at the last monthly meeting which is fixed for the first Monday evening of each month.

Wendy Macpherson

Kerry Simpson, Apicultural Advisory officer, Palmerston North (formerly Hamilton) holds a box of combs ready to emerse in Robert Sweetman's frame bath. Note the spring across the middle of the box holding the frames down.

Nice, clean frames stacked in the honey house. Careful stacking after cleaning is necessary to prevent warping and twisting.

Push-through hot water bath for cleaning bee frames

by Murray Reid, Apicultural Advisory Officer, Ministry of Agriculture and Fisheries, Hamilton

OVER THE years beekeepers have invented many methods of cleaning up old frames that still have some life in them after the wax comb has been melted. Others have simply invented excuses why they shouldn't bother with this tiresome job. However, the present cost of new frames, and the marked swing to cut comb production has meant that many beekeepers are being forced to rethink the problem of cleaning the wax from used frames.

If you only have a small number of combs to clean at any one time, then one of the easiest methods is to beg, borrow or steal an old copper wash tub, fire it up and then scrub your frames in the hot water with a scrubbing brush. With a quick scrape along the foundation groove in the top bar the job's done. If the wire holes are blocked, and they usually are, then a poke with a suitably pointed instrument, will fix that problem.

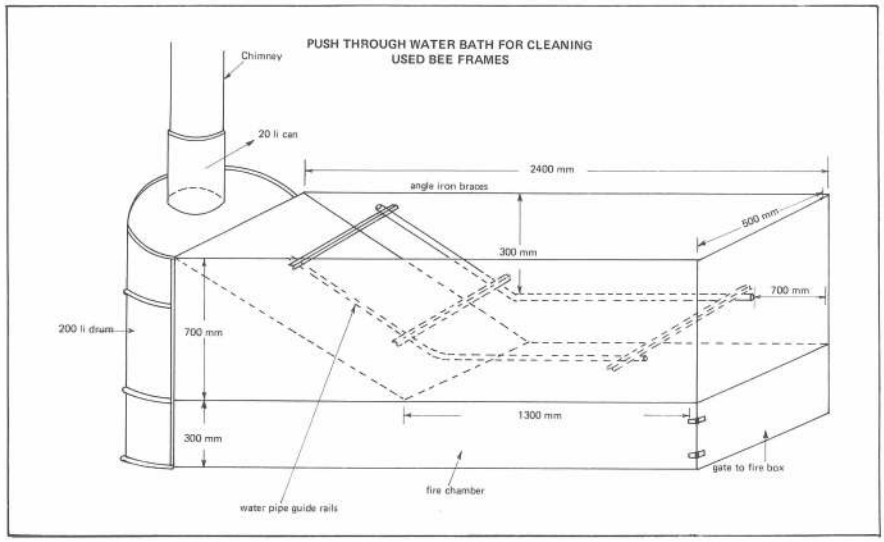
If you want to do the job inside, then how about constructing a shallow metal base say 100 mm deep, and fitting in an electric element. You'll need a deep cover, preferably insulated with Pinex for example, to go over the top and a metal grid or some such thing in the base, to keep the frames off the element.

The frames are simply stacked on the base, the lid put on, and the whole lot steamed for 20-30 minutes. Generally the frames are stacked two by two on their sides and criss-crossed. Some of the foundation grooves may need a slight scrape to clear out the last of the wax. The reclaimed wax is usually left to harden in the base of the 'steamer' and lifted out when cold for reprocessing.

A variation on this theme built by one company is a deep box with the frames criss-crossed inside, again on the flat. A shallow hinged lid covers the top and a pump circulates hot water round the frames.

But what happens if you have a lot of frames to clean out all at once – such as when you've just had a big cull of old or damaged combs, or you've just brought home all your empty frames from the contractor who processed your cut comb. Mr Robert Swetman, a beekeeper at Kihikihi in the Waikato, had both of these situations. He solved this problem by building a large steel water bath with a fire box underneath. The dimensions are given in Fig. 1.

The bath was built out of light gauge mild steel. However, the sloping base, that forms the inlet shute, needs to be built from heavier gauge steel or have some strengthening braces welded to it. This base plate tended to buckle and the boxes were jamming under the guide rails.



The "end-plate" and chimney are made from 200 litre and 20 litre drums – a bit rough but they work. This unit is only the prototype remember. However, as with a lot of beekeeping equipment the prototype tends to become the "permanent-type"!

The unit holds about 270 litres of water and takes from 1 to 1½ hours to boil.

Old frames are used for fuel – what else? A drain tap is provided so that the water can be replaced at regular intervals.

In operation, the frames to be cleaned are loaded into old, but sound supers, and pushed down into the hot water. Guide rails made from water piping, hold the boxes underneath the water until they reach the fire door end of the trough, when they pop up to the surface and can be lifted out.

The unit holds three boxes at a time, and as one is pushed in one comes out. The holding boxes have a light coil spring across the middle to stop the frames floating out. Depending on how "dirty" the combs are and therefore how long they need to be left in the hot water, two people can expect to get through 120-160 boxes a day. That is 1200-1600 frames a day.

If you want to clean out new cut comb frames that have had most of the honey and wax scraped off already, then clean hot water in the trough should be sufficient. However, if you are handling old brood frames then Robert found that by adding caustic soda to the bath the frames came out much cleaner. He uses about 1/3 of the tin (3 kg tin) at the start and the rest of the tin during the day. At present a 3 kg tin costs $4.76.

Adding caustic soda to hot water is a tricky and dangerous business and must be done very carefully. Robert places the caustic soda on a shovel and very gently tips it into the water standing well away from the trough as he does. Needless to say a long rubber apron and rubber gloves are necessary adornments if you put caustic soda in the water. It would also pay to have a cold water hose handy in case of any accidents.

The scum that forms on the surface of the water needs to be scooped off every now and again. The wax cannot be salvaged if you've added caustic soda to the water.

One last important point is that once the frames have come out of the water bath they must either be stacked carefully in the flat, or jammed tightly back into their supers. If you don't do this, the frames will twist and warp.

A FRESH START

Super removal - easy in theory, tough in practice

by David Williams

I KEEP coming back to the subject of super removal partly because its so easy in theory and often so difficult in practice (for amateurs), and partly because its one of those things that hopefully happen every year.

I removed the supers from my eight country hives, having already officially proclaimed that this was a disaster year, and it came as no surprise that very few of the hives had any surplus honey at all.

This area seems to have been the worst in the country this season, but those who had their hives at full strength at the beginning of December have managed a full box per hive on average. Those of us who were a little late, thinking it didn't matter, found that it did.

It was conscience that made me go out, I knew there wasn't any honey but I got all the supers off using shaking, a bit of brushing, and a couple of benzaldehyde lids. Can't say any of them worked particularly well; obviously there's a knack to benzaldehyde that I haven't got yet. The 100 mm paint brush I use for brushing must be washed after each clearance or the aroma of stings in it gets them worked up next time.

Now, what needs to be said on super removal? Nothing takes the place of sunshine. If it had been a clear, still, sunny day I am confident I would have taken supers off without upsetting a single bee. There wasn't any reason I shouldn't have waited except that the bees had to be visited – a poor reason for super removal.

Removal methods were inadequate. What are the alternatives?

I used:–

- brushing – very clumsy and time consuming
- shaking – slow, quite effective frame by frame, but doesn't clear bees clinging to sides of supers and does allow robbing to start
- benzaldehyde – used by many commercial beekeepers who probably don't mind the odd couple of hundred bees per super, they take with them. Are other fumes any different?

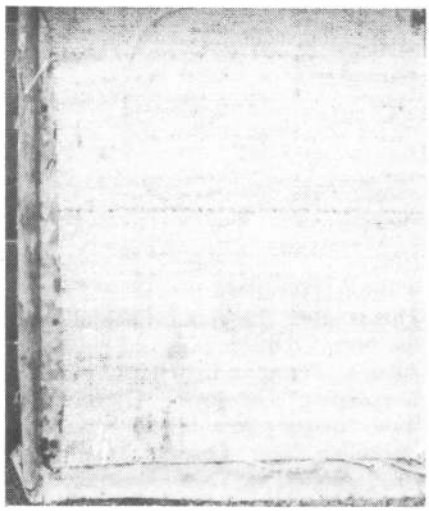
So how about the other alternatives:

- escape boards – not so convenient for out-apiaries, because it means two trips to put on and take off. Great care must be taken to see all supers are bee proof or robbing is catastrophic. Escape boards are very easy to use particularly above the excluder at the end of season.
- Various bee blowers – either commercially designed or some variation. I saw one at a Waikato field day, it was hand held, electrically driven and run off a portable generator. A blower is approximately $150 I'm told, and a generator $600–$700 at the time of writing, so it will probably double in price by the time this is printed.

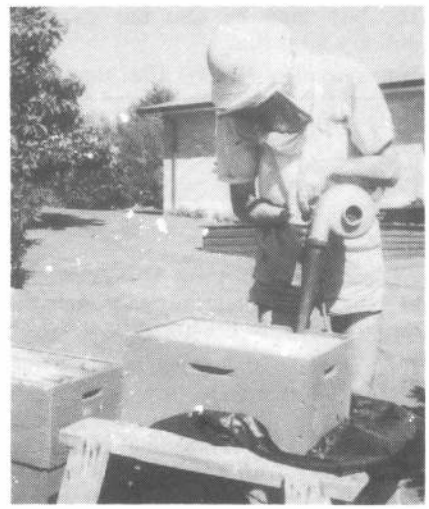
If hives are in the back garden, all you need is a blower, long lead, and some sort of slide to put the bees down and back to the hive entrance.

What we all need is a rich, gadget-minded genius of a relative to take an interest. Unfortunately there seems to be a world shortage of them, but we can all hope.

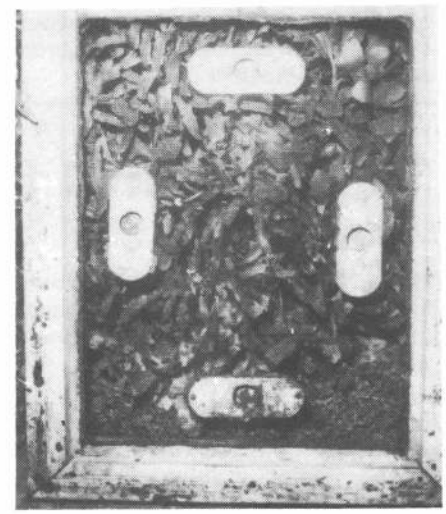
Anyway, why not write to us about your super-removal ideas. Its something we all hope to need – next year!



A black-painted tin-backed benzaldehyde board. The Americans recommend three to four layers of sacking to hold the chemical.



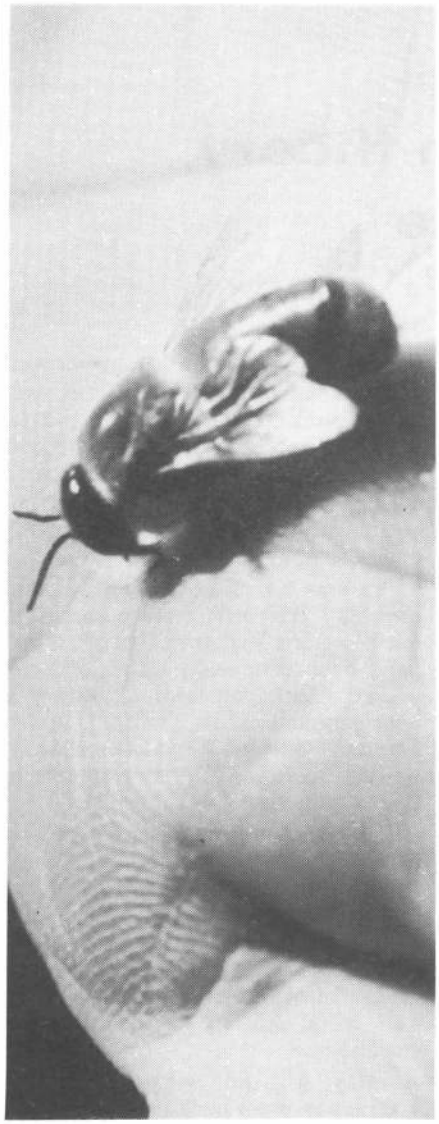
Hand-held bee-blower borrowed from local joinery shop, super stand from couple of saw horses, slide from black plastic. It worked!



A well-made Porter bee-escape board.

Drones aren't really DRONES!

by David Williams



Big, fat, square, friendly drone – cossetted and pampered all summer, thrown out in autumn, but as essential as any other member of the hive.

Drones

BACK IN the May 1973 "Beekeeper" Murray Reid, now Apicultural Advisory Officer in Hamilton, wrote an article entitled "Drones – the forgotten caste". For those of you who can get hold of a copy it is well worth re-reading. He dealt with development, genetic oddities, nutrition, maturity, longevity and normality in that article. His intention was not to present them as neglected creatures but to slot them in to place as legitimate inhabitants of the hive and a vital factor in any breeding programme.

Your queen can be as golden as the sun (and may I remind you that Ivor Foster recommends evenly marked, light coloured bees to reduce swarming in his 1975 article in the Journal of Experimental Agriculture?) but it is her progeny you have to deal with, not Her Majesty in person, and her progeny takes half its characteristics from the drone(s) with which she is mated.

Chromosones are important, it is the hereditary characteristics we are concerned with here. What the drones are, your bees will tend to be.

Remember that there have to be drones around for any virgins to mate with. I played around raising queens a couple of years ago in mid-August and suddenly realised there wasn't a drone within miles – the bees simply hadn't started producing them, that part of the yearly cycle had not come round for them. Like male human beings, drones have to be of a certain age before they produce sperm.

A drone raised at the same time as the queen is useless. Firstly he takes 24 days to emerge as against the queen's 16, but then he also has to reach puberty after that.

Murray quotes 10 days after emergence as a minimum for drone rearing, with a possibility that twenty is more reliable and more realistic. This means that drone rearing has to be successfully completed for a significant period before any virgin queens emerge. In real terms, it means that drones should be emerged and flying before you even start any queen rearing.

Tage Johansson at the Flock House queen breeder's course January 1979, said that colonies in nature produce a brood nest with 6 to 10 per cent drone comb.

I don't know how this ties in with Ribbands (quoted in Eva Crane's "Honey") hive caste distribution but this theory describes the strong colony in the busy season as one queen, 300 drones, 25 000 older workers foraging, 25 000 young workers on hive duties, 9 000 larvae requiring food, 6 000 eggs, 20 000 sealed larvae.

Even if we accept that some of the larvae could be drone, drones must be a very small percentage in that colony however you calculate them – well under one per cent. Perhaps Ribbands' apiarist was one of those who actively purge all drone comb.

Tage also made the point, getting away from our subject a little, that if you want good worker comb drawn out from foundation, ensure that other combs have some drone cell areas in them or the bees will be impelled to tear down good worker foundation to satisfy the natural drone-producing instinct. This is another reason for not going too wild in the removal of all drone comb in hives.

What this article is about can be summed up in a few words. Drones are normal and drones are necessary – particularly if you are into queen rearing!

Feeders and feeding

by David Williams

THE ENGLISH used to differentiate between "maintenance" and "stimulative" feeding, although not always precisely under those names.

Maintenance feeding is done to keep the colony alive, stimulative feeding is designed to cause the colony to expand. Hence maintenance feeding is usually done in autumn, stimulative in spring.

Here in New Zealand we hobbyists generally allow our colonies sufficient stores to last through our somewhat milder winter, but not always enough to build up successfully, through the spring season, to the honeyflow.

This is not, of course, a conscious decision, but merely how it works in practice so that, except in special circumstances, all feeding could be described as stimulative. The special circumstances could be late swarms, a disaster year, or taking over neglected hives.

The convention is to call stimulative feeding, spring feeding, because that is when it takes place.

This is when the greatest demand is in the hive. To quote only one authority, Allan C. Waine in his "Background To Beekeeping", he says, "The monthly food consumption during November, December and January (say June, July, August for New Zealand) does not exceed two pound of honey per month . . . it is not until the winter cluster breaks up and the bees have to keep all brood above 90 deg. F. (32 deg. c) that the drain on stores

becomes severe."

Spring is the time when weather is most variable and nectar sources sparse, short-lived and unpredictable. Colonies are at their lowest ebb and hence in need of ample stores to use. Feeding is also an insurance and keeps both bees and owner comfortable.

All things should work toward the peak at the start of the flow. For amateurs, and for beginners in particular, there are two potential crisis points as far as stores are concerned.

The major one is in spring and the lesser one is in March when colonies are being settled down for the winter. Few beginners realise how heavy the hive should be at this time. If you can put a hand under the front or back of the hive and tilt it up easily, then the bees need feeding.

No harm has ever been done by overfeeding. The bees will simply store away any excess until needed, and it is not unusual to see tough old combs still honey filled from the previous season at the start of the flow. So what? The bees aren't going to waste it or allow it to spoil. It is still there for them when they want it.

So – one basic rule. *If in doubt – feed.* Feed a lot! Think how much you eat in one day – breakfast, lunch, dinner, supper and a couple of snacks inbetween. Now consider that there is only one of you and a lot of them and scale your thinking up accordingly.

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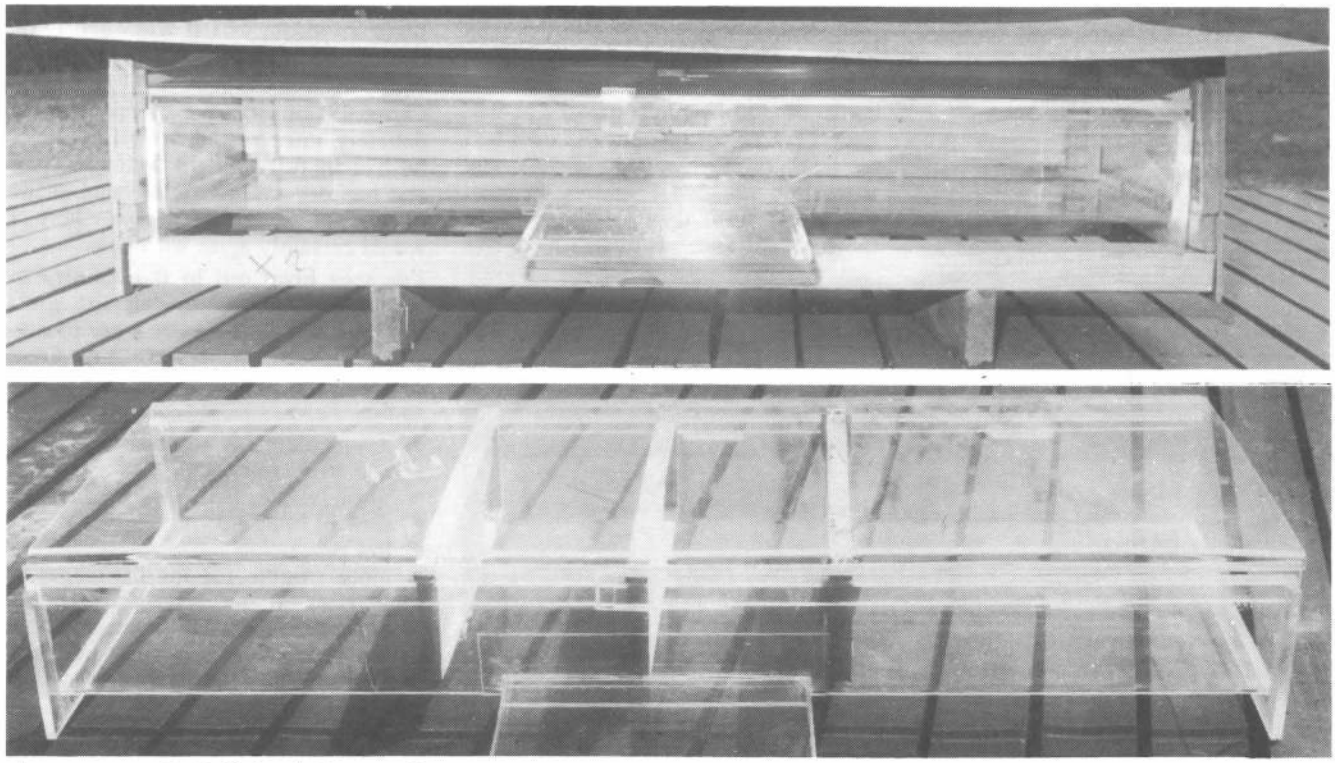
by David Williams, photos Alan Warren

A note on demonstration hives



An easy-to-make half depth Perspex demonstration hive with and without stand and cover.

FOLLOWING THAT excellent little article on visiting children in the last issue, I thought I might have a word on demonstration hives. My interest in demonstration hives – and perhaps even in bees – was first kindled when I was eight years old on a visit to a Yorkshire museum.

The museum had a half-depth hive in a glass counter-like case with a glass entrance going out through a window. One could see the bees coming and going and many other activities of the colony, and it kept people glued to the spot for hours.

You may provide revelation for visitors to your apiary. Many travellers and tourists visiting Taupo have seen the Honey Centre's display of natural combs in a large perspex surround, plus the original two-frame see-through model in the shop itself with an exit up through the roof. The latter may be closer to what is possible for you, although there is no reason why the half-depth idea cannot be used if you have somewhere to site it.

Remember the hive must be kept out of the sun, or the glasshouse effect created by the heat will cook them. The hive may need insulation in the colder months too.

For temporary demonstrations a two-frame construction is ideal, with one frame slung above the other. This can provide a cross-section through the centre of the two brood chambers, with honey at the top, down to sealed brood, eggs and larvae.

One can show the queen (a marked queen stands out much better and is easy to arrange), workers and drones. The workers can be carrying pollen on their legs and placing it into cells, so the bees are carrying on as if they are thoroughly at home.

For short visits it is easy to confine the bees as long as necessary and replace them in the hives as soon as possible.

For demonstrations of longer duration – open days or weekend exhibitions – there is no reason why the bees should not be allowed to fly. Part of the interest can then be in seeing them leave and return again.

They must be kept out of direct sunlight and be firmly fixed in place. Nothing is worse than angry bees flying away from a knocked-over demonstration hive, especially when you have just finished telling the audience how tame bees really are.

By the use of such hives every aspect of colony life may be demonstrated without any danger or inconvenience to the onlookers which is a very important consideration in any public relations exercise.

Remember that, enclosed or flying free, the bees must have thorough ventilation. Apart from that and the other points brought out here there should be no problems.

I hope to say a few general words on sites and hives in the next few issues, partly because I receive many enquiries on the subject. Usually these are quite specific in that someone wants to put some hive in some specific spot and wants to know if it is suitable. The articles will only be able to provide background, and perhaps to initiate a way of thinking about suitable sites for them.

I have entitled the first article:—

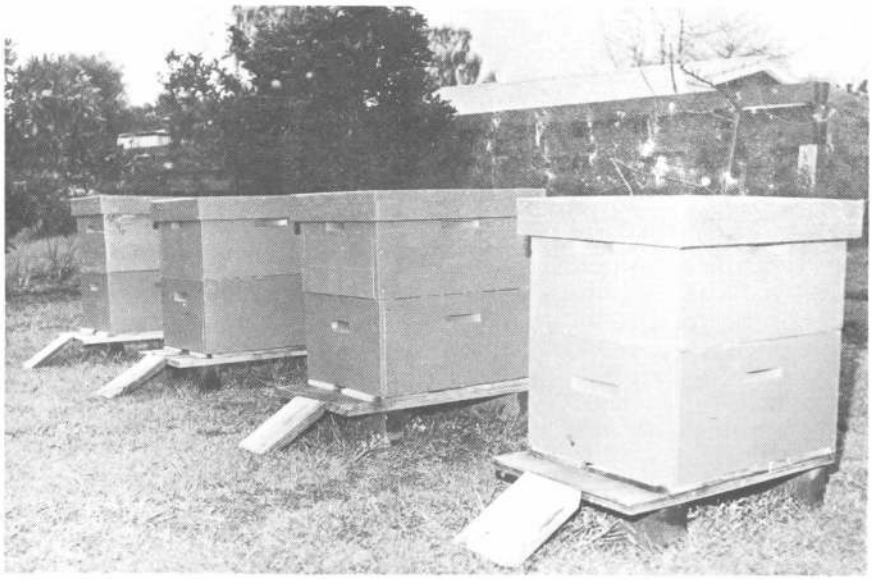
Cold storage bees

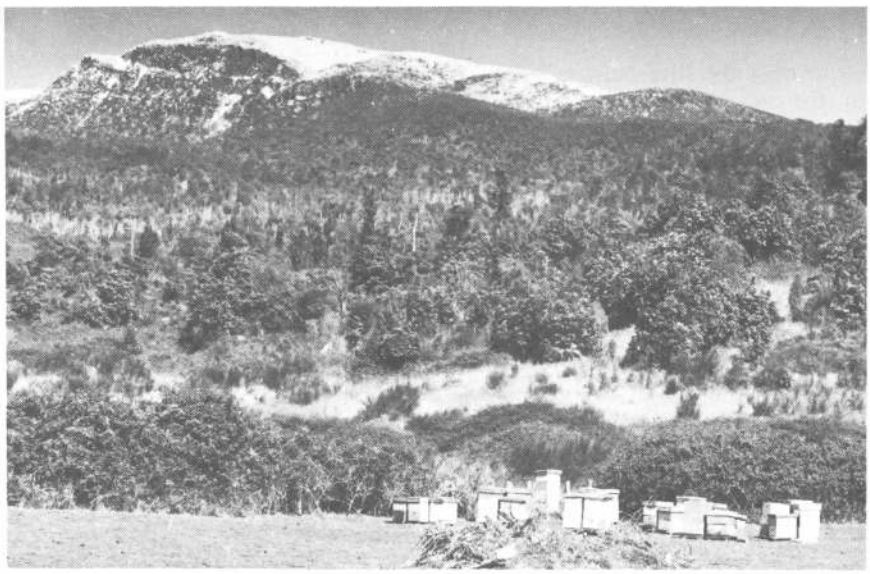
by David Williams, photos Alan Warren.

THE CHOICE of site for amateur's hives may be somewhat limited, particularly if your hobby involves a couple of hives in the garden as mine does.

This automatically means that they have to be away from driveways, parking areas, the house, the clothes line, and preferably not too close to the neighbours.

One would think that any garden already had enough shelter, but I've seen beehives in some pretty funny places. One of the worst was behind a solid bank of raspberry regrowth at the back of a section where the bees had to land on the outside shoots and thereafter crawl 1½ metres through the jungle until they finally came to the hive entrance ! It hadn't been like that when the two hives had been put there in winter but it was when I saw them, so its obviously better to do a bit of forward thinking on this.





Hives in full sun in the wild and in deepest suburbia – pays dividends in hive health and in honey.

Ching Dickinson, one of our liveliest debaters, once remarked that the hives he had in full sunlight were healthier and happier and a month ahead of the ones tucked under hedges, here I would certainly agree with him.

I've seen hives out in the country in the coldest, frostiest, dampest spots imaginable, where hardly a ray of sunshine penetrated. I have no direct evidence but would expect those hives to be:

- more vulnerable to disease
- bad tempered
- to be heavy on stores right through
- slow to build up
- low producing
- more trouble for the beekeeper to look after at all times – while the woodware itself would be more liable to fungal attack and decay and the site itself would be a less pleasant place for the beekeeper to work in.

Remember all these things for your own siting. My grandmother used to tell me that the narrow coastal plain in Wales was almost Mediterranean in climate. A couple of kilometres back the hills went up and the climate went down.

The beekeepers there used to keep their hives up in the hills until the flow started down on the coast, then whip their poor little bees down from winter in the hills to summer at the coast practically overnight.

The result, so she claimed, was that they got practically no swarming, a healthy crop of honey, plenty of stores to last the hill winter, and easy management. Not that I recommend a sort of mini-equivalent by saying "Keep your hives in cold, damp hedge bottoms until December and then pop them out into the middle of the paddock."

Which poet was it said, speaking of the defeat of Napoleon, "And kings crept out to feel the sun again"? – but I doubt if they were ever the same afterwards!

SPECIAL FEATURE

Wax moths

Adapted from an article by Grant D. Morse, Ph.D., first published in "Gleanings in Bee Culture", November 1979

I AM A BIT amazed at how frequently the beginner beekeepers who write to me mention destruction of combs by moths.

Their difficulty in dealing with moths stems, it would appear, from their hardly knowing of the existence of such predators, or of knowing how destructive moths can be. The beekeepers who have the most trouble live in the warmer areas of our country.

Wax moths do not survive freezing weather when they are exposed to its rigors. Also, they do not seem to thrive at higher altitudes. An area with as little as 2 000 feet elevation is usually free from them.

But the wax moths that die from freezing weather are usually replaced by those that fly (or are carried by the wind) when warm weather returns. A few are usually present even in the coldest areas when spring returns, having been protected by their quarters in warm buildings.

Most of the destruction of honey comb by moths is carried out by the so-called greater wax moth, *Galleria Mellonella (7).* But many observers fail to distinguish between this species and the lesser wax moth, *Achroia grisella (Fabr.),* because when abundant supplies of food are available, the larvae of the lesser moth may attain dimensions approaching those of the larvae of the greater wax moth, particularly if the latter lacks stimulating quantities of food.

The food of both is not honey or wax, but the cast larva skins, the pupal cases of the bees that line the cells, and pollen. Both species do ingest wax but it is not a principal food. Both will damage foundation, but tend not to do so when combs containing their preferred foods are available.

Protection of combs against destruction by moths

Wax moths do not often cause grave destruction in colonies of honeybees that are queenright and numerically strong enough to range over all the areas of the interior of the nest. Here in the Hudson Valley of New York State where I have kept a few bees for more than 50 years, I have never experienced disturbing difficulty from wax moths.

But in the warmer areas wax moths are usually present in some considerable numbers even in the strongest colonies of the apiary. In fact, careful and lengthy observation by Nielson and Brister (1977) reveals that very often the wax moths prefer the strongest hives. I do not know why this is true, but can guess that such hives provide a fuller food supply of the items they prefer.

These two investigators found that the moths seem to prefer carrying on their activities in certain hives rather than others, even if all are of approximately the same strength. Whether this may be because of the greater aggressiveness of some colonies over others, I can only guess.

When an operator finds a colony of bees infested with wax moths he should look to see if, by chance, American brood disease has been present. This disease, or others, may have so weakened a colony that moths have been able to move in with little opposition. Queenrightness helps the worker force to maintain a defensive stance. Hives with tight parts help to deter entrance of moths. Some races of bees are more defensive than others. The European bee that we cultivate here in the U.S. is more capable in this respect than the black bee. But in the warmer areas, in the southern states of this country, wax moths are seldom absent from hives.

I am sure that many of you will be interested in reading in its entirety an article titled "The Greater Wax Moth: Adult Behaviour", reprinted from the annals of the Entomological Society of America Vol. 70, No.1, January 1977 by Nielsen, Ross A. and Brister, Dean.

The authors of this paper found that in the state of Alabama, where their experiment was carried on, wax moths had little hesitancy in entering even the strongest hives of honeybee colonies after dark – and in the presence of entrance guards.

The moths were observed to deposit their eggs in such locations as cells, under the caps of partially capped cells, and in enlarged holes in the wood frames, particularly the holes for wires in end bars. Some moths that were thwarted by the guard bees in their attempt to gain admission during daylight hours at the regular entrance of the hive, laid their eggs under the cover, or in the cracks between the parts of the hive.

But moths in large numbers were observed boldly gaining admission at the regular entrance, and in the midst of guards – after dark. In some cases a

guard was observed catching a moth by a leg with its mandibles, "but the moth always escaped and generally flew to another colony."

These observers have concluded that moths can emerge in strong colonies without being destroyed. Moths have evidently learned (or instinctively acquired the ability) to behave in the midst of honeybees in such ways as to propogate their kind to the degree that they maintain relatively large numbers in the midst of hostile hosts.

Nature seems to tolerate moths and their depredations in order that they may be available to destroy combs in honeybee nests that have been abandoned by the occupants because of disease infestation, particularly the insidious AFB.

It is usually the combs that have been stored that fall victim to the onslaught of wax worms. But if one will keep bodies of combs well stacked and supplied with the protection of paradichlorobenzine (PDB), he will seldom have grave damage from wax moths, even in the warmer areas of the country. Personally, I have relied on PDB – and, in earlier years, on cyanogas which is now disapproved for use.

PDB gives off a small quantity of gas, or fumes. It is most effective at temperatures above 70 deg. F – the temperatures at which the moth larvae are most active. The gas from PDB is heavier than air, which means that it falls rather than rises, and so the crystals should be placed at the top of each short portion of a stack of supers, usually not more than four supers, receiving its quota of PDB crystals which may be placed on pieces of cardboard, or triple sheets of paper.

When such treated supers are taken from a stack and given to colonies, it is desirable to "air them out", to ventilate them for an hour or so. However, the fumes will not kill the bees. They will nevertheless be obnoxious to them if not ventilated.

But the odour from PDB can be absorbed by honey, hence care should be taken not to contaminate combs of honey that are to be used by humans. Such combs can, however, be used for spring feeding without undue detriment if briefly ventilated.

When PDB is applied to stacked combs, approximately six tablespoonfuls should be furnished to each four supers. Every two or three weeks or so the stacks should be checked to see if the crystals are still adequately in place. One commercial beekeeper has told me of his experience in 1947 of losing his entire complement of extracting combs that were housed in one building. He failed to renew the crystals soon enough, being at work elsewhere at the time, and consequently lost his extremely valuable equipment which naturally had to be replaced within the same year. The warmer the temperature, the faster the crystals will evaporate. PDB kills moths and young larvae, but not the moth eggs.

Since the wax moth is vulnerable in all stages to freezing temperatures, the placement of frames and combs in such an environment for a reasonable length of time (several hours) will eliminate them. But if such treated combs are once more exposed in warm temperatures, they become susceptible again if moths are present.

Some authorities recommend ethylene dibromide as a good fumigant. A pad of cloth is soaked with the substance and placed at the top of a stack of supers. The fumes are heavier than air, so work downward. The frames should be ventilated before being placed on colonies. Some prefer to buy foundation that has been treated against moth intrusion. Unfortunately, we have no data as to its effectiveness.

Greater wax moth

The larvae of the greater wax moth are grayish white. They move rapidly. Older larvae are healthy looking, grow to 1½ inches in size, and look to be dirty gray in colour. They appear more robust and vigorous than those of the lesser wax moth. They have eight pairs of legs. The length of the larval period depends on the temperature and the availability of food. In bee colony temperatures they normally remain in the larval stage for about 28 to 29 days.

Interestingly, such larvae do not normally remain with, or damage, comb honey unless confined with it (as, for example, with a cellophane package) since such honey lacks the materials which the larvae prefer and need as food.

The females of the greater wax moth species lay large numbers of eggs, from 400 to 1 800 according to different authorities. At normal colony temperatures in summer the moth eggs may hatch in as few as 10 days. The period from egg to adult may be as brief as 49 days.

Lesser wax moth

These larvae of this moth are white in colour when young, being a darker gray as they age, but not so dark as the larvae of the greater wax moth. A characteristic which may distinguish them from the greater wax moth is their tendency when touched to curl up in a ball-like form. The larger larvae may grow to ¾ inch in length.

The lesser wax moth female may begin egg laying as soon as five hours after mating. Mating commonly occurs very soon after hatching. It may take place right in the bee colony nest very soon after hatching if both sexes are present.

The larvae of both the greater wax moth and lesser wax moth commonly burrow through wax combs close to the mid rib. After a short period they leave masses of webbing and excreta on the surfaces of the combs.

Normally, in colonies of bees that are typically strong the workers will not tolerate very extensive action by the moth larvae, though they are thwarted during the time a larva is in a burrow beneath the comb surface. As a rule, the larva is eventually caught by a worker, killed, and removed from the premises. The larvae are normally able to remain in the hive only when located in some crevice to which the worker bees do not have access, another reason why dimensions of all hives and equipment should provide standard bee space.

Nielsen and Briston, to whom we have referred previously, observed that the adult female moths entered the hives usually after dark, and left about an hour before sunrise. Marked moths were observed to make entries for as many as four successive nights.

When a moth larva was discovered by a worker bee to be ensconced in a cavity within the hive, the worker would place a patch of propolis over the hole. When the wax moth larva emerged, it pushed the propolis aside.

When the walls of a hive were tapped by an experimenter, the bees became uncharacteristically aggressive and started to kill moths that were present.

Young moths run out of a hive so fast that the worker bees find it almost impossible to catch them.

When moths were observed running from the hives they usually flew into the trees. There some of the females laid eggs under pieces of bark.

Irradiation of greater wax moths of either sex has been tried. Moths thus treated reproduced less successfully, but the treatment to date has not been extensive enough to achieve satisfactory restraint on availability of breeder moths. In theory, at least, the treatment has good potential.

Wax moth larvae often chew portions of wood frames in order to secure a hiding place for their cocoons. Frames thus treated often become weak.

A strong draft of air over combs will usually deter action by wax moths.

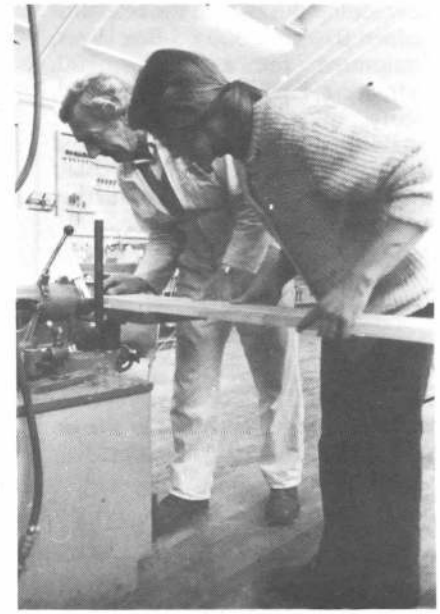
The larvae of the Mediterranean flour moth *(Anagasta kuehniella)* Zeller, feed on pollen in the hive and burrow into and through the combs thus causing damage. They can be controlled by the same methods used to control the greater and lesser wax moths.

A poorly ventilated store room for frames and combs encourages activity by moths.

A vigilant beekeeper seldom need have too much damage from wax moths.

Beekeeping education thrives in the north of the South Island

Tutor describing aspects of a colony to course members.



Beginning beehive construction.

by P.J. Brunt, Course Supervisor, Applied Science Department, Nelson Polytechnic and A.G. Matheson, Apicultural Advisory Officer, MAF, Nelson

ONE OF us had the idea of starting beekeeping as a hobby, and wanted to do it properly. The best way, in his estimation, was to see if there was a sufficient number of interested people in Nelson to warrant a course in "Beekeeping for beginners", and also to obtain a well-qualified tutor to conduct it.

Sufficient numbers of people on the staff of the polytechnic were also interested, so an approach was made to the apicultural advisory officer. He agreed that a course would be a good thing, and was prepared to be the tutor. Department of Education approved the course.

The first course was mounted in 1978 with the purpose of giving information to beginners on the bee, the colony and its management, and also to make a beehive under the supervision of a woodcraft tutor.

Twenty-five people enrolled for twelve weeks of two-hour evening sessions. Some had hives, many had never seen a hive, but all were obviously enthusiastic because attendances were high throughout the course.

The success of this course was so encouraging that in 1979 not only was it repeated, but an advanced course was initiated for those existing beekeepers who wished to extend their knowledge of management practices.

Courses either offered or planned for 1980 include the two evening courses at Nelson, and weekend courses at Motueka, Nelson and possibly Westport. The possibility of returning to Blenheim and Takaka in the future is being considered, as weekend courses were held there last year.

The interest in the courses has been very high with 149 people having completed one up to May this year.

The amount of detail in the courses has depended on the time available for the course, and the intended scope of it.

A wide variety of topics are covered including: getting started, types of hive equipment, bee development and behaviour, harvesting and processing honey, pests and diseases and queen raising.

Evening sessions include lectures, utilising slides and movie films as visual aids. Discussion between course members and the tutor is encouraged, as this is an important part of the learning process.

Of great importance in a beekeeping course is practical instruction. Each course has one or two field sessions where course participants are introduced to the apiary. In the beginners' course there is an apiary visit at the very beginning as well as at the end of the course.

An added feature of the Nelson beginners' course is the manufacture of a beehive. Course members are introduced to the rudiments of woodworking, and under the experienced eyes of woodcraft tutors they make a full depth and a three-quarter depth hive body, floorboard, lid and inner cover. This activity occupies three evening sessions and materials are paid for out of the overall course fee of $28.

During the three years that courses in beekeeping have been offered by the Nelson Polytechnic, they have been effective in ensuring that hobby beekeeping in the region is carried out in a proficient fashion.

The polytechnic courses actually reduce the amount of time that the MAF advisor spends with hobbyists because he doesn't have to spend time answering individual enquiries. The people can be told collectively at beekeeping courses, enabling him to spend more time with commercial bee farmers. The course has been a stepping stone towards commercial beekeeping for some, and it is hoped that it might also be a good start for others.

So far two domestic beekeeping clubs have been started by former members of the course. Such clubs are also of great benefit to beekeepers, in providing an on-going forum for the exchange of ideas and information.

Neither of these authors can tell how long the demand for these courses in the north of the South Island will be sustained.

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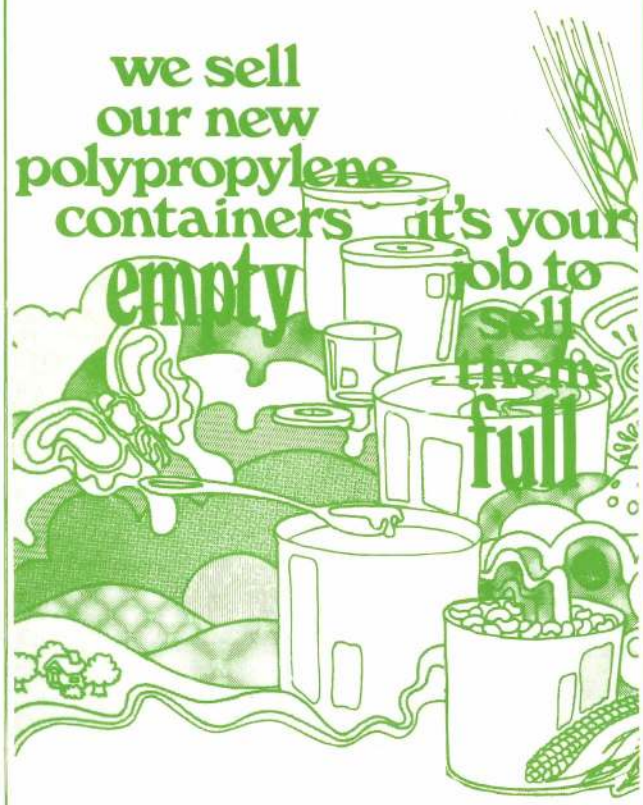

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