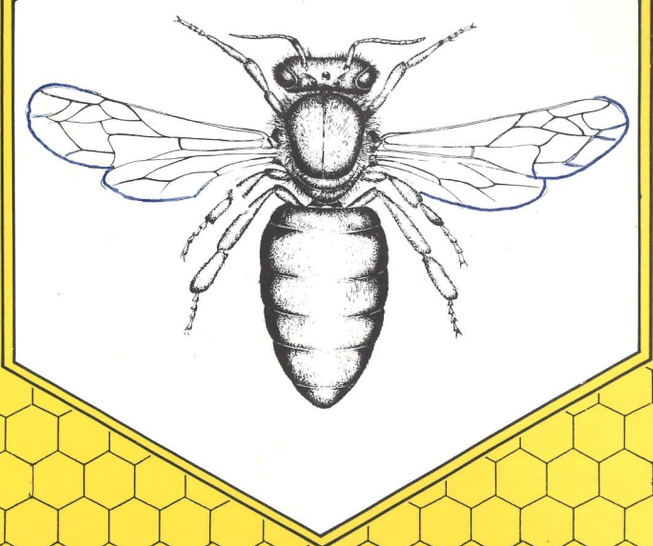
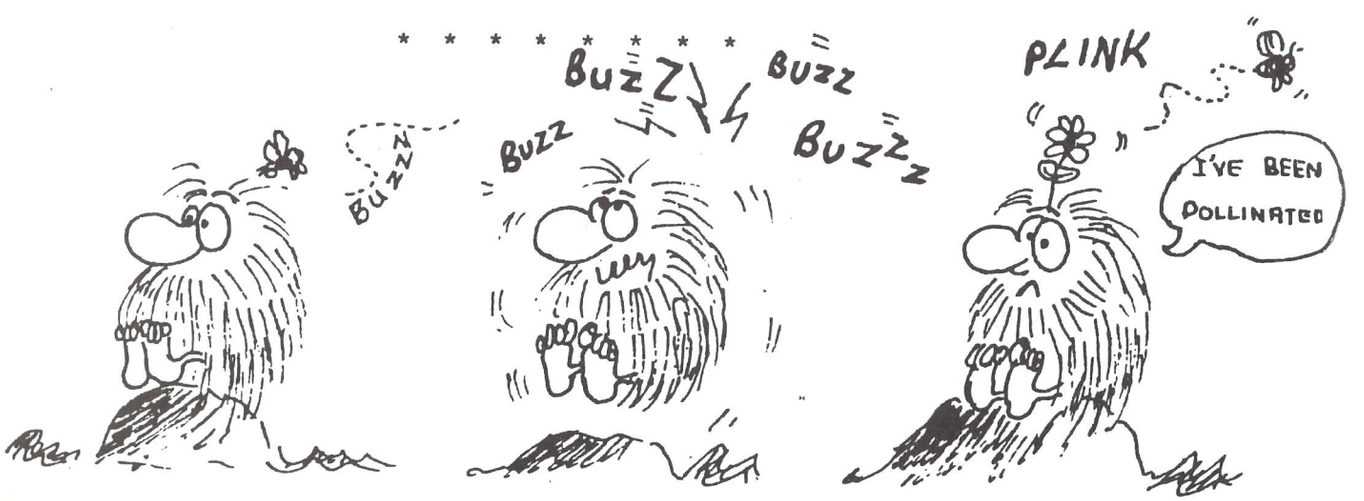


beelines

Number 30 February 1987

MAF Nelson Andrew Matheson Apicultural Advisory Officer

CONTENTS



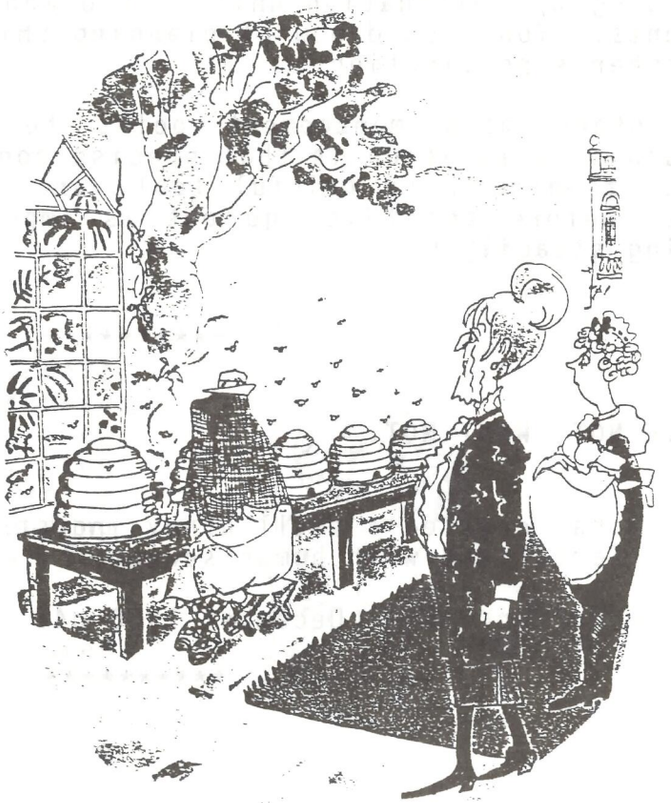
Beelines is now also going to many of the beekeepers in the lower North Island: Taranaki, Wanganui, Manawatu, Horowhenua, Hawkes Bay and Wairarapa. The apicultural adviser for that area, Ted Roberts, will be contributing to future issues.

****

KIWIFRUIT POLLINATION - THIS TIME AROUND

Pollination this season was a lot different from last year's. The weather was better, for one thing, and beekeepers had another year's experience under their belts in preparing the optimum pollination unit. Growers, too, seemed a lot more aware of the need for the right type of pollination units, rather than using any old hives.

I was contracted by the kiwifruit pollinators' group to audit their



"Wilkins, I understand you've been pollinating the maids again"

members' hives. (Perhaps I should refer to them as "pollination beekeepers" rather than "pollinators", although I suppose no-one really knows what goes on in orchards at night). The survey results are contained in a report to that group, but I must say how impressed I was by two things. One was that almost all hives were up to the MAF recommendations for brood area and bee numbers that have been adopted by the pollination group.

The other encouraging thing was the evenness of the hives. Most beekeepers had their pollination colonies looking like peas in a pod - showing that good pollination units are made, not found.

This year's survey of pollination hives has convinced me that the recommended quantities of brood, bees and empty combs are realistically attainable for commercial pollinators.

Some beekeepers have put a lot of effort into the pollination group, getting beekeepers to agree on minimum hive standards, and organising field days. More and more growers are realizing the difference between "properly-prepared pollination units", "strong hives" and "any old hives". The market is increasingly demanding the right type of colonies. Beekeepers who aren't prepared (or able) to guarantee hives of a particular type will miss out on more and more business. Join the pollination group, learn how to prepare hives for kiwifruit - and be a part of the pollination industry, not apart from it.

It's not too soon to be preparing for next season's kiwifruit pollination. Two-year old queens <u>cannot</u> be relied on for building up pollination units - too many peg out at embarrassing moments. You should now be planning this autumn's requeening for November's pollination.

The other main management point to be confirmed from last season's pollination is that precise control of buildup is vital. Syrup feeding is a helpful tool, and removing capped brood and honey before the hives go out is important to keep the queens laying steadily.

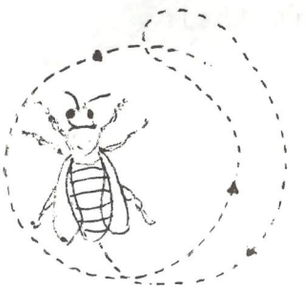
****

WASTE NOT, WANT NOT.

Kuwait has created a small honey industry, using nectar-producing crops fertilized with human sewage.

(Construction Today, December 1986 p41)

****



CONTINUING EDUCATION COURSES FOR 1987

If you're thinking of broadening your mind this year, don't forget the wide range of courses offered by the Waikikamukau Community College. Some examples:

SELF IMPROVEMENT

* Creative suffering
* Overcoming peace of mind
* You and your birthmark
* Guilt without sex
* Ego gratification through violence
* Moulding your child's behaviour through guilt and fear
* Whine your way to alienation
* How to overcome self-doubt through pretence and ostentation

HEALTH AND FITNESS

* Creative tooth decay
* Exorcism and acne
* The joys of hypochondria
* High fibre sex
* Tapdance your way to social ridicule
* Home organ transplants
* Faster swimming by pirhana/pool introduction

CRAFTS

* Self-actualization through macrame
* How to draw genitalia
* Gifts for the senile
* Bonsai your pet
* Knitting spaghetti
* Papuan human head shrinking
* Learn to speak graffiti

SERIOUSLY, THOUGH ...

The Bay of Plenty Polytechnic is running a beekeeping course for students anywhere in New Zealand. It's normally two years long, and leads to a Certificate in Beekeeping issued by the Authority for Advanced Vocational Awards.

The course is a structured reading programme to broaden

"WHO SHALL I SAY IS SOBBING?"

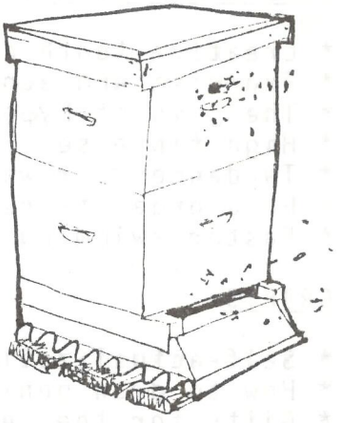
your knowledge and appreciation of bees and beekeeping. It won't teach you how to keep bees, but will supplement what you learn at the hive and help you know why you do things you do.

Further information is available from me or from Nick Wallingford, Beekeeping Tutor, Bay of Plenty Polytechnic, Private Bag, Tauranga.

****

POLLEN TRAPPING

From time to time I've written about the effects of pollen trapping on honey production and other aspects of colony performance. Different studies have shown very different results, because the experimental methods varied, the traps were not the same, the conditions altered at the time of the trials, and so on.



These overseas studies won't tell you what effect pollen trapping would have on your colonies (any more than a study on your colonies this year would tell you what to expect next year). But they can give you some ideas of what's involved, and show you general principles to check out on your outfit.

The latest study on pollen trapping is a detailed, two-year experiment in Minnesota, USA. They compared colonies with:

- traps on from spring through to first frost (full-time);

- similar colonies, but with the trapping screens disengaged every other week (part-time);

- colonies with traps on, but with the screens permanently disengaged (non-trapping);

- colonies with no traps on at all (control);

The results?:

- Full-time trapping significantly reduced brood area and adult bee population.

- Full-time trapping increased the supersedure rate of two-year old queens (but not of younger queens).

- Part-time trapping didn't have either of these effects.

- Honey production was reduced a little by having a disengaged trap on, a little more by the part-time trapping; and more again by full-time trapping. The comparisons were 44 kg (full-time trapping) and 63 kg (control) one year, and 13 kg and 41 kg the next.

Now a question discussed often during pollination last year was the effect pollen trapping has on foraging activity, and particularly the percentage of flying bees that collect pollen. Conventional wisdom would suggest that more foragers would collect pollen, to somehow compensate for the trap. In the Minnesota study full-time pollen trapping reduced foraging activity in both years (and part-time trapping did one year). The percentage of foragers collecting pollen did not alter.

This study seems to bear out some things many beekeepers have observed here: pollen trapping can reduce brood area and colony size; this can have an effect later on honey crop; pollen trapping shortens the lives of queens.

Duff, S.R.; Furgala, B. 1986. Pollen trapping honey bee colonies in Minnesota. *American Bee Journal* 126(10): 686-689, 126(11):755-759.

****

NOT TO BE SNEEZED AT

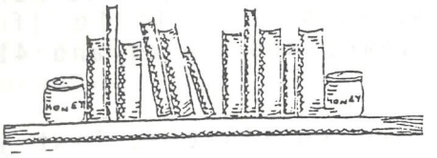
THERE is more than a sneeze or two in the seasonal clouds of yellow pine pollen over Kawerau, according to the Tasman Pulp and Paper Company's *Tradewind* magazine.

The forests around the mill town produce an estimated 60,000 tonnes of pollen each year and at, say, $10 a kilogram, Kawerau's pollen is worth a staggering $600 million at least.

Now, if they could only find a way of harvesting all that, they could make beekeepers look a bit silly.

****

BACK IN STOCK



* Honey bee behaviour in kiwifruit orchards, by Cam and Doreen Jay ($3)

* Hypersensitivity to bee venom ($4)

* Virus diseases of honey bees, by L Bailey ($3)

* Acarine mite - a modern appraisal, by L Bailey ($2)

* Varroa disease of honey bees ($4)

* Queen rearing by Ruttner ($73). A must for the serious beekeeper wanting to raise quality queen bees.

* Honey bee pests, predators and diseases ($57). A wide-ranging review of honey bee enemies.

All these books are available by writing to me or by calling in at MAF's Nelson office.

****

OUCH!!

Foulbrood gear wasn't the only thing that went up in flames recently, when a local beekeeper went to burn some diseased hives. Glen Kelly of Motueka took part in his own pyrotechnics, ending up with serious burns to the hands and face. It may have been funny later when he looked like "The curse of the mummy's tomb", but I know it wasn't at the time.

Glen is anxious that other beekeepers don't end up the same way and suggested I write this article.

Tired from pollination work, and just before having to shift hives out again, Glen had a couple of BL hives close to the edge of a pit. He'd used petrol to kill the bees, the evening was still and humid, and as soon as the match was lit (before it was thrown on to the fire) the petrol vapour hanging in the air exploded.

"Have you ever heard of organic acupuncture?"

How can the risks be reduced? There are several ways of burning AFB gear.

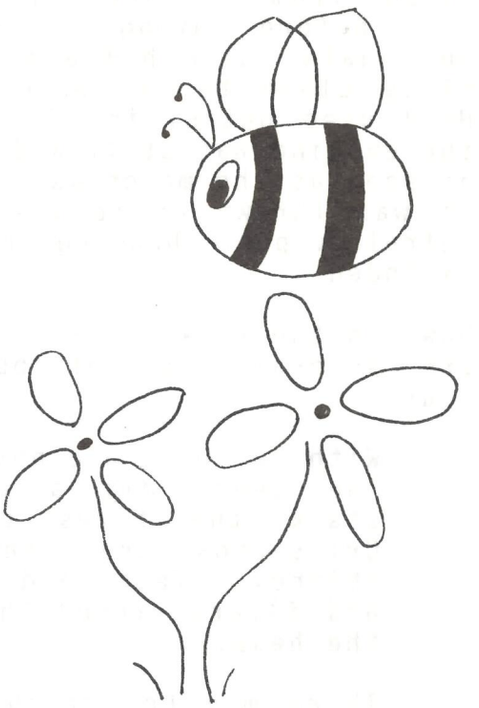
* **With petrol**. Use petrol to gas the bees, dig a hole, then stack the boxes up in it. Criss-cross the boxes to get a chimney effect, and stand lids and floors around the edges of the heap.

  There may be enough petrol left to start the fire, but I usually splash a bit more over the finished heap, then lay a "wick" of petrol along the ground, away from the pit on the **UPWIND** side. Close the petrol can, put it well away from the fire, and light the wick. It's probably safest to light a screwed up piece of newspaper and drop that onto the wick, directly or from the blade of a shovel.

  Sometimes the fire jumps along the wick and sits there burning, without igniting the equipment. Resist the temptation to interfere until the wick has burnt out completely.

* **With petrol**, but less spectacular. This is the method advocated in the Aglink FPP 124. Light a fire in the pit, using paper and twigs. Add dry, empty combs but (as it says in italics in the Aglink) *take care with the petrol-soaked combs, which may explode*. Build up a good fire and add the hive boxes, floorboard, dead bees, combs, and hive lid and mat. If there's a lot of honey-filled combs, get a good fire going first before putting them on. Bits of a shredded truck tyre make a good accelerant for the fire in this case, and you'll be doing the countryside a favour by picking them up.

* **Without petrol.** Any method not using petrol is likely to be slower than the others, and poses the problem of how to kill the bees. The time-honoured way is to use calcium cyanide ("Cyanogas"), but even if you can get hold of it today it's far more dangerous than petrol. At least sniffing petrol can give you a high!



You could try an insecticide, like dichlorvos (Vapona). Pour a capful (not a cupful) into a closed-up hive, then add the hive parts to a fire. Remember, though, that any insecticide is highly toxic. Diesel is not really effective for gassing bees.

* **General precautions**

Whatever method you adopt, don't get too casual with the chemicals you use.

- use a wick of petrol on the upwind side of the hole,

- be careful if feeding petrol-soaked combs onto a fire,

- don't burn hives on your own,

- carry a large jerrycan of water and bucket in case of burns,

- treat any insecticides with respect: wear a respirator.

****

"If at first you don't succeed,
destroy all evidence that you tried."

****

HONEY BEE EGGS - FACT AND FANCY

There's a lot of "facts" around in beekeeping that we all believe - until someone investigates more closely and upsets things a little. Take the honey bee egg: we all know it hatches after 3 days, and that it's very delicate, right?

Steve Taber of California has done some interesting tests which show these "facts" to be myths. For a start, they don't always hatch in 3 days (72 hours). Taber once caged queens onto combs for a two-hour period, then kept them away from it. After 84 hours no eggs had hatched - by the next morning hours (94) all had hatched. This was done in Louisiana in May, when temperatures were warm and the humidity high.

To find out how delicate eggs are, he suggests you put a comb in the fridge for 24 hours, wrapped in a moist cloth. They don't die, and nor do they after 48 hours. But try putting them in the direct sun for a few minutes, and see what kills them.

Taber, S. 1986. Challenging the "facts" about the honey bee egg. *American Bee Journal* 126(1):21-22.

****

WHAT'S UP IN NORTH AMERICA?

Murray Reid, our National Apicultural Advisory Officer, recently visited the USA and Canada on official business. He held discussions with authorities there on access for our bee shipments, attended several apicultural conferences, and met with apicultural advisers and industry leaders. Some highlights from the visit:

Imports

* MAF has negotiated an easier system of permits for transiting the USA and also for entry to Canada. The USDA have been testing some NZ queen bees for two years now and they will be examining some of our

package bees this coming export season. If they check out OK then MAF will have done its bit to gain access to the US market. The rest will be up to our exporters to find potential clients in the US who can apply for the permits to import.

Canadian industry

This large country has many beekeepers with vested interests all pushing and pulling in different directions. Sounds just like NZ of a few years ago doesn't it? What are the issues of the day?

* The likelihood of closing the western provincial borders to US stock was just beneath the surface. At the moment 17 counties within California plus six other states that are free of acarine can send bees to Canada under permit. Some beekeepers want the border closed now, others say it would ruin them.

* The movement to wintering (wrapping or sheds) is progressing slowly but it is an expensive operation and many beekeepers can't afford to change at the moment.

* Wintering losses will need to be replaced from somewhere; NZ and British Columbia are not seen as the total solution.

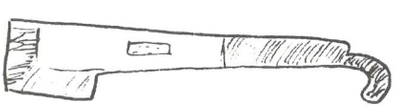
* Honey prices are depressed and the American loan programme is expected to affect sales even more. Beekeepers in Canada can produce newspaper ads for cut-price honey just as we do here!

  Sales to West Germany have run into problems following pollen analyses. The Canadians were asking for development of an alternative method to pollen counts for determining floral origin; the very project Seng To Tan is working on here at Waikato University. Officials are now charging a $C50 minimum fee to grade honey and $C25 per hour thereafter.

  They also were having problems with residues in honey, especially sulphur (from drugs fed for foulbrood control) and phenol (used in fume boards).

* Bears seems to be on the increase and causing a lot of hive losses each year. Gallagher electric fences are popular and work well provided someone doesn't steal the batteries or shoot up the solar charger!

* Reports on our queen bees and packages were a mixed bag. Some beekeepers were very pleased with our stock with respect to temper and production but had doubts on their ability to overwinter. Others had had all sorts of problems



and were not keen to repeat them. Unfortunately there was no easy solution to the problems. Some were no doubt due to:
- transport stress
- beekeeper introduction techniques
- hard candy
- queens spending too long in queen banks
- susceptibility to diseases such as chalkbrood and half-moon disorder.

* Canada is considering applications from a number of other countries to export queen bees or packages. Australia has received very favourable consideration and may be able to export bees within a season or two.

* Canada still can't fill two scientist positions and one provincial apiarist position. They are being affected by budget cut backs and freezes on staff appointments. They are also talking about user-pays more and more as we are doing here.

* Chalkbrood seems to be everywhere and is the number one disease according to some commercial operators. Others say it is more a nuisance.

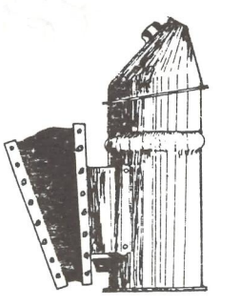
Tracheal mites and AHB

* Information on the effects of the tracheal mite is confusing. Some observations in Florida report that hives with the mites produced more honey than those without. However, on average most reports are either non-committal as yet or are suggesting that the mites are causing economic losses.

* The Africanized bee was a topic in every conversation. There is a lot of political wrangling and infighting going on in the US between personnel from the USDA, universities, APHIS, state governors, American and Mexican officials and beekeepers. The federal government is getting a lot of mixed signals so may end up doing nothing.

  There is a so-called Barrier Plan that calls for placing 30,000 - 40,000 selected hives across a small isthmus in Mexico. This will cost around $US8 million to set up and about $US2 million per year to operate. Some wag tried to coin the term BRA or Barrier Research Area for the project but the official title is Bee Regulated Zone or BRZ!

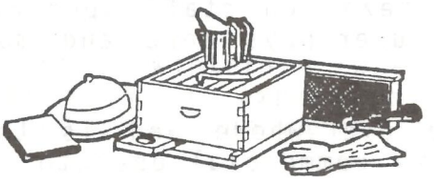
  As well as all this some people are saying the Africanized bees will be no problem when they reach the US; "we can handle them." Others are saying "we'll be legislated and sued out of business".



The Canadians can see an opportunity to sell non-Africanized bees back to the Americans, and no one knows what the effect will be on pollination. California, for example, has around 500,000 hives and another 120,000 come in from other states each year. A good percentage of these hives would be used to pollinate almonds, lucerne, kiwifruit and other crops.

****

RAISE YOUR OWN QUEEN BEES



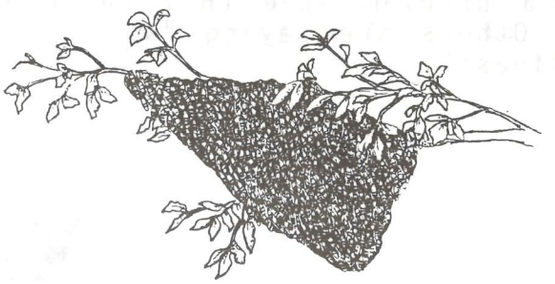
There's a course coming up for serious beekeepers who want to raise their own queen bees. It will be very much "hands on", so you'll get the chance to practise what we preach.

Dates are 15 - 18 September 1987, and the course is at MAF's Flock House Farm Learning Centre in the Manawatu. There's good air access to Palmerston North from Nelson, or by bus from Wellington, and Flock House provides transport from Palmy.

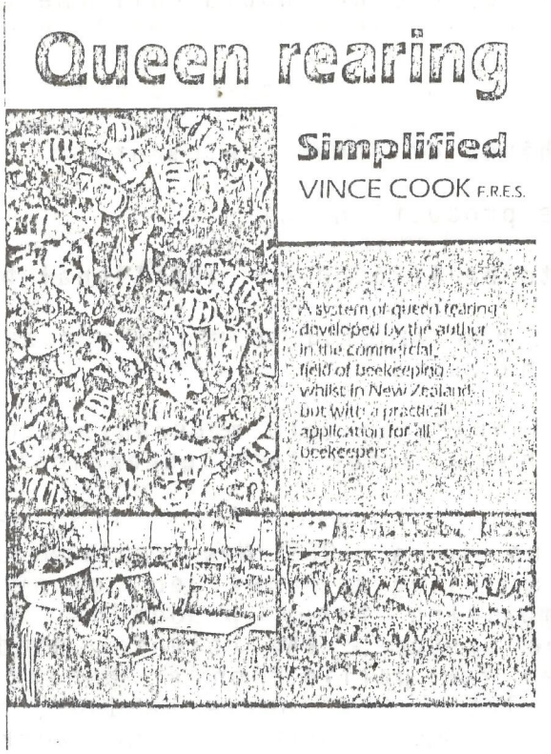
More details in the next *Beelines*, or write to

Ted Roberts
Apicultural Advisory Officer
Ministry of Agriculture & Fisheries
P O Box 1654
Palmerston North Phone (063) 61 911

****



QUEEN REARING SIMPLIFIED



Queen rearing simplified - that's the name of a new book, and the promise of the title is borne out by what's inside it. The author needs no introduction to many of you - Vince Cook was a MAF apicultural adviser in Oamaru from the early 1960s to the late 1970s. Now he's returned to England, where he is the National Beekeeping Specialist with the English MAFF.

The queen rearing method outlined in this book was developed by Vince when he was living in Canterbury in the late 1950s, working for a large commercial apiarist and rearing queens as a sideline business.

Vince explains the background to his method like this. "The rearing of queen bees is a very exacting aspect of beekeeping management. Unfortunately, it also tends to be somewhat shrouded in mystery; so much so in fact that successful rearers of queen bees are thought by many beekeepers to possess special, even magical qualities.

The fact of the matter is that, whilst attention to detail is certainly required, anyone reasonably well acquainted with honey bee behaviour and experienced in practical beekeeping can rear queens."

Many different systems are used to raise queen cells, and some work. The basis of what I suppose we should call the Cook method is that:

- it is simple,

- it requires no special hives or other equipment,

- the hives used remain as production units,

- no other colonies have to be flogged for additional bees,

- it is as suitable for people wanting to raise a dozen cells as it is for those producing hundreds.

The actual method involves grafting into a queenless unit, which is put back together 24 hours later to a queenright state for finishing.

The method was written up in a 1963 *New Zealand Journal of Agriculture* article called "Using a honey bee colony for queen cell raising without impairing honey production potential." That's the essence of the system - the colonies used for cell raising can still be used for pollination or honey gathering. I've used this article a lot for a course handout, whether at Polytech courses or in-depth queen-rearing workshops for commercial beekeepers.

So much for the queen-rearing method, what of the book itself? It's kept simple, as the title suggests. After a brief discussion on breeding, it takes you through the mechanics of preparing cell bars and the starter/finisher colonies. There are good, clear photographs and diagrams to illustrate each step. This is followed by a section on making up nucs for mating, and dealing with the starter/finisher colony after it's been used for raising cells. There's a useful last chapter on finding queens.

I found it a pity that the good content of this book was marred by a few small production problems - a contents page without page numbers on, and typographical errors that somehow crept past the proofreaders. They can be corrected in the second edition.

Overall this is a book I would heartily recommend to anyone who wants to find out <u>how</u> to rear queens, and not just read about it. It does simplify what is too often made obscure, and beekeepers following it through should be able to rear good queens.

This book will cost you no more than two queen bees (at hobbyist rates). Order from Alliance Bee Supplies in Christchurch, or direct from the publishers: British Bee Publications, 46 Queen Street, Geddington, Northamptonshire NN14 1AZ, England (£5).

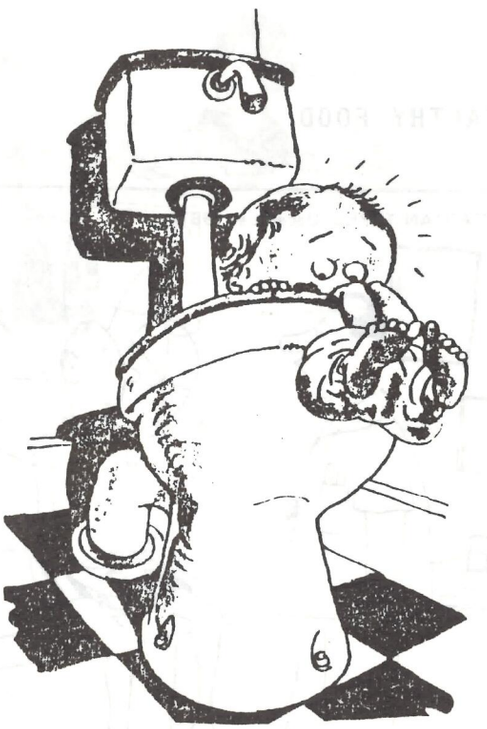
NEWS FROM THE BEEHIVE

Bits and pieces from your NBA executive and from MAF:

* Executive had a number of honey recipe pamphlets printed but woe, alack, alas, a significant printing error was noticed. We will have to see what the printer proposes to do about it.

* "Bee Legal ... Bee Registered" posters have gone out to a whole bunch of you. I hope you've put them up in your local libraries, council buildings, Post Offices etc. You haven't? Well, how about making it one of your top new year resolutions then.

* Industry funding for apiary registration and disease inspection. At the Rotorua conference, your industry supported a proposal for a fee per beekeeper (about $15) for maintaining the apiary register, and an increase in the hive levy to pay for MAF's disease inspection policy. The case to have this brought into force has been grinding its way through the legal machinery, but didn't receive the Minister's approval. Seems he doesn't like the idea of a standard fee for registration, so it's back to the drawing board for us, and the $15 sits in your pocket for another year.



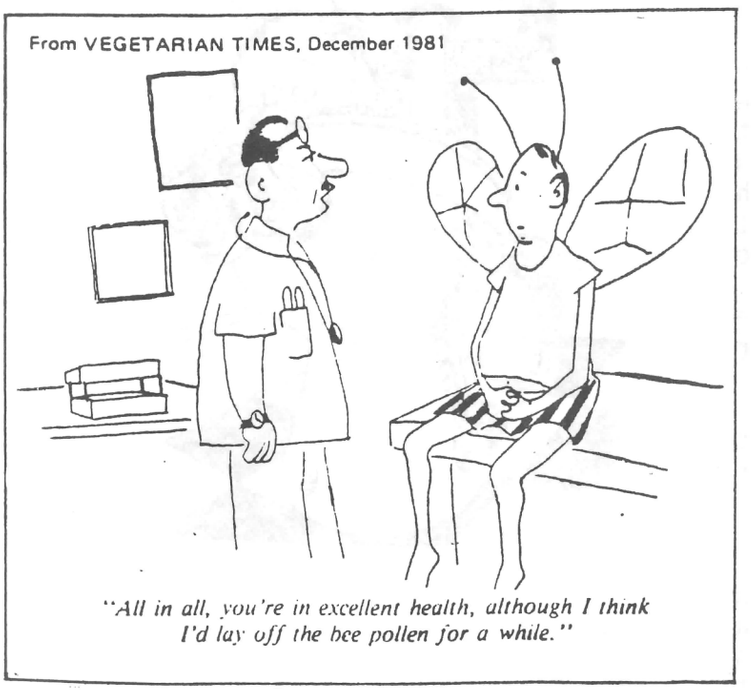
* Apiculture research position. Progress on getting funding for a scientist position is progressing most satisfactorily. The Kiwifruit Authority, the beekeeping industry fund trustees, and MAF Ruakura have come to a joint agreement on most of the major issues. We should be able to appoint a scientist some time in the first quarter of this year.

* Tertiary Bursary for Telford: These have been recently granted by the Minister of Education and will go a long way towards enabling beekeeping students to attend the 12 month course. If you know some young person who would benefit from a year "away from home" then talk to Ian Lyttle, the Principal of Telford, (0299) 81 550 or write to Telford Farm Institute, Private Bag, Balclutha.

* Lynfield bee diagnostic service: You have received an information sheet about this service with your statement of inspection, and seen the article in the last issue of *Beelines*. Like all services, if it's not used and therefore earning some income it may well be withdrawn. So please use it. If you're in doubt on any disease specimen send it to MAF Lynfield, P O Box 41, Auckland.

****

HEALTHY FOOD



Did you know that researchers in the States have found 113 yeasts in pollen collected from almond flowers, from pollen pellets, from traps, and from bee bread? Others have reported 71 insect and 27 mite families in pollen from traps. As well as these there are bacteria, fungi and other greeblies. And they claim pollen is a health food!

References: Gilliam, M. 1979. Microbiology of pollen, bee bread: the yeasts. *Apidologie* 10(1) 43-53.

Leonard, F.W. *et al.* 1983. Pollen importation - a possible route for pest introduction. *Apidologie* 14 (4):303-307.

****

PLANNING YOUR NEXT OVERSEAS TRIP

1988 may sound like a long way into the future, but it's now only next year! The Aussies are planning a big beekeeping congress in Brisbane for their bicentennial year, and expect over 700 locals and 300 overseas visitors to attend. It should be a good do.

The dates are 21 - 26 July 1988, and the conference fee of $A 200 includes admission to the venue, organised local tours, a copy of the proceedings, conference dinner and a name badge.

At this stage some plans are being made to organise a tour to Brisbane from New Zealand, and hold our NBA conference in Auckland the week before. This would allow South Island visitors to combine the two events.

An itinerary is being drawn up by Landmark Travel, the people who have organised several beekeepers' tours between Australia and New Zealand. More details as they come to hand, but plan now for a bumper crop next summer!

"I'd like to go somewhere near my luggage please."

****

People have made a start toward discovering the meaning of human life when they plant trees which they know full well they will never sit under.

INCOMING TOURS

Vince Cook, a former MAF Apicultural Advisory Officer, was here in January with a group of English beekeepers.

An Aussie group is scheduled to visit New Zealand from 1 - 14 March 1987.

Plans are underway for a Canadian beekeepers' tour of this country in February/March 1988.

****

TRADE TABLE

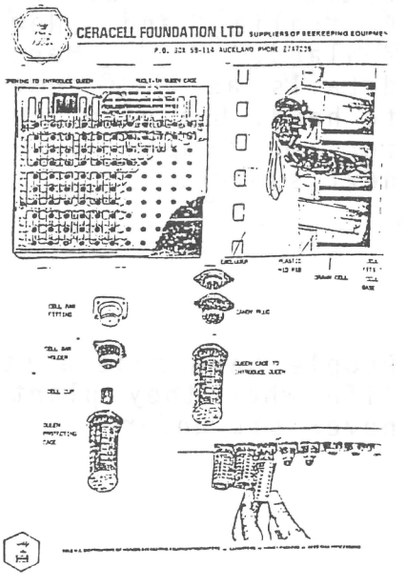
* Cheap "Metalex" - only it's not called Metalex but rather "BTB Brush on Wood Preservative". However, it's still copper naphthenate just the same as Metalex. You can buy this from Chemica BTB Ltd of River Road, Tuakau, P O Box 160, Tuakau or phone Tuakau 68185, after hours Auckland 299 6123. The following prices are the latest I have and are ex-factory.

  20 litre pail $ 63.80
  60 litre drum $146.30
  209 litre drum $467.50 (all GST inclusive)

  You dilute the BTB solution with kero or turps to give a 1% copper solution.

* Nicot queen rearing device. Grafting seems to be the one thing that puts most people off queen rearing. People just can't seem to transfer larvae from cell to queen cup with any degree of success.

  Now a new product is being imported which does away with grafting entirely. It's called the Nicot queen rearing device, and consists of a large plastic cage and snap-in cell cups. Here's how it works. The device is inserted into a frame from which a piece of comb has been removed. The frame is then placed in a hive for a



period of "familiarization". Next the queen is placed in the cage and left for 24 hours. Provided that conditions (especially feeding) are right, the queen should lay in most of the 110 special cells. The queen is then released back to the hive. Finally, 3 - 4 days later (after the eggs have hatched), the special cells are removed from the cage and put into cell bars for finishing.

Sounds great, though a bit pricey at $58.75 for the cage, 8 cents per cell, and 29 cents per cell holder. All things being equal, the device should give good results. (90% cell acceptance is claimed.)

But a word to the wise - good cell acceptance is just a small part of queen rearing. Good quality queens are the result of excellent starter/finisher preparations, adequate feeding (especially pollen), and proper timing. Devices for getting a good start, no matter how ingenious, don't magically produce big queens.

The Nicot queen rearing device is available from :

Ceracell Foundation Ltd
P O Box 58-114
Auckland Phone : (09) 247 7236

* Beehives in the Wairarapa. Hives for sale, lease or lease to buy. 138 three-quarter depth, 38 FD (all four high). Contact Geoff Stone, Pirinoa Trees & Bees, 34 Mt Pleasant Road, Aro Valley, Wellington. Phone (04) 845 078 (evenings).

* Plastic honey pots. Lilypak Industries have now come out with a new range of plastic honey pots which replace the 500g and 900g wax models traditionally used by New Zealand beekeepers. The pottles have snap-on lids and are made from thermoformed polystyrene. They come in 250, 500, 750g and 1 kg models.

I must say that I welcome the demise of wax pottles. They were notorious leakers, they often crumpled before the contents were fully consumed and the wax invariably flaked into the honey. They were also a poor container for storing honey in because they allowed the contents to absorb water from the atmosphere. The only thing they had going for them was the price.

The new plastic pots are a welcome addition to the innovative packaging many beekeepers are now using. And best of all we can say goodbye to that ridiculous non-metric 900 grams.

Small beekeepers will be interested in the brightly coloured generic honey pot. Just stamp on your name and address and away you go!

For information contact:

Lilypak Industries Ltd
P O Box 21 296
Freepost 1336
Henderson Phone (09) 837 0510

* Disease diagnosis service The Nelson Polytechnic is offering a diagnostic service for AFB and nosema disease. See the advertisement elsewhere in this issue.

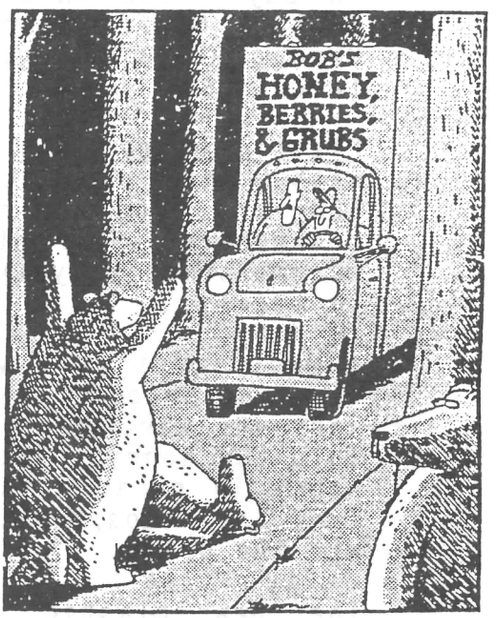
****

DO BEES SLEEP?

We know that "rust never sleeps", but what about bees? The best answer up until now is that scientists don't really know. Well now at least one researcher has looked into the question and come up with evidence that at least "suggests" that bees sleep.

W. Kaiser, from Germany, has made extensive observations of bees at night in observation hives illuminated with red light (remember bees don't see red). He found that bees in many areas of the hive rested. They formed clusters, stood motionless on empty cells, and remained in a state of continuous muscle contraction. Some bees even lay on their sides! The only bees which remained active all night were those on brood combs. (They're on the night shift!)

Single workers observed in a special chamber containing empty comb displayed similar behaviours. The only signs of life were a series of breathing movements in the abdomen, brief leg movements, and occasional brief antenna movements. At times bees even crawled into an empty cell and rested, lying on either their side or back.



"Just stay in the cab, Vern... maybe that bear's hurt, and maybe he ain't."

Reference: Kaiser, W. 1984. (German Zoological Journal) 77:297, as reported in *Bee World* 67(2):41-42 (1986) and *Northland Beekeeping* 5:13-14 (1986).

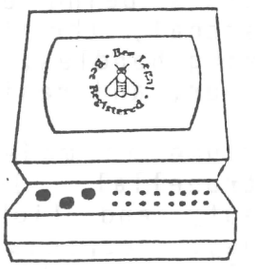
****

EXPORT CERTIFICATES FOR POLLEN

Several beekeepers have been requesting certification for pollen exports. This is done by MAF Field Officers under the Plants Act 1970, and has nothing to do with honey export documentation.

Some points you should note, if requiring such a certificate:

* it's your responsibility as exporter to find out what certification the importing country requires.
* the pollen may have to be examined by a MAF officer for pests and diseases.
* some countries may require specific endorsements about the disease status of apiaries from which pollen was collected, and the nature of premises where it was packed.



* you will have to declare that the pollen was either frozen for at least 48 hours or fumigated with methyl bromide or ethylene oxide.
* certificates issued over the counter cost $8-12, while those involving field inspections are charged at standard rates for labour and vehicle running.

****

Women's lib is established in bees,
The queen and workers are shes,
The drones are just toys,
For the queen's nuptial joys,
And none of them get their stud fees.

(*Beeline*, British Columbia, September 1986)

BEE PLANT PROFILE

Eucalyptus citriodora, lemon-scented gum

This is an attractive tree growing to 30 m with a straight, clean trunk. Its smooth whitish or bluish bark is shed in thin irregular pieces.

This species originated on the central and northern coast of Queensland but has been planted in Portugal, Africa, India, Brazil and Hawaii with good success.

Leaves are alternate, stalked, lance-shaped , and when crushed give off the characteristic lemon odour. The flowers are white in colour and are arranged in dense clusters or panicles.

Besides being excellent firewood, which can be converted into charcoal, the lemon gum has a dense, strong timber useful in making handles, poles and railway sleepers. The wood is brown in colour, and resists decay and termite damage.

Perfume is made from the extracted leaf oil, which is rich in citronellal. In many areas this tree is planted merely for its beauty and light shade, but it also yields one of the best honeys, especially in Kenya. Since it is a minor source of pollen, do not depend on this gum to provide it.

Mature lemon-scented gums can withstand temperatures ranging from 29-35°C down to a light frost. It can tolerate a dry season of up to 7 months but needs at least 600 mm to 900 mm of rainfall annually. In Sri Lanka it is found from sea level up to 2000 m in altitude and seems to do best in any poor but well-drained soil.

Seed yields may be irregular, which make it difficult to propagate this tree. In Zimbabwe seed is sown with good success, on freshly-burned ground that is full of ash. Since its branches can be brittle, do not plant this gum near urban areas if the tree is to grow tall.

Honey from this tree is reported to be a light to medium amber colour and granulates into very fine crystals.

(Adapted from an article in the newsletter of the International Agency for Apicultural Development.)

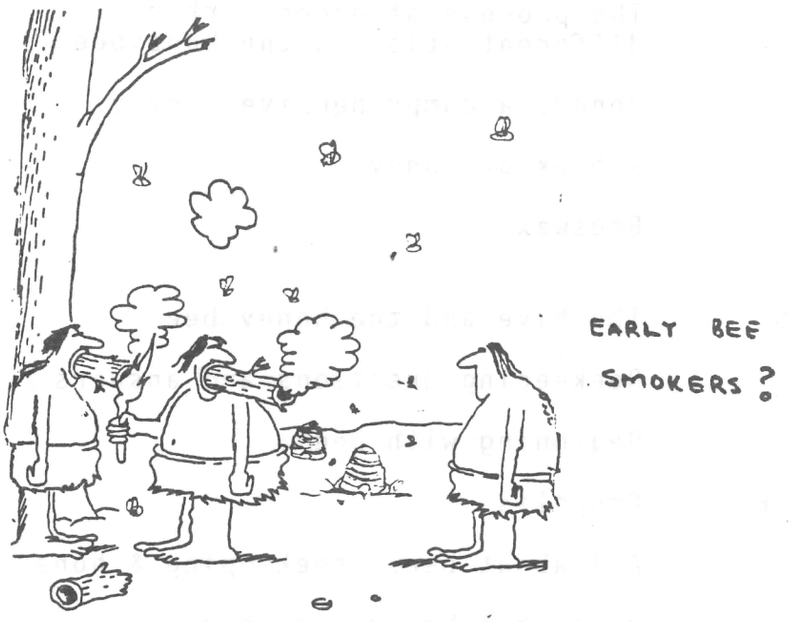
For further information refer to either of these books:

* Clemson, A. 1985. *Honey and pollen flora.* Melbourne, Inkata Press, 263 pp. (available through booksellers or from Pender Beekeeping Supplies, Private Mail Bag 19,

Maitland, NSW 2320, Australia; $A45 plus postage. An excellent, lavishly-illustrated book on Australian bee plants).

* Crane, E.; Walker, P. 1984. *Directory of important world honey sources.* London, International Bee Research Association, 384 pp. A very comprehensive information resource on the honey value of crops, shrubs and trees from all around the world. Available from IBRA at cost, through me. Price approximately $NZ 86, depending on exchange rates.

****



****

You know you're in a rut when someone asks "what's new" ... and you're lost for an answer.

****

BEEKEEPING LIBRARIES

* All NBA members have access to the NBA technical library, which has a wide range of books available. Contact the librarian at P O Box 112, Milton, Otago.

* Closer to home, the Nelson Polytechnic has the biggest selection of beekeeping books of any Polytechnic. You don't have to be a student to use these books. Either go in to the library and register as an outside borrower (fine, upstanding citizens of good repute are eligible), or ask your local library to interloan titles for you.

At present their stock is as follows:

AEBI, O	The art and adventure of beekeeping	1975
AEBI, O	Mastering the art of beekeeping	1979
BAILEY, L	Viruses of honeybees	
BEETSMA, J	The process of queen/worker differentiation in the honeybee	
CRANE, E	Honey, a comprehensive survey	1979
CRANE, E	A book of honey	1980
COGGSHALL W & MORSE R	Beeswax	1984
DADANT & SONS (ed)	The hive and the honey bee	1978
	Beekeeping questions and answers	1978
	Beginning with bees	
GHISALBERTI, E	Propolis	
GOJMERAC, L	All about bees, beekeeping & honey	1977
HANSEN, H	Honey bee brood diseases	
HEATH, L	Development of chalkbrood in a honeybee colony	
HODGES, D	The pollen loads of the honeybee	1984
HOOPER, T	Guide to bees and honey	1976
IBRA	Pollen and its harvesting	
JAY, D & C	Observations of honeybees on Chinese gooseberries	1987
JOHANSEN, C	Honeybee poisoning by chemicals	

KROGH, A	The language of the bees	1948
LAIDLAW, H	Contemporary queen rearing	1979
MATHESON, A	Practical beekeeping in New Zealand	1984
MCGREGOR, S	Insect pollination of cultivated crop plants	1976
MORE, D	The bee book	1976
MORSE, R	Bees and beekeeping	1975
MORSE, R	The complete guide to beekeeping	1974
MORSE, R (ed)	Honey bee pests, predators and diseases	1978
MORSE, R (ed)	The illustrated encyclopedia of beekeeping	1985
RICHES, H	Hypersensitivity to bee venom	
ROOT, A	The ABC and XYZ of bee culture	1975
RUTTNER, F	Queen rearing	1983
SNELGROVE, L	Swarming	1981
SNODGRASS, R	Anatomy of the honeybee	1956
TULLOCH, A	Beeswax: composition and analysis	
WALSH, R	Nectar and pollen sources of N.Z.	1978
WINTER, T	Beekeeping in New Zealand	1975

****

NELSON POLYTECHNIC

PRIMARY INDUSTRIES SECTION

Honeybee Disease Diagnosis Service

The Primary Industries Section is offering a honey bee disease diagnosis service to the readers of Beelines. The diagnosis service offered concerns

a) American foulbrood (Bacillus larvae)
b) Nosema disease (Nosema apis)

NELSON POLYTECHNIC

Telephone (054) 81189

b) Nosema disease (Nosema apis)

Samples to be tested for a) should be on a match stick in a separate envelope for each item.

Samples to be tested for b) should be of 10 dead whole bees per hive.

Replies will be by return mail.

Cost: $2.00 per sample.

Send to: Mrs J Scoggins
Technician
Primary Industries Section
Nelson Polytechnic
Private Bag
NELSON

****

Cheers,

Andrew

A G Matheson
Apicultural Advisory Officer

Ministry of Agriculture and Fisheries
Private Bag, Nelson
New Zealand
Telephone (054) 81069

print/pro