NO. 5 NOV. 1986

NORTHLAND BEEKEEPING

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Apicultural
Advisory Officer

MAF
Ministry of Agriculture and Fisheries

Private Bag
WHANGAREI
ph. 487179

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DISCLAIMER: Mention of any product or supplier in this newsletter does not imply endorsement by MAF nor recommendation over similar products or suppliers not included.

A GUIDE TO APIARY SERVICES IN NORTHLAND

A *GOVERNMENT SERVICES*

1. Beekeeping Advisory Service

The Ministry of Agriculture and Fisheries provides an advisory service for beekeepers. The advisor for Northland (all areas north of Waiwera Hot Springs) is :

Cliff Van Eaton
MAF
3rd Floor, Rural Bank Building
Hunt Street
Private Bag
WHANGAREI Phone : (089) 487179

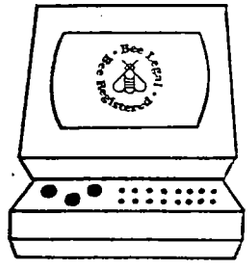
Services include - technical advice, financial management, honey house management and design, market development, pollination consultancy, beekeeper education.

2. Apiary Registration

The Ministry of Agriculture and Fisheries administers the Apiaries Act, 1969. Under that act beekeepers are required to :

1. register all apiaries with MAF.
2. inspect all hives yearly for brood diseases
3. return a completed inspection form annually furnished by MAF.
4. obtain a permit for all hive movements (including sales) to unregistered locations.

A computerised register is maintained by administrative staff at MAF, Whangarei. Enquiries can be addressed to :



The Apiary Registrar
MAF
Private Bag
WHANGAREI Phone : (089) 487179

3. Apiary Inspection

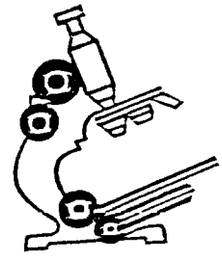
The Ministry of Agriculture and Fisheries provides an inspection service for the control of American foulbrood. Part-time inspectors are employed each spring and inspect hives under the supervision of the Apicultural Advisory Officer. Inspectors concentrate on areas of known infection based on reports from beekeepers made in their annual inspection return. Currently the inspection rate is 10% of district apiaries annually.

4. Disease Diagnostic Service

A national bee disease diagnostic service is provided to beekeepers by MAF's Plant Protection Centre, LYNFIELD. Samples can be analysed for a range of bee diseases including American foulbrood, chalkbrood, nosema, mites, and viruses. Sample jars and submission forms can be obtained from :

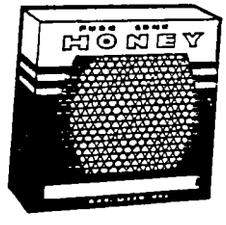
Plant Pathologist (Bees)
Plant Protection Centre, Lynfield
131 Boundary Road
Blockhouse Bay
P.O. Box 41
AUCKLAND Phone : (09) 676 026

or MAF, WHANGAREI



5. Export Certification

MAF issues export certificates for honey, pollen, queen bees, and other bee products. Many importing countries require such certificates for all bee-related imports. Information and certificates can be obtained from :



Apicultural Advisory Officer
MAF
Private Bag
WHANGAREI.

B. BEEKEEPING ASSOCIATIONS

1. National Beekeepers' Association (NBA)

All beekeepers are encouraged to join the National Beekeepers' Association. Membership is compulsory for those owning 50 hives or more, and others may join for an annual subscription fee of $15.

NATIONAL BEEKEEPERS' ASSOCIATION of NEW ZEALAND (INC.)

NBA members receive the following services -

1. subscription to The New Zealand Beekeeper magazine (see Further Information)
2. Use of the NBA correspondence Library (see Further Information)
3. Voting rights for NBA remits.
4. Branch membership.

For further information contact : National Beekeepers' Association
P.O. Box 4048
Wellington.

2. Northland Branch - N.B.A.

Branches of the N.B.A. conduct regular meetings, often with guest speakers, films, and general beekeeping discussion. Field days are also held at members' apiaries where lectures and practical demonstrations are carried out.

Local branch contacts are : President : Terry Gavin
Titoki
2 R.D.
WHANGAREI Phone:(08931) 893

Secretary : Derek Bettesworth
P.O. Box 77
OPONONI Phone:(88758) 725

3. Northland Pollinators' Association

The NPA is a professional association for beekeepers engaged in kiwifruit pollination. The association guarantees hive strength standards, publicise member services to growers, and provides a forum for beekeeper education. All association members use a standard association contract.

NPA contacts are : President : Karl Roessler
P.O. Box 70
KERIKERI Phone :

Secretary : Derek Bettesworth
P.O. Box 77
OPONONI Phone: (88758) 725

4. New Zealand Queen Bee Producers' Association

The NZQBPA is a professional association for beekeepers engaged in commercial queen production. The association is involved in publicity and market promotion particularly in the export field. A quarterly newsletter is produced for association members. NZQBPA contacts are:

President : Terry Gavin
Box 1582
WHANGAREI Phone:(08931) 893

Executive Secretary : Cliff Van Eaton
C/o MAF
Private Bag
WHANGAREI Phone: (089) 487179

5. Hobbyist Beekeeping Clubs

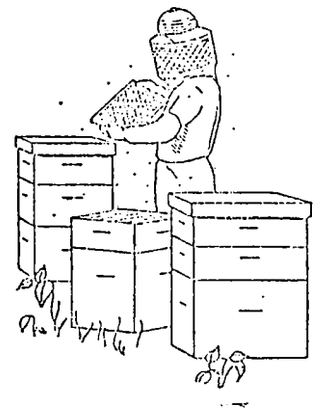
These local organisations cater for the needs of domestic beekeepers. They hold regular meetings and field days at club apiaries. These clubs are an excellent way for new beekeepers to learn and share experiences.

Whangarei

Whangarei & District Beekeepers' Club
C/o Mrs P. Welch
48 Morningside Drive
WHANGAREI Phone : (089) 489491

Dargaville

Dargaville Bee Club
C/o Mike Calder
Duck Creek
DARGAVILLE Phone : (0884) 7027



C. *FURTHER INFORMATION*

1. Books

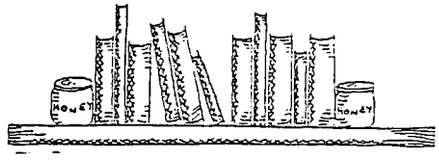
(a) Matheson, A. Practical Beekeeping in New Zealand (Government Printer, $17.95) An excellent reference book for New Zealand conditions. This book lists many other books on beekeeping. Available from most booksellers.

(b) Walsh, R. Nectar and Pollen Sources of New Zealand (National Beekeepers' Association, $3.00) Good information on New Zealand's unique floral sources. Available from beekeeping equipment suppliers or the N.B.A. (see Beekeeping Associations)

(c) Dadant, et al. The Hive and the Honey Bee (Dadant, $42.25) The leading world text on beekeeping. Comprehensive chapters on most beekeeping topics. Available from beekeeping equipment suppliers.

2. Libraries

The National Beekeepers Association maintains a comprehensive correspondence library for use by association members. A catalogue of holdings is available. For further information contact the librarian :



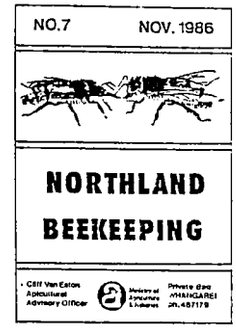
John Heineman
P.O. Box 112
MILTON Phone : (02997) 4613

3. Magazines

(a) The New Zealand Beekeeper - a quarterly magazine, free with Association membership, available from the National Beekeepers' Association, P.O. Box 4048, WELLINGTON.

(b) The Apiarist - a beekeeping newspaper published bi-monthly by Alliance Bee Supplies, P.O. Box 5056, CHRISTCHURCH. The Apiarist is sent free to every registered beekeeper with more than 5 hives, and is available on subscription to others.

(c) Northland Beekeeping - a quarterly newsletter published by MAF, WHANGAREI. News and information of interest to beekeepers in the north. Available from MAF, Private Bag, WHANGAREI at a cost of $10 per year.



4. International Bee Research Association

The IBRA is the premier world agency for beekeeping information. Their services to beekeepers include -

1. a comprehensive selection of books, pamphlets, and visual aids.
2. publishing three journals -

* Bee World - a high quality quarterly of general beekeeping interest
* Journal of Apicultural Research - a leading scientific journal
* Apicultural Abstracts - containing abstracts of virtually every published item related to beekeeping

International Bee Research Association

For further information contact the North Island IBRA representative :

Trevor Bryant
Ministry of Agriculture & Fisheries
Private Bag
TAURANGA Phone : (075) 82069

5. AgLinks

MAF publishes a series of Aglink pamphlets on agricultural and horticultural topics. They are available from any MAF district office at a cost of 55c each.

Aglinks on beekeeping topics are :

FPP 124 Brood disease
FPP 196 Social wasps, biology and control
FPP 372 Beekeeping, an introduction.
FPP 392 Swarms and feral colonies, control
FPP 428 Overseas diseases and pests, features and potential damage
FPP 529 Nectar and pollen sources, summer and autumn
FPP 530 Nectar and pollen sources, winter and spring
FPP 532 Pollen collection
FPP 533 Pollen trap design
FPP 534 Beeswax, production and processing
FPP 535 How to reduce drifting in apiaries
FPP 536 Wax moths, life history and control
FPP 537 Apiary sites, selection and planning
FPP 538 Urban beekeeping, management to prevent nuisance
FPP 827 Toxic honey from tutu honeydew
FPP 860 Pollination of crops, economic significance and management

D. BEEKEEPING EQUIPMENT

1. Ceracell Foundation, Ltd
24 Andromeda Crescent
P.O. Box 58-114
EAST TAMAKI, AUCKLAND Phone: (09) 2747236

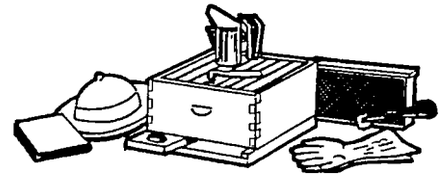
Manufacturers and distributors of a large range of beekeeping equipment, including foundation catalogue available on request.

2. Alliance Bee Supplies
P.O. Box 5056
Papanui
CHRISTCHURCH

Manufacturers and distributors of a wide range of beekeeping equipment, including foundation.

Local stockist is :

The Honeypot
110 Lower Cameron Street
WHANGAREI Phone : (089) 481318



3. Mahurangi Hive Ware
Pukapuka Road
R.D. 3
WARKWORTH Phone (084620) 890

Manufacturers of high quality woodenware. Small orders welcome.

E. QUEEN BEES

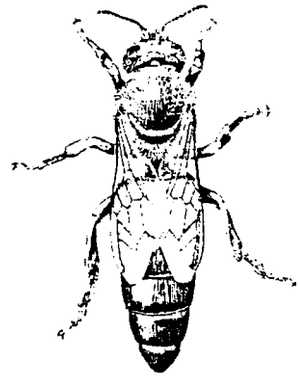
Local producers include :

Betterbee Queens
Box 77
OPONONI Phone : (88758) 758

Crown Queens
Box 54
WAIPU Phone : (089) 80649

Haines Bee Breeders
R.D. 2
KAITAIA Phone : Kaitaia 1228

Whiteline Queens
Box 1582
WHANGAREI Phone (08931) 893



"Have you ever heard of organic acupuncture?"

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THE BEE FORAGE SPOT

Blue Pine - *(Psoralea pinnata)* also known as Scurfy Pea and Cut-Leafed *Psoralea*. Flowers in November. Found locally throughout Northland, especially Whangaroa harbour and Wairoa River.

While this plant is commonly called a pine, and superficially resembles pines in its foliage, *Psoralea* is actually a legume. *Psoralea* is an excellent honey producer and is utilised by beekeepers as a spring feed source. *Psoralea pinnata* is a native of South Africa and like many of our important bee plants is designated a noxious weed by some county councils.

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BEE LEGAL ....BEE REGISTERED

Many of you will have seen newspaper articles or heard radio interviews concerning MAF's new beekeeper registration campaign.

The campaign, using the catch-phrase "Bee Legal....Bee Registered", was designed by Mark Schrader, AAO, Oamaru.

The aim is to publicise apiary registration to the point that every beekeeper registers their hives with MAF. We really didn't know how many unregistered beekeepers there are out there, but the hope is that even non-beekeepers will be aware of the registration and mention it to their beekeeper friends.

To make sure the programme is a success Northland beekeepers should do two things :

1. Ring MAF, Whangarei if they have any doubts about a particular apiary being registered. Quite often such apiaries are, in fact registered, but beekeepers are our best source of information about unregistered hives.
2. Help publicise the programme by hanging a "Bee Legal...Bee Registered"poster in a public place, such as a library, post office, or stock firm.

You can obtain these posters free of charge from MAF, Whangarei.

Remember, apiary registration is everybody's business!

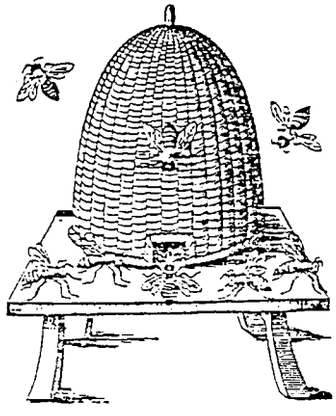
THE CASE OF THE HONEY POT...

Besides the "Bee Legal...Bee Registered" programme, another important bee-related campaign is underway at our country's international airports. The campaign, carried out by MAF's Agricultural Quarantine Service, aims to make tourists and New Zealanders aware of the risks of bringing unauthorised plant or animal materials into our country.

The campaign uses a series of ads, one of which is entitled "The Case of the Honey Pot" (see attached). The ad was printed in"Pacific Way", Air New Zealand's in-flight magazine issued on all international flights. The ad is in full-colour and quite impressive. People, confined to their seats on those long flights,really seem to take time out and read the ad straight through.

AQS is also distributing this bee card to all travellers who have honey or bee products confiscated when arriving at any of our ports. AQS staff say the card really helps to deal with potential problems caused by such confiscations because most people don't realise that honeycan carry bee disease.

This AQS campaign is an excellent example of the co-operation that exists between MAF and the National Beekeepers' Association. It's also a direct result of the "Management by Objectives" planning process which is helping the NBA become a more effective beekeeping industry representative.



A 19th-century hive and bees.

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NEW HOME FOR OLD RELICS

MAF and the National Beekeepers' Association have been given space at the Mystery Creek Field Day site (near Hamilton) to establish a beekeeping museum. New Zealand beekeeping has a long and colourful history (it all started right here at Horeke in the Hokianga) and no doubt there are lots of beekeeping "treasures" round the place. We'd be grateful for any contributions of old photos, hive equipment, honeycontainers, etc., so we can make the museum a success. Contact me here at MAF, Whangarei, if you have anything of interest.

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The case of the honey pot that nearly spread disaster through our kiwi fruit crops.

Honey was Mrs Hilda Hislop's favourite food. She was so crazy about it the rumour went that she'd actually married her bee keeping husband Bill for his honey.

After 40 happy years of marriage Bill and Hilda were returning home from their once in a lifetime trip overseas.

They'd had a ball. Bill had clinched deals all over Europe to sell his prized queen bees. Hilda had religiously collected pots of honey.

She hadn't bothered to tell Bill about this. She would surprise him when they got home. Anyway he'd probably just drone on and on about taking coals to Newcastle.

European Brood Disease initially infects the honey bee larvae.

What had not occurred to her was that Bill would have been absolutely aghast.

You see Hilda had never taken any notice of his night-time mutterings about European Brood Disease. The bacteria that affects honey bee larvae and is carried in products such as honey, royal jelly and pollen extracts.

The disease that's common in most parts of the world . . . except New Zealand.

Hilda had no idea that she carried within her bags bacteria that could wipe their bees right out.

Honey bee's pollination of fruit trees and clover is worth millions of dollars to our economy.

Bacteria that could quickly spread through the beehives of New Zealand. A disease that would significantly reduce our annual honey output of up to 10,000 tonnes.

And would affect virtually all our other agricultural production.

Because, as we all know, when it comes to pollinating flowers bees are the best. They also "set" kiwi fruit, and apples and pears and peaches, so the fruit grows luscious and big.

New Zealand honey is exported overseas, yet to avoid the bringing in of diseases, we don't import any honey.

Hilda of course should have known about all these things. The things everyone should know about, but don't.

It never occurred to her that the dear MAF man would worry about a little old lady and a few pots of honey. No way did she think of all those vital bees busily pollinating our clover. Clover that produces nitrogen so essential to grass crops. Nitrogen that, in fact, has been estimated to be worth over 3,000 million dollars annually.

Because if any of these things had occurred to her she would have ticked a very firm 'yes' to the question on the MAF form about importing food products.

Fortunately, in this case, Bill spotted his wife's booty the minute they got home.

Appalled by the implications of what could happen, he sent the honey straight off to the MAF people.

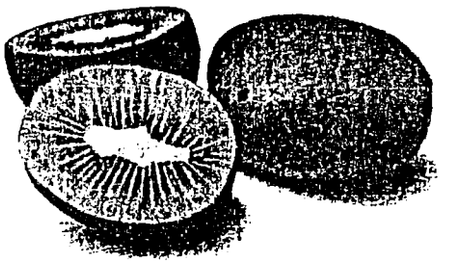
But what if Hilda hadn't married a beekeeper? What if she had enthusiastically eaten all her honey, or had given some of it away?

Likely as not the discarded pots would have been systematically scavenged by roaming bees.

Because no-one, not even Hilda, loves honey more than bees.

Those bees, now infected with European Brood Disease, would in turn infect their newly emerged larvae during feeding and cleaning.

The bees in that hive would be killed by the bacteria en mass. Then the infected hive would be raided by other bees who in turn would infect their own hives. Thousands of hives would have to be burnt to the ground.



An outbreak of European Brood Disease would jeopardise New Zealand's lucrative kiwifruit exports — worth over $126,000,000 last year.

And if the disease wasn't halted immediately, it would quickly spread throughout the country.

Right now our honey bees are healthier than any others in the world.

And like many of our vital agricultural industries we've an excellent record for low incidence of disease. It's vital for all of us that it stays that way.

So when you return from overseas, please read your declaration form carefully. And if you're in any way unsure about it, do declare it.

HOW MUCH IS BEEKEEPING WORTH ?

Recently the National Beekeepers' Association has requested that MAF research and calculate the beekeeping industry's worth to the New Zealand economy. Now that may sound like a fairly simple task - just add up all the honey, wax, and queens. But as one well-known beekeeper has said "beekeeping gets 2% of its production, the rest of the community 98%. What other industry's like that?"

What he's talking about, of course, is pollination, and when you try to determine the value of this activity, both paid and unpaid, the task becomes very difficult indeed. How much horticultural production are the bees responsible for? What percentage of sheep, beef, and dairy income comes from the clover that bees maintain? There are no simple answers to these questions, but nevertheless the answers are becoming more and more important all the time. In these days of Rogernomics, government is increasingly concerned with the bottom line. For our industry to compete, we need to know its real and vital worth.

To help with MAF's calculations, I've come up with the following statistics for the Whangarei Apiary District. Let's look at them and see what you think :

Honey

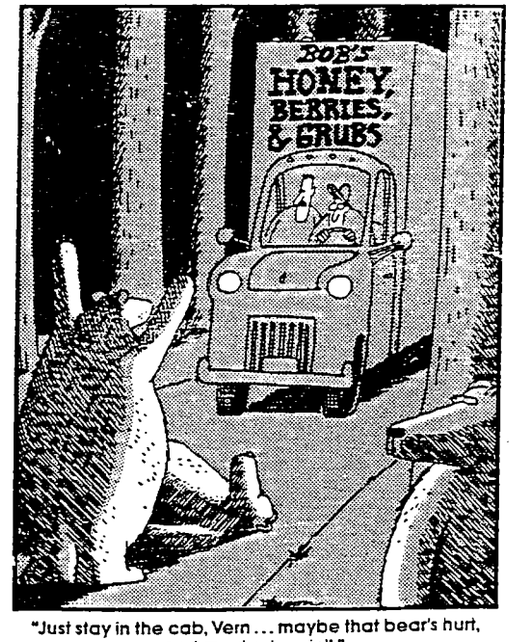
36 kg(10 year average) x 17870 hives x $1.65 = $1,061,478

This one's fairly easy, assuming that all the honey produced sells for the market price. Cut comb hasn't been included here though.

Wax

18 kg/tonne of honey x 647 tonnes x $4.90 = $57,065

Also easy to calculate, based on the average amount of wax produced from extraction. Much of the wax, of course, goes into foundation, but the costing is the same.



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

Queens

28,200 domestic	x $6.75	=	$190,350
19,300 export	x $8.20	=	$158,260
3,100 packages	x $58	=	$179,800
			$528,410

This takes a bit more figuring and the numbers could rise significantly in the next few years.

Pollination (paid)

6,273 hives x $75 (incl. GST) = $470,475

Again, no problem with this calculation, and district hive requirements are predicted to rise to 12,000 by 1990.

Direct Income from Beekeeping TOTAL $2,117,428

Well, that's the easy bit, but what about the pollination value to agriculture. Overseas experts contend that the pollination value of bees is 100 times greater than the value of bee products. How would a Northland calculation compare?

Horticulture/Northland

Pollinated Crops	86/87 Farm Gate $
Pip Fruit	$177,330
Stone Fruit	$263,340
Berry Fruit	$ 50,000
Kiwifruit	$15,400,000
Avocados	$182,000
Melons	$240,000
	$16,322,670

That's the total value, but can we take credit for the whole thing? Overseas studies have assumed that since pollination is an essential element of production the whole value should be used.

Agriculture/Northland

Total Grasslands/ha (Whangarei Apiary District)	689,000 ha
N fixation at 184 kg/ha	126,776 kg

Fertiliser Costs

Urea (46% N)	$475/tonne
Application	26/tonne
Freight	15/tonne
TOTAL	$519/tonne

Total Replacement cost 126,776 x $519 ÷ 46 = $143,036,400

Now that's a very tidy sum!

In this case pollination isn't essential to meat, fibre and milk production. But in the NZ all-weather pasture system farmers receive tremendous benefits in terms of nitrogen from clover. We know now from experience in the high country that pollination is essential for clover retention in pasture. So we can at least claim the nitrogen fixation that the clover provides. And the only way to cost that out is in terms of how much it would cost to replace that nitrogen with an artificial source.

Indirect Income from Beekeeping $159,359,070

Well how did we do? Not quite 100x, as claimed overseas, but still a remarkably large figure, and one that far outweighs the returns to beekeepers.

So how much is beekeeping worth in Northland. $2,117,428 (direct income) + $159,359,070 (indirect income) - $470,475 (paid pollination - we wouldn't want anyone to pay twice) = over $161 million, a figure that would make even Mr Douglas proud!

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DID YOU KNOW?

The number of beehives in this country, while small by world standards, makes New Zealand one of the most densely bee populated countries on earth. With 329,000 hives spread over 269,000 km², New Zealand has a hive density of 1.2 hives per km². Most other major beekeeping countries have a density of only 0.5 hives per km².

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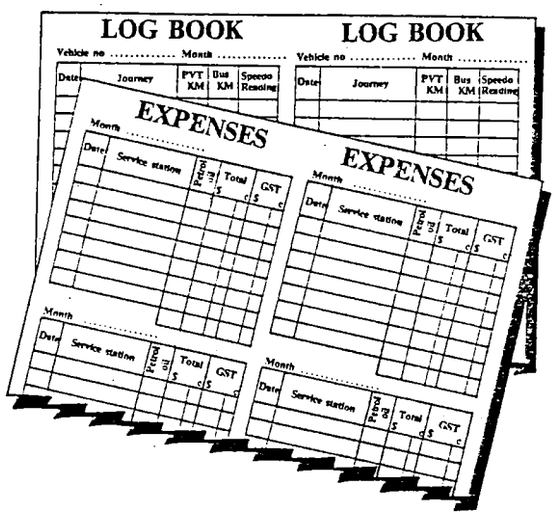
VEHICLE LOG

Smart beekeepers are starting to look like civil servants - filling in a running sheet at the end of every vehicle trip. That's right; log books are now required by the I.R.D. when a vehicle is used for a mixture of private and business running.

The purpose of this new requirement is to more accurately apportion vehicle expenses. It replaces the arbitrary allocation of, say, 50% or 75% of costs against the business.

The new rules took effect last April so they apply for the 1986/87 financial year. Hopefully everyone has been "clued up" by their accountants and are now using log books.



Here are a few points to remember :

- you must be able to accurately record the total distance travelled by the vehicle for both business and private use.
- a log book is required for vehicles used for both purposes, but not for ones operated only for the business.
- you don't need to send the log books to I.R.D. along with your accounts, but they must be available for audit.
- a detailed record must be kept of the expenses for each vehicle (you'll see why in a minute). This includes fuel, registration, repairs, etc.

The expenses for a "mixed-use" vehicle are allocated according to the relative amounts of business and private use. For instance :

Ute

business :	14,400 km	60%
private :	9,600 km	40%
total :	24,000 km	

Expenses total $15,840 (both direct running costs and depreciation). These are divided 60% : 40%

business :	$9,504
private :	$6,336
total :	$15,840

So far, so good. But this calculation won't be possible unless you've done the recording. Usually the bills you get from the garage won't be divided up on the docket according to vehicle type. You'll just get accounts for "fuel - $1,800, oil - $100" and so on.

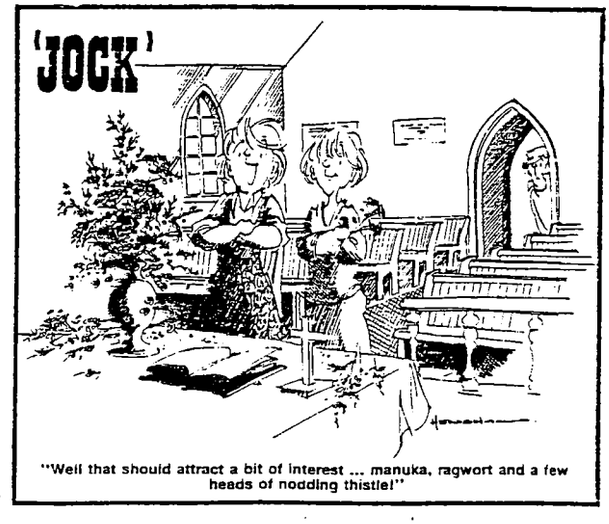
To accurately determine the costs you'll have to record expenses against each vehicle as you make purchases. Fortunately there are log books now being sold for this purpose by commercial stationers.

Sounds like a lot of extra work! So why should you bother? The simple answer is that from now on you can only deduct 25% of the operating costs of mixed vehicles unless you keep a log book to prove the higher use.
(Ref. Beelines No. 28 - A. Matheson)

PROPOSED GORSE MITE INTRODUCTION - GOATS TO THE RESCUE?

The proposed introduction of the red gorse mite as a biological control agent has met with opposition from an unlikely source - goats. A recent survey conducted by MAF's research division has shown that gorse provides around 20 tonnes of dry matter per hectare per year - enough to feed 20 goats per hectare. And now the Grassland's Division of DSIR has taken up the cudgel and are hoping to block the mite's introduction by that same department's Entomology Division.

Beekeepers will be aware that recent reports on the economics of gorse control showed the introduction of the mite to be in the nation's economic interest. Even the report on bee-keeping prepared by Lincoln College economist Dr Ron Sandrey ("Biological Control of Gorse - An Ex-ante Evaluation", Agricultural Economics Research Unit, 1985) showed the potential benefits to agriculture far outweighed the losses to bee-keeping.



Now the introduction looks to be in doubt with one division fighting another in the DSIR. The downturn in hill country farming and diversification with goats has led scientists to re-evaluate gorse. According to Dr Gavin Daly, an ecologist with Lincoln's Plant Science Department", using gorse, New Zealand has a golden opportunity to develop low in-put agriculture based on a plant with a very wide tolerance of both soil moisture and soil fertility. Such low input systems are desperately needed if farming of much of our lower fertility hill country is to be continued."

THE FUTURE OF NORTH AMERICAN BEEKEEPING

On my recent Canadian OE I heard a most interesting talk by Dr Basil Furgala, a bee scientist at the University of Minnesota. The occasion was the Western Apicultural Society converence, and Dr Furgala, known for his pioneering work with fumigillin, was key note speaker.

Nearing retirement, Dr Furgala took the opportunity to look into the future and make some comments about the changes North American beekeeping is about to undergo. His comments are important, not just for Canadians and Americans, but for the whole world beekeeping community.

Dr Furgala says it is now quite evident that the Africanised bee (AHB) will reach the southern US in an undiluted form by 1990. But the effects on North American beekeeping will be noticed even before then.

The AHB is now at the Mexican border and when it becomes established there it will seriously affect Mexican honey production. Mexico is the world's fourth largest honey producer and second largest exporter. Based on South America evidence the AHB is likely to reduce Mexican production by 75%. That

means 33,000 mt less in the world market. Coupled with an increase in US consumption of 52,000 mt brought on by their honey promotion campaign (per capita increase of 250 g) Dr Furgala is actually predicting a world honey shortage (!) by next decade.

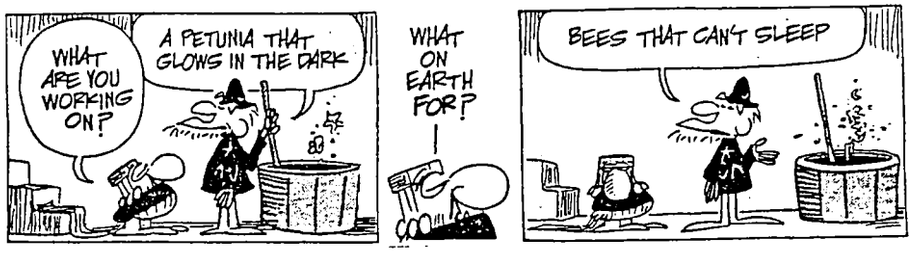
Once the AHB establishes in the southern US the effects on North American beekeeping will become much more dramatic. Initially there will be a "displacement" of the US queen and package industry, with reductions of 1 million queens and 500,000 packages annually by the early 1990's.

Once stinging incidents begin to occur, media hysteria will take over. The result will be the imposition of cast-iron state laws banning the use of non-certified hives in many horticultural areas in the southwest. The beekeeping industry will not be able to successfully lobby state attorney generals in this regard, as they have with the USDA.

Assuming scientists come up with a quick, accurate, cost-effective test to identify Africanisation, a "reverse-flow" is likely to develop with certified AHB-free queens, packages, and even colonies coming from the northern US, Canada and overseas to annually re-populate pollination colonies.

So what can the New Zealand industry expect? Obviously increased queen and package sales to Canada and perhaps even direct access to the US market. As well, though, beekeepers should see a healthy rise in the world honey price next decade, and certainly a levelling of the infamous US honey mountain currently looming over world markets.

DO BEES SLEEP?



Every time I talk to young children about bees I'm always amazed at the intelligent (and sometimes difficult) questions they ask. One of their favourites seems to be "do bees sleep?" The answer I've always given is "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.

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 layed 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!

Kaiser has even found two different resting states in bees, differentiated by how quickly the bee reacted to infrared light stimulus. (i.e. how quicly they woke up)

Source : Kaiser, W. (1984) German Zoological Journal. 77:297 as reported in Bee World (1986).67(2):41-2.

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Women's lib is established in bees,
The queen and the 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, Sept 1986

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GADGETS AND GISMOS

* Automatic Lidder - Readers will recall my mention of the innovative Safe-a-Pak pottle in a past issue of this newsletter (No. 1) . The manufacturer, Tecpak Plastics Ltd., P.O. Box 713 DUNEDIN (phone 30-691) now have an improved version of the pot which both Sanitarium and the Co-op (Holland's) are using. Their 1 June price for the generic honey lable 500g pottle is $87 per 1000; lids $43.70 per 1000. These prices are ex Dunedin but Steve Olds, the managing director is looking at a special freight deal to the North Island.

  Even more interesting is the automatic lidding machine Steve has developed for use with these pottles. The machine is simplicity itself - you just pass the pottles under the machine and the lids are snapped on. At a price of just $450 the machine's a real step forward.

* Metalex/Protectex - some people have had trouble getting copper napathanate ("Metalex") from the oil companies. It's now available as Protectex from :

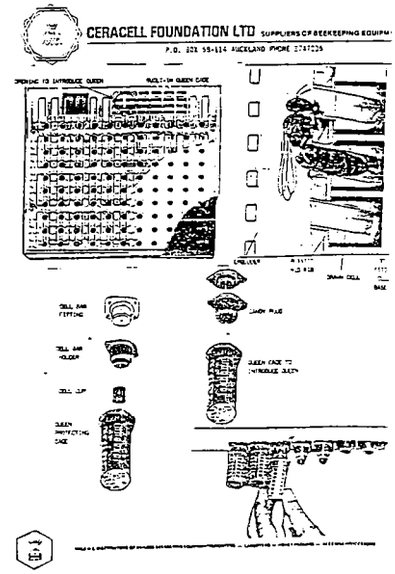
  DIMET
  P.O. Box 11 123
  AUCKLAND Phone : (09) 664105

  Ask for "Green Protectex concentrate." Cash prices are :

  5 litre : $36
  20 litre : $127
  209 litre : $879

* 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 grubs from cell to queen cup with any degree of success.

  Now a new product is being imported which does away with grafting entirely. Its 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 out 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 (if a bit pricey at $58.75 for the cage, 8 cents per cell, and 29 cents per cell holder) and, 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, 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

* Plastic Replacement Pot - Lilypak Industries has now come out with a new range of plastic honey pots which replaces the 500g and 900g wax models so traditional with 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 for me the demise of wax pottles is a welcome step. The pottles were notorious leakers, they often crumpled before the contents were fully consumed and the wax invariably flaked into the honey. The only thing they had going for them was their price.

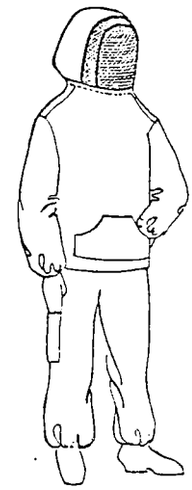
These new pottles are a welcome addition to the innovative packaging many beekeepers are now using. And best of all we can say goodbye to that ridiculous non-metric 900 grms.

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) 8370510

* Beekeeping Suits - no, not the latest in tails and veils, these are all-in-one designs which include a fully supporting hood and veil zipped to overalls. I've noticed that a number of pollination beekeepers have gone to these garments and if you've ever had a run in with "crawlers" you can understand why. Available in two models (Pollination Full Suit - $83, Protecta Half Suit - $67) and four sizes (S, M, L, Ex L). Contact :



Bee Accessories
133 Walmsley Road
Mangere
AUCKLAND Phone : (09) 2756457

* *"IF WE COULD JUST GET THE LITTLE BUGGERS TO PUT THE HONEY INTO THESE CUT COMB BOXES...."* - this must be every cut-comb producers' dream; a dream that might become a reality if Teding van Berkhant has his way. He's designing a new plastic cut comb box which will fit, 40 at a time, in existing half depth boxes. The bees are supposed to fill the boxes with half combs (one side of cells only). The picture in his circular looks impressive - I wonder if it will work?

Contact : Twyford Honey
Teding van Berkhant
R.D. 5
HASTINGS Phone (070) 798488

**HONEY PRODUCT OF THE YEAR* - here's another nail in the coffin of nay-sayers who claim there's no new way to sell honey. An American firm, Nature's Kick, of Independence, OREGON, has developed a method of putting liquid honey in pencil-size clear plastic straws. They market them as "Honey Stix" and claim they're a natural competitor to the candy novelties kids seem to be addicted. Just bite off the top, squeeze, and you've got a no-stick sweet.

The "stix" sell for 10 cents each and would seem to be hot items at grocery check-out counters and the like. Nature's Kick has just put in a plant which can produce 100,000 "stix " per day!

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A Prize for the Taking

The American Bee Journal, one of the world's leading beekeeping publications, is offering a free year's subscription for beekeeping ideas or gadgets which they can publish in their magazine. With the ingenuity of Kiwis in general, and beekeepers in particular, this one must be a shoe-in for a number of you out there.

Send your ideas to : Jim Meyer
P.O. Box 2291
SANTA CRUZ, CALIFORNIA
95063

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