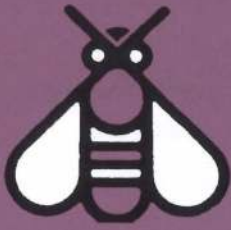


ISSN 09110-6325



The New Zealand **BeeKeeper**

JULY 1996
VOL 3. No. 6

The Official Journal of the National Beekeepers Association of New Zealand (Inc.),
211 Market Street South, Hastings, New Zealand. Tel. (06) 878-5385, Fax (06) 878-6007.



NZ BEESWAX LTD...NZ BEESWAX LTD...NZ BEESWAX LTD

MANUFACTURERS of beeswax comb foundation, natural and coloured. BUYERS of all grades of beeswax.
For current prices, Phone (03) 693-9189, Fax: (03) 693-9780, Write: R.D. 22, Geraldine 8751.

If undelivered please return to:

National Beekeepers Association of New Zealand (Inc.)
211 Market Street Sth, Hastings, New Zealand.

POSTAGE PAID
PERMIT No.
384
HASTINGS, NZ.

NATIONAL EXECUTIVE BEEKEEPERS' ASSOCIATION OF N.Z. (Inc.)

President:
Nick Wallingford,
55 Watling Street,
Tauranga.
Tel/Fax (07) 578-1422

Executive:
Tony Taiaroa,
43 Princess Street,
Waikari 8276, Christchurch.
Tel/Fax (03) 314-4569

Russell Berry,
Arataki Honey Ltd.,
Rotorua Division,
Waiotapu RD 3., Rotorua.
Tel. (07) 366-6111
Fax (07) 366-6999

Terry Gavin, P.D.C., Titoki,
Private Bag,
Whangarei.
Tel/Fax (09) 433-1893

Warren Hantz,
Box 56, Doyleston,
Canterbury 8150.
Tel. (03) 324-3962
Fax (03) 324-3885

Keith Herron,
Greenvale Apiaries,
No 5 RD,
Gore.
Tel/Fax (03) 207-2738

Executive Secretary:
Harry Brown
National Beekeepers Assn of NZ,
P.O. Box 307, Hastings.
Tel. (06) 878-5385, Fax (06) 878-6007

Editor New Zealand Beekeeper:
Harry Brown
National Beekeepers Assn of NZ,
P.O. Box 307, Hastings.
Tel. (06) 878-5385, Fax (06) 878-6007

Hon. Librarian:
John Heineman
C/- NZ Post Shop, Milton, Otago.
Tel. (03) 417-7198 (bus)
(03) 417-7197 (home)

1996 Subscriptions: N.Z. \$38.00 (GST Incl). Overseas Airmail US \$38.00. Economy mail US \$31.00.



**New Zealand Honey
Food & Ingredient Advisory Service**
OF THE NATIONAL BEEKEEPERS ASSOCIATION OF N.Z. (INC.)

4A Scott St., P.O. Box 32,
Blenheim, New Zealand
Tel: 03-577 6103
Fax: 03-577 8429

BRANCHES

The first named person is the **President/Chairperson**.
The second is the **Secretary**.

FAR NORTH

Bob Banks
Taupo Bay, Northland.
Tel. (09) 406-0692
Bruce Stevenson
Kemp Road, Kerikeri.
Tel/Fax (09) 407-7190

NORTHLAND

John Gavin
PDC, Titoki, Private Bag, Whangarei.
Tel/Fax (09) 433-1893
Mrs Edna Hoole
Sheddock Apiaries, R.D.1., Paparoa,
Nth Auckland.
Tel/Fax (09) 431-7348

AUCKLAND

Brian Alexander
Woodhaugh Apiaries, R.D.3.,
Kaukapakapa.
Tel. (09) 420-5028
Jim Thompson,
125 Queen Street, Pukekohe.
Tel. (09) 238-7464
Fax (09) 232-8429

WAIKATO

Stephen Lee
103 Goodfellow Street, Te Awamutu.
Tel. (07) 871-3486
Fax (07) 871-3489
Tony Lorimer
'Kahurangi-o-Papa', R.D. 3., Hamilton.
Tel. (07) 856-9625 Fax (07) 856-9241

BAY OF PLENTY

Dale Gifford
P.O. Box 225, Te Puke.
Tel. (07) 533-1419
Fax (07) 533-1118
Sheree Silson
Kiwicoast Apiaries, 69 Lunds Road,
R.D. 2, Katikati.
Tel/Fax (07) 549-1532

HAWKE'S BAY

Colin McLean,
36 Holyrood Street, Greenmeadows,
Napier.
Tel. (06) 836-7199
Ron Morison,
6 Totara Street, Taradale.
Tel/Fax (06) 844-9493

POVERTY BAY

Peter Burt,
27 Murphy Road, Wainui,
Gisborne.
Tel. (06) 868-4771
Barry Foster,
695 Aberdeen Road, Gisborne.
Tel/Fax (06) 867-4591

SOUTHERN NORTH ISLAND

Rob Johnson,
Wheelan Road, R.D. 1., Levin.
Tel/Fax (06) 368-1325
Frank Lindsay,
26 Cunliffe Street, Johnsonville,
Wellington 6004.
Tel/Fax (04) 478-3367

SOUTH ISLAND

NELSON

R.C.F. Lambie,
Anatoki Apiaries, Long Plain Road,
Takaka.
Tel (03) 525-8322
Michael Wraight,
Braeburn, R.D. 2., Upper Moutere,
Nelson.
Tel. (03) 526-7708

MARLBOROUGH

Will Trollope,
Box 28, Tua Marina, Blenheim.
Tel (03) 570-5633
Jeff Hook,
R.D. 4., Blenheim.
Tel. (03) 578-2640

WEST COAST

John Giasson,
34 Shakespeare Street,
Greymouth, Westland.
Tel/Fax (03) 768-4793
Sandy Richardson,
Napoleon St., Ahaura, Westland.
Tel. (03) 732-3724

CANTERBURY

Don Bell,
Frasers Road, Annat, Darfield 8170.
Tel (03) 318-3869
Brian Lancaster,
Haldon Rd, R.D. 2, Darfield.
Tel/Fax (03) 318-0732

SOUTH CANTERBURY

Peter Smyth,
Templer Street, R.D. 22, Geraldine.
Phone (03) 693-9889
Noel Trezise,
Woodbury Road, R.D. 21., Geraldine.
Tel. (03) 693-9771

OTAGO

Blair Dale,
P.O. Box 23,
Middlemarch, Otago.
Tel. (03) 464-3786 Fax (03) 464-3796
Bill McKnight,
42 Parsonage Road, Lawrence, Otago.
Tel. (03) 485-9268

NORTH OTAGO

R.B. Rawson,
23 Aln Street, Oamaru.
Tel. (03) 434-5242
Algie Lawrence,
11 Main Street, Weston, Oamaru.
Tel/Fax (03) 434-5476

SOUTHLAND

Shaun Lawlor,
C/- 100 Kakapo Street, Gore.
Tel/Fax (03) 208-3422
Don Stedman,
40 Louisa Street, Invercargill.
Tel/Fax (03) 218-6182

**ADVERTISING RATES ON
REQUEST**

The New Zealand BeeKeeper is published eleven times per annum; February to December. All copy should be with the Editor by the 1st day of the month of publication except for December when copy should be received by 20th November.

Notes from the President

Nick Wallingford

Commodity Levy ballot results

The referendum to gauge support for the NBA's Commodity Levy order application indicated a degree of acceptance which will allow the association to proceed with the intended levy system.

The voting was a long time coming. Over a period of several years, it seemed like we were 'almost there' several times. By the time we did go to ballot, there was a real fear that the beekeepers concerned would have simply lost interest in the issue. While the results indicated support, I believe the low turnout of potential voters was a result of the long and drawn out processes leading to the balloting.

One difficulty in reporting anything more than simply the 'official record' of the votes cast for and against is that we don't really know exactly how many potential levy payers will be affected by the new levy. The MAF generated statistics upon which we have based so much in our industry don't record the data in a form that allow us to know the precise number of beekeepers who have more than 10 hives or more than three apiaries.

Our estimates of numbers and resulting income have come from a variety of analyses of beekeeper, apiary and hive numbers. While we are confident that the estimates are acceptably close, there is no practicable manner of determining exactly how many beekeepers and apiaries are to be levied at this stage.

We sent out over 5000 voting papers, as we sent a paper to each registered beekeeper in New Zealand. 839 beekeepers returned voting papers. Six of these were incomplete to the extent that the scrutineer could not determine whether they came from potential levy payers or not.

Another 527 came from people who will not be levy payers. That is, they had not

more than 10 hives nor more than three apiaries.

Of the 306 valid voting papers, 219 were in support of the levy proposal. These beekeepers had, in total, 5895 apiaries with a total of 90,321 hives.

Only 87 voting papers came from beekeepers who opposed the levy. These beekeepers had 2235 apiaries with 33,139 hives. Included in these 'no' votes were two from potential levy but which were incomplete or invalidly completed. The Commodity Levy Act requires such votes to be counted as 'no' votes.

The positive votes were quite consistent as percentages of the total: 72% of beekeepers, 73% of apiaries and 73% of the hives represented in the ballot.

Now comes the more esoteric analysis — a consideration of the number of votes compared to the total numbers of beekeepers and the number who we expect to be levy payers.

At the end of June 1995, there were 5409

beekeepers, with 24,764 apiaries and 293,080 hives. This means that the seemingly small number of valid voting papers represents 6% of all beekeepers, but 33% of all the apiary numbers and about 42% of the country's beehives.

Based on the estimated numbers of levy payers, about 24% of the people who will pay a levy participated in the ballot, but they own 41% of the apiaries and 43% of the beehives to be levied.

While the participation rate in the ballot was lower than the association would have wished, we believe every practical step to inform and consult with beekeepers was taken. The opportunity to participate in the voting was fairly provided. Accordingly, the NBA will proceed with a levy order application. The intention will be to have the levy order in place and fully operational at the end of the year. If you've paid your levy for this year you've paid your last one — next year your levy will be based on apiary numbers if everything works out the way the NBA expects!

Results of Commodity Levies Referendum

Total number of voting papers returned	839
Unable to establish if potential levy payers (5 blank or 'anonymous', one deceased)	6
From non-levy payers	527
Invalid votes	2 (3 apiaries in total)
Valid votes ("participating voters")	306

Voting by beekeepers		
Yes	219	72%
No	87	28%

Voting by apiaries		
Yes	5895	73%
No	2235	27%

Voting by hives		
Yes	90,321	73%
No	33,139	27%

Totals at 30 June 1995		
	Number	% participating
Beekeepers	5409	6%
Apiaries	24,764	33%
Hives	293,080	42%

Potential levy payers (est. May 1994)		
	Number	% participating
Beekeepers	1277	24%
Apiaries	19,775	41%
Hives	288,508	43%

**North Island
Executive
Election result...**

**Martin Gerard
443 votes**

**Wallingford Nick
920 votes**

Apology

My apologies to Kate White and Chris Dawson for the gremlins that appeared in their articles. I have taken steps to ensure there is no repeat.

Ed

HELP!

**We need more
advertisers**

Ed

The New Zealand BeeKeeper THIS ISSUE

3	Notes from the President
5	For beginners and others
6	Marketing
7-8	Summit Meeting
9	From the colonies
10	Hazardous Substances Bill
11	Library News
14	Queen-bee matings
15-17	US Beekeeping Industry
21	Apitherapy Research
22-23	Letters to the Editor
27	The Internet
32	Recipes
35	Important dates

**The Southern North Island Branch of the NBA
wish to thank the following sponsors
for their brilliant support, both financial and tangible,
in assisting the Conference Committee.**

**Arataki Honey Ltd
(06) 877-7300**

**Arthur Holmes Ltd
(04) 389-4103**

**Canaan Apiaries
(06) 345-5350**

**Century Systems
(03) 448-6603**

**Ceracell Apiarist Supplies
(09) 274-7236**

**Comvita New Zealand Ltd
(07) 533-1426**

**Ebos Group
(0800) 502-882**

**Ecroyd Beekeeping Supplies Ltd
(03) 358-7498**

**Farmers Mutual Group
(06) 356-9456**

**Gera Propolmats
(07) 855-9846**

Hall & Telford Timber

**Honeyland New Zealand Ltd
(06) 354-0206**

**Honey Marketing "Committee"
(03) 577-6103**

**Label & Litho Ltd
(04) 568-3696**

**Mackay Refined Sugar
(09) 525-4589**

**M.A.F. Quality Management
(07) 838-5841**

**Mahurangi Hiveware
(09) 422-0890**

**New Zealand Beeswax Ltd
(03) 693-9189**

**New Zealand Pork Industry Board
(04) 385-4229**

**New Zealand Sugar Co Ltd
(*Chelsea*)
(09) 419-1269**

**Nexus Packing Systems Ltd
(09) 274-0821**

**Sifco Distributors Ltd
(04) 568-7065**

**Queen Tec
(06) 765-7898**

**Pierco Australasia
"Plastic Fantastic"
(09) 408-2200**

**Taurus Plastics Ltd
(09) 828-3269**

Taranaki Pollination Group

**Tecpak Industries Ltd
(0800) 654-138**

**Telford Rural Polytechnic
(03) 418-1550**

**The Honey Collection Ltd
(09) 424-3451**

**V.L. Smith & Sons Ltd
"Alliance Quality Woodware"
(03) 319-5447**

**PLEASE SUPPORT THESE SPONSORS
WHO SUPPORT US**

For beginners and others

Just for the record: A little (printing?) error in last month's notes "Fofmann" frames should of course be "Hoffman" frames.

The talk was about assembling and wiring frames and the considerable input by both man and bees needed to produce good combs. At a rough estimate the cost of material for a f.d. Hoffman frame is \$1.55 to \$1.60 (small quantity), including a sheet of medium comb foundation. Add the value of man's labour and the energy expended by the bees and it is obvious that a comb is worth a good deal. Two brood nest boxes hold 18 to 20 of them. A colony of bees housed in a man-made movable frame hive simply must have combs of good quality to teach its full potential, especially in the brood nest.

In many instances that quality is well below par. Any one who has taken part in hive inspection or has bought in hives will bear this out. One may find a lot of ancient dark combs, clogged with old pollen, often with large patches of drone cells, holes or with irregular cells where bees have attempted repair jobs. Frequently it is the bottom box showing up the worst. Sometimes it seems that the bottom super has never been looked at since it was placed on the bottom board initially. That is just not good enough. Those heavy old brood combs have seen many generations of grubs and each hatching bee does leave some skin remains behind. Gradually the cells will become smaller and ultimately this will result in smaller bees. Such combs have to go and must be replaced by good quality combs or frames with foundation.

Question: How long should combs serve in the brood nest before they should be culled?

A feral colony will start building its nest in some type of cavity by adhering the first bit of comb to the top (ceiling), so it will become the oldest comb. The nest

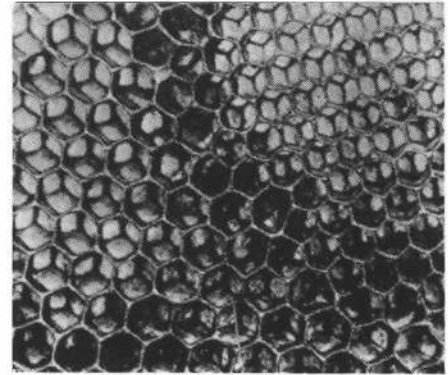
will expand downwards and sideways. Honey will be stored at the top while the area of brood gradually moves lower. That implies that the queen will be laying her eggs in the newer drawn comb area and not in the cells with the thickest walls which are the smallest. Those are still good enough for food storage. Trials have established that new lighter coloured combs are just as acceptable for a queen to lay in than darker older combs are. So the often preached theory to keep dark old combs as brood combs and the new light ones for extracting does not hold water, certainly not from the bees' point of view.

Now I am not saying that a brood nest should hold only nice white combs. We can use them for a number of seasons without impairment to quality.

We don't run feral colonies or even skeps in which nature goes its way. As with all management of domesticated stock we should follow nature as closely as possible but at the same time a certain amount of compromise is unavoidable. That applies to bees in a modern hive too. Operated properly it does not harm the bees and has proved to be of considerable value to the beekeeper.

It has to be part of management to replace and renew brood nest combs regularly and at reasonable frequency. If we find the newer comb in a feral bee nest at the lower level it is obvious that a bottom brood box with poor quality old combs certainly goes against nature, is detrimental to both the bees and beekeeper.

Reversing, that is swapping places between bottom and top brood nest supers, annually is a good practice. Done in spring, one will find a number of empty dry combs, free of honey and brood. Any of those not up to scratch can be culled and replaced with good combs or foundation. Don't do this too early, wait



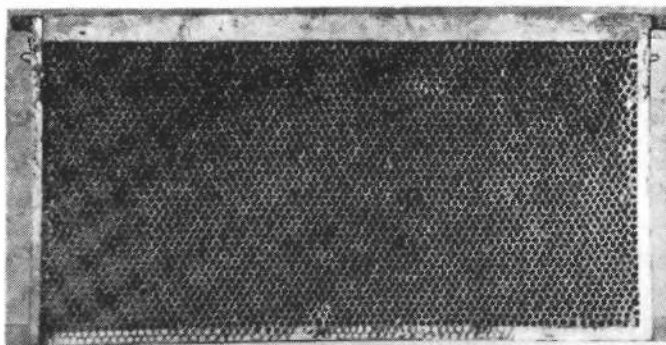
Worker cells in right top corner, drone cells to the left and at the bottom with transitional cells between.

till the brood nest is expanding. Renewing three to four combs annually means that a brood nest will have nothing older than five or six seasons. The annual reversing makes for good systematic rotation. It also helps a little in swarm prevention and certainly makes automatically for more thorough disease inspection.

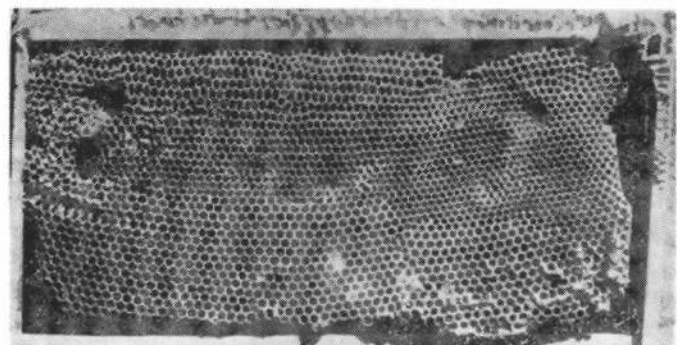
Yes combs are an expensive item, it pays to handle them with care and look after them but it does not pay to skimp on renewing. Skimping amounts to poor management and that costs much more in the long run.

The poorest of the culled combs should be "out", any better ones with too many drone or irregular cells can perhaps do a turn in the extracting super.

Those old and damaged combs are still worth something. They should be cut or melted from the frames and rendered for the wax. The wax to be converted to foundation. Frames, if in good order, should be cleaned and recycled. And so the amount of money involved with the renewal of combs and replacement of frames can be kept as low as possible.



A good looking brood comb showing few irregular cells



The kind of comb that should have been "OUT" ages ago

In this month's column...

Is half of New Zealand's honey production a mish-mash of nectar sources?

Another beekeeper has suggested to me that the average honey produced in New Zealand isn't Mono-floral, nor even identifiable Multi-floral, but such a mish-mash of nectar sources that it doesn't have nameable floral sources at all.

This second beekeeper believes that 50% of New Zealand's honey production would fit this mish-mash description, (I think I'll call it multi-multi floral... or MMF for short... it sounds better). He believes that, on that basis, our marketing strategies are wrong... because "when we promote honeys by name, even named blends, we're putting down the MMF and reducing the value of MMF honeys to consumers."

Whew!... pretty strong stuff, but no one ever said that everyone in an industry was going to agree on an issue... and the honey industry is no exception!

But is he right. Personally, I think not. Why?

There is no doubt that our strategies are creating a new interest in honeys.

Have you seen the 10 PAGE colour feature on honey in the June issue of NEXT magazine? A brilliant article on New Zealand honeys with some great recipes by their foodwriter Alyson Gofton. That article didn't happen by chance... I spent half a day with Alyson, tasting honeys and discussing the honey industry generally.

There is also a general increase in uses of honeys in restaurants, (from my personal observation), and a number of manufacturers have either launched new products containing honey or have contacted the NZ Honey Food and Ingredient Advisory service asking for technical advice on honeys or honey availability/costs.

Honey and beekeeping seems to be getting increased publicity from a wide variety of avenues. I see that Clear Communications have used BEE-KEEPING as one of the professions 'starring' in their latest TV commercial. And a brochure for an international conference to be held in Christchurch talks about the purity of the region's honey and water and other foods; with honey listed first.

All of these things compound upon one another... it's like a snowball gathering momentum and mass... the effect and benefits in terms of publicity and awareness keeps growing.

And the end result is, the

decommodification of honey: with consumers regarding honey with increased respect and affection as a favourite food; looking for different honeys for different reasons, and being prepared to pay different prices.

But it's up to beekeepers/honey marketers to exploit the opportunities. I believe the strategies do create opportunities for producers of MMF honeys. Otago Honey Products markets two successful Otago Bush and Pasture Honeys. On the labels they show illustrations of five different floral sources and in the information explain how the honeys are made up of a variety of nectar sources, including the ones shown on the label.

As consumers read about, or discover for themselves, Mono and Multi-floral honeys they like, they will look for those floral names in/on packaging. An MMF honey can also name those floral sources that make up the bulk of its composition. I don't believe (should that be 'like to not believe') that the mish-mash is so great that there is no nectar source to hang the honey on... BUT, am I wrong? Is 50% of New Zealand's honey an unidentifiable 'soup' of sweetness. I'd like your opinion... I'll be talking to beekeepers at Conference about it. If you aren't going yourself, I'd appreciate you telling your delegates your thoughts on the issue.

And of course, for those honeys that are MMF, there's a perfect opportunity to do what many beekeepers have been doing for many years, and that's to promote and market by regional name. But in such a way as to differentiate those honeys from the price fighter honeys and housebrand honeys in the supermarkets. Good labelling and information on the packet can easily do that; and in such a way as to capitalise on the industry's general marketing strategies.

The beekeeper I discussed these issues with did make a very good suggestion:

That we put out a general recipe leaflet that all beekeepers and honey marketers could use. This leaflet would give basic recipes that MMF honeys can be used in... (like the barbecue sauce that I make at home). That's something we're working on now; and will be available later in the year. The idea is to supply a mastercopy to any member of the NBA, who can then photocopy (or print) off what they need for giveaways.

Discussions I've had with a few packers indicates that there are going to be two (very strongly held) schools of thought on this issue... ie the percentage of MMF in New Zealand. I look forward to getting a good overview from Conference.

Early last year the Marketing Committee paid for Dr Gudrun Beckh, from the prestigious Honig Analytik in Bremen, (Germany's leading honey certification laboratory) to tour New Zealand. I recently wrote to Dr Beckh and asked for advice on organic honey opportunities. As a result Harry Brown has circulated her reply to branch secretaries and companies known to be marketing organic honeys. Organic honey production seems to be a very good option for some beekeepers who are producing some general bush (MMF) honeys. We'll update you after Conference.

The whole issue of honey identification and standards will also be discussed at Conference... with the Marketing Committee's draft paper on manuka being tabled for Conference.

In preparing the paper I spoke with members of the Australian honey industry. They have similar problems, re honey identification, and are waiting to see what we do with manuka. Similarly the American honey industry is now addressing the issues of honey integrity and varietal identification.

The May issue of the American Bee Journal has a special two page article on the national Honey Board and its marketing strategies. I've asked *New Zealand BeeKeeper* editor, Harry Brown, to reprint it in this edition of *The New Zealand BeeKeeper*. New Zealand beekeepers will be intrigued by the issues facing the American industry; and how they are so similar to those facing New Zealand.

And lastly (a shorter column this month because of the American article reprint) it was good to see the Australians berating their own poor performance at Apimondia in comparison to New Zealand.

To quote the Australasian Beekeeper, Sept 95: "Apimondia Trade Displays — New Zealand, a country with a beekeeping industry the same size as New South Wales had three displays of equipment or products representing four businesses. Australia had none. Little wonder our equipment prices are high by world standard and produce prices low. Government policies also influence our equipment prices." My own congratulations to Ben and Dot Rawnsley who took the NZ Honey Trade Display to Apimondia and put it on display with their own promotional material. The Aussies were obviously impressed!

*Regards,
Bill Floyd, Marketing Committee*

Summit Meeting projects expansion of National Honey Board activities

Representatives of five distinct groups of the US honey and beekeeping industry participated in an industry summit meeting convened by the American Beekeeping Federation in Reno, Nev., Feb. 15. (See the list of participants at the end of this report).

In an all-day session, led by Washington attorney Wayne Watkinson, the industry representatives put the industry under a microscope and examined it to answer these questions:

- Where are we now?
- Where do we want to be?
- How do we pay for it?

Mr Watkinson, a veteran counsellor to agricultural commodity groups, asked each participant to list two strengths and two weaknesses of the industry. While headed "marketing honey," the lists were to encompass all industry activities. The list of weaknesses was then grouped into five categories of issues for the industry to address and to determine how to remedy them. The categories and major issues identified were:

Quality issues

The participants recognised that the protection of the image of honey was paramount to the continued viability of the industry. Combating economic adulteration and chemical contamination are top needs toward maintaining this image. Key issues are:

- Increased incentive for adulteration with the increased honey prices.
- Lack of an official Food & Drug Administration standard of identity for honey.
- Honey being rejected by one packer for adulteration and/or contamination and subsequently being offered to other packers by the seller.
- Unclear honey labelling standards.

Research issues

The industry has experienced and is faced with continued reductions in beekeeping and honey research activities — at a time when needs for such research are more acute than ever. The need for research on parasitic mites rates special mention, since it can relate directly to the chemical contamination issue and since mite infestations make maintenance of colonies exceedingly difficult and expensive. A need for industry-directed, goal-oriented, practical beekeeping research was highlighted. Other research needs identified were:

- General honey research.
- Research on pesticides and bees.
- Co-operation with international researchers.

Marketing concerns

A key concern in marketing is whether the increased honey prices will result in a downturn in the demand for honey; closely related is whether the increased honey prices are temporary. Increased marketing activities will be needed to sustain demand and prices. A concern was raised about whether current marketing programmes focus sufficiently on retail honey; the allocation of resources may need to be re-examined. Other marketing concerns include:

- Packaging improvements attuned to the evolving market requirements.
- Promoting honey in other countries — both US honey and the general increased consumption of honey.
- Continued ability to supply market demands and obtain honey under long-term contracts.
- Need to market value added honey products.

Industry condition

Despite the recent dramatic increase in honey prices, the participants recognised that long-term depressed prices had left the producers, especially, with a need to "catch up" financially. Some producers have yet to benefit from the higher prices due to poor crops in 1995 or due to selling their 1995 crop earlier in the year before the prices advanced. The loss of the honey loan programme will make the financial recovery more difficult. Other issues relating to industry condition include:

- A lack of understanding of the impact the National Honey Board has had on the marketing of honey and the perception that the current market situation is totally due to the antidumping action.
- The need for development of young leaders in the industry and the elevation of general beekeeper knowledge of industry conditions and market forces.
- The perception that any honey assessment would fall on beekeepers.
- Industry fragmentation and distrust, including the perception that honey packers are making all the money in the sales of honey.

NHB scope and structure

As the one unified industry activity concerned with promoting the sale and use of honey, the National Honey Board was closely examined, especially the NHB scope and structure and organisation. Should the Honey Board's role be expanded to address some of the needs which had been identified? Is the

Honey Board organised so as to be most beneficial to the industry? Are those who benefit from the Honey Board contributing their proper portion of the NHB cost? Among the items discussed in this area were:

- The nominating process — Secretary of Agriculture's role and the National Honey Nominations Committee's role.
- USDA involvement and oversight.
- Packers serving on the Board when they don't pay assessments.
- Importer representation on the NHB does not reflect their percentage of contribution.
- Should the NHB promote domestic honey only?
- If packers were assessed, could they receive credit for their own advertising efforts?
- Refunds of assessments.
- Should only producers comprise the Honey Board?
- Can/should the Honey Board be involved in beekeeping research?
- Can/should the Honey Board be involved in honey quality assurance?

Where to go?

The participants at the Summit Meeting agreed that the National Honey Board is the proper vehicle to address most of the needs identified. In particular, the group felt that industry-funded and industry-directed beekeeping research and honey quality assurance activities should be conducted under Honey Board auspices. The consensus was, "Let's improve the Honey Board and enhance the likelihood the Honey Board will be re-authorized in the next referendum". The participants agreed that the following changes should be pursued:

Beekeeping Research — 8 percent of the Honey Board's annual assessment revenues would be allocated to beekeeping research. If there are not sufficient worthy research projects to be funded in a given year, the non-appropriated allocation must be carried forward for future research expenditures. The beekeeping research would be directed by the Board through a committee which may include outside expert(s).

Quality Assurance — The envisioned plan would include a programme of testing honey voluntarily submitted by producers, packers, and importers; testing for enforcement purposes; and the development of a "seal of approval" programme for companies participating

Continued on page 8

in the voluntary programme. The enforcement methods would include "no-notice" sampling and referring violators to state and federal authorities; an experienced attorney would be retained to assist in the enforcement procedures.

Packer Assessment — The cost of the expanded Honey Board programme would be paid by an assessment on honey packers equal to that levied on producers and importers — one cent (c) per pound. All assessments would be mandatory, as they are now. Producer-packers would pay assessments relative to their activity; ie 1c per pound on their production activity; 1c per pound on their packing activity.

Every honey packer — whether an independent packer, a co-operative, or a producer-packer — would be eligible for a credit for a portion of its qualified advertising expenditures against its assessments. The plan is to have a packer pay the full assessment into the Honey Board, then submit his advertising expenditures to a panel of non-industry experts. Approved expenditures would be credited against the assessment, up to 50% of that packer's assessment.

The proposed expanded assessment is projected to take in about \$6 million per year. The allocation for beekeeping research would require approximately \$480,000 of that; the quality assurance programme would require \$1 million, possibly more.

The question of whether other segments of the industry — packers and queens,

pollination services, bee supplies, etc — should be assessed was also discussed. A decision was made that these activities should not be assessed at this time, but that the industry should study the possibility of such assessments in the future and the equitable means of levying such assessments. Likewise, the possibility of "unbinding" the one-cent per pound honey assessment was discussed and various ideas for relating the assessment to the value of the honey were tabled for future consideration.

Board Representation — In recognition of the assessment on honey packers, the Honey Board would be expanded to 14 members; the public member position would be dropped and the two additional seats would be filled by packers. The make-up would be seven producers, one cooperative representative, four packers, two importers (one of which can be an exporter).

Each industry segment would nominate to the Secretary of Agriculture its own Honey Board representatives; the qualified marketing co-operative(s) would submit nominees for the co-operative position; the National Honey Packers and Dealers Association, the packer and importer/exporter nominees. The National Honey Nominations Committee would continue to nominate for the producer positions and would coordinate the other nominations.

How to get there?

All the changes to the National Honey Board outlined above would require changes to the Honey Promotion,

Research, and Consumer Information Act. The industry trade organisations would work with Congress to make the changes and put them into effect as quickly as possible. A referendum of affected parties — producers, importers, and packers — would be held before the changes are implemented.

The Reno meeting participants agreed to report the proposed changes to their respective organisations, where additional discussion is expected. Another summit meeting may be necessary to define strategies for implementing approved changes.

Summit participants

Participating in the Reno Industry Summit Meeting were:

- American Beekeeping Federation: Bill Merritt, Dave Hackenberg, Bruce Beekman, Clint Walker, Gene Brandi, and Troy Fore.
- American Honey Producers Association: Bob Barnes and Steve Park.
- Sioux Honey Association: John Mllam, Gary Evans, Bob Brandi, Bert Belliston and Dale Bauter.
- National Honey Packers & Dealers Association: Buddy Ashurst, Dwight Stoller, Bill Gamber, Doug McGinnis, Bob Coyle, and Tom Ed Burleson.
- Package Bees & Queen Breeders: GlendaWooten, BinfordWeaver, and Reg Wilbanks.

*Acknowledgement
American Bee Journal*

How close is too close? How far is far enough?

Many years ago a poet penned the line "I know a bank where the wild thyme grows". Central Otago beekeepers know many banks where the wild thyme grows — on both sides of the Clutha River from Roxburgh to Cromwell on both sides of the Kawarau River from Cromwell half way to Queenstown and on many tributaries of these rivers. Thyme produces a specialist honey which commands a high price so when the flowers appear beekeepers move hives into the area for the 6 to 8 week flowering period. The Central Otago railway line ran through some of the thyme area and a number of bee yards were located near the tracks. When the hydroelectric dam at Clyde was completed the amount of traffic on the line diminished to the point that it was decided to close the line and lift the tracks for 150 kilometres from Clyde back to Middlemarch.

The Department of Conservation took over the land formerly occupied by the railway line and developed a walkway

known as the Central Otago Rail Trail. In October 1995 the thyme flowers appeared and the beekeepers who usually put hives adjacent to the railway moved hives into their accustomed places. But now joggers and fitness walkers and people just out for a stroll were using the walkway and before long I received a phone call from the local office of DOC asking for assistance as complaints were coming into their office of people being stung. DOC had contacted MAF to find out the owner of the hives but had not been able to contact him. I suggested to DOC that the hives should be shifted away as they were less than 10 metres from the walkway. They followed this advice and a couple of days later the hives were moved by their owner to a site about 250 metres from where they had been.

The result was mayhem on a greater scale than before and DOC reacted by closing the Rail Trail to the public. Each day for the next few days a 6 frame

nucleus hive box containing a frame of brood 5 empty frames and a caged queen was put on the original site and each day the nuc from the previous day was removed jam packed full of bees. I had suggested that if the site 250 metres away was the only suitable one in that area then the hives should have been exchanged with another yard 2 or 3 kilometres away but this was not done.

As beekeepers we have a responsibility to place our hives and to manipulate them in a manner that causes no discomfort to the public many of whom have a fear of bees. It is very difficult to persuade people that bees are not naturally aggressive when they see notices in the paper and hear broadcasts on the radio saying that the walkway has been closed because angry bees are attacking people.

We should therefore always ask ourselves "How close is too close?" and "How far is far enough?"

R. Poole, Alexandra

From the colonies

Southern North Island Branch

Well, we're now down to the last few days before Conference. It's been a massive effort from the team involving lots of planning meetings and hundreds of phone calls but everything is in place.

Now it's up to you to come along, enjoy, catch up on what's been going on and maybe pick up that little tip or bit of information that could save you thousands of dollars through your beekeeping career.

Don't plan to just attend the Seminar. Come to the Speciality Group Meetings on Monday. Most are open to all and are usually very informative.

Also, make yourself known to our sponsors. There will be the usual stalwarts and a lot of new ones, without whose support we could not have functioned. Just a chance remark saved me \$300 a year on my insurance with FMG, so don't be backward.

For those not interested in the afternoon of the seminar, we may have a tutor at the Wanganui Polytech put on a cooking

demonstration. The Honey Industry and New Zealand Pork Board have sponsored a "Mystery Box" Cooking Competition among four Polytechnics in our branch's area. These will be the chefs of the future and they'll be the ones who'll be using our honey so make them welcome.

The city of Wanganui is a lovely, go-ahead place and all facilities are within walking distance. If you can't walk, the cabs are very cheap.

And what have the bees been doing while we've been at meetings. Well those at sea level on the south-western coastal fringes have had some marvellous winter weather which has assisted the bees to get early brood-rearing underway and chew through the stores. Those further up and into the ranges are snugly tucked up away from the rain, snow and volcanic ash, waiting for spring.

Hope to see you all at Conference.

Frank Lindsay, Branch Secretary

90 years that cannot be repeated

The National Beekeepers' Association (Waikato) celebrated its 90th Anniversary on the 29th June 1996. The special event was held at the Waikato Racing Club lounge, with lunch and refreshments.

Twenty-two special guests, retired beekeepers and their wives, ages ranging from late sixties to mid eighties were invited.

Mr Jim Hishom of Morrinsville, mid eighties, is an active member of the branch and still runs a few hundred hives. One of the other guests joined the association in 1937.

To have around 57 beekeepers, and wives, all in harmony, in one small lounge just before the conference is quite an achievement.

Mr Lloyd Holt, one of the guests, was the Master of Ceremonies. He kept the group amused and awake throughout the afternoon.

By the response received, everyone seems to have had a good time.

To those members of the branch who did not attend, they missed an event that cannot be repeated.

According to some sources, when the branch was formed it was called South Auckland Branch. Are any of the other branches older than the Waikato Branch?

Phil Reed

(Photos next issue — Ed)

Between friends

*I'll pick her up and keep her warm
Says one guy to the other
While you're away I'll see to her
She's right mate, not a bother
I'll see her needs are met and find
A friend with which to date 'er
And by the time that you return
He'd have done his bit to mate 'er.
They had a glorious courtship
A flitting here and there -
Around the house and garden
And high up in the air.
She's having kids - she's homeless -
It's really very sad
Because the mating process
Was too much for their dad.
He died. Stone dead can you believe
But what a glorious death
There, with no one watching
He fell upon the earth.
She's pregnant, yes, and homeless -
Ye Gods this is a sin
The rellies will be wondering
Just where do we begin
To house this poor unfortunate
What can we do to cater
For all he did was mate 'er.
Our main concern is now to stop
All worrying and fuss
And they will say it's all our fault
It's really up to us
To get together and make a home
In which to house this soul
Whilst she gets on and multiplies
She can't go on the dole!
Disgrace unto her kind would deal
A bitter blow indeed
They've never asked for charity
For an extra mouth to feed.
So let's set to and sort out
This predicament to fix
It cannot be with Hardi-plank
Or any kind or bricks.
It's got to be with wood
And it's got to be just right
No draughts or any little holes
And everything sealed tight
No wasps or mice must be allowed
Into this home we build
To house this wonderful queen-bee
Whose job must be fulfilled.*

Rae Morison, Hawke's Bay

Annual New Zealand Honey Production, in tonnes

YEAR	Northland, Auckland, Hauraki Plains	Waikato, King Country, Taupo	Bay of Plenty, Coromandel, Poverty Bay	Hawke's Bay Taranaki, Manawatu, Wairarapa	NORTH ISLAND	Marlborough, Nelson, Westland	Canterbury*, North Otago	South and Central Otago, Southland	SOUTH ISLAND	NEW ZEALAND	Yield per Hives(kg's)**
1991	668	1057	1470	811	4006	265	1965	1054	3284	7290	23.3
1992	1200	1068	998	1231	4497	650	2870	1543	5063	9560	31.4
1993	1033	811	958	577	3379	560	1611	1536	3707	7086	23.3
1994	1295	1946	1524	1442	6207	493	2883	2236	5612	11819	40.8
1995	354	962	1426	1200	3942	499	1685	1921	4105	8047	27.5
1996	829	1639	1077	1367	4912	607	1287	1804	3698	8610	30.0
6yr ave	897	1247	1242	1105	4491	512	2050	1682	4245	8735	29.4

Hazardous Substances Bill farmer unfriendly?

By Alastair Thompson

Opposition is mounting to the Hazardous Substances and New Organisms Bill driven by fear that the legislation is innovation unfriendly and likely to inhibit the use of new technologies.

The Bill was reported back to Parliament from its select committee just before Christmas. It had been changed significantly and is now thought to be even more innovation unfriendly than the original legislation.

The Bill is designed to bring together the range of different agencies and legislation which presently deal with hazardous substances and bring everything under a new Environment Risk Management Authority (ERMA).

The Bill also updates the control regime to deal with the new technologies of genetically altered organisms.

The most serious area of concern over the Bill is that the concept of "net national benefit" has been removed. The Land Users Forum of which Federated Farmers is a member and the Resource

Users Group argue that the importance of economic considerations has been pushed back by the select committee.



The committee has also added a new clause which requires the authority to take a "precautionary approach" to applications.

This, says the Land Users Forum, will result in unnecessarily conservative decision making.

Select committee chairman Tasman MP Nick Smith said "net national benefit" was removed because it was considered too vague. All the effects of substances could not be put into monetary terms as the concept required.

"The idea also draws a ring around the country and says the authority is not allowed to address either a community or a global perspective," Mr Smith said.

Mr Smith said the committee had decided to replace the concept with a requirement that the authority apply a consistent approach to weighing up the costs and benefits in an application.

As to the question of the precautionary approach Mr Smith said the committee made no apologies for erring on the side of caution.

"The lack of a precautionary approach is what has led to problems such as wasps, rabbits and possums".

PIERCO PLASTIC FANTASTIC ONE PIECE FRAME AND FOUNDATION

Do you really want to spend your time and money on wiring and waxing wooden bee frames? WHY?

Using Pierco Plastic One Piece Frames makes sense.

No wiring and waxing needed, (all built in) — NO maintenance.

They last for many years.

The time and labour you save by using Pierco Plastic Frames can be spent on servicing your hives for better crop management or maybe you would even have time for a holiday!

Follow the new age trend and use Pierco Plastic Frames this season.

Reserve your place in the first spring 1996 shipments of these frames, arriving in New Zealand in August and September 1996, by ordering NOW!

Prices from \$2.40 per frame plus freight within New Zealand, *plus GST*.

Plastic Foundation to fit wooden frames will also be available this season.

Phone or fax us for prices and ordering:

(09) 408-2200 A/h: (09) 408-3620

Haines Bee Breeders Ltd

Library news

Articles received from Ms Butz Huryn in June (continued):

- McLaren P. *The environment and you. 1983, 2p, NZ.*
 Mitchell D. *The Honey Locust tree. 1978, 2pp, NZ.*
 Myers A.T. *Beekeeping on the West Coast. 1945, 3pp, NZ.*
 Page G.F. *Honey producing Plants of Westland, Marlborough and Nelson. 1938, 2pp, NZ.*
 Patterson C.R. *Rewarewa, a valuable source of nectar. 1958, 2pp, NZ.*
 Payton I. *Westland Rata — Kamahi Forests, here today, gone tomorrow. 1984, 2pp, NZ.*
 Pearson W.D. & Braiden V. *Seasonal pollen collection by honey-bees from grass/shrub highlands in Canterbury. 1990, 8pp, NZ.*
 Peterson E.D. *The honey plants of New Zealand. 1934, 37pp, NZ.*
 Peterson E.D. *Growing special crops for bees. 1934, 13pp, NZ.*
 Roberts D. *Sources and qualities of New Zealand honey. 1956, 3pp, NZ.*
 Roberts D. *Probable effects of Manuka Blight on beekeeping in North Auckland. 1957, 3pp, NZ.*
 Sandry R. *Natural regulation of gorse — cost to beekeepers. 1986, 1p, NZ.*
 Smellie E. *Influence of climate and soil type on nectar secretion. 1949, 3pp, NZ.*
 Thompson G.M. *Escalonia macrantha and bees. 1991, 1p, NZ.*
 Thompson G.M. *Fertilisation of native flowers by honey-bees. 1991, 1p, NZ.*
 Uwin C. *Honey plants. 1920, 1p, NZ.*
 Wallingford N. *Forage in New Zealand. 1981, 3pp, NZ.*
 Walsh R.S. *Effects of excessive humidity on beekeeping. 1955, 2pp, NZ.*
 Wardle P. *Biological flora. (Possum, deer damage to rata etc). 1971, 6pp, NZ.*
 Westbrook G.V. *Nectar producing flora in North Auckland districts. 1938, 2pp, NZ.*
 Winter T. *Pollen and nectar supplies. 1975, 1p, NZ.*
 Winter T. *Pollen and nectar. 1975, 1p, NZ.*
- Correction: Day S. & Beyer R. Highlands in Canterbury as in last month's list should be...**
- Day S., Beyer R., Mercer A. & Ogden S. *The nutrient composition of honey-bee collected pollen in Otago, New Zealand. 1990, 9pp, NZ.*

To all beekeepers and existing clients

JC & JS Dobson Beefarm will no longer be supplying queen cells and queen-bees for sale.

Carricell incubators and cabinet incubator components will still be available.

Contact: John Dobson,
67 Poporangi Road,
RD 1, Hastings.

Tel: (06) 870-7070 Fax: (06) 870-7077
Mobile: (025) 494-396

The last load of the season

This last season, much to my surprise, the last load of honey came off without a hitch, but over the years I've learnt to be wary about last loads. Two in particular stand out. The first was a paddock with bees on the far side of it which had had a fodder crop sown in it. I was suspicious of this paddock but it was alright in the gateway so off we went, flat out, full noise across the paddock. You know the dragging feeling you get when you hit the boggy patch at the bottom of a hollow. Well I know it too, only too well in fact, and this was a flat paddock. Slower and slower we went, deeper and deeper, nearly to the hives and stop, stop, stuck. With a cough the motor gave up the unequal struggle and we sank gracefully down to our axles. Under the top layer of dirt it was like sloppy gray porridge.

The farmer came over with his two-wheel-drive tractor, life was not looking up. Eventually we got the tractors out, got another truck up from base and ferried the honey out on a trailer attached to the four-wheel-drive tractor. The truck just had to sit there until we got a small bulldozer up from town some weeks later. At least nobody was likely to steal it.

On the second occasion we hadn't been able to get to some yards way up the back because a huge slip had taken out the road. Hundreds of truckloads of shingle later the road reopened and we sallied forth. It was getting pretty late in the year and we were slow getting away but things went OK until the last yard. This was a big yard with full hives, so we had our work cut out to finish them. To add to our problems huge thunder clouds were gathering and we knew we wouldn't get back up the track to the yard if we got caught by a downpour. It was with great relief that we finished off the bees and set off home just getting out onto the shingle before the deluge hit us. So off we head homewards, unfortunately for us the rain which had been avoiding us all afternoon had fallen almost without exception (and perhaps with some degree of malice) on the stretch of road that had had the big slip. No it hadn't slipped away but all the new fill had turned to soup with lumps of shingle in it. Backing down for the third time to have yet another go I backed one wheel just off the edge of the hard stuff and that was that. One truck, with one load of honey, with one set of duals in the water table, on a back country road with darkness and rain falling with equal intensity. Realizing our chances of getting help were pretty slim, we started walking towards the nearest house (about ten miles). At the top of the hill was a grader, we thought about it but regretfully gave it up as a bit too difficult to drive. However, further up the road was a Ministry of Works bulldozer, this we thought we could manage but fortunately at this stage a Ministry of Works foreman drove past on his way home (he had a four-wheel-drive). Unfortunately he didn't have a key so he drove us back to Raupunga (a 45 minute drive) and got the grader driver to come and tow us up the hill. All this help was much appreciated but the day in general was, I'm afraid, not appreciated at all. As I said at the beginning, I'm a bit nervous about the last load of honey.

Peter Berry

Having trouble getting enough members to your branch meeting?
Having a joint meeting with another branch may help.

PLEASE NOTE:

John Dobson's new phone numbers are:

Tel: (06) 870-7070 Fax: (06) 870-7077
Mobile: (025) 494-396

AFB control programme contract: 1995-96

The MAF Quality Management (MQM) inspection component of the contract was once again exceeded (1033 apiaries inspected). 987 apiaries were required to be inspected which equaled 3.9% of New Zealand registered apiaries. This represents an increase of 4% in the total number of apiaries inspected compared with 1994-95.

The required average number of hives per apiary for MQM inspections was exceeded (8.4 hives per apiary inspected/6 hives per apiary required). This represents an increase of 12% in hives per apiary compared with 1994-95. NBA branch inspections totalled 981 apiaries, or 63% of the 1545 required to achieve the target of 6.1% of NZ registered apiaries. This represents an increase of 10% in apiaries inspected compared with 1994-95.

This season's programme therefore resulted in a total of 8% of New Zealand's apiaries being inspected (MQM, 4.1% + NBA: 3.9% = 8%). The target for the inspection programme was 10%.

* A total of 16,044 hives (5.5% of New Zealand registered beehives) were inspected (MQM: 8643 + NBA: 7401). This represents an increase of 32%

in hives inspected compared with 1994-95.

* MQM inspectors (and beekeepers contracted to MQM) found 530 hives infected with American Foulbrood (6.1% of hives inspected). NBA inspectors found 132 hives infected with American Foulbrood (1.8% of hives inspected).

* A further 276 apiaries were inspected by MQM in the autumn (post-March report) period. A total of 176 hives were found to be infected with American Foulbrood in these inspections.

Registered as at June 30, 1994

* A total of 39 apiaries inspected as part of the NBA volunteer (diseaseathon) programme were audited by MQM personnel. This figure is double the minimum percentage of 2% for such audits stipulated in the current contract. Only one inspection was found not to comply with written instructions given to NBA volunteer inspectors. The NBA inspector involved received counselling from the MQM auditor concerning the non-compliance.

* A total of 635 adult bee test sample

packets were sent to hobbyist beekeepers throughout New Zealand during the term of the contract. Following instructions included in the packets, 230 beekeepers forwarded a sample to the Invermay Animal Health lab for processing. Sixteen samples were found to be positive for *Bacillus larvae* (7% of total). Inspections were carried out by MQM personnel on all apiaries returning positive tests. Of these, 3 apiaries were found to have clinical symptoms of American Foulbrood (1.3% of total apiaries sampled; 18.7% of apiaries returning positive tests).

* The American Foulbrood infection rate (18.7% of apiaries returning positive tests) is less than might have been predicted. It is unclear why the rate should have been this low. Dr. Mark Goodwin has suggested that hives in some positive test apiaries not showing visual American Foulbrood symptoms may have been exposed to low levels of *B. larvae* spores from outside sources, or they may be retaining enough spores so that they will show visual symptoms in the future.

Full District Graphs in next month's issue. Ed



As New Zealand's leading Propolis processors we are still seeking supply this season for

RAW PROPOLIS

We will consider any quantities you have

\$120 plus GST per kg — Pure

For details call us on our BEELINE

FREEPHONE: 0800-504-959

OR FAX: (07) 533-1118

Please direct all enquiries to our
Supply Manager — Lawrence Edwards

**COMVITA — PROMOTING
APITHERAPY FOR MORE
THAN 25 YEARS IN
NEW ZEALAND**

Fruitflies in deadly sex war

Male fruitflies use poisonous sperm in a deadly dance for dominance in the war between the sexes. An American biologist reported yesterday that he and other biologists considered the discovery showed that sexual conflict could be an important driving force behind evolution.

William Rice of the University of California at Santa Cruz took fruitflies and allowed the males to evolve while using advanced genetic techniques to keep the females from evolving. Fruitflies are good for this experiment because they live very short lives and thus evolve quickly.

As the males evolved they became better at mating and were better at keeping competitors from mating. In addition, their sperm became more toxic — which meant it could destroy any competitor's sperm encountered in the female, but which also made it more poisonous to the females.

After a few dozen generations, unevolved females were more likely to die after mating with evolved males, Dr Rice wrote in the science journal *Nature*. He said this showed sexual antagonism could be an important engine of evolution.

Tracey Chapman and Linda Partridge, biologists at University College London, said the report added a new twist to the study of sexual conflict. "The idea that evolutionary arms races — between parasites and their hosts, predators and prey, and even between parents and offspring — might produce continuous evolutionary change has been around for a while, but there have been few convincing demonstrations of the principle," they wrote. "Rice's findings provide evidence that sexual conflict may be a potent fuel for evolution, and that in an apparently unchanging sexual interaction males and females may be running frantically to stand still."

Reuter

Nectar Symposium

In December 1995, I was privileged to attend and speak at a meeting on tropical honey, organised by the Dutch group NECTAR. Speakers from nine different countries and a varied audience pooled their knowledge and experience, promoting considerable discussion on the symposium's themes: 'Harvest, composition, processing, storage and marketing of honey in tropical apicultural systems'.

I gave a paper on the subject 'The world market in relation to tropical honey' which looked at the overall world market and the constraints and opportunities for tropical honey on the world stage.

Only one of the six major honey producing countries in the world (who together produce just over 500,000 tonnes/year) has significant tropical areas, and that is Mexico. Using the best evidence available, only about 17% of the world's honey is produced in the tropics.

Some 250,000 to 300,000 tonnes of honey are traded internationally every year. Using fairly generous assumptions for the proportions of Mexican and Australian honey which come from the tropics, we find that exactly the same proportion of the world's honey exports comes from the tropics: 17%.

It's hard to find reliable figures for this kind of analysis, but I was able to get detailed figures for honey imports to the European Union for 1994. Again, making some assumptions about Australia and Mexico, but this time having detailed data for all tropical countries, we can see that the EU imported 21% of its honey from the tropics. I'm not surprised that this is a little higher than the 17% estimate for the whole world, because of the historical links from colonial times between several EU states and many tropical countries.

What limits the tropical countries from increasing this share? There are several major problems. World market prices are low: for both the EU and USA (the two largest importers of honey) below \$US1,000/tonne c.i.f. during 1993 and 1994. While prices are rising at the moment they are still only returning to the levels of 1992.

In many tropical countries domestic prices for honey are high. Often imports are banned or restricted for trade protection or because of currency restrictions, there may be high tariffs on imported honey and there are often consumer fears about the purity of imported product. High domestic prices and low international prices, coupled with transport costs, makes exporting uneconomic for many tropical producers.

Another problem for budding exporters in tropical countries is volume. Honey is a bulk commodity, and the market is dominated by big importers and big exporters. It is much easier

for an importer to fax off for 400 tonnes more from one or two suppliers, than to deal with producers in 10 different countries averaging 40 tonnes each.

The third major limitation I pointed to was quality. High water content, foreign matter such as impurities from the hive or the harvesting method, and adulteration with cane sugar are potential problems. HMF is a quality parameter of importance to the European market especially, and crude processing methods and excess heat during storage and transport can be problems in tropical countries. Some tropical honeys may be naturally high in HMF but no exemption can be sought if we don't know this to start with.

And likewise with diastase, which is degraded by heating and may be low in some tropical honeys (such as *Julbernadia*), and can be a limitation to market access.

So much for problems, What are the opportunities?

I highlighted two: fair trade organisations and organic honey. It's no longer a matter of producing honey in untouched forested areas and slapping an 'organic' label on to increase returns. Both the production and processing operations must be certified by an organisation recognised in the end market (such as the Soil Association in the UK, Naturland in Germany and the VSBLO in Switzerland).

Requirements vary between certifying bodies, but for honey they would typically include these. Bees must forage only in organically cultivated or natural vegetation areas which have been free of pesticides for at least two years

- There should be no conventionally farmed land within 6 km
- The colony should not be destroyed at harvest
- Only organically produced beeswax may be used in foundation
- No instrumental insemination is permitted
- No artificial products may be used for feeding the bees, nor any drugs administered
- And there are rules about packaging and processing

Accreditation for organic marketing doesn't come cheaply; it involves a field visit \$US7000 for an African country, for instance, though some costs can be shared if several producers are applying), plus several hundred dollars per year membership fee and a levy of 1% on sales. But the market is growing strongly, and in Europe is probably around 500 tonnes/year.

Andrew Matheson

Reprinted from Bee World 77(1): 1996, with permission from the International Bee Research Association, 18 North Road, Cardiff, UK.

BV better than TV

Visual Hives for sale
as advertised in May BeeKeeper

Kit-set \$112.50

Assembled \$168.75

Nuc- \$56.25 GST Inclusive
Plus Courier Charges

Inquiries:

Y - Rapa Apiaries

12 Revans Street, Featherston.

Phone: (06) 308-8148

Question Korner

People ask why don't we prosecute the non Hive Levy payers, as all beekeepers should pay their dues?

We agree 100% and do prosecute the non payers to ensure we are carrying out the wishes of our members.

An example is, at this very moment, we have a number of prosecutions underway, one person is having their financial records searched, right back to 1993, as they allege they have so many hives and we believe from information we have received, that they have far in excess of the stated numbers. Another states they don't have to pay levies etc. so we are pursuing them through the courts too. I can assure you that; 1. We don't enjoy having to carry out the above type of actions; 2. It is extremely expensive for your association as it is for the person we are forced to prosecute.

So yes, we are following up, and carrying out your wishes.

Kind regards, Harry Brown

Number of queen-bee matings

by Steve Taber, Goudous, 82370 Vvillebrumier, France

Every now and then I get asked the question by some beekeeper, "How do you know a queen mates with 5, 10 or 15 drones when you can't watch what is going on?" Good question and that is what this article is about. Actually, this was my very first problem I undertook when I was first hired by the USDA way back in 1950. But first let's look a bit at what was known at the time.

Two hundred years ago the Swiss naturalist, F. Huber, discovered the virgin queen bee mated and that after she mated she returned to the hive with a "mating sign", a portion of the sexual organs of the drone protruding from her abdomen. Huber reported that his assistant saw (Huber was blind) at least one queen returning from mating flights that had two mating signs, indicating she had mated with at least two drones. This last observation was largely ignored and when you look at the beekeeping literature from 1840-1940 there is hardly a mention of the possibility of a queen's multiple mating, in fact, you will find that many bee scientists, primarily German, were proving that it was impossible for a queen to mate more than once.

Then in 1944, W. C. Roberts showed that 50% of his virgin queens under observation had mated with at least two drones and in the Soviet Union, V. V. Triasko in 1951, showed that virgin queens which returned from a mating flight had three to four times the volume of sperm in their oviducts as there was in one drone.

That's the way it looked when I was first hired in 1950 to be Dr. Mackensen's assistant, to raise his queens and drones and to take care of his colonies and nucs so he could do his research. Actually this left me with a lot of time on my hands and with lots of bees and other available equipment. In addition, there were two events or items I was interested in, one was to learn the technique of artificial insemination (AI) and frankly I was having a terrible time. In those days the equipment was pretty crude and I am a very slow learner. The second item was my fascination with the bee's body colour, a mutant called cordovan (cd); I thought it was just the most beautiful bee I had ever seen and I wanted more of them.

During this long period of several years of taking care of Mack's bees, about 50 colonies, I had re-queened a lot of them with cd queens I had inseminated or cd queens that had naturally mated. All of a sudden I began to realise that almost all the cd naturally mated queens had both wild type (in most genetic terminology the usual form is called "wild type" (wt) as opposed to a mutant form in this case cordovan) and cd worker progeny. Back

at my office I began to diagram possible mating events.

Here is what we knew about the cd mutant, that it was recessive to the wild type (wt.), and that a mating of a cd virgin to wt drones would produce worker bees all wt in appearance. A mating of a wt virgin with cd drones would produce all wt (in appearance) worker bees. Now then, if a cd virgin mated with a cd drone and also a wt drone, both wt and cd worker bees would be produced.

While studying at the University I had taken many courses in mathematics, probability and statistics. I didn't do very well in those courses, but I really did learn some things. Now I had to put my school knowledge to use in solving a mathematical puzzle. But while I worked at this puzzle I had to set up the apiary to get some actual numbers to work with.

The first step was to requeen the apiary with naturally mated cd queens who would produce, each queen, 100% cd drones. I did this without consulting anyone. I knew Mack wouldn't care as all he wanted were bees to stock all his nucs in the spring. Two months later I began grafting and raising cd virgins that I mated at that apiary. All I had to do then was to see what type of offspring the queens produced which I recorded, either all wt or all cd or a mixture of both. Altogether I raised 184 queens in this experiment where I recorded the offspring worker type. The numbers I had to work with were: 171 queens with both cd and wt progeny, 13 queens with just wt workers and there were no queens which produced cd progeny only. Now I had all winter in my office to try and figure out this puzzle.

I don't really think readers would be interested in all the mathematics involved in solving this puzzle, but if you are, consult the references at the end of the article. However, you can see that the more matings a queen has, the less chance she has to always mate with the same genetic type and in my maths I came up with a total of 7.5 matings on average for each queen.

This work generated a lot of interest in several quarters so much so that the

work was repeated in Illinois by Dr. Bud Cale and in Canada by a graduate student of Dr. Farrar's, Don Peer. Their data from the mating systems is shown in Table 1.

As you can see, these people made a greater effort to control drone populations than I did, but their results were essentially the same in that the data indicates a number of matings, not just one, two or three. After I published this data I continued to think about the problem and discovered a small error in my maths. So I worked and worked on this new problem and decided to take it over to the maths department at the Louisiana State University where the USDA bee lab was then located. Then I ran into another problem. I met a young scientist who had done a lot of work in theoretical statistics, which was the kind of person I wanted to talk to, but when I began talking about honey-bee queens mating and mutants and wild types his eyes just glazed over. So I had to, on a spur of the moment, change the entire way of presenting the problem. Here is how it came out:

Given, a large container with black and white marbles, (the marbles represent the cd and the wt flying drones) which are well shaken up, you reach in with a scoop and withdraw some and record whether the marbles are either all black, all white, or of both colours. At the end of several hundred of these samples the question is asked, "What is the average number of marbles in each scoop sample?" Of course, the "scoop" represents the queen on a mating flight. Then, my maths friend, James Wendel woke up and showed intense interest. We wrote a paper on this and with it came to the conclusion our American queens were mating about 10 times.

For those of you who have access to a library and would like to look at the original references, here they are:

Taber, S. 1954. *J. Econ. Ent.* 47:995-998

Taber, S. 1955. *Amer. Bee J.* pp 474, Dec.

Taber, S & J. Wendel. 1958 *J. Econ. Ent.* 51:786-789

Progeny of queens

person	place	progeny both forms	all cd	all wt
Cale	Illinois	241	6	3
Peer	Algon Park	162	1	1
Peer	Ottawa	293	1	9

Another kind of bee colony management in the US Beekeeping Industry — Seen in Florida

by Klaus Nowotnick, Hauptstrasse 1, D-98593 Kleinschmalkalden, Germany
Phone & Fax: 011 49 36849-20003
E-Mail: lmker@msn.com

My US trip in 1995 led me to professional beekeepers in Florida and Georgia. This experience gave me an idea for myself about the professional work of the beekeeping industry.

In March 1996 I repeated a visit in the US again.

I left my frosty and snowrich home in the Thuringian Forest of Germany on March 15 by a car in the route to Frankfurt/Main. The giant aeroplane DC10 of Delta airlines took off and after about 10 hours flight time we arrived at the airport of Orlando. The town and the airport offered a glorious scene and the climate was superb.

With the car of my friend Gerard we left the airport and steered along the beeline — a road that runs similar to the flight way of a honey-bee to Florida's turnpike and later to the Interstate 75. The delicious perfume of the orange blossoms surged into my nose. The time was similar to last year: The ripe citrus fruits were just harvested and the new blossoms hung on the branches of the citrus trees.

After we arrived in Micanopy, the village of my host, we made the appointed times for the meeting with a professional beekeeper of Ft. Lauderdale, not far away from Miami.

The ride South led us across Tampa, St Petersburg. Near it we used the well-known Sunshine-Skyway Bridge that overstretches the Tampa Bay at the Gulf of Mexico.

The further we came South the more warmer it became. In the afternoon we reached our destination in Ft Lauderdale where the beekeeper was waiting for us.

This man came to the US about 12 years ago. Alexander Denes, that's his name, is of Hungarian origin. His ancestors were Germans, descending from Swabians. The Austrian Empress Maria Theresia fetched many Swabians to settle the South of Hungary, which was formerly a part of the Austrian empire. In 1918, when Austria had lost the war, this part of Hungary was split off and given to Romania. For many years these people were foreigners in their own country. In the communist Romania Alexander was a known private beekeeper. But he had many problems with the communist government. Because of his private beekeeping

business he was marked as a capitalist. With his 400 bee colonies he was very busy wandering in the Carpathian Mountains and to the delta of the Danube.

About 18 years ago he left Romania and lived at first in Germany, working as a joiner, which was his actual profession. Again and again he fought with the Romanian government and the Romanian ambassador in Germany, for the release of his wife and children. Even in front of the cathedral of Cologne he held a hunger-strike.

Several years later the rest of his family arrived in Germany. But Alexander had big plans and he determined to go to the United States. Before he decided to

go to South Florida he worked with honey-bees in other states of the US.

Wandering With The Bee Colonies

In the afternoon we arrived at his house in Ft Lauderdale and I was introduced to Alex by Gerhard. After a short pause we were heading to a bee yard situated outside of the city. Alex told me, he had to remove the supers for extracting and on the next day the colonies could be moved to another bee yard.

After about half an hour of driving I saw his first bee colonies. Not without pride he explained to me his type of colony

Continued on page 16



An apiary in the orange nectar flow. The supers have been removed from the colonies. When the hives are closed by the cover the supers are placed vertically on the hive top and the bees blown out by the bee blower. (Alex to the right, Gerhard left).

Continued from page 15

management. At first, all the hives and all equipment — except the extractors, honey drums and a few other materials — he had made himself.

The hives were painted light and in good condition. The measurements are similar to the Langstroth-system, but with some smaller deviations.

In the supers he only works with eight frames. For the removal of the bees from the supers he applies a bee blower made by Stiehl.

The most colonies I have seen have had only one deep brood chamber and three to four supers. Between the brood box and the supers he has a queen excluder. I think his queen excluder is too small, but he told me it is enough space for bees to go in the upper boxes. The first work we had to do during the inspection was the removal of the honey supers and deposit in the back of the hives. At the same time the colonies got the screen frame at the top for air ventilation. When we had finished our inspection and the hives were closed by the cover, that he had made from wooden planks and a hood of aluminium sheet metal, the

honey supers were placed vertically on the cover and the bees removed by the air blower. After this we transported the honey-filled supers by hand to his Ford van and stored them. They were extracted in the honeyhouse when we came back to Ft Lauderdale.

The next day began early in the morning, because the entrances of the colonies had to be shut in the darkness by a small screen frame and loaded into the van. Although we had worked on the bees the afternoon before Alex doesn't use an instep belt. He told me the bees had filled the boxes with propolis in the meantime.

After two hours of driving we had reached a private parcel of land and the bee colonies were placed near the fence. Behind the fence a big citrus area was blooming. The owner of the garden got a big jar of delicious orange honey and our next stop should be near Venus. In that area Alex has bought a house and much land. In the last year he had built a new and modern equipped honey house. In the afternoon Alex was preparing frames for comb honey production. He doesn't use any sections, he uses only thin foundation. When the bees have constructed the comb cells and the comb

is filled by honey, he cuts the comb into pieces. Each piece of honeycomb is placed into one honey jar as liquid honey.

We stayed the night and after breakfast in the morning we cleaned drums and loaded them into the van with the supers for comb honey production and other empty honey supers.

This morning Alex had planned to remove the filled honey supers from colonies working in the orange bloom.

I have never seen hives on the ground. All his hives are placed on thick bars (50mm x 160mm). They lie on selfmade bricks. Most of the colonies had three filled honey supers and it was hard work to remove the supers, blowing out the bees, transporting the supers by hand in the van and put in the empty supers. Alex, a man around the sixties worked like a machine without stop. He is a very powerful and energetic man who works 16 to 18 hours every day. His bees and his deep belief in God supplies his power. He has approximately 300 bee colonies and he is able to live with the income from this operation. Of course, he has the best weather conditions I ever saw

Continued on page 17



In the background Elizabeth the wife of Alexander. He uncaps honey combs.



34 combs every extractor seizes.

Continued from page 16

and one of the best hive management systems. All year round his bees can collect nectar and he can extract honey.

He is a Seventh Day Adventist and his deep belief in God has given him the respect for the small insect honey-bee that is a creature of God, like man too. During his careful work on the honey colonies he always avoided killing or squashing a bee. With a brush and the smoker he removed each bee when he was replacing another box or the cover.

Honey Extracting

When the van was filled with honey supers we drove in the direction of Ft Lauderdale. In the late afternoon we arrived and the supers were removed with a selfmade forklift. Half an hour later the extracting work started. Alex is using

two extractors made by W T Kelley Co. The other equipment is from Kelley too. The honey combs were sealed mostly by wax cappings, a sign for the ripeness of the harvested honey. While he was uncapping the honey combs with an uncapping knife, Gerhard stored the combs in the extractor. During the extracting work of one extractor the other was filled. The honey of both extractors runs into a sump and the pump transports the honey into big drums.

The harvested honey from Alex is never heated. He mainly sells honey in drums to packers. Only the comb honey is put into jars as liquid honey.

The first time I saw a device to detach the tight hanging honey combs from the super I spontaneously called it 'Denes-Honey-Comb-Servant'. It is an old invention of his he used for many years in Romania.

Bee Illnesses

Alex treats his colonies with Apistan-strips against the Varroa mite. Another illness he hasn't had during the past years.

Summary

Alex is an American beekeeper, but he is one of a special kind. His business shows elements of the more mean and careful management of the single bee colony in Europe and on the other side the behaviour of the US beekeepers to work in other dimensions. For myself it was a fun experience to meet a beekeeper who is a beekeeper with heart and is not only living for profit.

*All photos taken by
Klaus Nowottnick*



The bee yard near Venus. In foreground some hives placed at wooden bars and bricks. In the background you can see the house and behind that the honey house is situated.

User trials with Finitron wasp bait

by E.B. Spurr¹ and G. Elliott²

¹Manaaki Whenua — Landcare Research, PO Box 69, Lincoln

²Elliott Chemicals Ltd, PO Box 18-417, Glen Innes, Auckland

Abstract

Finitron Wasp Bait was sold to the public under an Experimental Use Permit in 1994 and 1995. Forty-four users (who bought 29% of the bait) responded to a questionnaire. Most (82%) used the bait to protect people, 14% to protect honeybees, and 4% to protect grapes. Half used the bait in March (range January to June), and 68% used it in the South Island. When more than 5 wasps/bait were attracted to the non-toxic pre-feed, Finitron Wasp Bait reduced wasp numbers on baits by 81% (range 0–100%) and wasp numbers in nests by 76% (range 0–100%). Most users (79%) were satisfied with the results. Users who were not satisfied found either that few wasps were attracted to the bait or that they had not used enough bait. The main reason for not using more bait was the cost.

Introduction

Control of the common wasp (*Vespula vulgaris*) and German wasp (*V. germanica*) (Hymenoptera: Vespidae) in New Zealand is currently hampered because there is no effective poison-bait registered with the Pesticides Board for public use. Sodium monofluoroacetate (1080) in sardine bait is very effective at reducing wasp numbers (Spurr 1991) but, because of its high toxicity to birds and mammals, it is registered for use only by government employees. Sulfluramid in sardine bait is as effective as 1080 (Spurr 1993) and was granted an Experimental Use Permit (Limited Sales) under the name Finitron Wasp Bait in January 1994.

Finitron Wasp Bait is suitable for public use because it has a low toxicity to birds and mammals (Worthing & Hance 1991) but is effective against wasps. Worker wasps carry the bait back to the nest, and feed it to other workers, the larvae, and the queen. If enough bait is taken to the nest, all wasps in the nest will die. Finitron is slower acting than 1080 and takes 2–3 days to kill wasps. In research trials in picnic areas and apiary sites adjacent to mountain beech (*Nothofagus solandri* var. *cliffortioides*) forest infested with honeydew-producing beech scale insects (*Ultracoelostoma* spp.) at Mt Thomas, Canterbury, wasp numbers in nests within 150m of bait stations were reduced by 90% within 10 days (Spurr 1993). Some nests died out while others were greatly reduced in size and did not recover.

Finitron Wasp Bait was sold to the public through a nationwide retail outlet in the

summer and autumn of 1994 and 1995. All purchasers were asked to fill in and return a questionnaire to assist with further development and registration of the bait. This paper summarises the results of that survey.

Methods

The bait was sold frozen in plastic tubes (net contents 380g). The instructions advised users to establish a network of bait stations 10–20m apart (approximately 40/ha) in sunny areas where wasps were a problem; to pre-feed wasps with non-toxic sardine cat-food to determine whether wasps were attracted to protein food; to replace the non-toxic cat-food with thawed toxic Finitron Wasp Bait when an average of at least five wasps were feeding simultaneously on each bait; and to replenish the bait until wasp activity ceased.

The questionnaire asked users to state how much Finitron they used, where they used it, when they used it, what they were trying to protect, what area they were trying to protect, how many bait stations they used, how many wasps (from instantaneous counts) were attracted to the pre-feed, what percentage reduction in numbers of wasps on baits and in nests occurred after using the bait, whether they were satisfied with the results, and whether they had any other comments about the product. Results were analysed using non-parametric chi-square tests and Kruskal-Wallis analysis of variance (Wilkinson 1990).

Results

Responses were received from 44 users, but not all respondents answered all questions. Between them they purchased 29% of the Finitron Wasp Bait sold (33% of the bait sold in 1994 and 25% in 1995). Most used the bait in the South Island (Table 1), in beech forest with honeydew, in March, and to protect people (in houses, baches, and picnic areas). The average area respondents were trying to protect was 2.5 ha (range 0.3–7.0ha). Bait station density averaged 7/ha (range 1–25/ha), but was higher in treatment areas of less than 2.5 ha (10/ha) than in larger areas (4/ha) (Kruskal-Wallis $\chi^2=5.89$, d.f.=1, $P=0.02$).

Non-toxic pre-feed attracted an average of 14.2 wasps/bait (Table 2). There was no significant difference in the number of wasps attracted to baits in the South Island and North Island ($P>0.05$), but significantly more were attracted to baits in areas with beech forest honeydew than in areas without beech forest

honeydew (Kruskal-Wallis $\chi^2=4.23$, d.f.=1, $P=0.04$). Six users (14%) reported fewer than 5 wasps/bait. Four of these noted that wasps were attracted to alternative food (e.g., honey, apples, or grapes). Eleven respondents (25%), including nine in South Island beech forest with honeydew, did not pre-feed wasps before using Finitron. Eight of the nine respondents from South Island honeydew beech forest counted the number of wasps feeding on the Finitron. The average number of wasps feeding on the Finitron when the wasps had not been pre-fed (14.4 wasps/bait) was similar to the number feeding on non-toxic pre-feed (14.2 wasps/bait in all habitats and 17.1 wasps/bait in beech forest with honeydew) ($P>0.05$) (Table 2).

When wasps were pre-fed with non-toxic sardine cat-food and the pre-feed attracted at least 5 wasps/bait, use of Finitron reduced wasp numbers on baits by an average of 81% (range 0–100%, $n=25$). Where there were 4 wasps/bait ($n=2$), wasp numbers were reduced by 85%, but where there were fewer than 3 wasps/bait ($n=4$), wasp numbers were reduced by only 5%. The average reduction in wasp numbers when wasps were not pre-fed and the Finitron attracted at least 5 wasps/bait was 80% (range 60–98%, $n=11$), similar to the reduction when they were pre-fed.

Bait station density did not affect the level of reduction in wasp numbers. When there were at least 5 wasps/bait (with or without pre-feed), wasp numbers were reduced by 82% when bait station density was ≤ 1 /ha ($n=7$), 81% when it was 2–10/ha ($n=22$), and 80% when it was >10 /ha ($n=7$).

Twenty-two wasp nests within 150m of bait stations (20 in South Island beech forest with honeydew) were monitored by seven of the respondents. Wasp numbers flying in and out of these nests were reduced by an average of 76% (range 0–100%) within 2 weeks of poisoning; 78% in the 20 South Island nests and 58% in the two North Island nests. Wasps died out at 12 of the South Island nests and one North Island nest.

Most respondents (79%) were satisfied with the results. Comments included "This Finitron is great stuff", "The wasps went absolutely crazy for it", and "Excellent performance". Users who were not satisfied either found that few wasps were attracted to the bait or admitted that they had not used enough bait. Three respondents reported that the wasps ate all of the Finitron in 3–4 hours,

Continued on page 19

Continued from page 18

but despite this the respondents did not put out any more. The main reason for not using more bait was the cost; 33% of respondents complained that the bait was too expensive. Eleven (26%) said they could not afford to buy more. One stated, "Finitron is effective but because of the expense I doubt if I will use it again".

Nine respondents (21%) used pulse baiting to reduce costs. They put out a limited amount of Finitron initially, and when this was not completely successful they re-baited with more Finitron 1–4 weeks later, with some success. Two respondents asked for a poison concentrate that they could mix with bait themselves, to help reduce the cost. One thought the bait would have been more effective if it had contained a higher concentration of poison. Three respondents asked for a sugar-based bait, noting that wasps in their area were not attracted to protein (sardine cat-food) but were attracted to sugary foods (e.g.,

honey, apples, or grapes). One respondent (a beekeeper) successfully attracted wasps to Finitron by mixing it with honey. Another mixed Finitron with stewed apples to attract wasps. Storing bait that had been thawed and opened but not fully used was a problem to two users. They attempted to keep it in a refrigerator but fluid leaked from the tubes and the bait became foul-smelling.

Discussion

This report on user trials of Finitron Wasp Bait is not a random survey because it relied upon people responding to the questionnaire. The results could be biased towards either those who had success with the bait or those who did not. The response rate of 29% was disappointing. Unfortunately, it was not possible to contact those who didn't respond. However, some useful results emerged.

The 76% reduction in wasp numbers at nests and 81% reduction in wasp numbers on baits in these user trials are

less than the 90% and 98% reduction, respectively, achieved in earlier research trials (Spurr 1993). This may indicate that the respondents tended to be those who did not have success with the bait, or it may be a result of some users not following the instructions closely. Success of the operations was not affected by respondents using a smaller number of bait stations than recommended nor by not pre-feeding, but success was affected by respondents not using enough bait.

The recommendation to use a bait station density of 40/ha was based on observations of trials in small clearings (less than 3ha) in South Island beech forest with honeydew (Spurr 1991). Lower densities of bait stations have been used in larger areas. In some research trials (e.g., Spurr 1991) and in some user trials success was achieved with a bait station density of only 1/ha. The bait station density required for a particular area will probably depend upon

Continued on page 20

Table 1 — Use of Finitron Wasp Bait under an Experimental Use Permit in 1994 and 1995 (n = number in sample)

Bait used in:	% users (n = 44)	% bait used (n not disclosed)
North Island	32	20
South Island	68	80
Areas without beech forest honeydew	43	25
Areas with beech forest honeydew	57	75
January	5	1
February	27	27
March	50	66
April	16	5
May	0	0
June	2	1
Protection of people	82	82
Protection of honey-bees	14	17
Protection of grapes	4	1

Table 2 — Number of wasps/bait (from instantaneous counts) on non-toxic pre-feed or Finitron Wasp Bait (where no pre-feed was used) in 1994 and 1995

Bait used:	n	Mean wasps/bait
Non-toxic pre-feed	31	14.2
North Island	11	12.5
South Island	20	15.2
Areas without honeydew	15	11.1
Areas with honeydew	16	17.1
Finitron without pre-feed	8	14.4
South Island	8	14.4
Areas with honeydew	8	14.4

factors such as topography, vegetation cover, and wasp density.

Pre-feeding with non-toxic bait was recommended so that users could determine whether wasps were attracted to protein and, because fresh bait has only a short (1–2 day) field-life, to allow time for as many wasps as possible to find the bait stations dispensing the bait (Spurr 1991). When wasps find bait in bait stations they return looking for more. Subsequent research trials (E.B. Spurr unpublished data) and these user trials have shown that when wasp density is high pre-feeding is not always necessary because wasps readily find the toxic bait. However, when wasp density is low more wasps collect toxic bait when pre-fed with non-toxic bait than when not pre-fed (E.B. Spurr & K.W. Drew unpublished data).

The recommendation that Finitron not be used unless there were at least 5 wasps/bait on the non-toxic pre-feed was also based on observations in South Island beech forest with honeydew in January to April when wasp numbers were high (Spurr 1991). Poison-baiting is very successful when at least 5 wasps/bait are attracted to the pre-feed. However, these user trials indicate that poison-baiting may also be very successful when fewer wasps are attracted to baits, such as early in the wasp season or in areas where wasp density is low. It is not the absolute number of wasps collecting bait that is important but the proportion of the wasp population collecting bait.

The lack of attraction of sardine and other protein baits to wasps at some sites has

been noted before (Thomas 1960; Perrott 1975; Spurr 1995). The instances in which Finitron was mixed with honey and stewed apples to overcome this problem illustrate the potential for misuse that occurs with any pesticide. Sugar-based baits are risky because they attract non-target species such as honey-bees (*Apis mellifera*). Research is required to develop a sugar-based bait to meet user needs and avoid risks to non-target species. Success will be dependent upon finding a bait attractive to wasps but not bees, or a bee repellent that will not repel wasps. Frozen bait has proved difficult to store, transport, and keep once thawed. Current research is attempting to develop a more user-friendly alternative to freezing, such as the use of preservatives, freeze-drying, or canning. Research is also being done on a sulfluramid powder concentrate, much like the mirex concentrate that used to be available (Perrott 1975), for users to mix into sardine cat-food or other protein baits themselves.

Despite difficulties with storage and transport, the success achieved by most respondents shows that Finitron Wasp Bait works provided it is used according to the instructions. It is particularly important to continue baiting or pulse baiting with Finitron for as long as wasps continue to collect it.

Acknowledgements

This research was partly funded by Elliott Chemicals Ltd, Auckland, Griffin Corporation, USA, and the Foundation for Research, Science and Technology. We thank M. Mansfield, FruitFed Supplies, for co-ordinating distribution of

Finitron Wasp Bait; J.D. Coleman, K.W. Fraser, and R.J. Harris for comments on the manuscript; M. Arulchelvam for statistical advice; and J. Orwin for editorial assistance.

References

- Perrott, D.C.F., 1975: Factors affecting use of mirex-poisoned protein baits for control of European wasp (*Paravespula germanica*) in New Zealand. *New Zealand journal of zoology* 2: 491-508.
- Spurr, E.B., 1991: Reduction of wasp (Hymenoptera: Vespidae) populations by poison-baiting; experimental use of sodium monofluoroacetate (1080) in canned sardine. *New Zealand journal of zoology* 18: 215-222.
- Spurr, E.B., 1993: The effectiveness of sulfluramid in sardine bait for control of wasps (Hymenoptera: Vespidae). *Proceedings of the New Zealand Plant Protection conference* 46: 307-312.
- Spurr, E.B., 1995: Protein bait preferences of wasps (*Vespula vulgaris* and *V. germanica*) at Mt Thomas, Canterbury, New Zealand. *New Zealand journal of zoology* 22: 281-289.
- Thomas, C.R., 1960: The European wasp (*Vespula germanica* Fab.) in New Zealand. *New Zealand DSIR information series no. 27*. 74 pp.
- Wilkinson, L., 1990: *SYSTAT: The System for Statistics*. SYSTAT Inc., Evanston, Illinois, U.S.A. 677 P.
- Worthing, C.R.; Hance, R.J., 1991: *The Pesticide Manual: A World Compendium*. British Crop Protection Council, Farnham. 1141 p.

Chemical trespass bill gives tool to victims of spray drift

A national coalition of community groups has drafted its own proposed legislation to enable people to lay criminal charges of "chemical trespass" against orchardists or others whose sprays drift over property boundaries.

They are seeking fines of up to \$100,000 or imprisonment for up to two years for individuals, and fines of up to \$200,000 for companies, convicted of allowing pesticide, herbicide or fungicide sprays to drift.

The proposed Agricultural Chemical Trespass Bill will be put today into the ballot of private members' bills, which determines the ones to be considered by Parliament.

It will be put forward by the MP for Manawatu, Jill White, who said yesterday that even if it did not get introduced before the general election, the principles were being taken into Labour Party environmental policy.

"If I am back next time, I will have another go at it," said Jill White, who is a candidate for the Rangitikei electorate.

Jill White, a former public health nurse who is now Labour's associate spokeswoman on the environment, said concern had been mounting about the effects of off-target spray drift on human health, plants, animals and organically grown produce. Those who have suffered have been powerless to deal with the problem.

Spray drift was causing strife between neighbours in key horticultural and agricultural areas, because of the perceived effects on health and property.

The bill Jill White will put forward will make spray drift an act of trespass with complainants having to prove adverse effects. Courts would determine the division of liability between landowners, managers and contractors, she said.

"This is an urban problem, but it's also a problem in the very traditional rural areas," she said.

Some of the loudest complaints about spray drift were coming not from city people who had moved to lifestyle blocks but from farmers and orchardists themselves. Some were farming traditionally and others were trying to grow crops organically.

Hundreds of millions of dollars' worth of New Zealand produce exports were earning premiums because they were marketed as residue-free or "organic" and she would approach big companies such as Watties for support on the issue.

"It is giving people who have been subject to unwanted spray drift a tool they can use, and places the onus on spray users to be responsible."

NZPA

Apitherapy Research

Tzori: The search for propolis in early biblical times

by Dr Moises Asis

The Bronze Age is divided into the Ancient Bronze (3100 to 2100 BC), Middle Bronze (2100 to 1500 BC) and New Bronze (1550 to 1200 BC). The Middle Bronze is the period of the Biblical patriarchs in the land of Canaan and the settling of Israel (Jacob) in Egypt (c. 1700 BC).

Propolis is a dark resin produced by bees from tree exudates and resins. They use it to mummify their enemies dead inside the hive, to fill holes and prevent undesirable entries, to keep the hygiene in the colony and as a defence/building material. In Ta nakh or Jewish Bible, the word devash (honey) appears mentioned many times and even the name Deborah, a prophetess, means "bee" in ancient and modern Hebrew. There are many references showing the dedication and love by ancient Jews for beekeeping.

And what about propolis? There is no word in Biblical Hebrew for propolis. This term comes from Greek (pro, before and polis, city). However, the Egyptians knew and used it, so I researched it at the Seminario Rabinico Latinoamericano (Latin American Rabbinic Seminary) library in Buenos Aires, Argentina, in 1987 and 1988, in order to determine if there are Biblical evidences on propolis and its uses.

A resin or balm very much appreciated in ancient Canaan and Egypt called my attention: tzori. I considered it to be an early term for propolis in pre-Hellenic civilizations.

Tzori appears only six times in the whole Tanakh or Hebrew Bible. In old and modern exegetic works no further information was located in a search of Hebrew dictionaries, Bible translations to English, Spanish, and Esperanto.

Propolis is mentioned twice in Genesis (Bereshit) for the first time: "Then they sat down to a meal. Looking up, they saw a caravan of Ishmaelites coming from Gilead, their camels bearing gum, balm, and ladanum to be taken to Egypt." (Genesis 37:25).

Then their father Israel said to them, "If it must be so, do this: take some of the choice products of the land in your baggage, and carry them down as a gift for the man — some balm and some honey, gum, ladanum, pistachio nuts, and almonds." (Genesis 43:11).

In both quotations, the balm referred to is tzori, a masculine noun appearing six times in the Old Testament. According to Genesis, Hebrew and Chaldee Lexicon of the Old Testament Scriptures, tzori is a balm distilled from a tree or fruit growing in Gilead, and was used for wound healing. It is not known what tree that was. However, tzori is not the same

as the balm of Gilead, which refers to Frankincense and Myrrh.

The text of Genesis, dating back to 1700 BC, says that Joseph's brothers sat down to eat bread and he saw a caravan of Arabs (Ishmaelites) bearing tzori from Gilead to Egypt. They also carried gum and laudanum.

Another text of that time, The Book of Preparation of Medicines for all Parts of the Human Body, found in Ebers' papyrus, considered as the first medical book, mentions wax and propolis ("Black wax") as medicines. In Ancient Egypt, priests of heirophants knew propolis and used it in embalming. (Editor's note: The first Chinese medical text, Huang Ti Nei Ching, was ascribed to the Yellow Emperor, who reigned around 2,600 BC).

In the most authoritative English translation of the Bible, tzori is translated as "balm" only. In Spanish, several terms are used, balsamo, almagista, and sandaraca, but none refer specifically to propolis.

In the second reference, (Genesis 43:11), it is even more clear the hive origin of tzori. Israel, Joseph's father, asks his sons to give Tzafnat Paneakh (Joseph, Egypt's Prime Minister) "the choice products of the land", and mentions two bee products: "some balm and some honey".

There are four other Old Testament quotes for tzori. Three belong to the prophets Jeremiah (627-586 BC) and one to Ezeikel (c. 586 BC). They are given here, with the word propolis inserted for tzori (balm):

"Is there no propolis in Gilead? Can no physician be found? Why has healing not yet come to my poor people?" Jeremiah 8:22.

"Go up to Gilead and get propolis, fair maiden Egypt. In vain do you seek many remedies, there is no healing for you." Jeremiah 46:11.

"Suddenly Babylon has fallen and is shattered; howl ever her! Get propolis for her wounds; perhaps she can be healed." Jeremiah 51:8.

"Judah and the land of Israel were your merchants; they trafficked with you in wheat of Minnith and Pannag, honey, oil, and propolis." Ezekiel 27:17.

Minnit is a locality in the land of Ammon (today's Amman in the kingdom of Jordan). Pannag is an unknown word, referring perhaps to a kind of cracker or millet, or balm.

I would be glad to receive commentaries about this discussion. Perhaps other scholars can clarify my approach and give some information supporting or refuting these views. It would be

interesting to verify this research by using other Hebrew sources, ie deuterocanonic texts (Apocrypha), Jewish oral tradition (Mishna), commentaries and codes such as Gemarah, Tankhuma, Midrashim, and others.

Editor's note: Dr Asis' paper is carefully footnoted. Readers interested in pursuing a dialogue with him or obtaining a list of his references are encouraged to contact him directly at:

225 Madeira Avenue, Apt. 6
Coral Gables, FL 33134-3925
(305) 567-2877

Acknowledgement Bee Informed

Inside the beehive

Cave drawings show man has used honey as food for at least 20,000 years. Harvesting it is easy but producing honey is labour intensive work for bees.

The honey-bee will fly about 800 km in her working life and produce just half a teaspoon of honey. Thus it takes about 2.5 million km of bee flight to produce one litre. And it doesn't go far: New Zealanders, possibly the world's biggest honey-eaters, get through almost 2kg each over twice as much as Australians, Canadians, Americans and the British.

Enzymes and juices in the bee's honey sac convert the gathered nectar (thin, watery, sugary fluid) into honey, which is passed by the honey-bee to a worker bee at the hive.

When no more than 20 per cent of water remains, the ripened honey is sealed in a cell with a wax cap to mature. Once ready it can be eaten by the bee, colony, or harvested as human food.

New Zealand honeys differ sharply according to the region and the flowers the nectar is gathered from. Honey producers say the difference between light golden, nodding thistle honey and pungent manuka honey are so great they could be different foodstuffs.

The mineral content of honey varies widely — darker honey generally contains more.

Honey is sweeter than sugar, so when you substitute in cooking use less. It also caramelises at a lower temperature.

Camille Guy

Letters to the Editor

If you write a letter to the Editor, or have an article you want printed as an article, can you clearly mark it as such.

Thanks, Ed

Remit 7

Conference is upon us and I have been going through the remits with more than the usual interest. Changes are in the wind, bringing misunderstandings and fears. Sides are shaping up behind ambiguously worded remits and those such as myself, with only a peripheral knowledge of beekeeping politics at high level, are left wondering who is having a go at who? Reading through the remits I'm left with the feeling that, despite being born and bred in Hawke's Bay, I must be a Mainlander at heart. Most of the Waikato-Auckland remits, on the other hand, give me the uneasy feeling that the horrors of doing kiwifruit pollination for a living have soured some people on life in general and beekeeping brotherhood in particular. I've done my share of kiwifruit pollination over the years and it certainly doesn't do anything for my sunny disposition. I'm naturally a loner and absolutely hate change particularly for changes sake. However I at least acknowledge the need to work together to get anywhere and to try to accept changes that are unavoidable or give me less work or make me more money and also changes that are friendly in their intent.

Funny, I thought I was writing about Remit 7, so I'd better get on with it. I'm not sure if the Canterbury people have the same ideas about EFB as I do, but I thank them heartily because I've thought for a long time that something should be done about EFB — so I'll pinch their remit and put my tuppence worth in on the subject. I'm not a scientist and I'm not well versed in the response planned for a possible outbreak of EFB but I get the possibly erroneous impression that if it arrives it will spread with little chance of eradication and to combat it we will feed it with DRUGS. The first part of my concerns, that it is expected to spread despite everyone's best effort, worries me, the drugs part horrifies me. We would most likely get a strain of EFB already resistant to antibiotics so we would get all the bad spin-offs; of residues and masking of EFB, for very little return in terms of the time we could control the disease. I would like to see someone collate all the information possible on how to: A. stop and B. control endemic EFB without drugs. There must be countries that do it or have done it or have strains of bees that are resistant to EFB. Maybe we could send samples of our queens overseas and get them tested for immunity, perhaps overseas beekeepers can already tell us if some

or all of our queens are very resistant or bloody hopeless when it comes to EFB. Much bigger bugs and beasties are flowing into New Zealand and it would ease my mind to know that if it gets here we are as ready as possible for it, know what effects it will have and have a supply of frozen semen from resistant drones bred in outer Mongolia all ready at hand to forestall the emergency. It would sure beat the hell out of extracting all the honey, melting out all the combs and using the boxes for firewood.

While I'm on the subject of wish lists, I wish the wasp problem would go away without my having to put any money into fixing it. However, having read Barry Donovan's excellent articles in the last two *BeeKeeper* magazines, I can see that our chances of getting effective biological control without having to fork out for it are pretty slim. During the last patch of cold weather, we did some shifting and some of the sites we were shifting into were being annoyed by the wasps. It was that cold that only a very few were flying so we had trouble finding the nests, to be completely honest we didn't find either of the nests that we were looking for. Now we'll either have to go back on a cool sunny morning or run the risk of a whole lot of weak, hungry, or dead hives in the spring, when what we really want is a swag of strong heavy hives just itching to go into pollination. I remember only too well the year wasps killed 14 out of 16 hives in one yard. A crook hive takes time and effort and feed to fix up again. How much do wasps cost us, the beekeepers of New Zealand each year? It just has to be in the millions! Perhaps we should be talking to DOC, the government and other affected parties about getting together to spend some money. We shouldn't have to go it alone, but the government is far more likely to cough up with some cash if we do too. It may get us nowhere in the short term, but in the long term the chances have got to be heaps better than wasting it on lotto.

Peter Berry



Dear sir,

You said you wanted stories, well this is a poetic story I wrote as the result of the following experience.

Many years ago, when there was a lot less of me, Ian and I were shifting hives, when we got to the site he found he'd forgotten the weight for the tractor, so he persuaded me to hang on to the front of the tractor while he moved several pallets of hives, which we did successfully. I wouldn't have done it for anyone else.

By the way, I enjoy reading *The BeeKeeper*, there are some great articles.

Weight-on...

*Once when we shifted some beehives,
one evening round about eight,*

*we used the tractor to shift them, but
he had forgotten the weight.*

*He had me cling on the front end,
stacked the hives on a pallet out back,*

*then got on and drove off the tractor,
down the hill on an old farm track.*

*We forded the creek at the bottom,
then crawled to the top of the hill,*

*with me hanging on like a limpet and
feeling a right proper dill,*

*but I guess that it's good that I'm
useful, a real little beekeeper's mate,*

*who can hang on the front of a tractor,
in place of a big heavy weight!*

Pat Berry

Dear Sir

I wish to complain about aching ribs from chuckling through Peter Berry's article on AFB in the May issue of our magazine. What quaint turn of phrase he uses "those who haven't got the eyesight any more" for one. That's me, an octogenarian!

What a message with no holds barred. I can just imagine him thumping the table for additional effect.

How right he is, so many hobbyists and the odd commercial outfit too, just hope they haven't seen AFB when it has been present and have failed to send away a sample for analysis and peace of mind.

All good, sound expert advice for free. Keep those articles coming Peter. Bin there, dun that!

Walter Watts, Hawke's Bay Branch

Letters continued on page 23

Letters to the Editor

If you write a letter to the Editor, or have an article you want printed as an article, can you clearly mark it as such.

Thanks, Ed

Dear Sir

We are sad to report the recent passing of Sefton Lyne, aged 93 years, in Hastings.

Syd, as he was known to the beekeeping fraternity, was the MAF Apiary Instructor for the Hawke's Bay District until retiring prior to Paul Marshall taking over the post in early 1970.

Syd always seemed to be around when needed, with endless support at meetings, field days and for hive inspections.

Hobbyists came in for special attention with frequent contact and a continuous supply of his coloured diagrams for hive management showing how brood boxes and supers should look through the season.

How we were spoiled in those days of plenty, all so very changed now.

However, all is not lost, a certain gentleman down in Palmerston North (just one hat these days) but still manages to do a superb job for us under very difficult conditions.

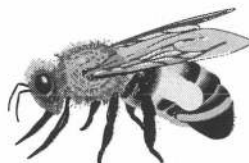
Walter Watts, Hawke's Bay Branch

Dear Sir

I do take exception to the comments made concerning Baboons and Bees, in the June *Beekeeper*. It seemed like a real cliff-hanger but the connotations are somewhat serious. There does seem to be a fair bit of monkey business going on, getting bees and baboons mixed up is totally unjustified, and I hope the writer of this article notes it is not we but **him** who got it wrong! Concerning Baboons and jaws, there is a lot of stuff being written probably by Baboons with loose jaws in the magazine, everyone seems to be talking and no one listening. The odd grower complains about bees in his grapes but then they have always got something to "wine" about, and at the end of the day you should probably blame Noah for starting the whole thing going in the first place.

Yours

Yahoo Serious



What do you mean we don't have Mandrils?

Mandrils, according to an English publication, is a shaped piece of hardwood for forming a wax cup in the base of a wooden cup, used for queen rearing.

Articles on disk

If you have the potential to supply your article to me for the magazine on I.B.M. compatible disks, please do so. Yes, I will return the disk and it certainly helps me at this end.

Ed

Beekeeping memoirs

by Ron Mossop

Bull Number 1

I can think of only three wild bulls I have met as a beekeeper. The first one nearly did me in. Before I get into the story though, here is a bit of background information and history. In 1950 the Dairy Company I worked for built a new Power House with screaming steam turbines doing 7000 r.p.m. and a boiler feed pump doing 8000 r.p.m. It was a terrible place to work in mainly because of the noise. After ten years I quit even though I was on a good salary. I had already bought six hundred, four-super beehives for twenty two shillings and six pence each. Most of them were made from old benzine boxes. As I was a shift worker I had a fair amount of time to get out to my bees during the day and as a result I started to work very long hours.

As you would be aware, a truck is a vital part of a beekeeper's life, so around this time I bought a five ton, long wheel base 1947 V8 truck and put a new engine in it, as after the war there were a lot of new Ford V8 motors being sold very cheaply. I had that truck for ten years as it was a very good vehicle. Some vehicles we get fond of while others we

would like to forget about like the Ford V8's I had prior to this one.

One sunny day I loaded my truck with empty supers and went out to my hives. They were in a corner of two high barberry hedges in a cow paddock. I had two long rows of hives with just enough room between the rows for the truck, plus room for me to work between the truck and a row of hives.

The bees were buzzing and the honey was pouring in. In the good old days we put two supers at a time on each hive with a small piece of material between the two empty supers. The bees were in a good mood so I didn't bother to put my veil on. I could hear a horse galloping, dogs barking, and a whip cracking. The farmer seemed to be having a spot of bother over the barberry hedge, but I took little notice.

Suddenly I heard a loud crash and much to my horror, a very wild bull came bounding through the hedge in front of the truck. There was only one way for him to go — between the truck and the row of hives I was working on. For a

fourteen stone man, I became surprisingly agile. I dived between my hives and fell face first on to the ground as the bull went by.

After a while I lifted up my head to see where the bull was, but couldn't see a thing. I seemed to be blind. I could smell something — it was not roses. I could even taste something — it was not honey. I then realised I had dived face first into a very soft cow-pat. I wiped the disgusting muck out of my eyes so I could see and staggered on rubbery legs over to a water trough to wash the rest out of my eyes, nose, mouth and hair.

I dare say I was not impressed but I said nothing to the farmer as I did not want him to know his bull had nearly scared me to death. After all I was a beekeeper who could face thousands of bees without flinching, but not a bull. I did not tell my wife Noeline either. What woman in her right mind would want to mug up to a man who had just had cow muck all over his face. I think Spanish Matadors must be stark raving mad!

Second reading for HSNO — Bill

On April 16 the Hazardous Substances and New Organisms Bill had its second reading in Parliament. Because of the high public and sector interest in the Bill, it has been decided to publish, verbatim, a major portion of the Minister's second reading speech to the House.

Hon SIMON UPTON (Minister for the Environment) This Bill is all about managing the risks to human health and the wider environment of hazardous substances and new organisms. The management of risks is not a science; it is an art, as well as making value judgements on the basis of technical information that is frequently incomplete. At bottom, it involves judgements about just how risk averse we are. That cannot be defined on the face of the statute. All we can do is *develop institutions, processes, and guiding principles* that enable us to manage risk.

The *institution* that this Bill establishes is an Environmental Risk Management Authority. It is an expert body whose task it is to consider applications seeking the approval of hazardous substances and new organisms, and to impose controls on them. The *processes* that the Bill adopts are ones that subject the contents of both regulations and specific approvals to public scrutiny prior to the authority making a recommendation to the Government, or a determination in its own right.

The *guiding principles* that govern the determinations of the authority are set out in Part II of the legislation. It is these principles that have excited considerable debate, particularly in the light of changes made by the select committee. I want to turn to that matter directly.

As originally drafted, the purpose of the Bill was defined to be: 'to manage or prevent the harmful effects of hazardous substances and new organisms in order to protect the environment, and the health and safety, and the economic, social, and cultural well being of people and communities' — [and here are the key words] — 'so as to enable the maximum net national benefit to be achieved'. The select committee replaced that with a different formulation. As now stated, the purpose clause sets out, to protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms'. It should be noted at the outset that the original clause, erected as the goal of the legislation, referred not to an outcome but a process. Managing hazardous substances and new organisms was to be undertaken to achieve maximum net national benefit. That would only be achieved — (in terms of the definition of net national benefit in clause 2), by a

process of weighing up all the costs and benefits of any kind, whether monetary or non-monetary. Some industry groupings, but by no means all, took particular heart from this formulation, believing that the net national benefit formula would guarantee a balancing of environmental and economic interests. I must confess that I was never as convinced of the legal robustness of this argument as some. It has always seemed to me that weighing up all costs and benefits, monetary and non-monetary, was completely indeterminate, and could be applied to justify whatever the members of the Environmental Risk Management Authority came up with. 'The purpose clause sets out to protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects, hazardous substances and new organisms' I have been confirmed in this view by an opinion from the Solicitor-General, which states that: 'The Bill as introduced gives a very wide discretion to the authority, almost a free hand in its decision making as to what weight it places on environmental as opposed, for example, to economic benefits.' He says: 'The Bill as introduced was largely devoid of a guiding philosophy as to how the balance was to be struck between environmental protection and economic benefit considerations, so that the personal philosophies of authority members would, in the end, be the primary influence on decisions.' If we think about it, that would leave something of a vacuum into which the courts would be invited to step. I think it is sensible to be as clear as possible about the purpose clause of any statute, and I think the newly drafted wording is certainly superior in its precision. So this is protection of: 'the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms'. There can be no doubt that in removing the process goal of net national benefit, the select committee has substituted the protection of the environment, and the public health and safety, as the overriding goals. That is an uninteresting observation, in my view. The important question is whether this formulation has significantly tipped the scales in favour of environmental protection at the expense of economic and social development. In my view it has, but to nowhere near the degree some rather alarmist lobbyists might suggest.

As Minister responsible for this Bill I have had to consider the question of balance very carefully. This legislation could — indeed I am sure it will — affect the country's future Economics, social and environmental, development. It is a very

important Bill. Wearing another hat, as Minister of Research, Science and Technology, I have had in particular to consider whether this legislation could, as some have suggested, stop genetic manipulation and a whole range of new biotechnologies in their tracks.' But I am of the opinion that Part II of the legislation, as redrafted, does not provide grounds for such claims. The comments I am about to make are considered comments that I would like to place on the face of *Hansard* in the knowledge that at some time the meaning of Part II will be the subject of judicial consideration.

As I have said, there is at the heart of this debate the question of how risk averse a society we are when it comes to the risks posed by hazardous substances or new organisms. An absolutely libertarian, free-market approach would say that the State has no role in arriving at collective assessments of risk aversion — every citizen should apply his or her prudential standards, and out of those millions of discrete judgements a socially derived norm would spontaneously emerge.

We have not taken that *laissez-faire* approach. Rather we have, in promoting legislation like this, implicitly signalled the view that there is a minimum level of risk aversion in the community that means we do not want to expose ourselves to an unlimited range of risks, and that that sentiment is best captured through a regulatory system that imposes a uniform standard of acceptable risks.

The question is. Whether this particular purpose clause does more than simply register the fact that we are establishing a regulatory system because there are risks — unspecified — that the community, wishes to be protected against. In my opinion it does not. It gives no guidance as to how risk averse we should be or what level of protection is required.

Further guidance, however, is provided by clauses 5, 5A, and 5B. Clause 5 provides that 'All persons exercising functions, powers, and duties under this Act shall, to achieve the purpose of the Act, recognise and provide for two principles; one is environmental, the other is economic. Neither can be preferred over the other, so there is balance within clause 5.

I have elsewhere described the use of principles in legislation as being concerned with 'spelling out its motivating core'. Principles carry ethical weight, and in this instance Parliament is saying that these are the things that it wants to secure in achieving the purpose of the Act. But, again the level of the protection referred to in clause 4 is not spelt out on the face of clause 5.

Continued on page 25

Continued from page 25

Similar considerations arise in respect of clause 5A, which details other important matters that should be taken into account by those exercising powers under the Act. Three of those considerations could be termed environmental, one cultural, and one economic. Again, none is to be preferred, all are to be considered, but guidance as to the level of protection to be provided, or the degree of risk aversion applied, is again nowhere to be found. All this leads to a simple conclusion: while the purpose clause no longer focuses on achieving net national benefits, but rather the protection of the environment.

... 'there is, at the heart of this debate the question of how risk averse a society we are when it comes to the risks posed by hazardous substances or new organisms.... there is a minimum level of risk aversion in the community that means we do not want to expose ourselves to an unlimited range of risks, and that that sentiment is best captured through a regulatory system that imposes a uniform standard of acceptable risks, and the health and safety of people, the relative weight to be given to economic as against environmental factors, in reaching that outcome, is nowhere spelt out; neither is the level of protection that should be afforded to the environment

or the community. Those matters are judgements that are left entirely in the hands of decision makers and, in particular, the Environmental Risk Management Authority.'

The one piece of guidance that is provided is the new clause 5a, which states that there is a need for caution in managing adverse effects when there is scientific and technical, uncertainty. But again, — that does not spell out any particular level of caution, any particular level of protection.'

So that brings us to clause 6A, which is the clause that sets out the methodology requirements. The Environmental Risk Management Authority is required to develop and apply a consistent methodology (including an assessment of monetary and non-monetary costs and benefits) in making decisions under Part IV 'of this Act'. To my mind that was a useful addition to the Bill. A rigorous and consistent approach will be essential if the authority's determinations are to be authoritative.

But, again, no guidance is given as to the level of protection to be provided, or the degree of risk aversion to be exercised. This remains entirely within the discretion of the authority. In my view that may delegate too much. How risk averse we are as a community is a social,

political, and cultural judgement. Technical experts have no special wisdom when it comes to this matter, and it is in respect of this matter that I believe that the duly elected representatives of the people should have a say, and, indeed, the public have a say, on the formulation of the methodology.

So for this reason I give notice that I intend to develop a further amendment that would require the Authority to propose a methodology but give the Government final responsibility for approving it. The way in which any methodology is applied will have a powerful influence on the weighting to be attributed to any of the matters spelt out in clause 5 and clause 5A, and the overriding issue of risk aversion that lies at the heart of this legislation. I believe that the Government of the day should take final responsibility for that methodological approach, and it should be promulgated by way of Order in Council. It follows that if the methodology is to be developed in this way, it should also be open to public scrutiny and submission in the same way that regulations will be under the legislation.

[Copies of the full speech are available from the Hansard Record Office, Parliament, or from the Ministry's HSNO Project Office].

Privacy laws anger

by Andrea Molloy

The Privacy Act is too restrictive, says apple orchardist and dairy farmer, Apple-Fields, which employ 2000 people at the peak of the season. Executive director Tom Suckling says the Act creates inefficiencies and results in a definite cost.

"We cannot check on any prospective employee without their express written permission. This means simple checks for "undesirables" are not done.

"Non-invasive questions are unable to be answered efficiently. For example, when an employee's bank account number has not been given on their employment form, or lost, the bank will not provide that number in order that the weekly pay can be credited to it.

"The costs of the Act far outweigh any potential benefits to society that the Act affords in our particular case."

"It has an impact on all businesses and it is something farmers need to be well aware of," says Federated Farmers policy executive Hellen Agnew.

Although it means more work for farmers, who are being piled high with more accountability, it is a liability if not complied with, she said.

The Privacy Act has spent time tucked in with the Employment Contracts Act, while Occupational Safety and Health

legislation and Inland Revenue have held the limelight.

"It is an important modern piece of statute, which will keep the industry up with the play," she said.

The 12 Information Privacy Principles which form the basis of The Privacy Act:

- Personal information must not be collected by any agency unless it's connected with a function or activity of the agency and is necessary, and lawful for that purpose.
- The agency must collect the information directly from the individual concerned. Exceptions apply where information is already publicly available.
- Where an agency collects information it must fully explain the fact and purpose of the collection, the intended recipients of the information, the collecting agency's name and address, the legal authority relied on, the consequences to the individual for not giving the information, and the right of access and correction.
- Personal information must not be collected by an agency by unlawful means or by any means that, in the circumstances of the case, are unfair or intrude to an unreasonable extent upon the personal affairs of the individual.
- An agency that holds personal

information must make sure it is protected by security safeguards against loss, or wrongful disclosure and unauthorised access.

- A person is entitled to obtain confirmation of whether or not the agency holds personal information about them and to have access to that information.
- An individual can request that the agency corrects any personal information held. If the agency doesn't do so, the individual can request that a statement be attached to the information detailing the correction sought.
- Agencies must make sure that before using the personal information that has been collected that it is accurate, up-to-date, complete, relevant and not misleading.
- Agencies which can no longer legally use the information must not keep it.
- If information is collected for one purpose it should not be used for another.
- This principle sets out limits on disclosure of personal information to any other person, body or agency unless it was one of the purposes for which it was obtained or directly related.
- Limits the use of unique identifiers. An agency may not assign an identifier already assigned by another agency.

Pine clones to create forest

Combined forestry project provides world with first batch of 'super' tree seedlings

Forestry scientists launched a world first in Rotorua this week after the cloning of 200,000 "super" pine trees for a project aimed at creating futuristic forests.

The joint project between the Forest Research Institute and Forestry Corporation has cloned its first batch of plants from trees with top growth and form qualities.

The technology, known as fascicle cutting, can grow thousands of new trees from the pine needles of one parent tree. The new trees carry the exact genetic structure of the parent tree, and mimic its properties, such as growth rate, wood density and resistance to disease. Although the technology has previously been used in laboratories, this is the first time the technique has been used to create a commercial forest. The Forestry Corporation chief executive, Mr Tim Cullinane, described the first batch of tiny seedlings as the start of the world's first 'science fiction forest.' 'Forestry Corporation is the first company in the world to develop for customers exactly the type of trees they want — with virtually no variation in quality,' he said. The company's resources general manager, Mr Russell Dale, said that since 1990 it had dramatically improved its trees' genetic quality rating.

"The very best of these have been selected as the grandparents of our cloned crop," he said.

But Mr Dale said the company also had a genetic diversity policy to limit risk by ensuring variety within the cloning project. The policy also helped to supply different types of radiata pine to meet customer needs. The facility constructed for the project has the capacity to clone 1.2 million new trees a year, and Forestry Corporation plans to be producing and planting six million cloned seedlings a year in three years. Three "cloning"

methods are being researched for radiata pine. One, called organogenesis, divides tissue from one tree into new plants. Another, known as embryogenesis, splits thousands of cells from the embryo of a seed and cultivates them into new trees. But the fascicle cutting technology launched this week takes the offspring of high-quality trees, displaying desired characteristics, and from that selection chooses the best-performing seedlings. The offspring of that generation are then cloned.

Cloning is achieved by taking pine needles known as fascicles — from seedlings and nurturing them into cuttings which grow into new trees. Up to 34 fascicle cuttings can be taken from each seedling. Forest managers are cloning for a variety of tree traits. Those with stronger frost resistance will be planted in areas prone to cold, while those trees more resistant to disease will be planted on land known to be vulnerable to disease. The initial stage of the project includes the construction of a specialised greenhouse and the commissioning of research, worth a combined \$800,000.

Once the operation has been commercially validated, Forestry Corporation has said it will invest a further \$3 million to \$4 million to get all the benefits from fascicle technology.

The manager of the FRI's clonal forestry unit, Dr Mike Menzies, said the institute was developing other propagation systems. Research was being done on parallel lines in other areas, such as conventional cuttings and tissue culture methods, so that the industry could develop the best mix of technologies. And to increase the gains from tree breeding and to protect the genetic diversity of plantations, many hundreds of clones with different genetic traits had been identified and maintained as part of FRI research. "Forests of the future will not comprise vast tracts of single clone plantings," Dr Menzies said. Instead, plantations would be made up of a mixture of clones with known properties suited to specific use.

BEE ACCESSORIES

THE BEST IN
Protective wear for
Beekeepers

Pollination full suit	\$99.00 +GST
Protector Top	\$70.00 +GST
Knit Singlet Top	\$48.00 +GST

SIZES

S	34"—36"
M	36"—38"
L	38"—40"
XL	40"—42"
XXL	42"—44"

Larger sizes made to order

2 PIECE POLLINATION SUITS AVAILABLE AGAIN

Worn throughout Australia, New Zealand and USA

Please contact

Bee
Accessories

133 Walmsley Rd, Mangere, Auckland
Phone (09) 275-6457

AND SELECTED BEEKEEPING STOCKISTS

Fixing time fault will cost billions

Washington — Computer experts warn that the world's computers could be headed for a potentially catastrophic type of befuddlement.

When the forerunners of today's massive computer programmes were first designed, storage space was at a premium. To save memory space on the old-fashioned mainframes, code writers simply omitted the first two numbers of a date: meaning that 1988, for example, would read as 98.

The year 2000 would be read as 00. Since the systems are coded to assume that all years begin with 19, computers will interpret 00 to mean 1900 if modifications are not made.

"Unless an effective response is soon initiated, on the first day of the year 2000, private industry and Government computers could malfunction," said representative Steve Horn, whose congressional committee heard testimony on the issue.

The potential ramifications of the problem are huge, and could affect everything from computerised missile-defence systems to automated cheque-account transactions. The Social Security Administration estimates that fixing the problem will take the equivalent of 300 work years.

The bill for the federal Government alone has been put at \$US30 billion (\$NZ44.33 billion).

The Internet: latest revolution for farmers

by Ralph Latta

Computers, increasingly useful and economic, abound in the homes of farmers.

It is accepted that records including cashbook, trial balance, gst, paye, livestock and pasture management are made easy with them.

Youngsters are being captivated by Fine Artist, Creative Writer and other useful programmes.

The next giant step is into the field of communications. All you need is to add a \$200 modem and have a telephone line that is not too shonky.

Communications includes paying bills online, carrying out banking transactions, e-mail messages, searching the Massey library and the Internet — all without leaving the farm desk.

Financial packages such as Concept Cash Manager provide for computer printing of cheques.

Banks are now offering packages that enable the payment of farm bills directly out of your bank account, from the computer, all without writing cheques, without stamps, and in your own time at your own place.

Education is the future but distances put farmers doing home study at a disadvantage. No more — Massey University is one that provides for online searching of its library. It can be accessed from the farm desk. Much educational information is also available through the Internet.

To use electronic mail and the Internet you need to register with an Internet service provider.

The better known and fast expanding commercial providers include Voyager, Telecom (Xtra), and CompuServe. The Internet provider will provide you with a software program, assist with installation, give you an address, and provide support.

My address is

riatta@voyager.co.nz

Once connected to the system you will be able to exchange messages with others who are connected, anywhere in the world. Simply complete a message and zap it through the system. Even multiple messages, including international, may take little more than 20 seconds.

Each Internet provider has a different system of charging. Comparative costs will depend whether a toll call is required to connect. There is usually a minimum of a one-minute connection. One provider offers an 0800 number and charges \$10 an hour (\$5 between midnight and 7am) connection time. A one-minute connection is 16 cents and

most of your e-mail messages for a day, if sent together, could be transmitted within that time.

The Internet is not necessarily open to send e-mail messages, but its communication lines are used for transmission.

Accessing the Internet and all its potential mysteries is a subject of its own. It is easily learned and you have the opportunity to use it once you are connected to an Internet provider. Use of the Internet and the World Wide Web is a hobby on its own. Many e-mail users have never surfed the Internet.

A facility that you will use is transmitting and receiving facsimiles direct from the computer — no fax machine necessary.

The service providers have a way to go in assisting new users. It is not unlikely that you will be told, as I was, that "it is your problem".

You may get free support but this may involve waiting on 15-minute long-distance tolls, while listening to soft music extolling "all our operators are busy but your business is important to us".

When my first disks arrived I was introduced to Tipnet, Winsock, tpsun, and other mysteries. These disks installed mysterious new directories on my hard drive at random. Then I had to find an e-mail program so I could operate the messaging without the gibberish and cost of going into the Net. There are different versions of e-mail but Eudora seems to be the most popular.

Unfortunately it is necessary to "download" these from the service provider, using the telephone line. They should be provided on disk by the service provider because downloading is frightening to a new user.

Another provider uses one disk, only takes 20 minutes to download the program. You are likely to be greeted right at the start by such frightening messages as "wrong version of Threed.vbx and Serial.386."

This means chasing around the country to find modern versions of these files (if you are lucky) and installing these in Windows.

A long-distance call for help will have you changing "coms ports", editing "strings" — well beyond many. The installation disk does not offer to do these tasks for you. Asking your modem installer to get the e-mail system downloaded and working could be worth the extra cost.

The ability to communicate directly via computer is a revolution.

It is here. It is economic. It can avoid trips to town to the bank, trips to pay the bills,

postage stamps. It can provide the bank statement in the middle of the night in the farm office. On a wet winter day it can enable you — from the warmth of the farm office — to send and receive messages at a fraction of the usual price, however remote the farm. It can access study facilities. It can send or receive a fax. It can (for those with time and money) access the Internet.

Growth is explosive. The service providers are varied. There is confusion in the marketplace. The installation process used by many leaves much to be desired. But farmers must not ignore this revolution. It is on the doorstep. It has the ability to relieve them of travel and many tedious tasks.

The last on-farm revolution I saw of this magnitude was about 30 years ago when the first milk tanker was put on the road by the Riverdale Dairy Company, very close to my home. The proposed Kiwi/Tui merger is a warning that technology is ongoing and cannot be ignored.

Final word is a forum for industry commentators and IT professionals with controversial, informative or humorous views on information management and technology topics. If you wish to contribute please contact Adrienne Perry, InfoTech Weekly Editor, (04) 474-0165.

Mr Latta, a Hawera chartered accountant, is the author of *The New Zealand Farmers Guide to Financial Planning*.

Acknowledgement InfoTech Weekly



★ ★ ★ ★ ★

Please note: If you are mailing items back to the library please use the address on the inside front of the magazine. BUT! If you are returning items via a courier service, please address them to:

**The NBA Technical Library,
C/- Mr J. Heineman,
3 Jura Street,
Milton.**

If you have items outstanding can you urgently return them as I have people chasing books etc that our users haven't returned and my having to chase them all the time increases the cost of the lending them to you.

PLEASE HELP!

★ ★ ★ ★ ★



MAHURANGI HIVEWARE

N E W Z E A L A N D

For the quality conscious customer who expects value for money

- A full range of beehive woodware
- Honey frames our speciality
- Buy direct from our factory
- Let us quote on your order
- Export enquiries welcome

“A commitment to research and development has earned us an undisputed reputation for producing quality products that provide better value for money. Our domestic and overseas customers know they can rely on the quality of our timber, the consistent precision with which our frames are manufactured and our dedication to service.”

Ken and Lynne Perkinson

Mahurangi Hiveware

Pukapuka Road, RD3, Warkworth, NZ
Telephone/Fax (09) 422 0890
New Zealand

My oh my!

How times and beekeeping have changed!

by Herb Spencer, President, Southwest Missouri Beekeepers' Association

Sitting here at the end of 1995, my thoughts wandered back over the past year. However, my thoughts didn't stop with 1995-94-93, but went further backward to the 1930s and 1940s when I was a kid. Back then most everybody had a few stands of bees; honey-bees were a big part of our survival. They really didn't need a lot of care to make a good crop of honey?

Thinking back over 50+ years, what has made the difference?

Strawberries were one of the main crops here in the Ozarks of Southwest Missouri. Many of the neighbours had from 1 to 5 acres of strawberries. Honey-bees were used to pollinate the strawberries as well as small peach and apple orchards. The yearly strawberry harvest would bring in \$800 to \$2000 and times were hard!

When a hive of bees swarmed, they went to the timber (there was lots of really big timber back then). Except for the loss of the honey crop to use on the table, the loss of a swam wasn't such a great catastrophe because the bees were still out there to pollinate the strawberries the next spring.

Now the strawberries are gone and because of highways, dams, subdivisions, building sites, chain-saws and bulldozers, the good timber is also gone. And the honey-bee is just about gone.

Few people really know the value of honey-bees. Ask anyone what comes to mind when you say "honey-bee"? Their first answer may be "stings", and their next answer may be "honey". If that was all, I don't think the honey would be worth all the bee stings we tolerate in order to harvest it.

Pollination is where the honey-bee really shines! Abundant crops of fruits, vegetables, nuts, and feed grains for our livestock are made possible by our own little honey-bee.

We have lost many of our farm families who are being replaced by people from the city. Many of these "replacement" people cannot tell the difference between a honey-bee and horsefly and DON'T CARE! They get panicked and simply want the honey-bees destroyed and eliminated from their vicinity, because they do not yet know if they are "allergic" to a sting that may or may not happen.

Few of our farm boys will stay on the farm and try to dig out a living after they finish high school. I remember when I was in the 6th grade, two of my school mates made a trade that didn't mean anything to me at the time, but 55 years later, if

honey-bees and much of our agriculture are finally eliminated in this country, and we have to import most of our food, you'll hear farmers and the general public squeal like pigs hung under a gate.

"Booyee! What a trade!" The game of horseshoe pitching was to country folks kind of like baseball was in the bigger cities. Tommy wanted four old horseshoes that had been taken off Albert's dad's big horses. Trade negotiations began. After some talk, Tommy said "Albert, I'll give you that bee tree that I found last Saturday. It's a good 'un and I've got my 'X' on it." (*Back then, if a person found a bee tree, even on someone else's property and put his mark on it, no one else and not even the property owner could cut the tree for the bees and honey.*) The trade was made and now both horseshoes and bee trees are almost obsolete and the timber is almost gone!

We have lost so many of our honey-bees over the last five decades. Now we ask a few noble souls to "please bring your honey-bees to my farm to pollinate my crops. And yes, I'll pay you for what sounds like robbery to me, but I need them." Now, think of these beekeepers for a moment... they have to get those honey-bees ready to move, bring in a \$40,000+ trailer truck, be sure the \$1000+ insurance premium on the truck is paid, put about \$200 worth of fuel in the saddle tanks, and get a couple of guys to help them and pay them fair wages, and spend several weeks on the road away from home (they have to sleep somewhere). "Man, am I making money?" My heart goes out to these beekeepers; they are gone from home, eating cold sandwiches from a paper bag, drinking cold coffee from a thermos and they do it so their city cousins can go into the grocery store and get some fresh fruits and vegetables and a nice cut of meat that was a result of pollination by the honey-bees. These boys are trying to do the work that hundreds of farmers used to do without leaving home. Yes, times have changed and I don't think we'll ever see beehives on nearly every farm like we did 50 years ago. We have beekeepers with several hundred or a thousand hives, but they can't spread them out like they were when most every farmer had a few hives. Our beekeeping methods have had to change to keep up with the times. We have better equipment to handle our bees, but we also have more problems. Now we have the mites with which to contend. We also have lost much of our bee pasture. In this area of Southwest Missouri, a lot of farmers now raise broiler chickens and cattle. Cow

pasture is not honey-bee pasture.

We have new and improved ways to keep records on our honey-bees that our forefathers didn't have, but how efficient is the use of our records now compared to Grandpa's method?

I asked a beekeeper how many hives he had and he sat down at a little table, hit a few keys on his computer and told me how many he had. I thought, "My, oh my, how times have changed!"

My grandad kept his beehives in a little peach orchard behind the house. The little "two-holer" outhouse was right at the edge of the orchard not far from the beehives. The hives were seen numerous times each day by each and everyone who had the "call" to make their trek to the outhouse. One Sunday we had a big dinner at Grandpa's house with about all the relatives in attendance. We sat down to eat at a great long table and someone asked how many beehives Grandpa had. Seven kids yelled "9"! I guess too many of our farmer friends have gotten rid of their honey-bees (AND outhouses), and now we're having honey imported from China, and receive pollination from wherever we can get it.

If the mites and the government, wax moths and dry weather, floods and lack of interest among our young people finally finish off the honey-bees in this country and we have to import much of our food from other countries, you'll hear farmers and the general public squeal like pigs hung under a gate. It's high time to get busy!

Go to a local beekeepers' association and learn about bees. Get some help from other beekeepers. If you don't know of a beekeepers' association, write to me and I'll put you in touch with one as near to your area as possible. So, go out and get three or four hives and live INDEPENDENTLY.

Herb's definition of PROGRESS:

"Progress is simply trying to get things back to like they used to be.

*Herb Spencer, President of Southwest Missouri Beekeepers' Association
Route 1, Box 254-A
Rocky Comfort, MO 64861
417-652-3388*



Competitive advantage

Companies wanting to maximise export opportunities could be eligible for up to \$50,000

"Co-operate to compete" is the message going out to businesses wanting to succeed in export. Those that take notice of the call may be eligible for up to \$50,000 in government enterprise assistance.

Promoted jointly by Tradenz and the Business Development Boards, the funding is available to support the development of Hard Business Networks.

The aim of the programme is to encourage small businesses to combine their talents and resources in ways that will improve their competitiveness in international markets. Typically, a network comprises four to six companies from the same region with similar business interests. Each of the companies within the network retains its separate identity and owner control, while at the same time gaining the benefits of critical mass. The participating companies may well compete in their home market, but co-operate for export.

To help companies form a network, funding of up to \$50,000 per company is available on application to the 21 business Development Boards around the country. Key conditions are that funding to each company may not exceed \$20,000 annually, and is only available to companies employing 50 people or less. All funding is on a dollar for dollar basis and requires a matching contribution from the companies involved.

In addition, Tradenz is supporting the programme by training independent brokers to facilitate the development of networks. By July this year, there will be 150 Tradenz-certified brokers available throughout the country. These people are all highly skilled business consultants with expertise across all industries.

The concept of Hard Business Networks was first developed in Denmark in 1988, and has since been adopted in Norway, UK, Spain, Canada, USA and Australia. An estimated 10,000 Danish companies are now involved in 2000 networks, a factor that has contributed to Denmark's recently improved economic performance.

"There are many similarities between New Zealand and the small Scandinavian countries of Denmark and Norway, so I see no reason why we can't repeat the experience here," says Tradenz chief executive, Rick Christie.

"At present, New Zealand relies on fewer than 200 companies for over 90 per cent of our exports. There are thousands more that have the enterprise but not the resources to export on any major scale. By sharing their strengths and costs they could collectively overcome the many barriers that stand in their way as individual companies."

Areas for Hard Business Networking include joint research and development, shared purchasing, shared manufacturing, and joint export distribution and marketing. Some South Island companies have already made a start under the impetus of the pilot Hard Business Network scheme in Canterbury

last year. These companies include furniture manufacturers, tour operators, agricultural equipment manufacturers, fishing companies, and electrical and electronics equipment manufacturers.

Christie emphasises that the need for co-operative networking is driven by international trends.

"Companies everywhere are being forced to focus on their core business. In order to compete, smaller companies and even larger ones are forming alliances to provide comprehensive solution for customers."

Tradenz involvement in the New Zealand Hard Business Network programme reflects the organisation's concern to broaden the country's export base, by supporting a greater number of smaller companies in practical ways.

"At present New Zealand relies on fewer than 200 companies for over 90 per cent of our exports. There are thousands more that have the enterprise but not the resources to export on any major scale. By sharing their strengths and costs, they could collectively overcome the many barriers that stand in their way as individual companies."

"Companies everywhere are being forced to focus on their core business. In order to compete, smaller companies and even larger ones are forming alliances to provide comprehensive solutions for customers."

The programme is presently being introduced nation-wide. A launch is scheduled for Christchurch on June 30.

For further information contact: Tradenz Office or Phone (04) 496-6483.

Risk of big fines makes farmers wary of visitors

by Gil Norman

More farmers are locking their gates to recreational visitors as concern mounts over provisions, in the Health and Safety and Employment Act that could see them facing prosecutions with maximum fines of between \$50,000 to \$100,000.

Concern has mounted since legal action was brought when a beekeeper was killed on a farmer's property when a bridge collapsed.

Section 16 of the act covers duties of people with control of places of work and says the owner, lessee or occupier of a place of work should take all practical steps to ensure that people in a place of work, or in the vicinity, are not harmed by any hazard.

Farmers say their farms are places of work and while they take precautions to protect workers from any hazards, and face prosecution if they do not, they do not see why this should also cover recreational hunters, fishermen,

trampers, climbers and groups like Scouts.

Federated Farmers has made a political issue of the problem and, after co-operation with the Labour Department's Occupational Safety and Health division, it is likely that the Government will be asked to amend the existing law to exclude open land areas.

Federation national vice-president Alistair Polson believes prompt action is needed because farmers do not want to develop a siege mentality against recreational and other land users.

"We have got an egalitarian society where people go out to the countryside during the weekends for hunting and fishing, and we think that is well worth preserving," Mr Polson said. "We don't want to be isolated from the community by having a siege mentality."

"It is really quite an important part of New Zealand culture that is up for discussion

here."

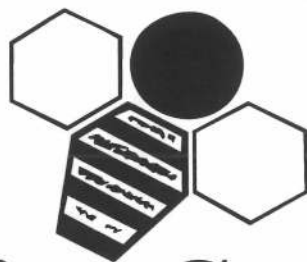
He said Federated Farmers wanted the act amended to cover only workplace safety.

"This doesn't mean that farmers should just forget about health and safety," he said. "If you have got a dangerous situation for someone working for you, then you should repair it and not wait for something to happen."

Occupational Safety and Health division operations policy manager Geoff Wilson said the division had distributed a consultative paper and received 140 submissions.

Some industry groups, such as those involved in pest destruction, power distribution and milk transport, had concerns and a meeting was to be held with them next week.

It was possible that a proposed amendment to the act could go to the Government soon, he said.



BeeLine Supplies

Suppliers to the Beekeeping Industry
5 Donald Street, Kaikoria Valley, Dunedin.

Winter hours for Warehouse: Monday, Wednesday and Friday 10.00am to 4.00pm
For orders and quotes telephone Brian after 6.30pm (03) 487-9898

Wired and Assembled Frames

Mahurangi all sizes \$925.00 per 1000 delivered

(South Island only) *plus GST*

(New Zealand's top frames)

We Can Supply all of your Beekeeping Equipment.

- ☆ Kitset frames all sizes.
- ☆ All your woodware requirements.
- ☆ A Full range of honey house equipment.
- ☆ Gloves, suits, overalls, veils etc.

*For a competitive quote on all of your beekeeping supplies
and a copy of our latest price list please phone.*

A full wax conversion service is available.
All your foundation requirements.

South Island agents for Ceracell Apiarists.
South Island agents for Mahurangi Hiveware.

Contact:

Beeline Supplies for details. Phone: (03) 488-0151

Winter hours for warehouse:

Monday, Wednesday and Friday 10.00am to 4.00pm

For orders and quotes telephone Brian after 6.30pm on (03) 487-9898

Honey Bunny Cake

- ½ cup shortening
- ¾ cup honey
- ¾ cup milk
- 1½ tsps vanilla
- ¼ tsp almond extract
- 2¼ cups sifted cake flour
- ¾ tsps baking powder
- 1 tsp salt
- ¾ cup sugar
- 4 egg whites
- 1 recipe Double Boiler Frosting (*see below*)
- 1 1/3 cups flaked coconut
Jelly beans or gumdrops

Grease a 13x9x2 inch pan and line it with waxed paper. Preheat oven to 350°F. Cream shortening with honey until well blended. Combine milk, vanilla and almond extract. Sift dry ingredients and add to shortening and honey. Add ½ cup of the milk and mix until all four are dampened; then beat well. Add egg whites and remaining milk and beat 2 minutes longer. Pour batter into prepared pan and bake 25-30 minutes.

When cake has cooled, cut 2 strips from corner of one end of cake, each strip 1½ inches wide and 3 inches long. On a large platter place the large piece of cake; add "ear" strips, slightly slanted.

Prepare Double Boiler Frosting and use a little to "glue" ears to head; spread the rest over the top and sides of the cake. Sprinkle with about 1 cup of coconut. With a drop of red food colouring, tint the remaining coconut pink and spread inside ears. Use jelly beans or gumdrops to form bunny's ears, nose and mouth.

Double Boiler Frosting

Yield: Enough for tops and sides of two 9 inch layers

- 2 egg whites (¼ cup)
- ¼ tsp salt
- 1 tbsp water or fruit juice
- ½ cup honey (*Suggestion: Vipers Bugloss Honey*)
- ½ tsp vanilla

In top boiler, combine egg whites, salt and water or juice. Beat until egg whites hold their shape. Continue beating while adding honey in a fine stream. Cook over boiling water, beating constantly, until mixture forms peaks when beater is raised, about 5 minutes. Remove from heat. Add vanilla and beat until frosting is of spreading consistency, about 2 minutes.

Thanks to Bill Floyd for honey types. Honey varieties are suggestions.

Try your favourite, or the one suggested. Let us know how your favourite went. Bill Floyd.

Butter Cookies

Yield: 96

- 2 eggs, separated
- 8 cups whole wheat flour
- 1¼ tsps baking powder
- 2 cups butter
- 1 cup honey (*Suggestion: Clover Honey*)
grated peel and juice of ½ lemon
- 1 cup almonds, chopped

Lightly beat egg yolks. Combine flour with baking powder. Cream butter with honey; add yolks, flour mixture, lemon peel and juice. Chill dough until firm. Before shaping cookies, preheat oven to 350°F. Either form small balls of dough or roll dough on a floured surface and cut with floured cookie cutters. Place cookies on lightly greased baking sheets. Brush with beaten egg whites and sprinkle with chopped almonds. Bake 10-15 minutes. These cookies keep well. Cut these in egg shape and decorate as an Easter egg. Looks great for Easter.

Rhubarb Pie

Yield: 6-8 servings

- 1 egg
- 3½ cups chopped rhubarb
- 1 tbsp flour
- 1 tbsp cornstarch
- 1¼ cups honey (*Suggestion: I'd try Honeydew, but to be safe I suggest a nice Clover Honey*)
unbaked 9 inch pie shell

Beat egg. Add to chopped rhubarb. Mix flour, cornstarch and honey in a bowl; add to rhubarb and mix. Pour into pie shell. Bake at 350°F for about 45 minutes.

Honey Ice Cream

Yield: 6-8 servings

- 2 cups milk
- ¾ cup honey (*Suggestion: Rata is a must!*)
- ¼ tsp salt
- 2 eggs
- 1 cup whipping cream

Scald milk; add honey and salt. Beat eggs. Pour scalded milk into the egg mixture and stir until well blended. Return to double boiler and cook over hot water for 3-4 minutes. Cool. Whip cream and fold into custard mixture. Freeze in refrigerator. Stir once or twice while freezing.

Honeyscotch Sundae

Yield: 1½ cups

- 6 tbsp butter
- 2 tsps cornstarch
- 1 1/3 cups honey (*Suggestion: Rata again*)
- ½ cup chopped pecans

In a saucepan, melt butter over low heat; stir in cornstarch. Add honey and cook, stirring constantly, until mixture boils. Add pecans. Serve warm over ice cream.

Honey-Berry Lemonade

Yield: 4-5 servings

- 4 large lemons
 - ½ cup honey (*Suggestion: Try Rewarewa*)
 - 3½ cups water
 - 1 cup berries (Blueberries, strawberries, raspberries)
- Squeeze lemons and strain juice. Add most of the honey and mix well. Add to water. Add berries. Use the remaining honey to sweeten to taste. Partially fill frosted glasses with ice cubes, pour in lemonade and garnish with a sprig of mint.

Turning trash into treasure

It's not only beach bums who find New Zealand's coastline attractive. The greebies discharged from foreign ship's ballast water often find the temperature and cleanliness here to their liking, and can sometimes prove difficult to dislodge.

But in one case, someone else's trash may well become our treasure. Japan's third most important agricultural seaweed crop has taken root here quite by accident, after spores of the wakame plant were released in ballast water. The plant's arrival prompted a re-think on New Zealand's aquaculture industry.

Cawthron Institute marine botanist Dr Cameron Hay, documented the spread of the plant during the 1980s, and was charged with the task of establishing a supply of seed cultures.

The project has great promise. A high level of interest has been stirred among leading New Zealand fishing companies, keen to cash in on the high-demand export market.

It's becoming increasingly difficult to grow quality wakame in Japan, given increasing sea pollution levels, and New Zealand-grown produce is still seen as a novelty.

Also in the seaweed's favour is its non-aggressive nature, meaning it's unlikely

to run rampant up and down the coastline. The harvested, processed and dried product retails in New Zealand for around \$6 per 20g. Japan's wakame industry reaps just under \$US1 billion annually.

Now that a seed source has been established, the next step involves farm trials in the Marlborough Sounds. Seed strings will be strategically placed, and with a wave of the wakame wand, little plants should begin to appear.

"The whole thing will be phased up if it proves worthwhile going commercial," says Dr Hay.

Around 900 apples a day keep the rotten pit away. At least for a few of the Cawthron technicians bent over an endless array of flan-sized, decorative looking apple slices.

It is peak apple harvest season in the Nelson region, and if you ever thought fruit was the most unencumbered food available on the shop shelf, then it may come as a surprise that it is sometimes subject to stringent scientific analysis.

Several varieties of apple are prone to bitter pit rotting in transit if mineral levels are low. And, as the old cliché goes, it only takes one bad apple to spoil the bunch.

The Cawthron lab is one of several in the region carrying out the task on behalf of orchardists. Calcium, magnesium and potassium levels in the apples are checked, and from that the grower is able to treat the crop if needed.

Watching a video on paua growth and development is like watching science-fiction: Pulsating, creeping, bizarre mutations.

Paua begins life as a miniscule, dog-like creature, whizzing around the ocean floor before being chemically ordered to turn into a slug and slap itself on to a rock. Identifying that chemical cue is occupying Cawthron marine scientist Rodney Roberts' time, for the sake of improving harvests.

Paua farms form a major component of New Zealand's wild fishery industry. Most of the meat is for export, but hindrances to further development lie in its inconsistent survival rates and slow growth stages — about 7-8 years from critter to harvest stage.

Finding the chemicals that trigger these changes may lead to ways of short-circuiting growth stages, improving life expectancies, and ultimately improving farming methods.

Overseas oddities

Stirling insult: British motor racing legend Stirling Moss has branded traffic wardens "little Hitlers" after disputing a parking fine in court. The 66 year-old former Formula One driver, who won 10 British championships, received a ticket after parking on a yellow line. He had been on crutches at the time, having broken his leg in a motorcycle accident days earlier, and had stopped on the line for only two minutes.

Watch dog: Dog lover Sally Whitby of London retrieved her watch — nine weeks after the family's golden retriever has swallowed it. Mrs Whitby, 51 lost the watch and suspected 10 month-old Joshua might be responsible. Just over two months later the dog coughed it up. The strap was no longer attached but the watch still keeps perfect time.

Age-old error: Red Cross officials who queried whether a Georgian woman was really 115 years old were told that there had been an error: She was in fact 120. The woman, accompanied by her 80 year-old daughter, was a passenger on a Red Cross flight to Tbilisi on Christmas Day. When delegates politely doubted the old woman's year of birth (1880), she said the old-Tsarist officials had made a blue: In fact she was born five years earlier.

Two to a seat: Zimbabwe police cracking down on overcrowded public vehicles found 153 people packed onto a 75-seater bus.

Eight people were on the roof and the rest were jammed inside "like sardines," said a police spokesman at Beitbridge on the South African border.

The bus was nabbed at the end of a 320km trip from Bulawayo, the country's second-largest city.

Hungary for a bone: Hungary is seeking a bone from the right hand of its first queen, Gisela, to lay it next to the hand of her husband for celebrations of the 100th anniversary of their royal marriage on May 4. Gisela lies buried in the cloister of Passau, Germany, far from her legendary husband Saint Istvan (Stephen) whose right hand, as a relic, leads religious processions in Hungary every year on August 20, the founding day of the kingdom of Hungary.

Ref under siege: An Italian soccer referee, fleeing furious fans and players, barricaded himself in a changing room summoning the police on a cell phone.

Marco Rufanelli feared for his safety after sending off three of home team Fiesole's players and booking four others in a match played near Florence and won 3-

2 by visitors Affrico. Fiesole players claimed they had also been denied a clear first-minute penalty.

Lollypop lady soured: A "lollypop lady", one of the team which helps school children cross busy streets, has given up her job after being terrorised by her pupils.

The woman said that on her first day pupils from a school in the northeastern city of Sunderland abused her, threw stones and threatened to throw her in a nearby stream and to wreck her car.

Are you a Member?

One of the commonly asked questions to this office is am I a member of the NBA as I don't keep bees?

The answer is, if you pay a Hive Levy to the association, or you subscribe to *The New Zealand BeeKeeper Magazine* you are a member of the Association and you take advantage of the member benefits that are offered through your magazine.

Harry Brown

Riding shotgun on petrol prices

According to popular wisdom, oil companies are quick to push up their prices when the cost of crude oil rises, but often slow to bring prices down when the cost of crude falls.

Many people suspect the four local oil companies take it in turn to be the first to make a price change, with the other three simply falling into line.

So: Are prices jacked up by the oil companies? Do we end up paying more for a litre of petrol than we would do if there were fiercer competition?

To find out, we talked to people in the Commerce Ministry who are charged with keeping a watch on petrol prices.

You pay for what they do, through a little known tax with the jawbreaking name Petroleum Fuels Monitoring Levy. This levy is one of seven taxes on petrol.

Assuming a price of 94.9 cents per litre at the pump for premium unleaded petrol, this is how it is divided up:

The wholesale price and distribution costs (including oil company profits) are estimated at 45.47 cents.

The service station gets a retail margin of about six cents.

Then there are seven taxes, adding up to about 48% of the total you pay.

The most infamous of these is an excise tax of 20.80 cents, which amounts to more than \$600 million a year. Instead of being used for much needed road and land transport works, much of this sum is siphoned for other government expenditure. For years, the AA has condemned the filching of this money when there are compelling claims for improved and safer roads.

Regrettably, a much smaller amount of only 9.4 cents goes to the Land Transport Fund for these essential purposes (including the subsidising of public passenger transport).

It is also worth noting that the 0.66 cents a litre (approximately \$18 million a year) Local Authorities tax is not required to be used for land transport needs, and can be allocated to any purpose the authority may determine.

The smallest tax of all is a petroleum fuels monitoring levy of 0.025 cents a litre (rounded to 0.03 cents in the diagram).

The ACC tax is two cents a litre.

The final tax is 12.5% GST which comes to 10.54 cents a litre.

The Petroleum Fuels Monitoring Levy nets just 0.025 cents per litre on both petrol and diesel, but yields \$1 million a year.

Where does the money from this levy go? Into three watchdog activities:

1. Combating the oil pressure group OPEC

The Organisation of Petroleum Exporting Countries seeks to control the price of crude oil, as happened in 1973 with the first world oil price "shock". Immediately

after, 23 countries formed the International Energy Agency (IEA) to combat OPEC. In 1976, our government passed a law bringing us into the IEA.

About \$250,000 of the Petroleum Fuels Monitoring Levy pays for New Zealand's participation in the agency, based in Paris. The Commerce Ministry maintains our link with the agency and provides New Zealand's input to the development of agency policies and strategies.

One example of the benefits of the agency's work occurred during the 1990-1991 Gulf War, which threatened oil supplies and could have pushed up oil prices very high.

Liaising with the IEA, New Zealand boosted production at its Waihapa oilfield, called on motorists to restrain petrol use, switch to alternatives such as CNG and LPG, and draw down local stockpiles of oil products. This was part of the agency's emergency response system, which resulted in few problems for world consumers, even with the reduction in supplies. These initiatives quickly resulted in lower petrol prices than before the Gulf War.

In recent years the IEA has also been involved in wider energy issues such as examining how countries can best limit their use of fossil fuels like oil and coal to contain the risks of global warming. New Zealand has taken advantage of this work, and is also a participant in an international energy research and development programme managed by the IEA.

2. Energy data collection and petrol price monitoring

Another \$500,000 of the levy pays for the collection of New Zealand energy sector data for the agency. It collects such data to monitor energy supply and demand patterns globally, and, in the event of an emergency; to guard against member countries cheating by failing to implement measures (such as restraining petrol use).

Much of the data sent to the IEA is published every six months by the Ministry of Commerce in the Energy Data File, a booklet giving detailed information on New Zealand's oil, gas, coal, petrol and electricity consumption. The information is also used to prepare energy supply-and-demand forecasts published by the ministry.

A small portion of the \$500,000 pays for research to determine how our petrol prices (before taxes are added) compare with Singapore export prices for petrol, which are an accepted international benchmark. This monitoring process isn't widely known to the public. The fact that a Singapore benchmark is used and the benefits of deregulation haven't been widely reported in the media.

The Energy Data File contains a section showing the results of the monitoring.

Petrol margins are closely watched, to ensure that we are paying a fair price at the pump.

Before deregulation petrol prices in New Zealand were driven by the exchange rate and oil price movements (as they are now), but prices were set by government and the price at the pump didn't always move to reflect those changes. Since deregulation the overall price level has reduced slightly when compared with the Singapore benchmark, indicating a reasonable degree of competition.

According to Beppie Holm, public relations manager for BP: "In a deregulated market it is the competition that simply squeezes prices which is why the overall price level has reduced."

Before deregulation, there were wild swings in the difference between the Singapore petrol price and the New Zealand petrol price, reflecting the fact that it frequently took a long time before price changes came through.

Since deregulation, pump prices now respond more quickly to what is happening in international oil markets and New Zealanders are now better off in a deregulated environment when paying for a litre of petrol.

Since deregulation oil companies have been subject to competitive market forces. We can never know their margins as such information is jealously guarded.

But prices aren't "jacked up" by the companies because price increases are the result of external forces beyond their control.

For example, an increased demand for diesel during the Northern Hemisphere winter has seen the Singapore diesel price move from about \$US21 to \$US24 a barrel. This, together with a weaker NZ dollar, has put upward pressure on diesel prices in New Zealand.

3. Monitoring of quality

The remaining \$250,000 of the \$1 million per year collected as the Petroleum Fuels Monitoring Levy goes into monitoring quality. This includes making sure that petrol and diesel meet standard specifications as defined in the Petroleum Products Specifications Regulations. An example would be that the octane level of petrol is what it is supposed to be, and that the octane level of diesel is accurate.

As New Zealand moves to totally unleaded petrol this year, the monitoring of benzene levels will be an important part of this work. As the AA has said repeatedly, there must be a watch kept, to ensure that the amounts of potentially harmful exhaust gases, such as benzene, do not reach unacceptable levels.

Acknowledgement AA Directions

IMPORTANT DATES FOR 1996

BRANCHES SEND YOUR MEETING DATES IN FOR 1996. NO CHARGE.

EXECUTIVE MEETINGS

September Meeting	3 September	Tuesday	to	4 September	Wednesday
December Meeting	3 December	Tuesday	to	4 December	Wednesday

MAGAZINE

Copy/advertising deadline 1st of month

COMING EVENTS...

★ ★ ★ **CLUBS... PUT YOUR MEETING DATE IN HERE... FREE** ★ ★ ★

AUCKLAND BRANCH

Remit Discussion meeting
August 2nd at 6.30pm.
Venue: Rob and Janey
Johnston's property
Runciman Road, Ramarama.
Signposted, North side 1½ kms from
Great South Road.
Secretary — Jim, phone: (09) 238-7464

CANTERBURY BRANCH

Phone: Brian (03) 318-0732

CHRISTCHURCH HOBBYIST CLUB

These are held on the 1st Saturday
each month, August to May, except for
January on which the
2nd Saturday is applicable.
The site is at 681 Cashmere Road,
commencing at 1.30pm.

FRANKLIN BEEKEEPERS CLUB

Meet second Sunday of each month at
10.00am for cuppa and discussion.
Secretary — Yvonne Hodges,
Box 309, Drury.
Phone: (09) 294-7015
All welcome — Ring for venue.

HAWKE'S BAY BRANCH

Meets on the second Monday of the
month at 7.30pm.
Cruse Club Taradale.
Phone: Ron (06) 844-9493

SOUTHERN NORTH ISLAND BRANCH

Phone: Frank 478-3367

TARANAKI AMATEUR BEEKEEPING CLUB

Phone: (06) 753-3320

WAIKATO BRANCH

The annual Golf Tournament between
Waikato and the Bay of Plenty Branch
will be held at Okoroie, Wednesday the
31st of July 1996.
Tee Off !! at 12.30pm.
Call Tony (07) 856-9625

Around the world

China does not have enough names to go around for its 1.2 billion people.

Premier Li Peng has at least 3000 namesakes, and Beijing alone has 13,000 women called Liu Shuzhen. Supply is tightest with surnames — 87% of people have one of just 100.

Subway passengers in Sao Paulo, Brazil, were appalled to see a man attempting to sell his two-month-old daughter. "I trade whatever I can," Jose Previde Silva (34) said, adding he needs the money to pay some debts and buy a car.

If you're an executive, early to bed and early to rise is not a healthy choice. A survey in the US found those bosses who go to bed before 9pm and are up before dawn are more likely to eat junk food, smoke cigarettes, be overweight and call in sick, than executives who stay up past midnight and get up late.

Sticky solution — Dutch sugar farmers, facing a seasonal onslaught from hordes of hungry mice, have been told to spread peanut butter around their fields to protect vulnerable crops.

The Dienst Landbouw Voorlichting farming advisory agency advised placing peanut butter-coated roof tiles at field borders. Feeding the mice was cheaper than re-seeding an entire field, the agency said.

Sandwiches — Research just released shows that Britons spend £5.2 million a day on sandwiches and consume 1.3 billion a year.

The market has grown by 75 per cent in the past five years, while sales of fish and chips, burgers and other takeaway foods have lagged. The most popular fillings are egg mayonnaise; chicken; bacon, lettuce and tomato.

Bees have expensive taste. And Graeme Baidon's star culinary creation was the attraction when 30,000 — as far as he could count — invaded the New Cafe and Bar he manages in Auckland. They buzzed in from the City New Gallery next door where they'd been installed as a "living sculpture" called *Nature's War*. Artist and apiarist Garnett Puett thought they'd fascinate visitors by building a honeycomb. Unfortunately, attracted by Graeme's menu, they swarmed to his place for a snack instead. And some of his visitors fled in panic. "Then, if I may be excused the pun, they made a beeline for the costliest dish on offer — apricot and chocolate cheesecake," says Graeme. "That, served with dessert wine, costs \$12.50." Hazelnut biscuits, at \$2.50, were ignored.



NZ BEESWAX LTD

BEESWAX COMB FOUNDATION PRICE LIST, 1 June 1996

Foundation	Dimensions mm	Sheets per kg approx	Kg per carton	Prices per Kg	
				Conversion	Ex stock
Medium Brood Full Depth	422 x 200	17.5	12.5	\$2.30	\$10.84
Medium Brood ¾ Depth	422 x 145	21	15	\$2.30	\$10.84
Seven Sheet Special	422 x 200	15.5	13.5	\$2.10	\$10.76
Extra Heavy Brood	422 x 200	13.25	16	\$1.90	\$10.67
Thin Super Full Depth	422 x 200	25	12.5	\$3.20	\$11.70
Thin Super ¾ Depth	422 x 145	35	12.5	\$3.60	\$11.82
Thin Super ½ Depth Std	394 x 98	57-61	12.5	\$4.25	\$13.02
Thin Super ½ Depth	422 x 98	53-57	12.5	\$4.25	\$13.02
Thin Super ½ Depth 108	422 x 108	45	12.5	\$4.25	\$13.02

All prices G.S.T. exclusive. On conversion only, cartons are charged at \$4.00 each. The Ex Stock price includes the carton. Returned cartons in good condition, complete with layers and dividers, net-returnable at \$3.00 each. Incomplete cartons without layers and dividers \$2.00 each. For less than carton lots of conversion 25% surcharge applies. For less than carton lots of ex stock 10% surcharge applies.

COMB FOUNDATION CONVERSION

Now is the time to get your comb foundation conversion done to avoid that last minute November — December rush.

We have good stocks of comb foundation on hand at this time of year and are able to give a very quick and efficient service. Foundation will keep indefinitely and is not attacked by wax moths so there is no problem in keeping a stock in your shed. If you are not close to our factory or one of our agents, think about working in with other local beekeepers to make up a combined shipment to send direct to our factory at Orari.

For combined amounts of 1 Tonne or more we are able to negotiate extremely good freight rates. The 1 Tonne can be made up of wax for sale as well as conversion.

Phone us to find out what specific deal we can do for you.

contact us at

NEW ZEALAND BEESWAX LTD, Opuha Street, ORARI, South Canterbury.

Ph: (03) 693-9189, Fax: (03) 693-9780, A/H: Peter Lyttle (03) 693-9080

For details of our closest agent to you, please contact us