Volume 9 No. 2
March 2002

The New Zealand BeeKeeper

Permit Post
Wellington, N.Z.
Permit No. 154506

NATIONAL BEEKEEPERS' ASSOCIATION OF NEW ZEALAND (INC.)

In this issue:

ISSN 0110-63325
The Official Journal of The National Beekeepers Association of New Zealand Inc.

Published by Crown Kerr Printing
P.O. Box 5002
Dunedin, New Zealand

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NEW PHONE NUMBER FOR VARROA HEADQUARTERS
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2001 Subscriptions:
NZ $38.00 (GST Incl).
Overseas Airmail US $38.00
Economy mail US $31.00

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NZ Beekeeper
Published by:
Crown Kerr Printing Ltd
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Advertising:
Allan Middlemiss, Bob Bannister 03-477 8109
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Printed by:
Crown Kerr Printing Ltd
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Dunedin
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Varroa management workshops continue around country

By Paul Bolger

March 2002 Update for NZ Beekeeper

The Ministry of Agriculture and Forestry has been advised that this issue of The New Zealand Beekeeper is going to all registered beekeepers, not just members of the National Beekeepers Association. Therefore I will take this opportunity to provide an update on some elements of the varroa programme to hobby beekeepers who do not normally receive the magazine. My apologies to readers familiar with this material.

Varroa treatments approved.

Formic acid and oxalic acid can now be used for varroa control in New Zealand. They have been approved for use subject to two conditions:

1. They cannot be used when honey boxes are present on a hive
2. They must be used in compliance with a code of practice for "Own use of substances", prepared by MAF's ACVM Group. More information on the requirements of this code of practice are found in the article on page 9.

Dr Mark Goodwin of HortResearch also provides information on the use of the organic acids on page 15. I strongly suggest all beekeepers take heed of his warnings regarding the need for operator safety.

Information leaflets on the effective use of these two compounds are being prepared by MAF and will be mailed to beekeepers as soon as they are finalised and printed. The information will expand on the guidelines given in the *Control of Varroa* book printed last year.

Workshop programme continues

A programme of "Living with Varroa" workshops for commercial and hobby beekeepers has resumed. More information on these workshops is found on page 18 of this magazine. They are free and all beekeepers are advised to attend.

Varroa education

Both the varroa workshops and the monthly articles Dr Goodwin prepares for this magazine are components of MAF's varroa education programme. It also includes funding for the production of a video on key aspects of varroa management. This will be completed this month and complimentary copies mailed to all NBA Branches and hobby beekeeper clubs. MAF will sell extras to any beekeepers interested in a personal copy. See next month's *NZ Beekeeper* for details.

Another element of the varroa programme is the free-phone service provided by AgriQuality New Zealand. Beekeepers with technical queries about varroa can call AgriQuality on (0508) 001-122 and ask to speak to an apicultural advisory officer.

Surveillance programme resumes

Another round of South Island surveillance began in early March, with a mailout to owners of around 1800 apiaries throughout the island. A second letter has gone to Authorised Persons in the South Island, to determine if they are available for carrying out surveillance testing. MAF requests beekeepers who have received one of these letters to return it promptly to the address provided. **South Island beekeepers who suspect a varroa incursion should call (0800) 809-966.**

Surveillance will also take place in the southern North Island in late autumn, although at a lower level than in the South Island. The objective of this surveillance is to alert beekeepers to the presence of varroa before significant economic losses occur, and to determine whether changes are required in the existing movement control zones and conditions.

Movement controls

The current movement control line across the central North Island is expected to remain in place for the remainder of this season, and be reviewed when surveillance in the southern North Island is complete.

MAF is working with South Island regional councils on ways to improve public awareness of the movement restrictions at Cook Strait. A ban on moving live bees from the North Island to the South Island remains in place, and a permit is required to ship a range of risk goods such as bulk honey. MAF has recently written to those involved in the inter-island trade in bee products, seeking advice on how movement controls could be approved. Anyone wishing to provide input on inter-island movement controls should contact Lucy Martinez at MAF, PO Box 2526, Wellington, or e-mail martinezl@maf.govt.nz

In response to requests from beekeepers on Great Barrier Island, MAF has positioned signs at the relevant ferry terminals advising that bees cannot be taken from the Infected Zone (upper North Island) to Great Barrier. Bees can be taken to Great Barrier under permit, from the lower North Island and the South Island.

'Control of Varroa' book

MAF continues to receive occasional requests from people yet to receive their free *Control of Varroa* book. Any registered beekeeper who has not received this green-covered, 120-page book, should contact AgriQuality New Zealand (0800 424-490) and request a copy.

Biosecurity and Commodity Levy Project

A two tier levy system to replace the Current Commodity Levies (Bee Products) order 1996 that beekeepers with more than 10 hives must pay, has been recommended by the National Beekeepers Association. RICHARD HATFIELD, a member of its compliance and review committee, outlines the proposals.

Background

A commodity-based levy set by the National Beekeepers Association under the Commodity Levies Act (CLA), Order in Council Commodity Levies (Bee Products) Order 1996, expires in December this year. Having superseded the Hives Act 1978, the existing levy is:

- A two tier-levy based on a beekeeper's apiaries, as registered on June 1 of the previous year..
- Compulsory for beekeepers..
- A production levy by proxy[1], based on the number of apiaries managed.
- Aimed at beekeepers gaining financial (or other) reward from beekeeping activities. Hobbyists or domestic beekeepers who have less than 11 hives and/or less than four apiaries can be exempt.

The levy is collected for the purposes of:

- Funding the American foulbrood pest management strategy under the Biosecurity Act (BSA).
- NBA administration.
- Marketing and other activities to benefit the beekeeping industry's primary producers.

The NBA invoices beekeepers annually on registered apiaries.

Any commodity levy collected under the CLA Order must be reviewed every seven years. The current order expires on December 2002.

In 2000, the NBA executive instructed its AFB compliance and review committee to review the levy system. Issues examined were:

- Did the current levy system meet the purposes of the NBA?
- Was the contribution of levy funds from commercial and hobbyist beekeepers towards disease management fair and reasonable?
- Were the processes and constraints placed on the NBA as the collection agency reasonable?
- Recommendations made by the Ministers for Agriculture and Forestry, Biosecurity and MAF also had to be considered.

Process so far

The committee considered a number of options regarding the raising of levies and the purposes to which they would be used. It reviewed previous legislation, such as the Hive Levy Act 1978 and production-based levies of the Marketing Board introduced 20 to 30 years ago.

In January 2001, the committee advised:

- The current levy scheme was no longer meeting the needs of the industry.
- A measure of cross subsidisation in the levy scheme, although to some degree unsustainable and unfair, did bring commercial benefits.

The NBA recommended the NBA ratify an informal approach to all beekeepers, proposing:

- A Biosecurity Act (BSA, Section 90) Levy, flat-rated for all registered beekeeper regardless of status (hobby, domestic, semi-commercial or commercial) for the administration and overall management of the AFB PMS
- A Biosecurity Levy based on hive numbers controlled by a beekeeper for AFB education, training, compliance and management.
- A commodity levy under the CLA, based on the number of hives a beekeeper controlled.

The executive ratified the proposal and agreed to informally consult with members and beekeepers. This was undertaken during the 2001 Annual Disease Return (ADR) mail out, undertaken by AgriQuality New Zealand Ltd.

The proposal that NBA membership be compulsory for hobbyist or domestic beekeepers was strongly opposed. It was subsequently modified to make only the Biosecurity Levy compulsory.

At the annual conference in July 2001, a conference resolution was passed to continue with the levy proposal through to legislation. The compliance committee continued to develop the proposal and a final form was tabled with the executive in January 2002.

Summary of Proposal

- A flat-rate, annual registration levy to be paid by all registered beekeepers for education, management and administration of the American Foulbrood Pest Management Strategy (AFB PMS) Order. This is proposed under section 90 of the Biosecurity Act.
- A flat rate, annual levy per declared hive for the management of American foulbrood disease under the AFB PMS. This is also proposed to be a Biosecurity Levy under section 90 of the BSA.
- An annual, flat-rate hive levy paid by beekeepers with more than 10 hives or three registered apiaries for research, development and activities undertaken by the NBA to benefit the industry.

All three levies will be invoiced and collected by the NBA at the same time.

[1] Commodity Levies are normally raised against the goods or produce that either the primary producer or the secondary handling agents transact. Commodity levies by proxy are where the goods themselves are not measured but some related aspect that correlates to production (i.e. production capacity) is measured.

Minimise road user charges and petrol excise tax

Road user charges for light vehicles under four tonnes are set to increase by 33% on April 1.

Beekeepers can reduce the amount of tax they pay in two ways. Firstly, the 34% in Road User Charges does not happen until April 1 - so buy up now. Secondly, apply for a refund of the excise paid on petrol used off-road (ATVs/petrol utes).

Below, compliments of Federated Farmers, is the Issue Update it sent its members in October 2000, offering advice on claiming refund of excise duty.

Refund of Excise Duty

Farm Vehicles

The Transit New Zealand Act 1989 provides for the refunding of excise duty on fuels used in off-road vehicles, petrol vehicles that pay RUCs and non-vehicle uses.

- The three types of uses that qualify for a refund are:
- Commercial vessels (commercial motors)
- #Exempt Vehicles (farm and off-road vehicles - see below)
- Licensed Vehicles (Motor vehicles required to pay RUCs)

#Exempt Vehicles

Vehicles that are used on a road do need to be registered but are exempt from registration and licensing fees (Exempt Class B vehicles, including ATVs, tractors and other farm vehicles in specific circumstances)

Procedure for obtaining refunds

- Refunds made with respect to three-month periods
- January/February/March
- April/May/June
- July/August/September
- October/November/December
- Applications for refunds should be made within three months of the end of each quarter.
- Applications can be made after three months, but not later than two years after the end of the quarter - however a 10% reduction in refund amount may be made, although this can be waived by LTSA

Making a claim

Claims need to be made on the prescribed LTSA form:

- Application for Refund of Excise Duty - MR 70" Forms are available from local LTSA Offices, or by calling (0800) 655-644 (LTSA Road User Charges help desk.

Contact: Gavin Forrest, general policy manager, Phone: (0800) 327-646, e-mail gforrest@fedfarm.org.nz, Fax (03) 366-0753.

National Beekeepers Association

MAF Sustainable Farming Funded Project - To expand options for NZ Beekeepers

Stage 1: Leadership Training

The objective of Stage 1 is to provide the skills to effectively promote the beekeeping industry both within and outside the beekeepers association. This one day programme will provide an opportunity for you to consolidate and review your leadership skills and realign your industry for the future.

This will be achieved by covering the following content areas:

- Strategic planning and Management processes
- Team Leadership
- Communications
- Meeting Management
- Project Management

The training is interactive and practical and designed to challenge you and provide you with information you can use immediately.

The training is being provided by the New Zealand Institute of Management (NZIM) Canterbury branch who were selected by tender. The course leader is Eric Livingstone, an experienced strategic planner and business advisor. He is a former Managing Director of Guthrey Breeding Services redirecting this company into a nationwide beef and dairy distributor. Eric now has his own business consultancy, helping 60 clients with strategic planning and change.

Comments from national executive members who attended the first course include:

I find the process of Strategic Planning can be quite heavy but Eric's presentation takes a lot of the mystery out of it.
Tim Leslie
Executive Secretary

This course has a strong focus on leadership and decision making.....a lot of beekeepers have to make some very big decisions in the next few years. This course will give them good grounding in the basics of sound business management.
Philip Cropp
NBA Executive Member

Dates are as follows:

22 April	**Christchurch**	**23 April**	**Gore**
29 April	**Auckland**	**30 April**	**Rotorua**
6 May	**Palmerston North**		

REGISTER YOUR ENROLMENT NOW....

These free sessions are available to all members of the National Beekeepers Association,although numbers per session are strictly limited so enrol now to secure your place by contacting:

Jon Manhire	**The AgriBusiness Group:**	**ph 03 365 6806** **Email jon@agribusiness group.com**
Polly Foster	**NZIM Canterbury**	**ph 03 3748 530** **Email polly_foster@nzim.co.nz**

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Letters to the Editor

'Common Sense' levy needed

I see the Ground-hog has arrived once more. I remember the hassles of the old seals levy days. Obviously we don't learn from previous mistakes.

Then, beekeepers produced clover honey where possible, using other types for feed, so everyone was more or less on an equal footing.

Now we see all sorts of beehive products, including honey from many sources, some fetching quite high prices. If the commodity levy is to be based on a per kilogram basis, then those who already receive less will be paying a higher levy on a percentage basis than those with higher priced honey.

Then we come to queen bees, royal jelly, pollen, propolis, pollination etc. How will a commodity levy be based on these products? If exempt, then honey producers will be paying more than their fair share.

A basic levy per beekeeper seems the only sensible way to go. However, it needs to be based on commercial beekeepers. Already amateurs hives are quietly disappearing into the bush and a charge on amateurs will see this trend snowballing. As commercial beekeepers, it is more important to know where these hives are than seeing them as a source of income for the National Beekeepers Association.

Once varroa arrives, it will be an advantage to treat as a group, rather than having odd hives acting to reinfest commercial outfits.

Hopefully we will see some common sense replacing the very unfair, present apiary levy.

- Gary Jeffery
Westport

NBA vice president Lin McKenzie replies:
It has never been part of the current proposal to base a levy on kilograms produced (presumably of honey). During the early stages (last year) of the levy renewal process, it was suggested that a levy based on declared income from beehives would be a fair system. After some discussion it was decided to promote a Biosecurity (section 90) base levy as a flat rate over all registered beekeepers, and a section 90 hive levy; both of these to help fund the pest management stragegy. It is also proposed to establish a hive levy to fund the NBA in its activities on behalf of and in the interests of beekeepers identified as gaining financial reward from their beehives..

Border controls not so 'loose'

I wish to respond to several points raised by one of the contributors to the NZ Beekeeper (February issue) under the heading "Loose border controls leave New Zealand open to invasion".

Compared to any other country in the world, New Zealand does not have "loose border controls". As European foulbrood (EFB) is a common theme in the article, I will illustrate one aspect of border protection using the two EFB-related examples mentioned.

As a signatory to the Sanitary-Phytosanitary (SPS) Convention, New Zealand is committed to using transparent, science-based risk assessments when examining any application to import material which may pose a biosecurity risk. Where knowledge is lacking, we can take a precautionary approach until the required information is obtained.

The previous standard for the importation of bulk royal jelly is an example of this. While there was no evidence of EFB ever being found in royal jelly, MAF recognised that royal jelly produced in EFB-infected hives could potentially be contaminated. Therefore the import health standard for bulk royal jelly required each consignment be sampled and culture-tested for EFB on arrival. The first positive EFB test result was recorded in December 2001, whereupon MAF suspended further shipments until a new import health standard is developed. Now that the ability of EFB to infect royal jelly has been confirmed, a higher degree of protection will be required than was provided by sampling on arrival.

In the case of the application to permit access for honey from Western Australia, MAF is assessing the disease risk it poses. New Zealand will reject any application that it believes poses an unacceptable risk to biosecurity, or impose conditions to mitigate that risk. We cannot refuse access for a product where a significant risk cannot be demonstrated.

The article suggests beekeepers are concerned about the possible length of time it would take to approve any treatment products if EFB arrived in New Zealand. This assumes the beekeeping industry would wish to begin drug feeding in response to an EFB incursion. If this is the case, the beekeeping industry could identify suitable treatment products now, and take steps to have these products approved under the ACVM Act and the HSNO Act so they could be used without delay.

MAF does not believe the compensation provisions of the Biosecurity Act 1993 serve to deter the reporting of suspected incursions. On the contrary, the compensation provisions give a degree of assurance that would be reduced if they were not present. Our experience shows that any issues around compensation provisions usually occur some length of time after any incursion is detected, and typically relate to the impact of long-term restrictions, or the actions of governments outside New Zealand.

I am unclear what is meant by "the inability to deal with any unusual incursions in a timely manner". MAF attempts to respond to all incursions in a timely manner. In the case of varroa, this meant having teams in the field inspecting hives within 24 hours of varroa being identified. Gathering information to decide on the appropriate response is sometimes very time-consuming, but is preferable to making the wrong decision on inadequate information.

MAF Biosecurity is always willing to discuss biosecurity issues with industry organisations. Please feel free to contact me through your national association if you wish to discuss any of these points further.

- Derek Belton
Director Animal Biosecurity
MAF Biosecurity Authority

Formic and Oxalic acid approved for varroa control - with conditions

Products used to control pests and diseases of New Zealand honeybees must be approved by the Minister of Agriculture. This month, oxalic acid and formic acid were formally approved for varroa control in beehives, under section 62(2) of the Animal Products (Ancillary and Transitional Provisions) Act 1999. Use is subject to two conditions:

- The acids are not applied to hives while honey supers are in place
- They are used in compliance with the Code of Practice for "Own use of compounds" issued under section 28 of the Agricultural Compounds and Veterinary Medicines Act 1997.

Under this Code of Practice, certain compounds which are not registered trade name products can be prepared and applied by a person to the bees they own, on land they own or lawfully occupy, on condition that the person complies with the Code of Practice for "Own use of compounds".

While these compounds are not subject to registration, they must be used in a responsible manner.

- A copy of the draft of this code of practice is available in AgVetLink, a MAF ACVM publication found at: http://www.maf.govt.nz/acvm/index.htm or by writing to: Deborah Alexander, MAF ACVM, PO Box 2526, Wellington.

Key points of the Code of Practice that are relevant to beekeepers include:

1. Oxalic or formic acid must only be used on your own hives, on land you own or lawfully occupy.
2. The compounds must not produce residues in products that fail to comply with applicable food residue standards. While no residue limits have been set for formic or oxalic acid in honey, the Food Act 1981 section 9(4)(b) stipulates that:
   - No person shall pack or sell any food containing any extraneous thing that is injurious to health, offensive, or the presence of which would be unexpected and unreasonable in food of that description prepared or packed for sale in accordance with good trade practice.
   - The compounds must not be stored, prepared, administered or disposed of in a manner causing unnecessary hazard to people, animals or the environment.
   - Any likely third parties must be advised of any hazards to themselves or their property.
   - Where necessary, appropriate officials must be advised of the use, and time and place of application of the compound. This could apply in the case of an accident or significant spillage, or if a compound is inadvertently used outside the conditions of this approval. Official notification of routine treatments is not required.
   - Adequate records must be kept to show that the points above have been considered, and due care taken to comply with them. For example, a beekeeper might record the date of application (after the date honey supers were removed), the rate and method of application, advice given to landowner, and disposal of used materials.
   - Where compounds are used by employees or subordinate persons who are not under direct personal supervision of the beekeeper, written instructions must be provided that direct how the compound is to be stored, prepared, administered and disposed of; how third parties will be notified and advised of hazards; how officials are to be informed of the use, time and place of administration.
   - Subordinates or employees using the substances must be appropriately trained and properly equipped to carry out their instructions safely.

Apart from the ACVM Act, people who use these compounds are also likely to be subject to statutory obligations under other legislation (i.e. Resource Management Act 1991, Health and Safety in Employment Act 1992, Hazardous Substances and New Organisms Act 1996, Animal Products Act 1999 and the Food Act 1981).

Exempting compounds from registration under the ACVM Act does not exempt anyone from obligations imposed under any other legislation.

Varroa in Hungary after 20 years

Hungary, situated in central-eastern Europe, in the heart of the Carpathian Basin, has rich, 1000-years-old cultural traditions and is worth visiting, not only by the average globe-trotter, but also for beekeepers. DR GYÖRGY TÓTH recounts his country's 20-year fight with varroa.

As in many other countries, the rapid development of apiculture in Hungary started at the end of the 19th century. At that time, significant numbers of Bánát bees, an ecotype of the Carniolan race,with some ligustica strains, were exported to the New World by Baron Ambrózy.

The word Bánát relates to an agriculturally-rich region now situated in the neighbouring countries Romania and Yugoslavia. The baron was a famous beekeeper of his time. In one of his books, he mentioned the Langstroth hive and the industrialized apiculture system of North America were models to be followed.

Unfortunately, many other influences were introduced instead, leading to lasting chaos in the hive situation, with all of the handicaps that go with a lack of standardisation.

Some progress did take place with the introduction of the Boczonádi horizontal hive, first appearing about 90 years ago. With 24 frames measuring 42cm x 36cm, the hive imvolved a great deal of work but it made the best use of the local black locust (*Robinia pseudoacaci*) forests, the most extensive of this type in Europe.

Pollen plants

The black locust tree has an early and limited blooming period, varying according to location and altitude. It is an excellent honey plant, and gives an outstanding crop if the temperatures are suitable and the number of colonies do not exceed five to 10 per hectare.

Other important bee pasturages in Hungary are fields of sunflower (*Helianthuss annuus*) , rape (*Brassica sp.*), and basswood (*Tilia sp.*). Some weeds, like milkweed (*Asclepias syriaca*) and goldenrod (*Solidago sp.*) are also useful.

The growth of beekeeping in Hungary lasted until the mid-1980s, due in part to the diligence of Hungarian beekeepers, and in part to the softening of nationalisation after the anti-communist and anti-Soviet revolution in 1956,when private beekeeping became more popular (pre-revolution, the number of private hives per family had been limited to 12).

For many years, the demand for acacia honey and other types on the European market was greater than the amount offered, so the country became a significant honey exporter, selling around 12,000 to 16,000 metric tons of honey abroad each year.

Competition

The situation has now changed dramatically and exporting honey has become difficult with many and varied types of honey now offered to the leading importers worldwide. This has lead to depressed prices, while the production costs remain high.

Currently,approximately 14,000 Hungarians are involved with beekeeping, mostly as a sideline activity, and the number of colonies totals around 800,000. In contrast with the period of extensive growth, production is now less profitable. This is due not only to the relatively low technological level, but also to the high bee density, demanding constant surveillance, particularly from the aspect of varroosis.

The varroa mite was first detected in Hungary in 1979 and since then has caused considerable losses in apiaries here. One of the factors contributing to the first wave of losses in the mid-1980s was that the burning strips applied to combat the mite had too low a concentration (or even none at all) of the active substance, amitraz.

Since then, virtually every acaricide that has been registered for such a purpose has been introduced and tried here, not to mention the suspicious materials made by beekeepers themselves. In spite of these efforts, or perhaps because of them, many beekeepers suffer colony losses each year.

Shortcomings

Most are caused by mistakes in the prevention and treatment of this parasitosis, together with some handicaps in Hungarian beekeeping methods. For instance.-

- The bee density is too high.

The important bee pasturages are often overloaded with apiaries.When the apiaries are not migrating, they are often overcrowded because of the beekeepers' lack of property space. In contrast with the Italian practice, where 35 to 40 colonies are placed on a given area, there are sometimes as many as 1000 colonies per sq km in Hungary, especially in acacia areas.

High bee density means that whether the apiary is moved or remains in one location, the reinfestation of colonies with varroa mites is continuous, due to drifting drones and robbings from young workers.This makes prevention labourious, time-consuming and costly - even when done on a regular basis and as perfectly as possible.

- A report made for the European Community estimated the adequate treatment of varroosis consumes 15% of beekeepers' average annual income.

Inadequate knowledge

Most apiaries are managed by hobby beekeepers, with often inadequate knowledge. Accordingly, they often carry out the necessary treatment in an inappropriate way. They do not make any treatment in the broodless period with Perizin or oxalic acid, so the mites winter-over.

Hobby beekeepers commonly use the same drug repeatedly for years, which can prompt drug-resistant mite strains to develop. The efficacy of the method or drug applied is also rarely checked and when the treatment they are using is found to be ineffective it is already too late.

The control requires a special bottom screen, with or without a tray or plate, in order to count the number of fallen mites. (According to our experiences, if the number of fallen mites is above 1500, the colony can rarely be saved.)

Such bottom types are manufactured and marketed by many suppliers where standard frame and hive types are common. Nevertheless, bottom screens are often not used where there is no uniform standard type, and it is practically impossible to place a control insert in old types of specially designed hive constructions (e.g.horizontal hives). Failure to carry out

such controls may result in a false sense of security, even though the level of infestation in the given apiary may be high and the apiary itself a dangerous source of reinfestation.

No drug, i.e. pesticide or "natural/biological" substance can be considered as a super-weapon against the mite. It is probably best to apply the most effective agents on a planned rotation basis, when the safety of the apiary can be maintained at a reasonably high level. Synthetic products may have the great disadvantage that their use leads to undesirable levels of residues in the honey or wax.

Natural controls

One self-evident solution appears to be the application of "natural" active acaricides which are otherwise present in very low quantities in honey. Examples are formic or oxalic acid or thymol, for which there is no officially determined MRL (maximal residual level) value in foodstuffs.

However, such substances cannot be applied under all circumstances. For instance, one extensive field trial showed that oxalic acid, which has an outstandingly good acaricidal effect during the broodless period, is less effective when the brood is present. In recent years, German and Austrian scientific institutes have warned beekeepers against the exclusive use of thymol or formic acid, because of their varying and relatively low efficacy.

It is quite clear that apiculture has become more difficult since the appearance of this pest worldwide. Varroa poses a constant risk concering the continuation of beekeeping,and protection against it additionally demands great work and expense. Unfortunately, this extra expense cannot be included in the honey price, as the main honey markets are currently swamped with honey at dumping prices.

I hope our fellow-beekeepers in New Zealand will learn how to cope with varroa in an effective manner.

- Useful addresses and data of Hungary:
  Capital: Budapest (2 millions residents) where the XXIX.Apimondia Congress was held in 1983.
  Territory: 93,000 sq km
  Population: 10 million people.
  Hungarian Beekeepers' Association: H-1045 Budapest, Üll_i út 45. Phone/fax: (036) 1-216-0015; e-mail:OMME@qwertynet.hu;

Qualifying Kiwi honey

Giving New Zealand honey a nationally and internationally-recognised definition was a goal the National Beekeepers Association marketing committee set for itself late last year.

NBA marketing consultant John Rawcliffe organised and assembled previous work on honey standards and overseas grading requirements for a February meeting. Those attending were Steve Olds, Jane Lorimer, Peter Bary, Barbara Bixley, James Ward, Andrew Stratford, Mervyn Cloak and Allen McCaw.

They drew up standards for 11 varieties of New Zealand honey, but are inviting beekeepers to discuss and support them before presenting the standards to the NBA executive to ratify.

The next step will be the registration of a trade mark, Apiculture Standards Ltd, for beekeepers to use. A $5000 project funding grant will be applied for, to cover the costs of writing the constitutions and rules required for trading.

Another $5000 is required to buy legal advice and write a business plan to start trading and generating income. The marketing committee unanimously chose to invite market leader UMF honey to first use the quality mark.

- The result of a request for funding from the Government to finalise research at Waikato University on the anti-bacterial and anti-oxidant properties of bush honey is expected by the end of this month.

- Philip Cropp

Taranaki varroa seminar

Varroa seminars for Taranaki beekeepers have been organised in Taranaki next month by AgriQuality New Zealand.

A two-day seminar has been set for commercial beekeepers on April 18 and 19. A half-day varroa seminar for hobby beekeepers is scheduled for Saturday morning, April 20.

Times and venues have yet to be confirmed but beekeepers are asked to mark these dates in their diaries.

2002 EXECUTIVE COMMITTEE ELECTIONS

In accordance with the National Beekeeper Association's Rules, three members of the executive committee retire in rotation each year. This year they are Jane Lorimer for the North Island and Lin McKenzie and Philip Cropp for the South Island.

National Beekeepers' Association of New Zealand Inc

Election of three members to the executive committee - one member to be domiciled in the North Island and two to be domiciled in the South Island.

NOMINATION FORM

We the undersigned members of the Association hereby nominate:

NAME IN FULL: _____

ADDRESS: _____

With his/her consent as a candidate at the election of three members to the Executive Committee of the Association

NOMINATED BY: _____ SECONDED BY: _____

FULL NAME:- _____ FULL NAME: _____

ADDRESS _____ ADDRESS: _____

SIGNATURE _____ SIGNATURE _____

SIGNATURE OF
CANDIDATE:_____DATE:_____

Nominations, which close at 9.00am Thursday 2 May 2002, are to be addressed and forwarded to

The Returning Officer
National Beekeepers Assn., of NZ (Inc)
PO Box 715
WELLINGTON

NOTES FOR GUIDANCE OF CANDIDATES AND MEMBERS

1. Everyone receiving a nomination form can be nominated or can nominate and/or second a member's nomination.
2. Any member can nominate and second another member as a candidate for election to the eecutive committee.
3. **Candidate's biographical notes in support of their candidature.** The Association will include with voting papers up to 200 words of biographical ntes submitted by the Candidate with his/her nomination.
4. A copy of the roll of members will be supplied to the secretary of each branch.
5. **Scrutineers:** A candidate may appoint a person to act as scrutineer. The returning officer must be advised of the name and address of a suggested scrutineer before the poll closes at 9am Thursday, June 6, 2002

2002 EXECUTIVE COMMITTEE ELECTIONS

National Beekeepers' Association of New Zealand Inc

The executive is seeking nominations to fill the vacancy (North Island member) caused by the resignation of Fiona O'Brien, elected to the executive as a North Island member in the 2001 Executive Committee election.

This election takes place in accordance with the provision of Rule 16f and the person elected will hold office for the balance of the unexpired term of the vacating member i.e., one year.

Election of a member to the executive committee to be domiciled in the North Island.

NOMINATION FORM

We the undersigned members of the association hereby nominate:

NAME IN FULL:- _____

ADDRESS: _____

With his/her consent as a candidate at the election of three members to the executive committee of the association

NOMINATED BY: _____ SECONDED BY: _____

FULL NAME:- _____ FULL NAME: _____

ADDRESS _____ ADDRESS: _____

SIGNATURE _____ SIGNATURE _____

SIGNATURE OF
CANDIDATE: _____ DATE: _____

Nominations, which close at 9am on Thursday, May 2, 2002, are to be addressed and forwarded to:

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National Beekeepers Assn., of NZ (Inc)
PO Box 715
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5. **Scrutineers:** A Candidate may appoint a person to act as scrutineer. The returning officer must be advised of the name and address of a suggested scrutineer before the poll closes at 9am Thursday, June 6, 2002

Obituary: Jim Hishon

Love of beekeeping formed at young age

Jim Hishon, who lived all his life in Morrinsville and died last year from leukaemia, started beekeeping at the tender age of 9 when he hived a swarm which arrived at his family home.

He developed a great love of beekeeping, respecting his bees, treating them with care and working them quietly. Often, when working in an apiary, he would get a sting and reach for his smoker, only to find he had left it sitting several hives back.

In his early days, Jim worked at a timber yard and then as a builder, which was of great help in his beekeeping business. He also worked in a fish shop for a while, where he met his wife Cora.

In 1946, Jim decided to become a commercial beekeeper. He cut and assembled his supers and frames and in his first year was pleased to see all his frames full and capped over. The first load into his honey house was uncapped, placed in the extractor and spun for a while. But nothing happened. He discovered he had a magnificent crop of manuka honey, which would not extract!

Jim was assisted in his early years of beekeeping by the apiary advisory officer of that time, Roy Patterson, who helped Jim design his uncapping tray and melting-out system, which was still in use until he ceased beekeeping in June last year. Jim worked hard to keep the Piako Matamata area clean of American foulbrood by assisting Roy to regularly inspect hives.

For transport, Jim purchased a 1938 Ford V8, one-ton truck, which he used throughout his beekeeping life. The truck is still in the shed in going condition (it is not for sale).

Painted on the door of the truck was his name and occupation: "Apiarist". Once, on a tenting holiday with his family at Waihi Beach, he watched a chap walk up to the truck, study it for a few minutes and then, looking puzzled, asked: "Apiarist? What's that mean? Do you breed monkeys or something?"

Jim ran up to 400 hives, using the double queen system, ably assisted by Cora. It was common to see his hives just before the honey flow with bees up the front of the bottom hive, with a nucleus on top with bees up to the lid. When they were united, they gathered some great crops of clover honey.

The railway ran at the back of the Hishons' property. Jim took a photo of a steam train going along behind his honey house and that photo was the background of his honey labels. At an annual NBA conference in Taupo some years ago, hosted by the Waikato branch, one of the speakers talked about more colourful labels to better promote our honey to sell more. At one stage, he held up two labels which he said were useless for making the product sell. One was Hishons honey.

Jim laughed as he had railed Hishons' honey all over the North Island for many years. He always sold his entire crop and at times he bought honey from other producers to help out.

A regular attendant at meetings of the Waikato branch, Jim became a life member and was greatly respected by all who knew him. We miss him and wish Cora and the family all the very best for the future.

- Ray Robinson

Input sought for South Island movement control

The existing control conditions for moving risk goods to the South Island have been in place for more than a year. The Ministry of Agriculture and Forestry believes it is time they were reviewed.

Under the existing conditions, some items (such as live bees) are prohibited from entering the South Island. Other items require a permit and must comply with certain conditions. Permits are usually issued for a time period, rather than per consignment.

Copies of the existing conditions have been sent to National Beekeepers Association branch secretaries, as well as some beekeepers/ honey packers and others directly involved in moving goods from the North Island to the South Island.

Anyone else wanting a copy of the current conditions so they provide input on how movement restrictions could be modified should contact Lucy Martinez:

Email: martinezl@maf.govt.nz Tel: 04 474 4199
Address: MAF Biosecurity, PO Box 2526, Wellington.

Government approves organic varroa bee mite controls

Formic acid (85%) and oxalic acid dihydrate, two organic options for controlling the varroa bee mite, were gazetted on March 14 by acting Agriculture Minister Paul Swain as approved products for New Zealand beekeepers.

The products are cheaper than synthetic chemicals and acceptable to organic certification agencies. Mr Swain said the approval provided a breakthrough for beekeepers in their battle with varroa.

"Every effort has been taken to ensure beekeepers have these options available to them as part of their arsenal and the Ministry of Agriculture and Forestry will continue to work with beekeepers to assist them to develop new management and control strategies."

Approval had been granted by Agriculture Minister Jim Sutton and supported by MAF, the Animal Remedies Board and the Pesticides Board, after a successful, technical assessment. Approval was made under the Animal Products (Ancillary and Transitional Provisions) Act 1999.

Both formic acid and oxalic acid dihydrate naturally occur in honey at low levels.

Restrictions

At this time, use of either product is conditional on compliance with a code of practice provided by MAF's Agricultural Compounds and Veterinary Medicines Group. A key requirement is that neither product should be applied when honey boxes are on beehives.

MAF has published a guidebook, *Control of Varroa, a guide for New Zealand beekeepers,* with detailed instructions on the use of the products. It has been distributed to beekeepers throughout New Zealand. Extra copies are available by writing to: Paul Bolger, varroa programme co-ordinator, MAF Biosecurity Authority, PO Box 2526, Wellington.

- For more information: contact Cathie Bell: (04) 471-9855, (025) 998-467 or e-mail Catherine.Bell@ministers.govt.nz

- Office of Hon Jim Sutton

Beekeepers urged to check hives regularly for varroa

Dr R. M. Goodwin
HortResearch Ruakura

Treating hives

Many beekeepers in varroa areas will have treated their hives by now. Unfortunately, a number will have also lost hives because they have left their varroa treatments too late.

One commercial beekeeper I know had lost 25% of his hives when he checked them at the beginning of February. The hives had all been treated for varroa in the spring and shows the importance of checking varroa levels in mid-December during the first few years varroa is in an area. I suspect this beekeeper, and many others who have lost hives this autumn, will be doing some checking next summer. It is probably not a good idea to learn this lesson the hard way.

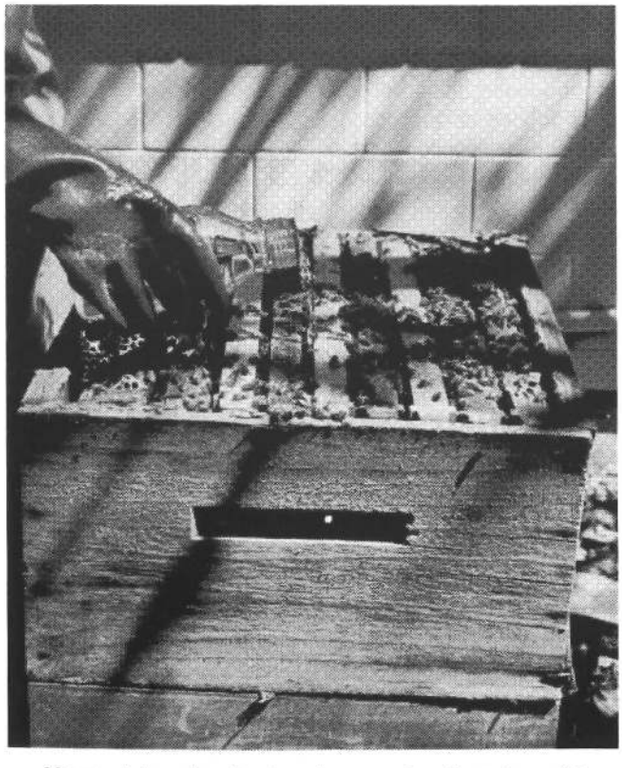
Also, for beekeepers in varroa areas, I hope those who haven't treated this autumn yet are all beekeepers who have tested their hives for varroa and decided they don't need to, rather than beekeepers who have just not got around to it yet. Otherwise there may be a few more people in for an unpleasant surprise.

Organic acids

Oxalic acid and formic acid have now been approved by the Minister of Agriculture and Forestry for treating honey bee colonies to control varroa. A code of practice is available to describe how the products should be used, however there are several points about their use that are worth emphasising.

The organic acids have some very good points going for them. They are relatively cheap and any residues left are organic and are therefore seen to be more acceptable. They can also be alternated with Apistan/Bayvarol to slow the development of varroa resistance. If Apistan or Bayvarol were used in the spring, an acid treatment in autumn would kill any mites resistant to the pyrethroid. Likewise, any mites that become resistant to the organic acids would be killed when the pyrethroid were used the following spring.

There are, however, significant problems associated with using formic and oxalic acid.



Never take shortcuts when using formic acid

Applying oxalic acid to a hive

1) Human safety

Writing the varroa control manual and preparing the registration package for the organic acids has left me somewhat concerned about using these methods. Both oxalic and formic acid are dangerous, formic acid being the most dangerous. It is very likely someone will be hurt using one of these products, possibly even severely hurt.

An example of how mistakes can happen is what happened to a member of our research team. Being very safety conscious, we thought we had taken all the necessary precautions, including a few that were probably not necessary. The accident occurred while taking the plastic bags of formic acid off the hives, after they had been in position for two weeks.

The formic acid had evaporated from all the bags except one, which caused the staff member to be nearly overcome with the fumes while removing it. We didn't think removing the bags was going to be dangerous and so hadn't worried about a mask.

The lesson here is when using organic acids don't become complacent and please never take short cuts. Always read the safety instructions before using them each year and follow them.

1) Bee safety

If you use an incorrect dose it can result in bee deaths. The synthetic miticides are several hundred times more toxic to mites than they are to bees. It is therefore very difficult to kill bees with Apistan or Bayvarol. If you wanted to kill bees, you would probably need to actually squash them with the strips.

However, the organic acids are generally only a few times more toxic to mites than they are to bees. So mistakes with the concentrations or how they are used may result in bee deaths or colony deaths.

1) Effectiveness

Most beekeepers who will be using the organic acids will have had experience with using Apistan or Bayvarol. Both of these are very reliable products. As long as you use the correct number of strips, put them in the correct position in a hive and leave them in a hive for long enough they should kill between 95% and 100% of mites. This means you don't normally need to check varroa levels in the hives after treatment to make sure they have worked.

However, organic acids are not as effective. The kill rates are not as high and much more variable. When we used them last autumn, they killed 100% of varroa in some hives but

only killed about 20% in other hives. For this reason it is important to check mite levels after they have been used. This poses an extra cost to those using them, but may save colony losses.

Apistan and the Animal Products Act

Some beekeepers have been using Apistan® contrary to the label by using it while honey supers are on hives. This may result in residues in honey or wax. More immediately, it will cause beekeepers problems when they come to sell their honey.

The statement that now has to be filled out by beekeepers producing honey asks the question: "Have drugs or other licensed compounds been used in hives other than in accordance with label conditions (regarding dose and withholding periods)?" Those beekeepers who have used Apistan strips during the honey flow will need to explain why. According to MAF, the person wishing to process (extraction onwards) the honey for human consumption must apply to the Director General of MAF for approval which may or may not be given. To provide misleading information on the form is an offence under the Animal Products act.

Parasitic Mite Syndrome

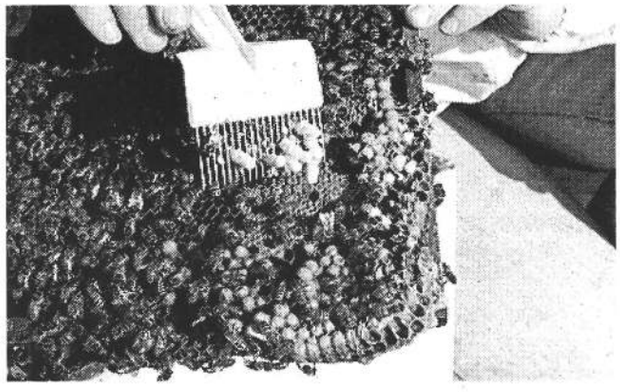
Many beekeepers in varroa areas will have seen parasitic mite syndrome in hives, some without knowing what it is. It typically looks like a hive with the symptoms of every other disease you have seen in a hive before and probably a few that you haven't seen before. The problem with it is that it sometimes has symptoms like American foulbrood. The best way to tell the difference is to do the "ropiness" test. If it ropes out it is AFB. If it doesn't rope out it is almost certainly not AFB. If you are still not sure, contact your local apicultural advisor and arrange to get a sample tested.

South Island

Even though varroa has never been found in the South Island, it is a good idea to check hives for varroa any time you have them open. Probably the best way of doing this is to check drone brood.

Use a cappings scratcher (used during honey extraction) or a wide-blade shearing comb mounted on a handle. Push the tines through a patch of capped drone brood and then lever the tool to pull the patch of pupae out all at once. Check the pupae for mites. Mites are easier to see on pink-eyed pupae than on pupae that have taken on adult coloration.

It is not the most sensitive test but is very quick to do and is reasonably sensitive because varroa prefer to invade drone cells.



Checking drone brood for varroa.

Organic producers attract growing international export market

International demand for New Zealand's organic produce still far outweighs supply.

"The organic market is becoming increasingly important to New Zealand. The organics industry's total production last year is around $120 million with an estimated $70 million coming from exports. It is estimated this will grow to $500 million in the next four years," says Jon Manhire executive director of Organic Products Exporters of New Zealand Inc (OPENZ).

' OPENZ's annual survey of members that export organic produce has shown a huge increase in some overseas markets – such as America - and in some market segments – such as meat and wool.

Overall, the survey shows a lower than expected increase in organic exports, and OPENZ attributes this to three main factors.

"We used a new and more robust methodology for this years survey regarding the definition of organics and this excluded some statistics that would have been included in the past.

"While we get a good return rate for the survey (71%) it is voluntary and a number of large players don't complete it because of commercial sensitivities.

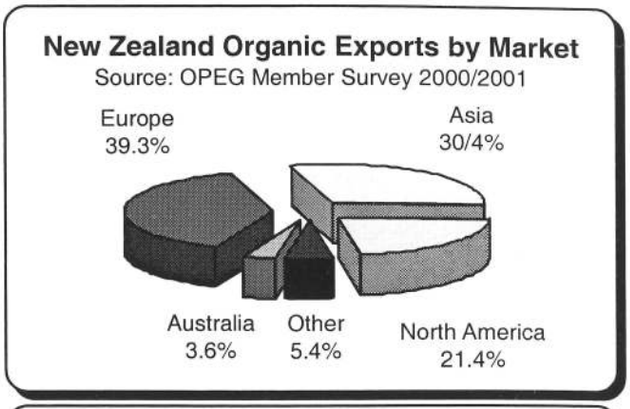
"In addition, the domestic organics market is growing at a staggering 50% a year with some growers and companies opting to supply locally rather than export," Mr Manhire says.

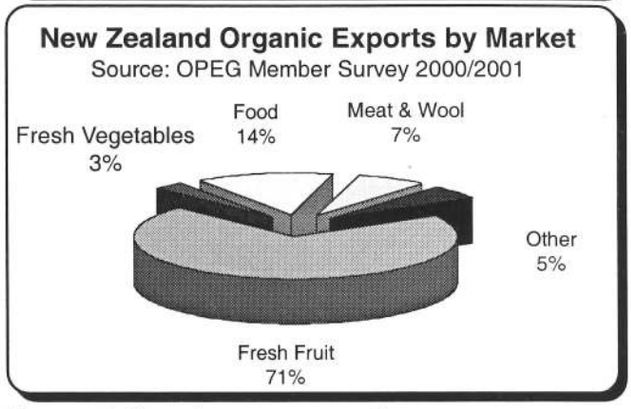
Two main trends have come out of the survey. Firstly, more small to medium companies are starting to export organic products into niche markets. Secondly, large supermarket chains such as Waitrose and Tesco in the United Kingdom and other countries are demanding organic product lines to complement their conventional supplies as part of their preferred supplier relationships with New Zealand companies.

In New Zealand's key markets – the European Union, Asia and USA - the growth in the organic market continues to increase at the rate of 20% a year, a rate consistent with the growth rate of the last 10 years.

Key features of OPENZ member survey 2000/2001:

- Exports to North America have sky-rocketed in the last two years. This year, $12 million or 21.4% of our organic exporters went to North America – up more than eight percent last year and more than 17% on 1999 exports.
- Exports to the Asian market this year were $17 million or nearly 30% – five percent up on the previous year.
- Exports to Europe –New Zealand's biggest market – were slightly down this year ($22 million or 39.3%) compared with last year due to the expansion and increase in demand from the North American, Asian and New Zealand domestic market.
- The survey showed organic exports to Australia were steady.
- Meat and wool exports increased by more than 250% to nearly $4 million or seven percent of exports.
- Processed food at 14% ($7.8 million) is similar to last year as was fresh vegetables at three percent (nearly $2 million).





For more information or comment please contact:

Jon Manhire and Samira Wohlfart, Executive Directors
OPENZ - Organic Products Exporters of New Zealand Inc. (previously known as OPEG)
Ph (03) 348 0979, Fax (03) 348 1867
Email: info@organicsnewzealand.org.nz
Website: www.organicsnewzealand.org.nz

"Living with Varroa" – Workshops for 2002

Workshops for commercial and hobbyist beekeepers were run in the upper North Island last spring. The second round of the workshop programme began in Kaikohe on March 4 and continues throughout the country until August. The South Island workshops are due to begin in late April.

By spring this year, more than 50 workshops will have been run throughout New Zealand, helping beekeepers develop the skills they need to successfully manage varroa. Ministry of Agriculture and Forestry (MAF) funds the workshops, as part of the government's two-year Varroa Management Programme.

The workshops have been prepared by staff from HortResearch and will be presented by AgriQuality New Zealand in three forms: Two-day sessions for North Island commercial beekeepers, one-day sessions for South Island commercial beekeepers and three-to-four-hours instruction for hobby beekeepers.

All workshops are free of charge for beekeepers, partners and employees.

The course material will be presented using PowerPoint slides, but each participant will receive notes, promotional material and contact lists. Their main resource, though, remains the *Control of Varroa* book, sent last year to all registered beekeepers. They are asked to bring their copy to the workshops, as well as a pen and paper for taking notes.

Demonstrations to be given will include testing for varroa, evaluating infestation levels and treating hives. Participants in the two-day commercial workshops will have hands-on experience using registered, chemical treatments.

Secretaries of NBA branches and hobby clubs will be sent notices of workshop dates and venues. In addition, personal invitations will be mailed to all registered beekeepers with details of a workshop in their area. Commercial beekeepers are urged to contact AgriQuality to reserve a place, when they receive their invitation letter. This is not required for hobby beekeeper workshops.

- **For further information call the programme co-ordinators at AgriQuality New Zealand Ltd.**

North Island	**Bryan Mitchell**	**(021) 735 937**
	Byron Taylor	**(021) 918 400**
	Murray Reid	**(021) 972 858**
South Island	**David McMillan**	**(021) 951 625**
	Tony Roper	**(021) 283 1829**

Or Margaret Morris at AgriQuality NZ, Ruakura
Ph (07) 838 5851 (0800) 424 490
(07) 838 5846 (07) 838 5846
E-mail: morrism@agriquality.co.nz

Approval of oxalic acid introduces new method of fighting varroa

With the government's approval of beekeepers' use of Oxalic-Acid crystal, a new method can be tried in the fight against varroa. Oxalic acid is readily available in paint and hardware stores.

Caution: Precautions must be taken. Wear rubber gloves and be careful not to let the acid touch your skin or eyes. Wear old clothes. (See also pages 15 and 16).

Essential advantages over the usual fighting methods are:

- No delays in the honey, beeswax and propolis
- Very good bee compatibility
- No early ageing of the bees (important to bee populations in spring)
- Usable, outside any time of honey-collection usable (admittance still outstanding)
- Up to 99% effective
- User-kind for the beekeeper

Preparation:

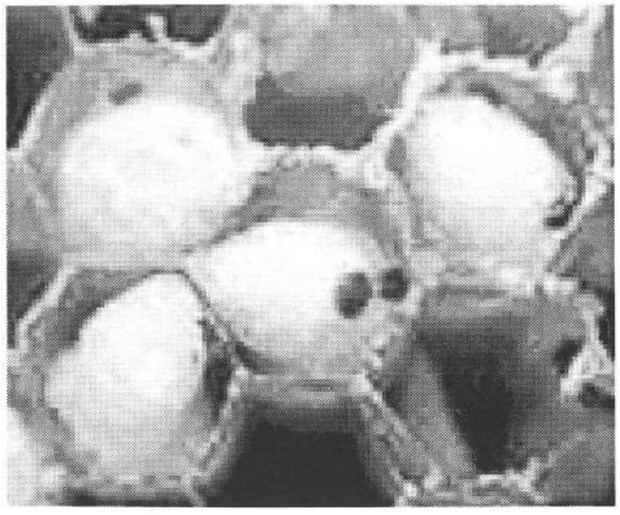
- Prepare vaporizer and your propane torch
- Organise protective mask, glasses and suitable, acid-resistance rubber gloves
- Gather cutting foam material stripes for sealing the entrance holes to size

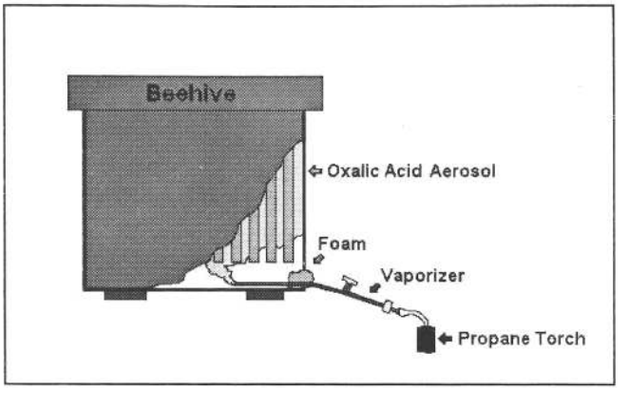
Treatment:

Put up to three grams per hive on the vaporizer. Don't forget to seal up the beehive!

Heat the vaporizer with the torch. After approximately three minutes, the Oxalic Acid will have vaporized completely into a fine aerosol. Keep the beehive locked for 10 minutes, allowing the aerosol to spread well beyond the bees and take effect.

Once treatment is completed, check the mite waste with a stick-diaper. Oxalic Acid remains effective for about 10 days. The main part of the mites will fall off four days after treatment.





Efficiency from the Oxalic Acid Evaporation in a different dosage

TEST RESULT	wihout treatment	water 2,0	Oxalic Acid evaporation (g/Beehive) 0,5g	1,0g	2,0g	3,0g	5,0g
Average effect	1,2%	4,8%	82,8%	96.0%	97.2%	99.0%	99,2%
Lowest effect	0,0%	1,3%	51,7%	93,2%	91,7%	98,1%	99,0%
Highest effect	2,7%	11,5%	96,0%	99,2%	99,6%	99,7%	99,8%
Beehives per test	6	8	12	10	13	11	5

Testing mites' sound frequency resilience

By George Nichols

Somebody suggested that varroa, once they have left the larvae, migrate to the bees' bodies and do not hang on there very successfully.

I had another of my brilliant ideas: how about making a loud noise at the varroas' resonant frequency so that they would drop off the bees' body and fall on to a sticky board?

In my younger days as a scientist, with a laboratory full of nice electronic bits and a supply of willing helpers, this idea might have been easy to evaluate, but now in doddery old age in an ill-equipped workshop at the side of the garage with one slave - me - the miracle would take a little longer. Well, what is a varroa's resonant frequency?

Have you ever noticed dust particles sitting on a loudspeaker cone? At certain frequencies ("notes" to the musical fraternity), the dust particles start to bounce like mad (some legendary singer used to sing one note long enough to shatter a wine glass).

My first trial, before the willing workers had found me some real varroa, was to use breadcrumbs. These bounced nicely at various frequencies. But is their bounce dependent on their size and shape and weight, or is the loudspeaker bouncing better at some frequencies than at others?

I changed loud speakers and produced fairly different patterns of breadcrumb bounce. The next step was to put the crumbs on a small plastic slice, about 15mm square and 1mm thick, and fire the loudspeaker at them. Once again, the crumbs jumped. But were they or the plastic resonant?

My assistants now produced some real varroa which looked as if they had been dipped in honey. In fact they stuck fast to anything I put them on and refused to bounce. I gave them a wash and dried them (I am probably the first man in the world to give varroa a bath). This time they bounced well at 62 Hz which used to be cycles per second in the old days.

They also bounced well at 120 Hz, which is probably their second harmonic. By now it was getting late in the beekeeping season so I dug out my remaining electronic bits and pieces, made an oscillator to work from about 40 Hz to 200 Hz to drive a loudspeaker, made a long lead to go from the 12 volt battery in the truck and set off to blast the varroa loose in the hive.

A sticky board was at the bottom so I applied my terrible noise at various frequencies to all four sides of a two-box hive: top and bottom. Nothing happened. No varroa rained down.

Now what? Was the resonant frequency incorrect? Was the noise not loud enough? Back to my laboratory. (All right, back to the side of my garage!)

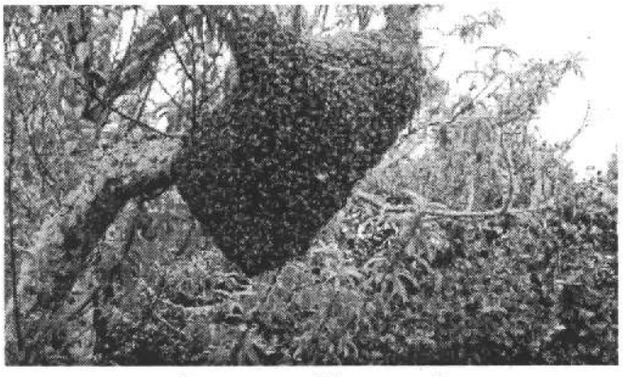
This time, I sat two varroa on a hammer head and assumed their resonances and the hammer's would be far apart. I wound up the noise on the loudspeaker and at 88 Hz the two varroa went into orbit. I only found one. Now I must produce a louder oscillation at 88 Hz and try again. This is as far as I have got this season. Perhaps someone in the northern hemisphere can more readily acquire the electronic items to blast the varroa away from the bees. Good luck to them. Let me know.

Look out, I have another brilliant idea. The varroa are about 1.5mm diameter. What would happen if I shot them with an electro-magnetic wave at a half wavelength of 0.75 mm. Would they fry? Would beekeepers become infertile? Perhaps I should do the experiment myself. I must ask the grandchildren . . .

Swarm control duties never-ending

It was 1931 when Bernie Mills was a registered beekeeper, but 70 years on, he's still the man locals call when there's a swarm of bees to deal with.

Late last year, the man from Mangonui in Northland was called to sort one out on the branch of a large peach tree. It was the biggest he remembers seeing and the carton he normally uses to shake bees into was clearly going to be far too small. Fortunately, someone on the neighbouring property had a large (about the size of a broadsheet newspaper), deep, strong carton.



Can you spot the queen?

Bernie was pleased the swarm was well off the ground - about 2m high - and he noted with wry humour how the usual group of spectators stayed a similarly safe distance from the action. Resigning himself to receiving no assistance, he gave the branch a big shake and, "presto!" the bees were in the carton.

"Shaking the branch and holding the carton was quite an effort, as the sudden weight dropping, I nearly lost hold."

• Bernie Milles completed an agriculture course at the Seddon Memorial Technical College between 1935 and 1938. A student one year ahead of him was Heni Belin, founder of the Waitemata Honey Company. Ironically, Heni had been afraid of bees at the college farm in Remuera, Bernie remembered.

Press Release January 28 2002

REPORT ON PROLONGED FORMIC ACID TREATMENT FOR THE VARROA AND TRACHEAL MITE USING THE MITEGONE™ EVAPORATOR AND ITS SIDE BENNEFITS IN ALL BEEKEEPING OPERATIONS INCLUDING ORGANIC HONEY PRODUCTION.

by Bill Ruzicka P.E., BSc. & Commercial Beekeeper in Canada

The writer is a professional engineer who, in 1980, became a bee breeder and inventor of many technical innovations. He holds the patent for the discovery of a biological control for the varroa mite. It is now commercially available in N. Z.

History

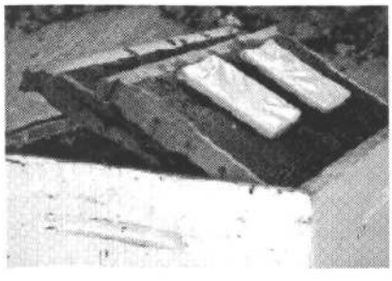
MiteGone™ evaporator pads were designed in 1995 by the beekeeper - for the beekeeper. The pads have been tested for six years in commercial use by local beekeepers in the Okanagan Valley of British Columbia, Canada. Also, a scientific evaluation was completed in the summer of 2000

Usage

MiteGone™ was designed as a spring treatment in temperate climates against the varroa and tracheal mite; it also delays the development of pesticide resistance by the Varroa mite.

Treatment – 21 DAYS

MiteGone™ treatment is astonishingly simple! You buy the acid in barrels, buy the pads by the box, and cut the pads in half. Soak the half pads in acid. Use one half pad in one standard deep Landgstroth box. Use two half pads for a colony that is two boxes high.



Take two outside (at the wall) combs out of the top box and lay them on the top of the frames. Clean the inside wall of the hive body. Lay the pads with the cut-evaporating surface down directly onto the outside of the comb you have just taken out of the hive. Staple or pin the pad to the comb with a nail or tooth pick. Put the comb with the pads attached to it back into the hive body with the pads against the wall. Put the second comb back into the hive. That is all.

Treatment – **40 DAYS**

For high infestation and autumn treatment use a 40-day treatment by cutting off the end of the 15cm pad to expose the evaporating surface.

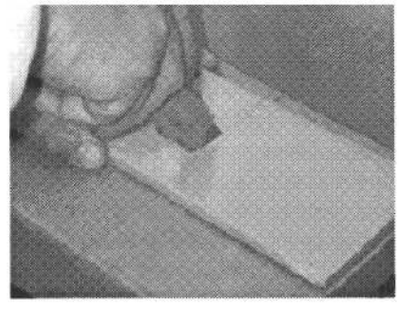
Nucleus Treatment: 2.5cm and 5cm wide pads are available.

Reuse:

MiteGone™ was designed as a throw away product, but for the penny-pincher, if pads are taken out of the hive at the end of the treatment they can be reused two or three times. Pin wet pads to any sheltered wall, where animals and people cannot contact them, to dry. Clean and re-cut the evaporating surface for re-use. Store pads in layers divided by wax paper. Dispose of pads properly when they become chewed-up, damaged, or when pads become shorter than they are wide. Protect pads from sunlight.

Field Installation Instructions

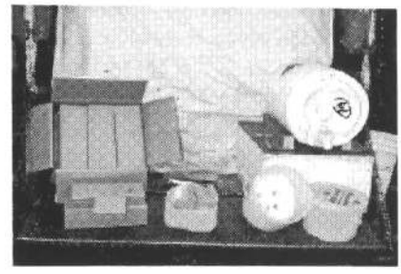
Formic acid is a hazardous material. Refer to the label before using. The best way to store and transport it is in the manufacturer's supplied barrels called carboys. The pads should be cut and filled by a trained and responsible person directly in the yards while spring or other management is being done.



The key to cutting the MiteGone pad is using a very sharp knife and a proper cutting board. The best is a sturdy cardboard box with a slot for the knife to ride in.

Don't pre-cut or pre-fill the pads.

Set up a pad-prep station down wind in the yard. You will need 65% formic acid, two soaking baskets, a soaker pail to hold the formic acid, an empty dripper pail, and two pails of clean water in case of a spill.



Cut four to five pads and place them with the cut evaporating surface down into the soaking basket (the bottom four inches of a plastic jug with holes in the bottom). Then place the basket into the soaker pail (an ice-cream pail for half pads and a honey pail for full pads, with a 2.5cm hole at the side of the lid). Close the soaker pail and fill the pail with acid through the hole in the lid. When the pads are fully soaked (approximately 5 min) move the basket into the dripping pail (an ice-cream pail with a spacer on the bottom). After dripping, take the basket out of the dripping pail and install the filled pads into the prepared hives. Repeat this process until the yard is done. Forty hives can be treated in less than 15 min. Strain and pour unused acid back into the barrel, replace the tap with the proper plug, wash all acid laced equipment before going into the next yard.

MITEGONE™ VIDEO

A half hour video detailing MiteGone's use (including detailed written instructions and MiteGone samples) can be purchased from the New Zealand Licensee

N. Z. Beeswax Ltd
Private Bag , GERALDINE
for $20.00 plus $5.00 P&P (all GST incl)
Tel: 03 693 9189
Fax: 03 693 9780
Website: www.mitegone.com
E-mail: beeswax@xtra.co.nz

Discussion of Acid

Many papers have been written on formic acid. There are too many references to note all of them, but generally, all authorities agree on the following:

- Mites should not become resistant to formic acid.
- Formic acid is the only treatment that can be used in organic honey production.

1. Acid is a finicky material and each colony will react to it differently. While 95% of the test colonies in our experience took the **MiteGone™** application well, some colonies attacked it, chewing it, and plugging it with propolis. Some hives ventilated vigorously making the acid disappear at a rate of more than 20 grams or more a day. Surprisingly, all colonies finish with very low varroa infestation. Also, after 10 years of tracheal mite presence in the Okanagan Valley, we still test negative - below the detectable level.

2. The evaporation rate of acid and water.

At a concentration of 73%, acid and water evaporate equally.
At 85%, acid evaporates faster.
At 65%, water evaporates faster. Using a 65% concentration reduces the initial blast of acid inside the hive making it somehow more acceptable to the bees and queen losses rare.

3. To be effective, the concentration of acid fumes must be just below the level causing damage to the adult bees. At this level, bees will increase ventilation, a roaring sound may be heard, and bees may climb out of the hive; however, they will settle down in 15-20 minutes. Small mortality or damage to new drones and freshly emerged bees are signs of this concentration level; these effects are negligible during the spring treatment in **temperate** climate areas.

4. In temperate climates, acid treatment in the spring combined with pesticide treatment in September will slow pesticide resistance in the varroa mite and provide sufficient tracheal mite control.

5. Generally formic acid was not recommended for the autumn treatment and high varroa infestation levels. However, with resistance to pesticides, a forty day prolonged treatment is available with **MiteGone™** Simply cut off the end of the 25 cm pad to expose the evaporating surface and use the 22 cm long pad to dispense the acid.

Side Benefits

At the proper concentration, Formic acid treatment helps to control Nosema and Chalk Brood. It makes bees more hygienic as they clean cells of infected larva and chalk mummies. We observed the removal and utilization of old honey on combs where we placed the pads over the honey. All surrounding honey was removed and utilized; also combs were fixed and cleaned. Also, the small wax moth was removed from infested equipment added to the hives and did not reappear on hives treated with formic acid.

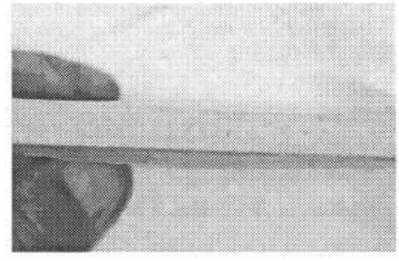
Testing

Verification testing is a must. In our 500 hive operation we test one circle of 20 randomly selected hives each spring to verify the level of both mites and the success of the treatments.

How does **MiteGone™** Work?

There are many different ways of dispensing acid. They require multiple applications, or several adjustments to openings or cutting slots. They work on the principle of absorbency and evaporation by regulating the wrap openings. Generally, these dispensers are placed on the top of the cluster or on the bottom board. They may or may not work equally on colonies of different sizes. They also may require additional space and equipment.

MiteGone™ solves these problems as it works on the **principle of the capillary tube and the law of gravity**. Another key to the success of **MiteGone™** is its **location inside of the hive. MiteGone™** pads are 9.5 mm thick 116 mm wide and 25cm long. These pads are hung vertically in the available bee space between the last comb and the wall of the hive body. In this location, 95% of hives will leave it alone and maintain favourable temperature and humidity. In spring we monitored the temperature and humidity - in the space between the last comb and the hive body wall against another hive - inside our winter four-packs and in pollination two-packs. Strong hives will keep the temperature in this space between 22-26 °C (70-80 °F) and a humidity of 55%. At this time of year, outside temperatures ranges between
minus 5° and 28°C (20-83 °F) and the humidity varies between 20 to 90%.



MiteGone™ pads are manufactured with zillions of capillary tubes in the direction of the length of the pad. When the pad is cut in half, or at the end, the tubes and evaporating surface are exposed. When soaked with acid, a four-gram half-pad will absorb 120 grams of acid and a full pad will absorb 240 grams of acid. Hung vertically, the capillaries will keep the liquid in the pad without dripping and gravity will pull down the acid to replace acid evaporated at the bottom. Under controlled conditions of 24 °C and 55% humidity, a four inch wide pad will emit six grams of acid a day.

Cost of Treatment

Most papers recommend 10-15 grams of acid to be evaporated each day with an open entrance for a two box high colony. We experimented with evaporation at 2 gram increments from 10-18 grams of acid a day with fully open entrances, and at 6 grams a day in 8 frame one high colonies with 5 x 7.5/18 cm wide entrances. All of these rates provided sufficient treatment and there was no damage to bees or brood. I guess we ran into the amazing ability of the bees to adapt and ventilate to keep the concentration of acid fumes below the damage level. **Therefore, why waste acid and money?** Six grams of acid a day supplied by one pad will do for one box. **Treat one high colonies if you can at a cost of less than NZ 40 cents.** You can experiment with reducing the entrance or forming an acid fume-retaining tray by using a slanted block at the entrance of the hive or tilting the hive back for increased effect.

Safety

Rubber gloves, a respirator, and acid resistant clothing are a must. In bee

yards, wear thin rubber pants under your overalls. Set up the filling station as low to the ground as possible so spills or splashes hit only your boots or pants. Avoid working with acid elevated above your waistline. Temperatures below 20°C are recommended for work with formic acid. High temperatures may cause dangerous exposure from acid fumes to humans and bees alike. Go to *Safety and Instructions* at www.mitegone.com .

HOW TO MAKE THE MOST OF YOUR TREATMENT.

Some words of wisdom: You are not the only beekeeper in the world. Unless you persuade your neighbors and surrounding hobbyists to treat for disease the same way you do, your operation will always be in jeopardy. Everyone needs to treat at more or less the same time, using the same treatments. You should provide others with material at a reasonable cost to make it easy for them to treat the same way you do. If you do not, you will have to fight reinfestation, often by resistant varroa. So be smart and encourage others to use pesticides in the late summer and prolonged formic acid application in the spring.

Any beekeeper, beekeeping club, or bee supply can become an associate by signing the associate agreement, buying the pads by the box or pallet, and distributing them locally. **In countries other than Canada** licensing under PCT Patent Protection can be arranged providing material, manufacturing, and marketing experience.

To become an associate, distributor of MiteGone™

- Visit mitegone.com and select the
  - ✓ *associate program* link,
  - ✓ *wholesale and distribution* link, or

(This is not yet available in New Zealand)

- e-mail info@mitegone.com
- call 1-250-762-8156,
- fax 1-250-763-1206, or
  mail: 2910 Glenmore Rd. N. Kelowna, B.C., V1V 2B6, CANADA

Scientific Evaluation
Report on MiteGone™; a Commercial Slow Release Acaricide Treatment of 65% Formic Acid.

Excerpt from Hivelights, 2000 Vol. 13 #4; *Can you Make Varroa Sick?;* Adony Melathopoulos (Agriculture and Agri-Food Canada, Beaverlodge, AB), Bill Ruzicka (Bill's Honey Farm, Kelowna, BC) and John Gates (BC Ministry of Agriculture and Food, Vernon, BC).

"...two groups of colonies were either left untreated (Untreated) or treated with Apistan (Apistan) for comparison... A new commercial slow-release treatment of 65% formic acid (MiteGone™) was also tested and was applied on top of the brood nest (MiteGone Top) or stapled beside the outer frame (MiteGone Side). Following treatment the varroa mite population in each colony was evaluated on a weekly basis using stickyboards. Colonies were assessed in September to determine if treatments had any effect on bee populations or honey production. Colonies were monitored for varroa mites by treating all colonies with Apistan for 2 days and counting stickyboards in mid-September, to compare the relative number of mites among the treatments entering into the winter.

(All treatments)... *had no measurable negative impacts on the population of bees or the productivity of colonies.*

Unexpectedly, colonies treated with formic acid applied on the side of colonies appeared to have fewer mites compared to colonies receiving the same treatment on the top bars above the broodnest."

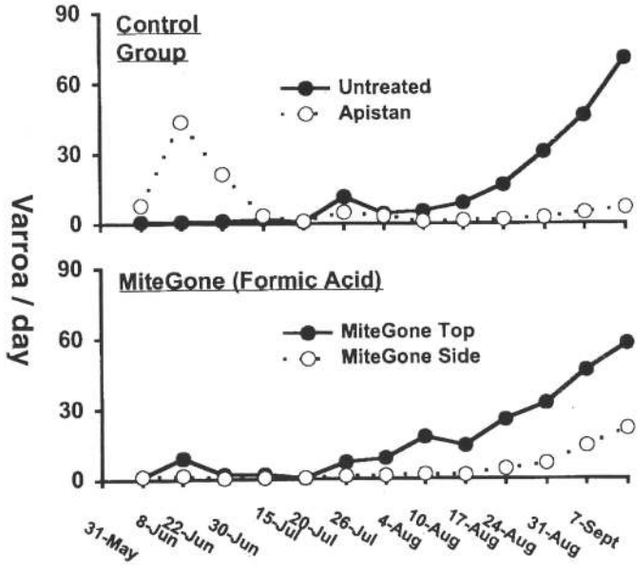


Figure: Varroa mite population rise following treatment with Apistan, 65% Formic Acid

Waikato Branch

A Waikato Branch field day will be held at Tony Lorimer's property, Tauwhare Rd, Hamilton, on Saturday April 6. Following an introductory cup of tea at 9-30am, there will be trade displays, four guest speakers and time to discuss varroa. Lunch will be a sauage sizzle, and the day's activities will end with a BYO barbecue. Adults $5, children free.

LATE DELIVERY

The March issue of the New Zealand Beekeeper has been delayed to enable the NBA to distribute copies to all beekeepers in New Zealand.

The publisher apologises for any inconvenience to advertisers and advises that this issue will be distributed to a larger readership than normal.

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www.beekeeping.co.nz

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www.beekeeping.co.nz/contacts/nzbkpr.htm

More information:
nickw@beekeeping.co.nz

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Fax: (09) 634-4376

AUCKLAND BEEKEEPERS CLUB INC.
PO Box 214, Waimauku, Auckland
President: Ian Anderson
Phone: (09) 480-8327
Email: ianderson@clear.net.nz

NORTH CANTERBURY BEEKEEPING CLUB
Meets the second Monday of April, June, August and October.
Contact: Mrs Hobson
Phone: (03) 312-7587

SOUTH CANTERBURY BRANCH
Peter Lyttle
Phone: (03) 693-9189

CANTERBURY BRANCH
Meets the last Tuesday of every month.
February to October.
Field Day November.
Contact: Trevor Corbett
Phone: (03) 314-6836

CHRISTCHURCH HOBBYIST CLUB
Meets on the first Saturday each month, August to May, except in January for which it is the second Saturday.
The site is at 681 Cashmere Road, Commencing at 1.30pm.
Contact: Fiona Bellet "Oakwood"
Bradley Road, RD 5
Christchurch. Phone: (03) 347 9919

DUNEDIN BEEKEEPERS CLUB
Meets on the first Saturday in the month September - April, (except January) at 1.30pm. The venue is at our club hive in Roslyn, Dunedin.
Enquiries welcome to club secretary, Dorothy, Phone (03) 488-4390

FRANKLIN BEEKEEPERS CLUB
Meets second Sunday of each month at 10.00am for cuppa and discussion and at 10.30am open hives.
Secretary - Liz Brook
187E Clarks Beach Road,
R.D. 4, Pukekohe
Phone: (09) 232 1111
Mobile: 025 720 761
Fax: (09) 232 1112 Email: liz@pageset.co.nz

HAWKE'S BAY BRANCH
Meets on the second Thursday of the month at 7.30pm,
Arataki Cottage , Havelock North.
Phone: Ron (06) 844-9493

MARLBOROUGH BRANCH
contact Will: (03) 570-5633

MANAWATU BEEKEEPERS CLUB
Meets every 4th Thursday in the month at Newbury Hall, SH 3, Palmerston North.
Contact: Joan Leckie, Makahika Rd,
RD 1 Levin
Phone: (06) 368-1277

NELSON BRANCH
Phone: Michael (03) 528-6010
NELSON BEEKEEPERS CLUB
Contact: Kevin
Phone: (03) 545-0122

OTAGO BRANCH
Phone: Mike (03) 448-7811

POVERTY BAY BRANCH
Contact: Barry (06) 867-4591

WANGANUI BEEKEEPERS CLUB
Meets on the second Wednesday of the month.
Contact Secretary: Neil Farrer
Phone: (06) 343-6248

NORTH OTAGO BRANCH
Bryan O'Neil
Phone: (03) 431-1831

SOUTHERN NORTH ISLAND BRANCH
Contact: Frank
Phone: (04) 478-3367

SOUTHLAND BRANCH
Contact: Don Stedman
Ph/Fax: (03) 246-9777

TARANAKI AMATEUR BEEKEEPING CLUB
George Jonson
195 Carrington Street
New Plymouth
Email: honeyhouse@clear.net.nz
Phone: (06) 753-3320

WAIKATO BRANCH
Contact Tony: (07) 856-9625
Jan Klausen: (07) 386-0111
Next meeting will be in 2001
(date yet to be confirmed).

WAIRARAPA HOBBYIST BEEKEEPERS CLUB
Meet 3rd Sunday each month (except January) at Kites Woolstore, Norfolk Road, Masterton at 1.30pm.
Convenor: Arnold Esler.
Phone: (06) 379-8648

WELLINGTON BEEKEEPERS ASSOCIATION
Meets every second Monday of the month (except January) in Johnsonville. All welcome.
Contact: John Burnet,
21 Kiwi Cres, Tawa,
Wellington 6006. Phone: (04) 232-7863
Email: johnburnet@xtra.co.nz