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Waikato Field Day Held May 2005

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President's Report

This last month has been relatively quiet on the meeting front; however, this does not mean that the Executive has been inactive.

Meeting with New Zealand Food Safety Authority (NZFSA)

On 17 May, representatives from the American Foulbrood National Pest Management Strategy Management Agency, Honey Packers and Exporters, AgriQuality, HortResearch, Biosecurity New Zealand and NZFSA met in Hamilton to discuss the progression of Bee Product Export Certification clauses.

In the past there has been a requirement to declare area freedoms for American foulbrood and nosema. At this meeting we discussed the desirability or not for this requirement to continue. It was agreed that it would be better to remove disease clauses if possible. It is likely to take some time to negotiate this change, however.

If we are to continue with this declaration, NZFSA has asked the industry how to ensure better compliance with the American Foulbrood National Pest Management Strategy, to give the NZFSA greater assurance before certificates are signed. NZFSA's request will be taken to a meeting of the Management Agency in early June for discussion to work on a strategy to improve beekeeper compliance.

If the NZFSA is unable to get nosema removed from the clauses, it was agreed to consider commissioning some research to see what sort of heat treatment is required to ensure that there are no nosema spores in honey. Currently there is little published research on the effects of heat treatment on nosema spores.

Environmental Risk Management Agency (ERMA)

I have just received a letter from ERMA to inform us that Mr Rob Forlong has been appointed as the new Chief Executive, to replace Dr Bas Walker from 1 August.

The Executive is in regular contact with ERMA, particularly regarding applications to bring in hazardous substances that may affect bees. We receive a number of applications each month, all of which we must read and decide on whether to make submissions either for or against the application. In many cases, it also requires us to make further enquiries with ERMA to determine if the particular substance or product will pose a threat.

Bee Products Risk Analysis

The Executive has recently received a letter from MAF indicating that the risk analysis submissions process has been delayed due to time and staff constraints. It appears that most of the people who have been involved in this area have now left MAF for other less stressful jobs.

Sustainable Farming Fund applications

I have spent some time reading the recent Sustainable Farming Fund (SFF) newsletter. The newsletter indicates, once again, that the number of applications for the funds distributed through SFF has been oversubscribed. Applicants requested $35 million worth of funding: three times more than what is available.

Four of the 203 applications received were for bee-related projects. Three of these four applications are being amalgamated into one application. The Executive has been involved in this application as we consider that it is vital to have continued bee-related research. We hope that the application will be successful, and will keep you posted on progress.

Remits from Conference 2004

The Executive spent some time during our last conference call working out how to progress the remits passed at conference last year.

We have decided on a strategy to disseminate information about Karaka and its effects on bees. We have also decided to target several publications, as well as contact the Nursery and Garden Industry Association (NGIA), formerly the NZ Nurserymens Association. A small group of people will be asked to help with this project.

The Executive was asked to action two other remits. We have had more discussion on membership drives and also on how to assist those wishing to carry out research but need to apply for approvals to do so. The Executive will contact those individuals to move the process forward.

NBA structure review process

By now most of you will have realised that the membership has approved changes in the NBA structure. We are now moving towards the adoption of Electoral Ward representatives. It is pleasing to note that most of the Wards have already provided nominees for their representative on the Executive Council.

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Deadline for Publications

August 2005 edition:	***22 July 2005***
September 2005 edition:	***22 August 2005***
October 2005 edition:	***20 September 2005 (NB: Goes to all registered beekeepers in NZ).***

All articles/letters/photos to be with the Editor via fax, email or post:

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Some difficulty has occurred in implementing the process in instances where more than one branch has had to get together to get a ward nomination. I'm sure that after discussions with these branches we can smooth the process in the future.

The Executive has been busy advertising the Executive Officer position. We are pleased to report that a number of applications are already coming in, with many more enquiries. Given the number of applicants, we will need to look closely at the critical factors for this position to determine who will be the best person to employ as the NBA's Executive Officer.

NBA membership

We are pleased to see the considerable number of new subscriptions to the NBA. This will further strengthen our organisation, which is working exclusively for beekeepers and bee product exporters.

- Jane Lorimer

Thanks And Best Wishes For A Glorious Retirement!

Our printer, Crown Kerr Printing, has sold their business to South City Print due to the retirement of owner Ainslie Bannister. The National Beekeepers' Association Executive and the Publications Committee of The New Zealand Beekeeper express their sincere thanks to Ainslie for her years of service to the magazine and offer our best wishes for her retirement. We also remember Ainslie's husband, the late Bob Bannister, who was most helpful to our previous editors. We look forward to our association with South City Print, and are pleased that advertising manager Allan Middlemiss and layout designer Keith Weatherston will be continuing with the new firm starting 1 July 2005, making for a seamless transition.

You can find the contact details for South City Printing on page 2 of this magazine. Those wishing to advertise in The New Zealand Beekeeper should continue to contact Allan Middlemiss at South City. Nancy Fithian, Wellington-based editor, is the contact for editorial matters.

New law for fumigants including methyl bromide

Beekeepers need to be aware that as of 1 May 2005 the law has changed with regard to the chemicals used for fumigating. The Hazardous Substances and New Organisms (HSNO) Act 1996 replaces previous laws such as the Dangerous Goods Act 1974, the Pesticides Act 1979, and the Toxic Substances Act 1979. Under HSNO, fumigants will no longer be subject to the Fumigation Regulations or the Noxious Substance Regulations.

If you want to continue using fumigants, the law requires you to have the right Test Certificates. From 1 May 2005, you may need to be an Approved Handler, hold a licence or possess a Location Test Certificate for your premises. For more information about obtaining an Approved Handler Certificate, please refer to *Quick Guide – Approved Handlers* at www.ermanz.govt.nz/resources/alphabetical.asp

Controlled Substances Licence for Fumigants

Under the Hazardous Substances and New Organisms (HSNO) Act, anyone who manufactures, sells, uses or stores fumigants will need to obtain a Controlled Substances Licence.

For a list of fumigants requiring a Licence refer to the *Compliance Guide – Fumigators,* available at www.ermanz.govt.nz/resources/publications/word/ER-CG-17-01.doc or by calling toll free on 0800 376 234 (Hazardous Substances (HS) Compliance Line) for a copy to be sent to you. This guide includes a list of fumigants with their trade name products that shows what certificate or licence you need to have, or whether the fumigant is required to be tracked for each specific product.

A copy of the notice of transfer can be obtained from the ERMA New Zealand web site at http://www.ermanz.govt.nz/hs/transfer-pest-status.asp or from Bennett's Government Bookshop. ERMA also has a number of free copies available so if you would like one, please contact them on the number above and they will post one to you.

Obtaining a Licence

If you are not covered by one of the above transitional provisions, you needed to obtain a Licence by 1 May 2005 in order to possess these substances. To obtain your Licence you need to contact a Test Certifier.

Transitional Provisions	Key Dates
If you have a current **Certificate of Competence** under the Fumigation Regulations (1967), you have until 31 October 2006 to obtain a licence (see Staged Implementation below).	31 October 2006
If you are a **commercial grower** (or contract to commercial growers) and use fumigants exclusively for agricultural or horticultural purposes, you have until 31 October 2006 to obtain a Licence (see Staged Implementation below).	31 October 2006
If you are a person who imports, manufactures or supplies fumigants as at 31 October 2004, you also have until 31 October 2006 to obtain a Licence (see Staged Implementation below).	31 October 2006

You will only be able to obtain a Licence if you:

- are 17 years of age and over
- require the substance for your work
- have a full Approved Handler Certificate , and
- are a fit and proper person.

For more details, see the ERMA *Guide to Applying for a Controlled Substance Licence* which is available from the ERMA website at www.ermanz.govt.nz/resources/publications/pdfs/ER-UG-CSL-01.pdf or by calling toll free on 0800 376 234 (HS Compliance Line) for a copy to be sent to you.

Location Test Certificates

You will need a Location Test Certificate if you are using and/or storing flammable fumigants above certain minimum quantities (a list of these is included in the *Compliance Guide – Fumigators*), or see http://www.ermanz.govt.nz/resources/alphabetical.asp (Location Test Certificates).

Tracked chemicals

All licenced fumigants need tracking and only a licence holder can take possession of a licenced fumigant. To buy them your supplier will need to confirm there is a licence holder who will take responsibility for them, and that you have a Location Test Certificate if needed.

Staged Implementation

In order to make the transition from the laws you currently operate under to the HSNO regulations, a staged implementation process is being introduced. This allows anyone dealing with fumigants to progressively comply with the new controls.

There is a limited number of Test Certifiers who can issue licences for fumigants. To find their contact details check the register at www.ermanz.govt.nz/search/test-cert-reg.asp or call toll free on 0800 376 234 (HS Compliance Line) for a copy to be sent to you.

Continued on page 6

	Key Dates
You must continue to comply with the requirements of the Fumigation Regulations (1967). [The Fumigation Regulations will be repealed at the close of 30 April 2005].	Until 30 April 2005
All persons must comply with the HSNO controls for fumigants. All persons who are not covered by the transitional provisions must have a licence to possess a fumigant.	From 1 May 2005
All persons must hold a licence to possess a fumigant, unless: • you possess less than 3kg in total of pellets containing 660g/Kg magnesium phosphide or 570 g/K aluminium phosphide, or • you are only transporting the fumigant and complying with the Land Transport Rules.	31 October 2006

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Controlled Substances Licence Fee
ERMA has been consulting on the licensing fee that will take effect from 1 July 2005. Submissions were due on 3 June 2005. The proposed fee to cover the cost of the licence card and ERMA New Zealand's administration of the licensing system is $50 (exclusive of GST). Where a person requires a Police check, their fee will be passed on at cost (currently Police have set this fee at $20, exclusive of GST). Test Certifiers will also have administration costs which will vary between Test Certifiers and the complexity of an application. The final fee will be posted on the ERMA website on 17 June (see www.ermanz.govt.nz/consultations/fees.asp)

Comment from Frank Lindsay on methyl bromide and beekeepers

These new controls are critical for beekeepers as methyl bromide is dangerous stuff: a good breath of it can kill you within two days and there is no antidote. You can't wear gumboots as the methyl bromide can be trapped in the boots, dissolving your skin!!

In my experience when varroa movement controls were enforced, most beekeepers were using too much gas when fumigating loads. It needs only 10 grams per square metre over 24 hours to kill everything in the supers. Some beekeepers were just opening the valve and counting for 30 seconds. The proper use is to place the methyl bromide cylinder in a container of boiling hot water on a set of scales. Work out your usage rate and set the scales to trip when that weight is reached and then turn off the flow. After 24 hours, you then have to wait for half an hour for the gas to clear after the covers are removed before unloading. You have to use a very heavy plastic to cover the load and weight down all the sides so the gas (which is heavier than air) won't escape.

Other important points to note:

- licences cost $500 for five years
- tests: see ERMA website http://www.ermanz.govt.nz/resources/alphabetical.asp for details of tests and becoming a test certifier. Beekeepers have to know how to use methyl bromide, rates of application, its different forms, first aid measures, classification of the substance under the HSNO Act and storage provisions, etc
- you have to display a hazard sign at the gate or shed
- containers have to be locked away in a special facility when not in use
- masks have to be specially fitted to your face by a qualified attendant. There must be skin-to-mask contact (i.e., no beards)
- each time methyl bromide is used, the amount used has to be recorded in a diary for tracing purposes
- Government now wants to charge for your premises to be registered where it's stored
- fines for non-compliance are quite severe.

References

Environmental Risk Management Agency (ERMA). Compliance Guide – Fumigators Pest Management Services. ER-CG-17-01, 12-04.

Environmental Risk Management Agency (ERMA). Controlled Substances Licence for Fumigants.

Environmental Risk Management Agency (ERMA). Controlled Substances Licence Fee. Letters from ERMA to Frank Lindsay, 10 May 2005.

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VARROA AGENCY INC

Varroa Pest Management Strategy

by Duncan Butcher, Chairman of the Board

Large cardboard boxes are disappearing out of and returning to the AgriQuality office in Mosgiel at a fast rate. These boxes are heading to and coming from the Authorised Persons (APs) who are sampling hives as part of the South Island Varroa Surveillance Program for the Varroa Agency Incorporated (VAI).

We are very pleased with the positive response from South Island beekeepers who have been trained as Authorised Persons. Over 100 APs have made themselves available for fieldwork. This is a tremendous response and the VAI would like to thank you.

The program is really gearing up now and we are hopeful that we can complete the sampling before the cold sets in; however, a small number of inspections may be carried over to the spring. Apiaries in high-risk areas, such as around ports and airports, are being tested as a priority.

The levy accounts have all been sent and should have been paid by 1 June. The first week's response has been good, with several hundred payments received. All the Councils' contributions have been received except for Nelson, with which the agency is continuing vigorous discussions.

It is the Board's policy to vigorously pursue collection of the levy. It would be unfair to take any other approach, both for the beekeeping industry and the community who are contributing though their rates. We are hopeful that this won't be a problem, as we all should recognise the importance of the goal: *To Keep the South Island Varroa Free.*

By the end of June the VAI will be taking over the responsibility of movement controls and permits from Biosecurity New Zealand, formerly MAF Biosecurity. At this time all registered beekeepers will receive a letter from the Varroa Agency Incorporated and Biosecurity New Zealand explaining the change.

An essential part of the Varroa Pest Management Strategy is education and raising awareness. The VAI is currently developing a strategic communication plan to outline how it will educate the public and target industries about the strategy and any obligations they have. Target groups will include the beekeeping industry, transport and freight industries, etc. The VAI sees this communication plan as very important in maintaining the South Island's varroa-free status. More detail on this plan will follow.

Board members will be attending the two upcoming beekeeping conferences, where we look forward to meeting you. Until then, happy beekeeping, and let's spread the message on how to keep varroa out. Please feel free to share with us any ideas you have on how to achieve our goal ***To Keep the South Island Varroa Free.***

From the colonies

Waikato Branch

As I write this, two beautiful kingfishers are just outside my window. Their colours are striking.

The branch has a new scribe after two years of requests from the Publications Committee, when at the recent Waikato Branch AGM, the branch voted for me to do the job.

Hilarity has wormed its way into the Branch meetings, what with invert sugar, a hive feeder upside down, and rendering the president speechless over 'Motions' under the new rules.

The lead up to our 100-year reunion is going to be hard work, more frequent meetings and a lot of fun.

On a more serious note, branch members have been sobered over the potential quickening of varroa resistance. It is important that current treatments are used correctly, including the removal of products when the treatment period is completed. Beekeepers need to trial new products before changing entirely to a new regime, as many beekeepers have found that new treatments can leave you with hive losses when used incorrectly or the temperature/seasonal period is not what you thought it was going to be. Essentially, even when the treatment of hives is completed, it is critical to retest and ensure that the treatment has been effective. If the treatment is unsuccessful and you have retested, this allows you time to introduce another product. Spring is just too late to learn that varroa and your beehives don't go hand in hand.

- Fiona O'Brien

Bay of Plenty Branch

Overall it has been a mixed season for the Bay of Plenty. After a difficult spring and pollination season, conditions eased and honey crops varied from just above average to poor. I'm not sure what the total estimated crop will turn out to be for the Bay. Hives are by now wintered down and in good condition. I am not aware of major losses with the recent, very localised, floods. I hear there have been some small losses, but nothing out of the ordinary.

We've just had our autumn disease inspection, and in general it seems encouraging that many areas have low AFB incidence, although some areas still have a problem. One area is around Paengaroa, where the problem seems to relate to relative newcomers to the industry not applying the right discipline throughout the year. Hopefully some adjustments can be made by the people involved.

Another problem I came across was a starting hobbyist getting his first swarm last season. Someone else gave him another hive this past spring. When we inspected his two hives, his first one had just robbed out the so 'generously' given hive. You guessed it: he had to burn the lot. Not a very positive start in beekeeping. It shows that there has to be a certain presence of skill, and discipline in particular. If these traits are not applied it is advisable to stay out of beekeeping, in order not to expose the hives of their fellow beekeepers to disease.

On 18 June the Bay of Plenty Branch will have their annual Field Day, to be held at the Paengaroa Hall in Paengaroa.

I hinted previously at the difficult conditions during spring, which caused hive numbers for pollination to be marginally adequate. This situation has led the horticultural industries to initiate a Strategic Pollination Group. This group is beginning work on a project to plan what needs to be done to ensure adequate availability of pollination hives for the future, in order to protect horticultural export crops that are worth over $2 billion. The project starts with applying for a Sustainable Farming Fund grant to help fund it, which will be done on 31 May. All honeybee-dependent industries (horticultural and beekeeping) will be represented.

- Gerrit Hyink

Hawkes Bay Branch

Our initial contacts with the pipfruit industry over ongoing poisoning problems seem to have taken on a life of their own. It now appears that we will have an in-depth study into all problems associated with pollination, including best practices for all concerned, and a review of the pollination needs for all horticultural crops, which will include looking at the perceived shortfall in hive supply for some industries. Unfortunately I was not able to attend the last meeting owing to other commitments (I never got the message as I was away fishing for a week and it was over before I got home). It is heartening that the horticultural industry is taking note of our problems and, of course, as we are of theirs.

- John Berry

Canterbury Branch

Conference Conference Conference

The Canterbury branch would like to take this opportunity to welcome everyone to the 2005 NBA Conference, 4–7 July. Seminar days are Tuesday 5 and Wednesday 6 July.

Registrations will be accepted at the door; however, we would ask that you arrive 30 minutes before the presentation that you want to attend.

Keynote speakers this year are Dr Juergen Kepplar and Dr Jerry Bromenshenk. Since June 2002, Dr Kepplar has had the role as Product Responsible Scientist for Imidacloprid in the Institute for Ecotoxicology at Bayer CropScience Headquarters, Monheim, Germany. The basis of his presentation is how Bayer is keeping our bees safe. Dr Jerry Bromenshenk is from the USA. His research interests encompass the fields of ecotoxicology, population dynamics, and environmental chemistry. He is currently developing a rapid, honey bee-based, behavioral assay to detect the effects (sublethal as well as lethal) of exposures to toxic chemicals (e.g., pesticides, chemical warfare agents). Dr Bromenshenk's presentation will cover environmental issues with bees.

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Other topics include asset protection, vehicle log books, an update of varroa in New Zealand, GE releases worldwide, queen bee breeding and hive assistance, exotic disease surveillance, plant alkaloid risks, and DIY exporting. You can find updates on the website: www.nba.org.nz

Don't forget to bring your innovations for the Roy Patterson Trophy. Prizes will be awarded!

We also will be holding an inter-branch competition so come prepared! (Requirements: brain or brawn? You will need to decide on the night, when all will be revealed!)

Look forward to seeing you there.

- Brian Lancaster

Otago Branch

The season is well over now for most with winter work underway and holidays due. Quite a few are off to a Field Day in Aussie this month. Now that the final tallies are in, it seems Otago beekeepers managed between 20 and 60 kgs per hive. One or two even did a bit better, particularly on the Vipers Bugloss. The previous season there was almost none of this honey produced, so it does have a habit of averaging out.

Back in March local beekeepers assisted in an EDPR (Exotic Bee Disease and Pest Response Training Simulation), which simulated an incursion of Cape Bee into Dunedin. A total of 134 hives on 30 sites were inspected: varroa sticky boards in, live bee samples taken etc. The good news was that not only do we not have Cape Bee, which we were fairly sure of anyway, but no other disease or pest was unearthed. The AFB incidence in Otago seems to be very low now, thanks to some vigilant work by most beekeepers over the years. I personally was on an inspection team and was impressed by the way most hobbyist hives in the Dunedin area are cared for, although quite a few seemed too light for the coming winter. Only one site was found abandoned and the black, feisty and flighty bees in their rotten boxes were doing nicely, thanks. So far.

The Southland and Otago branches held our first 'lower South Island' Ward meeting yesterday. A small turnout but a productive meeting. With a Ward candidate nominated and Notices of Motion on the way the 'new and improved' NBA is making progress. DECA courses are being planned for the spring and these will be advertised in later issues of the magazine.

Enjoy your harvest.

- Peter Sales

Selecting varroa-resistant bees from New Zealand bee stock: part 1

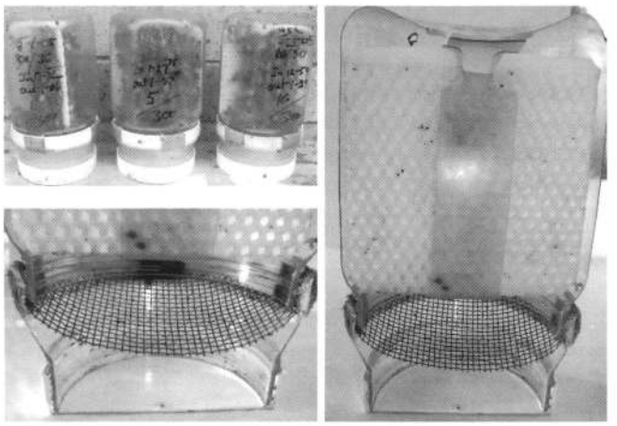
Bob Russell

This is the first in a series of articles on my experiments in breeding and selecting varroa-resistant bees.

Prior to the varroa incursion I used to select my breeder queens based on exceptional honey yield. On advice from a central North Island honey producer, queens were raised from those that had records of two consecutive production seasons and mated in out yards.

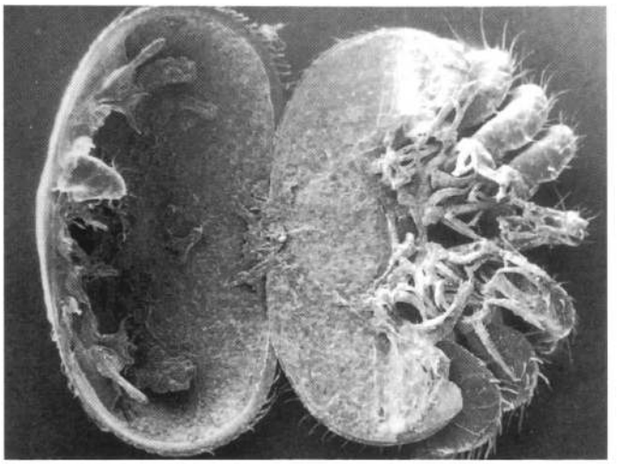
Following the varroa incursion and observations made during the delimiting survey, I was keen to monitor my selected breeder queens for any correlation between honey production and varroa resistance. Daughter queens were tested and traced back to parent queens, eliminating all but one with resistance to varroa inherited in many of the daughters. Soap wash was used for testing the first season.

Not long thereafter, Dr Mark Goodwin introduced a method suitable for on-site testing using an Apistan strip in a jar. Although this method was very effective, there were problems with low mite level detection, accuracy and use in windy conditions. Fallen mites appeared to remount the bees, though the action was not visible to the eye. Both of these problems were overcome by creating an enhanced jar having a double neck made up from two Nexus jars (one hexagon and the other round), to incorporate a screen with mite drop onto the bottom neck lid. This jar won the innovation award at the 2003 Waikato field day.

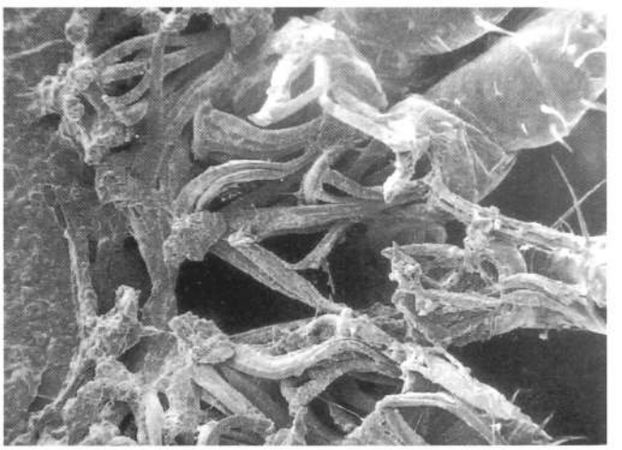


Three views of the enhanced jar: Apistan strip, cross-sectional view and a close up of the jar necks and screen. Photos: Bob Russell

In late 2004, in search for answers to another observation, I learnt from Alois Wallner of Randegg, Austria why the varroa mite can effortlessly mount the bee without detection. The photos below are reproduced from his 1994 publication *VARROA-RESISTENT*, showing the strong bundles of muscles that power the legs of the varroa mite.



Varroa with armour removed



Close-up showing the powerful structure of the leg muscles of the varroa mite. Photos: Alois Wallner from the German publication *VARROA-RESISTENT* (page 11).

The enhanced jar test has proved its worth as a diagnostic tool in my project, but is not without pitfalls. One must take heed of Dr Mark Goodwin's warning in the April 2005 issue of *The New Zealand Beekeeper* that mite resistance to Apistan may show up at any time from now forward.

When selecting/monitoring for varroa resistance, hives need to have been free from all chemical and biotechnical control methods for at least six weeks prior to starting tests, and queen laying for two brood cycles. During tests with the enhanced jar I observed that an abnormal number of mites were falling on the test boards for a time after I had returned the 300 test bees to their hive. I came to the conclusion that this result was caused by the carryover effect from the 30-minute exposure to Apistan during the test. Another lesson learned

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and overcome by returning test bees to another hive that is not being tested for varroa resistance using a dump hive.

In follow-up cross checks using the drop board test, I made an interesting observation in a hive I believed to be varroa resistant that also was dropping above-normal levels of mites. When examining these mites, I noticed that a number of them were damaged. Further checks under magnification showed other damage of real interest. Little did I know that the reason for the damage had been observed almost 20 years previously by Alois Wallner. He currently runs 700 hives and spent five years researching the selection and breeding of varroa-resistant bees in the 1980s.

In the next article, I will share the nature of the varroa mite damage I detected.

References

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Plums — ever wondered where they came from?

Almost everyone has a plum tree, and even those who don't will know a friend or neighbour who has one. Ubiquitous they may be, but many of us know little or nothing about their origins.

There are basically three main populations of plums:

1. American, which for the most part can be ignored, as very few of their species have provided fruit for the table
2. Japanese (actually Chinese), which form the majority of plum sales in New Zealand
3. European plums or prunes.

European plums can be split into three subgroups: gages, plums, and Damsons.

Gages (subgroup of *Prunus domestica*)

By far the most superior tasting of all plums including the Japanese, and outstanding at the best of times. Unfortunately, the gages have an undeservedly poor reputation, due to the growers picking far too early or, in some cases, by not growing named varieties but seedlings of extremely diverse characteristics.

Only two named types are reasonably available: Greengage and Reine Claude de Bavay (RCdB), which also is a greengage of Belgian origin. The greengage was named after Lord William Gage because his gardener didn't know where its origin was. Originally French, the greengage needs another prune or gage for pollination. RCdB, originally named after Queen Claude of France, is self-fertile and will set *some* fruit without a pollinator. Today the greengage in its various forms is virtually the only European plum still reasonably available if people are prepared to chase it.

Plums (*Prunus domestica*)

A catch-all grouping of all the plums not recognised as gages or damsons. The Japanese plum *Prunus Salicina* and the rootstock *Prunus Cerasifera* are also excluded, even though it is virtually certain *Cerasifera* (aka Myrobalan) has been involved for a long time in the hybridisation of *domestica*. Specialists still grow a few varieties in small numbers, including Angelina Burdett, Warwickshire Drooper, Red Magnum Bonum (or Imperial Prune), and Early Rivers, as well as three varieties of Damsons.

Damsons (*Prunus Institia*; originally Damascenes, from Damascus, Syria)

Damsons originated over 2,000 years ago but probably do not look today anything like their ancestors because they have become hybridised with the native Bullace of England, so that today some are hardly distinguishable. Eight to 10 varieties are still somewhat common in the UK, but in New Zealand probably only three exist: the Common Damson (which isn't); Kentish Bush; and the fairly common Cluster Damson (aka Farleigh or Crittendon, after its discovery by a Mr Crittendon in East Farleigh, Kent). The small, dark-coloured, very sour fruit are usually used for cooking as they make an excellent jam, and an even better Damson Vodka.

The Japanese plums are also a misnomer, as many are hybrids of the original Japanese (Chinese) with American natives.

In the 1800s an American named Luther Burbank made a fortune with his breeding of Russet Potatoes (still grown today in New Zealand) and an almond also grown today known as Burbank Almond. The profits from these ventures were used to buy land near Santa Rosa, California. Burbank then imported several hundred sacks of plum stones from Japan. After growing and selecting from literally thousands of seedlings, he crossed and recrossed many with various native American plums, but unfortunately never recorded or released the parentage of his best crosses.

Many of these crosses were exported to New Zealand and some are still grown, together with their progeny. Some of the originals were Santa Rosa, Burbank, Elephant Heart, Doris, and Giant Prune. Some of the later selections are Satsuma (which the Australians improved and called Mariposa), Black Doris, Billington and, of late, Fortune, Freedom and Hawera.

As beekeepers many of you will know how a hobby can sometimes take over one's life. So it is with fruit growing, especially the older heritage or heirloom varieties which are fast disappearing.

- Michael Beech
Levin

If you know of any very old apple trees, or gooseberries (yellow or green ones) still growing in isolated areas of the countryside, take a note of where it is (GPS it) and let Michael know by emailing him at QEMM@xtra.co.nz

About the Apiary

Last month my comments on varroa stirred some to suggest that I was happy to see hobbyist beekeepers disappear. That's not totally true, but I'm happy to see the 'leave them alone' beekeepers depart from the industry if they make up their mind that they can't cope with mites.

Some hobbyists simply need to learn to adjust to the changes that have occurred in beekeeping over recent years. No longer can they leave their beloved bees in a hive at the end of the garden, rely on someone to inspect the hive in the spring (paid for by the Government or commercial beekeepers), put on the supers for the crop, hope they don't swarm and then take off a little honey in the autumn, leaving the rest for the bees to overwinter on. That type of beekeeping has gone.

Urban beekeepers now have to be mindful of their neighbours, especially as section sizes in the cities are getting smaller. People are not as accommodating as they were previously. Most urban dwellers are no longer in touch with their environment, and many have a fear of stinging insects. Parents nowadays tend to be overly protective of their children. As children, we played everywhere and in one game, we used to see how many bees we could stamp on in our bare feet before we got stung. The game ended when one of us got stung: how many kids do this these days?

The regulations requiring all hives to be inspected for AFB are being more rigorously policed, meaning we now must acknowledge that it will either cost us money to have someone inspect our hives or that we'll have to do a little learning to keep up. The cost of beekeeping has increased in recent years and now perhaps we have to recover a little of that cost in honey — either to eat or give away to keep our neighbours sweet.

My hope is that all beekeepers will continue learning and adapting their beekeeping to suit the environment around them; after all, that's what the bees do. So if someone decides to let their hives die when varroa arrives (despite being offered help or assistance to sell their hives), there's not much we can do about it but hope that it happens quickly and doesn't impinge on their beekeeping neighbour. However you look at it, every beehive that is lost is a waste — the loss of the bees and equipment left to rot or that gets burnt for no good reason, and the waste of lost beekeeping knowledge gained over the years. After a while, people start to wake up to the realisation that there isn't as much fruit in the garden as there used to be.

Older beekeepers will have to change in another way. With varroa here, they now need a bit more help. During the last diseaseathon in my area, the majority of independent beekeepers (those that don't belong to a beekeepers' club) had high varroa levels in their hives. They weren't recognising the symptoms of high infestation. Beekeepers have to communicate more with each other. If you don't all treat for varroa in a consistent and co-ordinated way, you're going to get continued reinvasion of mites, which will cost you more as you'll have to apply more than one treatment.

Attracting new hobbyists

What I'd like to see is a fresh group of young people taking up the hobby. They don't have fixed ideas and quickly adapt to the present reality that monitoring and treating varroa mites is now a part of New Zealand beekeeping.

It's so easy for an established beekeeper to pass on some old gear, make a split and get a new beekeeper started, then combine their efforts so that the new beekeeper assists the experienced one, while all the time gaining knowledge.

It takes a peculiar type of person to keep bees, one with a fascination of nature and insects. We have to find them or put up signposts so they can find us. Saturday markets and farmers' markets attract people who are committed to organic cultivation practices, and sometimes these venues provide new beekeepers. Never turn down an opportunity to give a talk to young people about bees. It can be a bit challenging at first to put beekeeping into terms that young children can understand, but each time you give a talk you may trigger in someone the idea to keep bees at some stage.

Guides and Scouts have beekeeping badges. Offer to talk to them and assist everyone interested to get their badge. It takes a season and you have to do a bit of work, but it's very satisfying to see what these young people can achieve. It's only when they start asking questions that you start learning when you have to find the answers.

How many times do we read in the beekeeping magazines that a successful commercial beekeeper got started because the old fellow down the road who had bees provided a hive and taught them beekeeping? Keep an eye open for that youngster that hangs around. Get a suit for him or her so they can see what you are doing at close range, and show them how to handle the bees.

One of the problems faced by the new beekeeper at the moment is getting a book on beekeeping tailored to New Zealand conditions. *Practical Beekeeping in New Zealand* (written by Andrew Matheson and published in 1997) is out of print but it's still available from your beekeeping supply company.

So do a little reading this winter and don't turn down offers to talk to groups. For those who are commercial beekeepers, talk to your local college or high school career adviser and offer to take one or two young people out for work experience in the spring. You may need to do a little bit of testing to see that the students are not allergic to stings and get a new bee suit or two, but it's not too much of an investment in the industry's future.

Read those adverts!

Did you read the adverts in the magazine? I admit that I don't read them all but the advert in the magazine a couple of months ago for new bee escapes struck me. It's been a long time since I browsed through a bee stockist's warehouse. How many times do you do this on an overseas trip, only to find the item cheaper back here in New Zealand? Most of the time, we don't know what they've got in stock, so keep an eye on the adverts and if you have time do a bit of browsing locally. Remember too that these people pay for the production of this magazine.

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Things to do this month

Borrow a few beekeeping magazines from your local library. Consider writing down a few unusual things that happened this season and send them to the editor of *The New Zealand Beekeeper*. A problem shared is a problem halved, so pass on your knowledge and experience. Everyone enjoys those old-time tales, which sometimes save a young beekeeper repeating the same exercise 30 years later.

Check that your hives are still standing after storms. The southern North Island has experienced three massive storms in the last year, the last one causing slips and mud to the extent that some hives could only be seen by the straps on the lids. Now parts of the Bay of Plenty are experiencing their second flooding this year.

Render down cappings. If you are rendering down brood combs from treated hives, keep this wax separate as it may contain a small amount of residue. Order replacement woodware and start making it up for the coming season.

- Frank Lindsay

Varroa Pest Management Strategy — another view

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Is the Varroa Pest Management Strategy fair and workable? Woodlands Apiary Ltd believes that the varroa strategy is a con perpetrated by Government officials in an attempt to cover their embarrassment in letting varroa into the country in the first place. It is also an attempt to get regional councils to shoulder the financial burden of biosecurity monitoring. The economic impact of varroa is grossly overstated even with the reviewed estimates submitted by MAF. We contend it is a waste of time and resources. The objective of the Varroa PMS is based on a mistaken belief that there is some competitive advantage to be gained by keeping the South Island free of varroa. Just what this competitive advantage to beekeepers is has never been explained or argued convincingly.

The Varroa PMS is more about the politics of biosecurity than it is a practical solution to the issue. The objective is not realistic without the commitment to eradication. Imposing a levy which funds government agencies to do surveillance when the surveillance could be more effectively done by the beekeepers themselves at no cost, will, over time, build resentment in the industry. Movement controls will limit the beekeeper's ability to run the business. Both elements could lead to beekeeper sabotage to undermine the strategy.

The myth, perpetuated in some part by sections of the beekeeping industry using the disunity of the industry, is that varroa is going to ruin the South Island beekeeping industry. The major effect is forecast by MAF as being to the pastoral sector with 90 percent of the impact, thus the justification for the involvement of the regional councils. There are some elements of the Varroa PMS, such as port surveillance and movement control between the islands that make sense and should be supported, but the majority of the strategy is unnecessary and wasteful.

Economic impact of varroa

MAF estimated the potential economic impact of establishment of varroa in the South Island to be between $198 and $433 million, with the 'middle' case scenario showing an impact in present value terms of $314 million, over the next 35 years. Ninety percent of this impact will fall on the pastoral industries, with lesser, but still significant effects on the beekeeping, horticultural and arable industries.

Impacts on different industries develop at different rates but once stabilised, MAF forecast the annual impacts on the different industries to be: pastoral industries – $234.22 million; beekeeping industry – $1.07 million; horticultural industries – $0.96 million; and arable industries – $1.57 million. These impacts are all based on the assumption that present managed beehives are providing between 1.1 and 3.2 kg nitrogen per hectare of pastoral farming over the South Island. This basic assumption is nonsense. There are approximately 135,000 managed hives in the South Island, which at a minimum population of one hive per five hectares, means that only 675,000 hectares (or in a regional context, about a third of Southland's pastoral farms) could be effectively producing a nitrogen effect. It is estimated that there needs to be 2.8 million hives to have a minimal effect on nitrogen in the whole of the South Island pastoral farms. There are not enough hives in the South Island at present, or ever in the past, to produce the nitrogen effects that MAF uses in their forecasts.

Secondly, MAF estimates that because of the nitrogen loss there will be a three percent drop in production of sheep meat, wool and beef production. Where is the evidence from the North Island experience of four years to support this theory? This too is plainly a nonsense manufactured to encourage regional councils to fund the Varroa PMS.

The North Island experience is contrary to the forecasts: the beekeeping industry is still functioning and profitable; colleagues in the North Island have reported that with the intensive management required under varroa, hive yields have improved as well as returns, which in some cases have doubled. Significant opportunity exists now in the North Island with a shortage of both beekeepers and hives. Has the North Island, after four years, reported a huge drop in pastoral farming profitability because of varroa? There is no economic basis for ratepayers' and beekeepers' money to be used to fund this strategy.

Democratic processes in setting the levy

Most beekeepers were expecting a vote on the imposition of the Varroa PMS, as was the case for the AFB levy. If it was good enough to test the support for one levy with a vote, then surely the same procedure should have been followed for the second levy. The Varroa PMS refers to a Memorandum of Understanding with the Government on the eradication process. We consider this a vital component in the whole package, yet the levy has been struck without this detail being available for consideration.

We already have the VAI acting in bullying manner, threatening severe financial penalty for those that do not pay,

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and they have taken the unusual step of sending a second threatening letter prior to the payment due date. If it is a good idea, beekeepers would support it voluntarily as they do the AFB levy. We did not think that we lived in a police state but this is getting close to it. Despite protestations from the authorities, those affected by the levy have not been consulted adequately nor have they had their views represented accurately to the Minister.

In the haste to establish the levy, democratic processes have been undermined. The Varroa PMS contains a funding formula which includes funding from territorial authorities. It is our understanding that the commitment of regional councils is subject to the approval of each individual council's annual plan. The order has been imposed without this step happening, assuming that council funding is fait accompli. We made a submission to our local council but according to Mr Butcher, the chairman of VAI, the councils have already paid! This is a blatant disregard for the democratic system and our rights have been undermined by the process. One council has opted out of funding the varroa strategy. Why is it that there is compulsion for one element of the so-called partnership and not the other?

Do we need a PMS?

As proven in every country that incursion has occurred, varroa can be managed by beekeepers who are willing and able to adapt their management practices. It is just one of many diseases that could afflict the hives, and many of these diseases are a lot more sinister than varroa. Unlike American foulbrood, there are no requirements of declaration with our existing export markets. If a new pest threat arrives through the incompetence of the biosecurity authorities, will there be another levy raised?

To eradicate varroa you have to eliminate the honeybees. The strategy is a 'seek to destroy' programme: "to seek out Varroa and to destroy bees when it is found". Not unlike suggesting that the best way to get rid of cancer is to kill the patient. It certainly will work, but it would be considered counterproductive. Even if 'successful' in ridding a particular area of varroa mites, it needs to be emphasised that the way of achieving that is by eliminating all the bees in that particular area, not by just shifting the hives to another area, but by killing them on the spot. This effectively depopulates the entire area of bees for a considerable period. No one can say for how long because it has never been done before! It has been suggested that an infected area under eradication could have bees reintroduced almost immediately, but on condition that they are also destroyed if varroa reappears; in other words, a one-way ticket into the area only. What needs to be considered is the short-term impact of immediately depopulating an area of all bees, and the long-term impact upon beekeepers' willingness to re-populate that area again. Ask yourself if you would go back in a hurry if you knew there was any risk of a repeat depopulation. The area concerned would become a 'black hole' to the industry, and only if compensation was absolutely guaranteed would a beekeeper in their right mind consider going back until the dust had settled well and truly — like after several years, probably.

An eradication strategy is the ultimate restriction of individuals: an absolutely classic example of the rights of the individual being overridden by the interests of the entire group. When you look at Foot and Mouth Disease, there is no question that this principle applies, because there is no acceptable alternative at present to elimination of the hosts; i.e., cloven-hoofed animals. In the case of varroa, however, there is a viable alternative, several in fact, including approved chemical treatments, management methods and genetic material introductions. Control is a viable option — eradication is not essential. The disease is not life-threatening to humans or to anyone else associated with the industry, e.g. farmers. The presence of varroa in an area will not mean the demise of beekeeping there, or the loss of pollination services. There is more than enough factual information to demonstrate this case,both in the North Island and overseas.

Modern beekeeping in the South Island means that hives have to be mobile to dual crop. If varroa is discovered, then the varroa strategy allows for the imposition of movement controls. These controls could have a big effect on our business — possibly halving our ability to yield crop if the incursion is reported in the wrong time of the year. If a beekeeper were to find varroa, the temptation will be not to report it and quietly go about treating and managing the infestation. Why? Well, if you knew that all of part of your business was going to be shut down and possibly destroyed with minimal compensation, and you would be restricted in moving those hives to either prepare them or harvest an alternate crop knowing you could manage the issue, would you be shouting it from the rooftops?

The major weakness in the Varroa PMS is the commitment of the Government to order eradication with the appropriate compensation. The Varroa Planning Group are quoted by the Board of Inquiry as saying "*unless there is both the capacity and the intention to mount an incursion response, there is no justification for carrying out surveillance at this level of intensity.*" Incursion response is the responsibility of Government and is not captured within the Varroa PMS. We are told that the VAI is negotiating a Memorandum of Understanding on eradication response with the Government. The question is, why was this memorandum not negotiated before the legislation was passed? Surely the response to an incursion is the key point to the strategy.

The track record of the Government does not give confidence that eradications will ever happen. In July 2000, Government made the decision not to eradicate in the North Island. The main risks to successful eradication in the North Island were considered to be accurate definition of test sensitivity, the ability to detect infested apiaries before further spread occurred and achieving eradication of feral bees. It was considered that a failed eradication attempt would negatively influence successfully managed control of varroa, because of the impact on agriculture of depopulating bees over a wide area. What has changed?

We contend that there should not be an eradication attempt. Why? Our case is based on several factors:

a. Cost – The Board of Inquiry was presented figures from officials that estimated that eradication of a medium incursion in six 20 x 20 sq km grids (2400km^2) would cost

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$7,000,000, and those figures did not allow for the cost of any compensation that may or may not be paid. This would not even cover the eradication cost if there was an incursion in Southland.

b. The practicality of eradicating feral hives. There is a huge knowledge gap about the number of and location of feral hives. No research has even been attempted to quantify this, but our guess is that there are many times more feral hives than there are managed hives. The way suggested for eradicating feral hives is the introduction of a poison that would be carried from hive to hive by the bees. Apparently a small trial has been carried out with some success. No evidence was presented as to the after effects of the poison, if and when the poison would affect other insect life and what withholding effect there would be for repopulation and the timing of such a poisoning operation. Any environmental agency would be irresponsible in allowing such an action to occur without being aware of the side effects. A scorched-earth poisoning policy such as recommended by the advisors needs to be completely tested before being approved, and yet there is no evidence that this testing has even been started. There was, and still is the opportunity to test the practice on recently infested Great Barrier Island but MAF have declined to take up the opportunity, which adds to the suspicion that the Government is not serious about eradication.

c. No one in Government has been willing to answer the question "How many outbreaks of Varroa in the South Island will you be willing to respond to and attempt to eradicate?" This is a crucial question when spending money to look for mites — if the response is not equal on every occasion they are found, then the exercise of looking for them is nothing more than an academic one. It represents consumption of resources without expectation of any outcome. That is a classic definition of 'wastage'.

d. The officials presented models about the likely spread of any incursion that were accepted as robust by the Board of Inquiry even though they did not take into account the modern beekeeping practice of moving hives regularly over large distances, which is not necessarily the case in the North Island. For example, there was not a viable crop in Southland this year, so our company moved more than 2000 hives into Central Otago and North Otago to chase the crop and we were successful. If we did not do this, the viability of the business would have been seriously challenged.

e. There has never been a successful eradication attempted anywhere else in the world. That in itself is not a reason that it should not be tried; however, if you take into account the other factors mentioned above, the benefits do not equal the costs, particularly the surveillance and movement element. Varroa has been around for at least three decades after the mite jumped species. The rest of the world except Australia has had to live with varroa for some time, and there is still a growing world honey industry with increased production, particularly in Third World countries.

Movement controls during eradication efforts would seriously undermine our business. Such controls need to have the full cooperation of beekeepers to be successful, but in an environment where there is a threat to your income and lifestyle there will be temptation to ignore them. We run a contract extraction business and the evidence from the North Island shows that movement controls severely affected the ability of some contract extraction businesses to earn income. Although officials told beekeepers that the government would compensate them for losses caused by movement controls, when claims were made the claimants were told that the loss of contract extracting income was not a direct result of the imposed movement restrictions — so no compensation. Movement controls would affect our ability to process our honey at our processing plant.

Summary

The Varroa PMS is a control and search exercise only. It offers no guarantees of any further action beyond the point of discovery, neither of mites, nor of any repeat action to follow. This makes the strategy a poor investment in terms of solving the identified problem; that is, the long-term sustainability of beekeeping in the South Island. Funds spent looking for the mites and then trying to stop the tidal wave by killing all the hosts is totally pointless. All that does is dramatically accelerate the mite's effect: don't wait for the mites to cause the death of the bees — leap in and do the job for them. The fastest way we can think of to get rid of your genetic potential is to render the species extinct.

The Varroa PMS implies that if varroa is found an emergency response procedure will be carried out in the South Island, which will impose bee movement restrictions and a delimiting survey with a view to an eradication attempt if possible. Controlling or restricting the movement of bees also controls and restricts the normal commercial business activity of beekeeping. By definition, the provisions for compensation under the Biosecurity Act do not necessarily cover long-term effects of such restrictions as only the immediate emergency actions are compensated.

Eradication is a 'no choice' situation for those involved, even if effective alternatives (e.g., treatments) are available. This does not allow for a well-considered, commercial decision to be made by any individual beekeeper, as the ultimate decision is already made for everyone involved. Eradication is counterproductive to the need to maintain beekeeping activity in an area; i.e. 'killing the bees' equates to 'killing the opportunity'.

Expenditure of large sums of money on looking for the precise moment when a problem arises (i.e., when varroa arrives in the South Island) is uneconomic, short-term thinking when compared with the opportunity of creating an environment whereby the impact of the problem is minimised long-term (e.g., developing mite resistant or tolerant bee stocks). Unless there is a commitment to carry out an eradication exercise on every future occasion when varroa mites appear in the South Island, not just the first time, then there is little economic justification for expending money on looking for that first occurrence.

Note

Woodlands has approximately 4000 hives in the Southland, Central Otago, North Otago and Dunedin region, with processing plants at Mamona and Woodlands.

Letters to the Editor

Response to article on waxmoth control in April 2005 'About the Apiary'

Firstly, I would like to congratulate you on the great improvements which have been made to your magazine over the last few months and I look forward to receiving each issue. The magazine is a publication which all members of the NBA should be pleased to have dropping through their mailbox as it is full of news and detailed informative articles on all aspects of beekeeping.

I enjoy reading Frank Lindsay's enormous input but, unfortunately, I cannot agree with his recommendation that paradichlorobenzene should be used by hobbyists for waxmoth control. He is right in saying that beekeepers are turning away from its use in other parts of the world, but the residues that build up in the wax are not quite so small as Frank would have us believe. Indeed, there have been major problems recently in Greece concerning the use of PDB as a result of which many of the country's leading honey suppliers had to remove their products from supermarket shelves. Almost 60% of samples from 38 Greek honey brands were over the EU limit of 10 micrograms of honey per litre for PDB residues, with some as high as 166, 149 and 123 micrograms/litre. Two years ago, beekeepers and the authorities were warned by scientists from Thessaloniki that beeswax contained high levels of PDB residues, but little was done to remedy the situation.

I cannot understand Frank's reasoning that it is OK for hobbyists to use PDB but not commercial beekeepers. Surely, it is the consumer who needs to be protected, whether they buy their honey from a supermarket chain to which commercial beekeepers sell wholesale, or from the hobbyist's backdoor outlet.

Yours sincerely
John Phipps
Editor
The Beekeepers Quarterly/Bee Biz
Greece

Response from Frank Lindsay

John,

I was aware that PDB can leave a residue in wax but generally if the product is used correctly, it shouldn't leave any residues. To my knowledge New Zealand honey has never picked up this residue in testing.

New Zealand is a tiny exporter on the world honey scene. We concentrate on putting our unique floral honeys out to the world in the best possible condition — residue free. Hence I do not believe commercial beekeepers should be using PDB if there's a chance of it leaving a residue, even though it is perhaps the only chemical available that gives beekeepers in difficult areas protection from wax moth.

I recommended it to hobbyists as they generally store their supers indoors during the winter where they are more readily attacked by wax moth. If used correctly (two teaspoons per six supers placed on a plastic lid or a tin lid and aired for 4–5 days before the supers are reused), I do not believe there should be a problem.

Problems occur with chemicals when complacency sets in or when people take short cuts: i.e., putting in more than is recommended; throwing a handful of crystals into a stack of supers so that the PDB comes into contact with the wax; putting PDB in a stack of supers that contains food honey; putting PDB into a drum of capping to prevent wax moth damage before it is rendered down. All are no-no's.

However, in light of your letter, perhaps our scientists should have another look at this chemical and give us a recommendation as to whether or not we should be using it.

Frank Lindsay

Beginner's luck — and some!

This past spring I traded two hives for a joinery job at home in my too-hard basket. Friends and first-time beekeepers Neil and Deanne Andrews took their pride and joys to a site near Cromwell for a summer holiday. As it happened, it rained all December, which it 'never' does there, then the sun came out in true Central Otago style and stayed all January. The Vipers went berserk, the hills turned purple, and the boxes filled up, and up and up.

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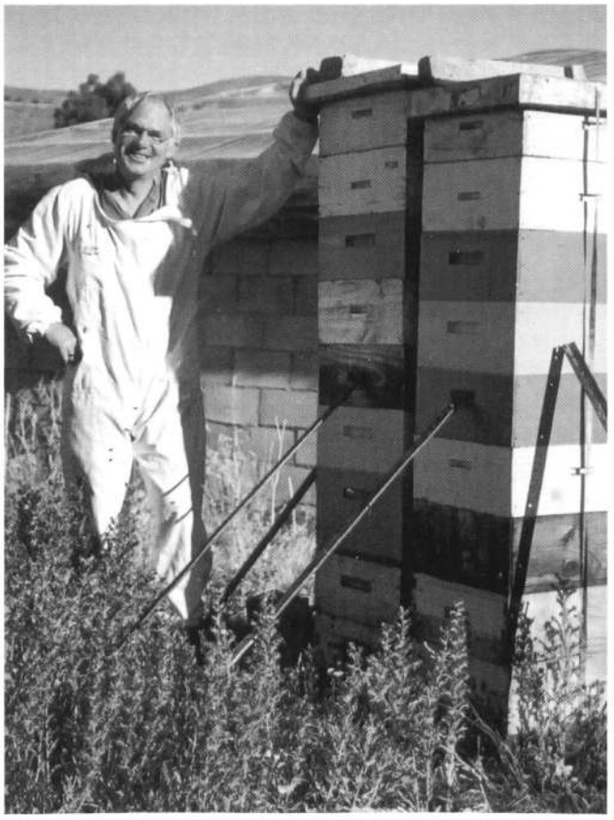

Lucky beekeeper Neil Andrews.
Photo: Peter Sales

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Totally astounded by how quick and successful it all was (as was I and jealous of it), their smiles couldn't find faces wide enough. Like gold miners who found a huge nugget on their first try, these are two very happy hobbyists who are hooked for life. Trouble is, it is one mighty hard act to follow! Not wanting to spoil the fun, I still had to warn them that during the previous summer the crop there was nil. They don't believe me, of course.

Peter Sales

Protect those mantises!

While walking the garden with our daughter during Anzac weekend we spotted a very pregnant praying mantis. 'So what?', you might ask. Well, this insect was busily tucking into a common wasp that it had grasped by the back. When first sighted the wasp was still kicking, but by the time we had brought a camera all that was left was a few bits of wing and leg. We carefully look after any mantises that we now find!

Ron Morison

Varroa monitoring tip

If you are using screened bottom boards, here's a suggestion for checking on mite numbers. Get a piece of real estate agent's advertising board and cut it to use as a slide between your ground runners. Support this by tacking a couple of 10-mm strips to the runners just below the floorboards to stop the white board blowing away. Spread a sticky brew of 50/50 Vaseline and cooking oil on the board to trap any dropping mites. Then decide whether to check natural fall after 24 or 48 hours or to insert a treatment strip for the same amount of time. Next it is over to you to interpret the result, depending on where you are. High numbers obviously suggest that you have had re-invasion since your last treatment, so repeat the treatment. Remember to take out all strips after the recommended time!

Ron Morison

Trees and Shrubs of New Zealand

Weinmannia silvicola

Common name: Towai or Tawhero

A dark barked tree related to Kamahi though it does not grow as tall, reaching only 18 metres. Leaves are compound (rather than being opposite) and larger than Kamahi (*Weinmannia racemosa)*, and the white flower racemes are longer than Kamahi, up to 15 cm long.

The tree normally flowers in January or February, but can in certain seasons flower in December or as late as June, with the June flowering being a second flowering for the season.

The honey is light amber and has a slightly better flavour than Kamahi, although rather sickly, which persists even when blended. The pollen is white.

The early settlers in New Zealand used the bark of the Towai for tanning leather as the bark has a 30 percent tannin content — the bark was at one time exported for this use. The Maori used the bark to dye cloaks and mats of Flax and Kiekie fibres.

The inner bark of the Towai was boiled for 30 minutes, then the liquid was strained and used on cuts or burns, as this treatment was said not to leave a scar.

-Tony Lorimer

Weinmannia silvicola

Varroa treatment using a combination of strongly diluted formic acid and marjoram oil

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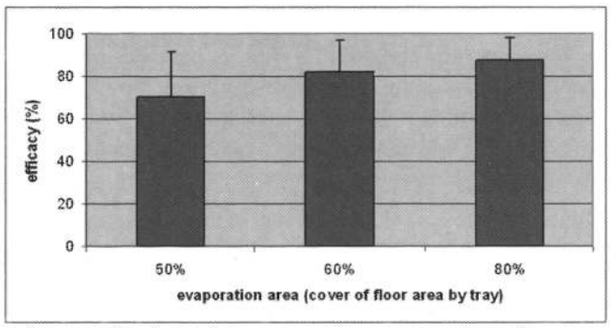
Editor's Note: This article, entitled Verdünnte Ameisensäure im Test: Alternative Behandlungsmethode nicht nur für heiße Länder, *appeared in the August 2004 issue of theGerman magazine die Biene, pages 8–9. We thank New Zealand beekeeper Fritz Fuchs for translating this article. Permission to reprint was kindly granted by Dr Berg, who provided originals of photo 1 and figures 1 and 2 in this article.*

The use of strongly diluted formic acid (15%) in combination with combined treatment with small doses of Marjoram Oil, for fighting varroa, was developed & trialed by L.T. Long in 1998, for use in tropical countries (Vietnam). The extensive laboratory & field trials showed that this method is also effective in temperate climates, with an average effectiveness of 90%, with good tolerance by bees.

This treatment method was conducted with four treatments, renewed at weekly intervals, by placing a tray (see photo 1) with 1 litre formic acid (diluted to 15%) below the brood & simultaneously putting 3 ml of marjoram oil on a thin piece of plywood on top. During this process feeding of bees can still continue.

In a large field trial with 1700 beehives was it possible to confirm the results (S. Berg 1999), which mostly were satisfactory. The hive losses in the following winter were 10% less than the national average. In some cases was the success rate less then expected, because the placement of the tray with the formic acid was too far below the brood and the tray area was too small. The effectiveness of the treatment is dependent on the evaporation area (see figure 1) and with a later trial it was confirmed that a larger evaporation area improves the results. Use of 80% floor area with the tray produced a varroa reduction of 88.6%. The amount of evaporation has a big impact; it showed that the minimal evaporation rate is 400 ml per week. Less than 400 ml/wk produced varying results between 31.2% and 97.4%. By an evaporation rate of at least 400ml/wk, the variations in results were reduced to between 84.2% and 100%, and when using a tray taking 80% of floor space, it always showed an evaporation rate of more than 400 ml/wk.



Further trials were contacted with and without marjoram oil. Application of the oil simultaneously showed a 5% better result, but because of considerable extra cost and effort, later experiments were done with 15% formic acid only.

To further simplify treatment other tests were done, using a single application of 3 litre 15% formic acid over 4 weeks instead of 4x1 litre/wk. The difference of effectiveness between both treatments is minimal. The average success rate was 90.4% for 3 litre application and 94.5% by using 4xl litre/wk.

The 3 litre. single application requires a much deeper space under the brood and an acid tray of 340x340x55 is required to achieve the necessary evaporation area (see photo 1). This tray needs to be covered with a fine mesh to facilitate counting the varroa fall.

The acid concentration can vary, depending on the temperature and humidity, and the single application of 3 litres showed a variation of concentration of 7.5%–16.2%. In spite of this, the treatment success was 94.7%. The simplified application was tested from 19 August to 16 September 2003 in two apiaries. For comparison, half of 40 hives were tested with the Nassenheider evaporator (60% acid), which was left for 4 weeks (topped up after 14 days).

After the test the remaining varroa were treated with a synthetic akarizid. The success rate of the diluted formic acid was on average 82.6%, and seemed significantly better than with the Nassenheider evaporator with an average of 52.8%

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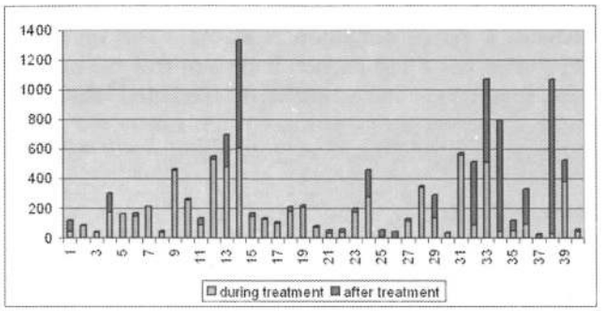
effect (see figure 2), but there were significant differences of infestations in the hives. The lower effectiveness of the Nassenheider evaporator could be the result of unusually high temperatures in 2003. The 15% acid solution is less sensitive to temperature variations because of the close proximity to the brood and the resulting improved ventilation and evaporation, especially in hot weather. The trials showed that by use of 15% solution only 3 hives in 20 had in excess of 100 mites after treatment, whereas with the Nassenheider evaporator there were 8 hives in 20.



In summary: the use of 15% formic acid is suitable for treatment in breeding hives after the honey flow, provided the treatment time is 4 weeks, that the distance from the tray to the brood is no more then 10cm and the evaporation area is at least 80% of available floor area.

Diluted formic acid is another useful tool for fighting mites and can be applied throughout the year. It is less temperature sensitive than stronger acid solution applied to the top of the hive and therefore more reliable.

For fighting varroa various treatments should be used and when treating varroa in late summer with various means, the hive should always be tested for remaining mites before wintering down.

Literatur (References)

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NBA Library Report

After five years as librarian, I'm finding that the library has seasonal patterns too. Over summer, the magazine postings slow down, then move around more quickly over the winter months. Queen-raising information is sought after and that is quite a long 'season'. Not many schools request information but if they do, it is usually in the late summer/early autumn.

There has been some progress, other than thinking, on the issue of a database of the library's stock. More on that as it happens.

As always, your comments and suggestions about the library are welcomed, and can be given in person at the conference if you are attending. The library display, which will be in, or near, the sponsors room, will be (wo)manned from Tuesday morning until late Wednesday afternoon (5–6 July).

- Chris Taiaroa
(Hon. Librarian)

Waikato Branch field day, 21 May 2005

This year John and Pauline Bassett of Waitomo Honey, Te Kuiti, were our hosts and between 50 and 60 people attended. The day was a little damp and so our speakers addressed us inside the honey house.

First up, Dr Mark Goodwin of HortResearch Ruakura spoke on the use of thymol as an organic method to treat varroa. Thymol is registered and legal to use in New Zealand; however, before we can put it in the hives we must have a Code of Practice (COP), which is simply the 'instruction' on how to use it. Apiguard is currently for sale to commercial beekeepers and Apilife Var is being put through the ERMA process. As a generic product, thymol comes as a crystal. It is essential for evaporation that there is airspace above the frames, and in Mark's testing thymol has been shown to be about 80 percent effective in cold and warm sites. After treatment it is essential to test, and there are variations in the effectiveness. Higher temperature means higher evaporation and lower temperature leads to lower evaporation; however, within an apiary all hives can differ, so adjustments need to be made to the application to account for this. During the research it was found that within the hive itself the temperatures vary. Further information will come in time (or is that thyme?).

A panel discussion took place on the effects of varroa mite resistance to chemicals and also about selecting bees that are mite resistant. The panel included:

- Brian Alexander (Auckland), who spoke on the importance of good queens and having a good queen breeder, and how he relied on them to be selecting for mite resistance etc
- Bryan Clements (Waikato), who has purchased some carnica queens for breeding and introducing a blacker bee into his beekeeping business
- John Bassett (King Country), also producing carnica queens as a queen breeder
- Bob Russell (Auckland), who has been selecting queens with high honey yields, viable brood, hygienic factors and other factors.

Russell Berry, as chair for the day, involved the field day attendees in discussion around the various varroa treatments, what beekeepers had trialled, and whether they had sought an alternative treatment to the one they had started with initially. Other beekeepers spoke briefly on their experience with oxalic acid, Apiguard and formic acid.

After lunch, participants headed off to the hives to inspect gear, bees and queens.

Thanks to our beekeeping suppliers, who made a huge effort to attend:

- Peter and Susan Little, New Zealand Beeswax Ltd, and supplier of Apivar
- Stewart Ecroyd, Ecroyd Beekeeping Supplies Ltd, and supplier of Bayvarol
- Trevor Cullen, Ceracell Beekeeping Supplies Ltd, and supplier of Apistan and Apiguard
- Peter Boutelje, honey processing equipment
- Rod McKenzie, New Zealand Honey Producer Co-op Ltd, for trying to buy premium North Island honey without his cheque book!

Thank you to John and Pauline, our wonderful hosts, and for the lovely food supplied, including Pauline's muffins and Annette's soup. Thanks also to Jane for attending to the BBQ.

- Fiona O'Brien

Front Cover Captions:

1. **5-frame nuc**
2. **Field day participants**
3. **My puddle jumper**
4. **Waitomo Honey hives (John and Pauline Bassett)**
5. **Birthday present**
6. **Still some brood in May**
7. **Serviced Beehive Rental truck**

Photos by Fiona O'Brien

'Oh, what we give up to go to a Waikato Field Day ... I'd rather be fishing' Photos: Fiona O'Brien.