ISSN 0110-6325

# The New Zealand BeeKeeper

SEPTEMBER 2000
VOL 7. No 8

The Official Journal of the National Beekeepers' Association of New Zealand (Inc.),
C/- PO Box 21, Waipukurau, Hawke's Bay, New Zealand. Freephone: 0800 42-42-77


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PO Box 715, Wellington 6015, New Zealand.

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**Economy mail US $31.00.**


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*The New Zealand BeeKeeper* is published eleven times per annum; February to December. All copy should be with the Editor by the 1st day of the month of publication except for December when copy should be received by **25th November.**

# NATIONAL BEEKEEPERS' ASSOCIATION of NEW ZEALAND (INC.)

Dear Branch Delegate

## Varroa Consultation Process

Thank you for committing your time to the consultation process on behalf of the National Beekeepers' Association. This process will largely shape the Varroa Control Plan to be presented to government, consequentially the overall beekeeping industry. Therefore, I ask you to put your own interests to one side and consider the industry at large. This I know will be difficult for you but it is necessary so that we can present a united voice to government officials.

You will be undertaking a number of significant responsibilities on behalf of your fellow beekeepers. Some of these responsibilities include:

- Facilitating group discussion on each one of the points at your branch meetings. In some cases, this will be under adverse conditions.
- Making representations to government at the final NBA consultation in Wellington.
- Capturing the views expressed by many different beekeepers, some of which you will not agree with.
- Being impartial and ensuring that all points are comprehensively discussed.

Don Bell, the Executive Member responsible for the NBA Varroa Programme, will be working with you to ensure that we get our opinions represented to government and hopefully a workable plan for the next two years.

Yours Sincerely

Richard Hatfield
President
National Beekeepers Association

To all Beekeepers

## Beekeepers failing to pay their levy

You may be aware that there are a number of beekeepers that have either:

- Failed to pay their levy on time and have not entered into a deferment arrangement with the NBA.
- Failed to declare apiaries, therefore avoiding payment of levy.

In both cases, these beekeepers have cost the NBA and you dearly. If we were able to collect the entire levy due to the NBA we would be able to reduce your levy burden by 30% and have a financially stable organisation.

The NBA has therefore commenced on a major debt recovery programme and compliance enforcement programme with a legal professional specialising in this area. The NBA will commence action against these defaulting beekeepers in early September. If necessary, court action will be taken to recover debt including penalties and any costs incurred by the NBA in collection. For the beekeepers concerned, this could be significant. However, for the NBA it means survival financially.

I would encourage defaulting and non-complying beekeepers to pay up before the NBA is forced to take legal action. If anyone knows of apiaries that are potentially unregistered you have an obligation to all beekeepers to report them to the NBA.

I am sorry that it has got to this stage but it is necessary in the interests of fairness to all levy payers.

Yours Sincerely

Richard Hatfield
President
National Beekeepers Association

*Cover photo: Courtesy of Dick Schoneveld, Opotiki*

# Letters to the Editor

## Varroa - A Beekeepers' Viewpoint

Dear Sir

I have been associated with beekeeping since the early seventies and I am disgusted by the Government's decision to adopt the control option for Varroa.

In my view that option is unpatriotic, anti New Zealand and the poorest business decision that I have seen in my entire life. My opinion is that the Labour Cabinet and the so-called experts who advised them are guilty of dereliction of duty and have taken this Government down a path that ends in political obscurity.

Seldom does a Government have the opportunity to correct poor decisions. However, I suggest the opportunity does exist, and up to December 2000 the eradication option is the best one. (Despite what the experts say). Beyond December 2000 the eradication option is still viable but harder to achieve.

The submission of the Government by the New Zealand Beekeepers Association has considerable merit and provided that beekeepers have control, has the best chance of working.

I expressed similar concerns to the Minister of Biosecurity, M Hobbs, and was told that MAF had a very good advisory service some 15 years ago. In the days of user-pays state paternalism is inappropriate.

My opinion is that MAF and their lackeys have promoted Varroa as endemic from day one. That is incorrect. The New Zealand economy and beekeepers will be expected to bear the cost of their dithering.

***R Neckelson***

Dear Sir

The other day I attended the deca exam to become an approved beekeeper. I thought that I was to sit an exam to prove I could identify American Foulbrood. Instead I found that I was sitting an exam for my University doctorate on English Grammar.

The person who wrote those questions should be put in front of a brick wall and shot at sunrise.

It is about time the exam papers were re-written in the language that beekeepers commonly use, that can be understood by all that sit their Deca.

***Tony Lorimer***

# Varroa Mite Victim

Experiences of a Varroa Mite victim 10.30am, April 2000, beekeeping in New Zealand changed forever. A phone call had informed us that Varroa had been detected in East Tamaki. There are eight stages of grief- first Denial - "I don't believe it!" Second Anger - "Who was the idiot?" "Incompetent Bio-security people!" etc, etc. We were stuck on the second stage for a long time.

### Some experiences of three commercial sites within 10km of the epi-centre

One belonging to my work partner had eight hives. Last week of March he requeened them, seven looked just your average hive for the time of the year, one a little weak. Three weeks later the surveillance team visited the site with apistan strips and sticky boards. However, everyone of the hives were completely empty of bees. Honey, pollen, and brood all there, but all the bees had absconded due to the explosion of mites.

Site B, the one featured on television, had 23 good hives. When we were eventually allowed to work them and apply apistan strips in August, eight were dead, another third were down to two frames of bees. One had a frame of brood with two queens on it, one on each side, laying flat out, but losing the battle big time. The other third only had 4-5 frames of bees.

Site C, three and four storey high with honey on. We observed them about a fortnight after the alert, 1 x 4 storey had bees milling around the chute of the top feeder. We could see bees with mites on them, sucking the juice out of them. On the ground were several young bees, some with three or four legs eaten off, others with chewed up wings. A clover flower 1.5 meters from the hive had a big juicy mite on it (young mites are very tiny), waiting to hitch a ride on the next bee that came along. When we were allowed to work the site, four months later, the hives had been decimated. The best were nuc strength. Amongst the devastation I found one hive that was normal looking, 1.5 boxes of beautiful yellow Queen drones and bees, perfect brood pattern, with a rim of pollen and honey above, many of the qualities to breed from. I became quite excited - "Maybe we had found a hive that was resistant to the mite!" We collected a sticky board from home base and left it in with the Apistan over the weekend. By then there must have been 1000 plus mites on it - so that blew that theory!

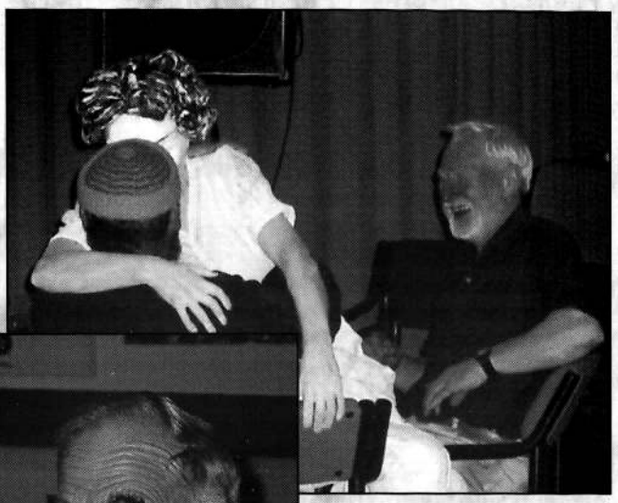
The question - Why hadn't it been noticed sooner?, will always remain a puzzle. Firstly, it wasn't supposed to be here, remember! Secondly, four of us strip searched one hive and found one mite on the bottom board, It wasn't till Apistan and a sticky board were put in that more turned up.

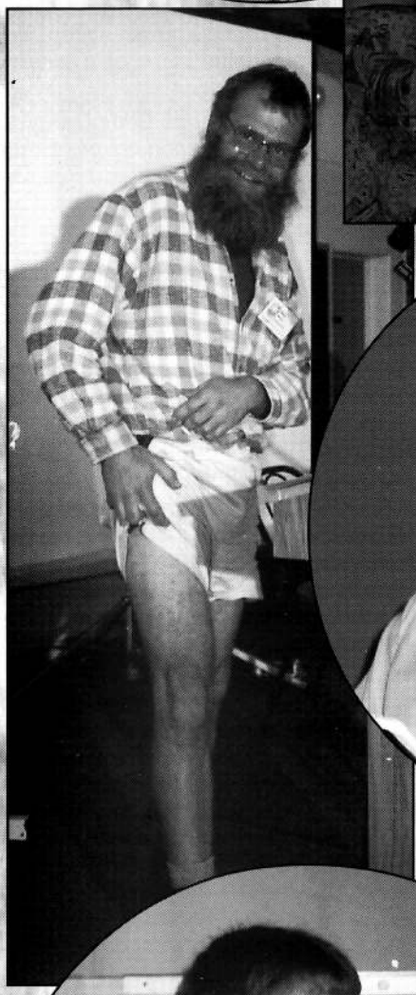
We have been told categorically that the Government is not liable and will not pay compensation for hives destroyed by the mite, even though the problem which could have been halted earlier, was compounded while they twiddled with their calculators!

I believe the buck should stop with the Government. Previous Government cuts in funding have caused inadequate port surveillance, allowing the mite through. If they do not heed Russell Berry and company's latest initiative, for irradication, when the Government pulls the plug on the Apistan funding, - (the sop they have given us) - those who cannot afford, or think they can skimp on the treatment, will find the tiger we have by the tail will devour them.

***Ross Abernethy***

# National Beekeeper's Association Conference Gisborne July 2000





# Dr Eva Crane OBE, Dsc

## Profile of Dr Eva Crane by the late John Heineman, Librarian, NBA Technical library, Milton, Otago, 13th April 2000

Scientist, researcher, administrator, communicator, and a leader.

Her interest in bees started in 1942 when she was presented with a swarm. She became the first director of the Bee Research Association when it was founded in 1949. In 1950 she was appointed editor of Bee World. Some years later extended by the editorships of Apicultural Extracts and the Journal of Apicultural research. Under her leadership the Bee Research Association became the International Bee Research Association. For many years now this organisation is well and truly accepted world wide as the centre of knowledge about bees and all aspects of beekeeping.

Dr Crane retired from her editorship of IBRA in 1983 after having given more than 30 years of dedicated service. Not that her retirement ended her connection with IBRA, for we still see her name as associate editor for IBRA publications and as scientific consultant to that organisation. She has been connected all along with the development of the scientific basis of beekeeping world wide, in the temperate zones as in the topics and sub topics.

Dr Crane is the author, co-author and editor of a great number of books, articles and papers, covering a very wide range of beekeeping topics. Honey production, hive management, pollination, bee health, world trade, climate etc. You name it. Her books 'Honey a comprehensive survey' and 'Bees and Beekeeping, science - practice and world resources' are outstanding reference works and good examples of her wonderful ability of the systematic gathering of knowledge and the sharing of it.

"The Archaelogy of Beekeeping" is another one of her fascinating books as it takes one back into the dim past when first honey hunting and then first attempts of beekeeping were made by our beekeeper forefathers.

She has travelled very widely and one wonders if there is any part of the world, any country, she has not visited and while there has communicated and worked with local beekeepers. She certainly has put her many gifts to the service of her fellow man and has shared her beekeeping knowledge with all beekeepers.

I have not found any reference to Dr Crane's private life but for the fact that her first bees were presented to her as a swarm on her wedding day.

A little while after taking over as librarian from Chris Dawson we had some misgivings about the insurance cover of our collection. Wanted was an independent expert opinion. Dr Crane was found willing to do the job. All went through the mail. When the figures came back the NBA was pleasantly surprised. The Library proved to be a very valuable property. All we were charged for this valuation job was 25 pounds sterling.

Dr Crane's latest book entitled 'The World History of Beekeeping and Honey Hunting' 682 pages was published in 1999.

# Beekeeping as a Sustainable Practice: Past, Present and Future

## 1. Meanings of the word sustainable in relation to bees and beekeeping

The word sustainability is widely used nowadays, with a variety of different meanings, and one true type of sustainability may well conflict with another. The sustainability of a population of honey-bees depends on sufficiency of forage and nest sites, and on the absence of adverse interference by man, as well as on other factors. The sustainability of native plants as bee forage in a region many well be destroyed if man introduces either crops such as cereals which provide little or no food for bees, or bees which compete with native pollinators for food or nest sites.

The sustainability of profitable modern beekeeping depends on the presence of prolific nectar and pollen sources, and the absence of disease and pests that can debilitate the colonies - or their adequate control by the beekeeper.

Apis mellifera, the bee on which the world's honey industry is now based, is native only to parts of the Old World - Africa, Europe and the eastern Mediterranean. Its present use for beekeeping in regions outside the Old World depends on this bee having been introduced there. Many parts of the American and Australian tropics, however, have native species of stingless bees (Meliponinae) which also nest in a cavity and store honey. Some of these bees have been kept in hives: since Ancient times by Maya people in and around the Yucatan peninsula of Mexico, and Australia thanks to the work of Anne and Les Dollin. But the honey yield from these bees is relatively low.

I shall discuss the sustainability of beekeeping in different parts of the world, at various stages during its development. More than once, circumstances changed so that a certain type of beekeeping ceased to be sustainable but - as a result - a more advanced type of beekeeping was developed. I shall also consider briefly the sustainability of native bees and of the plants they pollinate. But I shall not spend time telling you about New Zealand activities, which you already know and are rightly proud of.

## 2. Sustainability of beekeeping with native honeybees

Two species of honeybees nest in cavities, and were kept in hives since early times: Apis mellifera in Africa, Europe and the eastern Mediterranean region, and Apis cerana in Asia east of Iran. In the forests of northern Europe and Asia these bees had nested in tree cavities. Man evolved long after the bees, and in northern Europe colonies were cared for by 'tree beekeepers', who cut an access hole to each cavity and covered it with a removable door (Figures 1 and 2). Mediaeval Russian forests contained very large trees; excavations have shown that larches (Larix europaea) were up to 40-45cm in diameter during the 1100s, and oaks and limes would have still larger cavities.[4]

*Figure 1: Massive door to a tree cavity in Bialowieska National Park, Poland (Bland-Weissberg, 1937).*

*Figure 2: Tree beekeepers sitting on his 'climber' ready to remove the rebated door of a cavity in a large tree (Szacki, 1980).*

In many areas the sustainability of tree beekeeping was destroyed by deforestation. An important result of this was that separate hives were made from upright logs, and hive beekeeping started there. Figure 3 shows a beechwood hive from AD 400-500 excavated in north Germany. Farther west where there was no forest, an inverted basket (skep) was used a hive, and Figure 4 shows part of a woven one dated to AD 1-200, also excavated in north Germany.

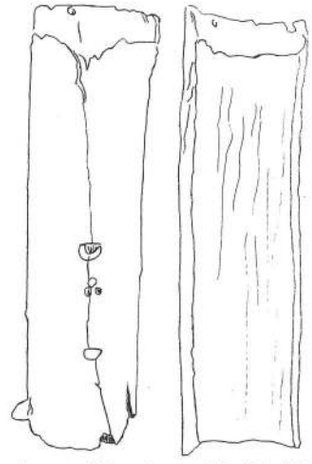


*Figure 3: Beechwood hive from AD 400-500, found at Vehne-Moor, Germany, viewed from the front (drawings: H Diekmann).*

Hive beekeeping had started very much earlier in hot and dry regions round the eastern Mediterranean. The first hives were made of earth materials, possible because the bees nested

*Figure 4: Upper part of a woven wicket skep with a crownpiece, Lower Saxony, AD 1-200 (Photo: W Haarnagel).*

wild in rock hollows and crevices. The earliest known record of hive beekeeping anywhere in the world is in a bas-relief excavated in Egypt, dates to about 2400 BC (Figure 5). A clearer picture (Figure 6) dates from about 1450 BC. Both show honey

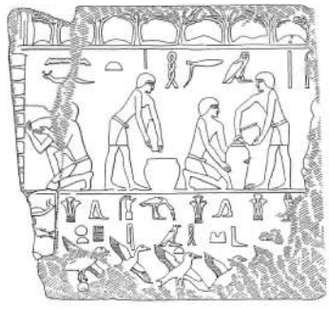


*Figure 5: Stone bas-relief from the sun-temple of Ne-user-re, Abu Ghorab, Lower Egypt, C. 2400 BC (drawing: Egyptian National Museum Catalogue). The earliest known representation of beekeeping (left), with honey handling (right), now in Egyptian Museum, Berlin.*

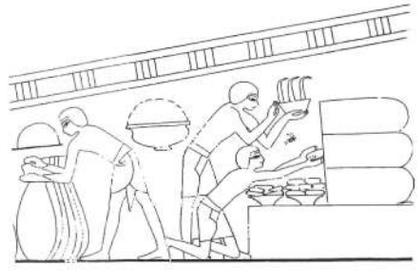


*Figure 6: Wall-painting in tomb 100, of Rekhmire, West Bank, Luxor, Upper Egypt, c. 1450 BC (Davies, 1944).*

handling as well as a beekeeper kneeling to work at his hives. Rather similar traditional hives are still used in Egypt today; many horizontal cylinders of sun-dried mud are stacked together (Figure 7), because land where bee forage is available is very scarce: the irrigation land of the Nile valley, the delta, and a few oases. At present the sustainability of this beekeeping is endangered by the use of toxic pesticides on the cotton crop; modern hives can be moved away for the spraying period, but traditional hives cannot.

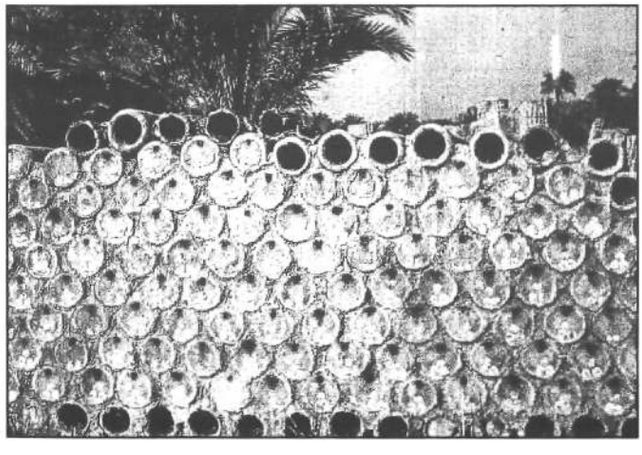


*Figure 7: Stack of 400 cylindrical hives of sun-dried mud near Assyut, Upper Egypt, 1978 (photo: E Crane).*

The sustainability of movable-frame beekeeping with Apis mellifera has been endangered mainly by bee diseases and parasites introduced by the transport of new colonies into their area, and I shall deal with this subject in my other lecture.

In Asia, Apis cerana was traditionally kept in upright log hives in the north, and in various hives of plant or earth materials farther south. Apis cerana beekeeping remained sustainable for perhaps two thousand years, but in the late 1800s colonies of Apis mellifera in movable-frame hives were taken to a number of countries.[8] Some of the probable earliest dates are:

| | |
|---|---|
| Sri Lanka | c 1875 |
| Japan | 1876 |
| India | 1800s |
| Indonesia | 1800s |
| China | 1896 |

The introduced bees were able to out-compete the native honey-bees in foraging on nectar-yielding crops, and beekeeping with Apis cerana might remain sustainable only in certain uncultivated regions where native plants were adequate to sustain these bees, but not the larger colonies of Apis mellifera. Moveable-frame hives were designed for Apis cerana; they had smaller frames, and foundation with smaller cells.

## 3. Sustainability of beekeeping with introduced honey-bees

Here we are concerned with Apis mellifera in Asia east of Iran and in all regions outside the Old World: the Americas, Australia, New Zealand and a number of oceanic islands. Apart from Asia, none of these regions had any honey-bees 400 years ago. The first known record of their presence comes from the Bermudas, 1000km off the east coast of North America. On 25 May, 1617 Robert Rich wrote (probably from Government House) to his brother in England: 'The bees that you sent doe prosper very well. They stand in the Governor's garden'. By 1662 Bermuda was exporting honey and beeswax.

Hives of bees sent from London to Virginia in mainland North America probably arrived early in 1622.[7] They are likely to have been skeps, but in well wooded North America the many swarms that issued were probably kept in upright log or board hives. In many regions, colonies had access to successive nectar flows from native plants through the spring and summer, especially where the hives were near both woodland and more open prairie country. The bees spread rapidly, and in years to come the honey yield per hive in these new regions was often much higher than in the Old World where the bees were native. It seems likely that hives of bees did not reach South America until 1839, whereas they were in Australia by 1822. The bees were successfully transported to New Zealand in 1839.

A beekeeper could make more flows available to his bees if he could move his bees to them. This was done by boat in Ancient Greece, and before 1900 modern hives had been migrated along waterways such as the Mississippi in the USA.[6] From about 1900, both moveable-frame hives and mechanised vehicles were in use, and long-distance road transport of colonies in hives became possible. In countries that stretch over a long span of latitude, such as Japan, the flowering season was extended each year by moving hives to a higher and higher latitude as the season progressed. Where successive flows were available at different altitudes, as for instance in the Indus basin in Pakistan, a succession of flows could also be reached by moving hives to neighbouring hills after the flows in the plains. In Australia, beekeepers obtained a succession of flows for their bees by moving them to stands of species of eucalypts which bloomed at different times.

## 4. Sustainability of Beekeeping through the diversification of hive products

Another way of maintaining the sustainability of modern beekeeping is to obtain income by diversifying - working for other hive products than the usual honey and wax. This possibility has been explored especially when the world price of honey was depressed. For instance in the 1950s much was done in France to increase the production and sale of royal jelly. Other products exploited have been pollen, propolis and bee venom. A new term 'apitherapy' was introduced to cover the medical use of all bee products, and a number of international conferences have been held on the subject. It is,

of course, essential that no improper or unjustified claims are made for any of the products. The most labour-intensive substances to harvest and process to the necessary purity standards, are bee venom and royal jelly. But these can be produced in areas that do not have prolific honey flows.

In New Zealand, Molan and his colleagues[14] (1992 and elsewhere) established that, in addition to the antibacterial activity of all honeys, some New Zealand honeys contained antibacterial substances that were derived from certain native plants, and could legitimately be sold with this accreditation.

Instead of selling bee products, there are possibilities of rearing and selling bees - especially queens. A young mated queen, caged with a few workers, can be sent by post at a much lower freight cost than honey. Worker bees can also be reared and sold in 'packages', each contained a young mated queen. This is usually done in spring, for use by beekeepers at higher latitudes where spring comes later. The production of queens and packages involves much hard work to an exacting time table. Also, the purchasers will want to be sure that the queens and bees received will not carry any disease or parasite. This gives islands an advantage over mainland countries. I am very impressed by the initiative of New Zealand beekeepers in using bees for packages in their autumn to send to Canada, where it is then spring.

Still another possibility, where appropriate crops are grown, is to hire out hives of bees for pollination. The colonies must be prepared so that they have an overriding need for pollen: with much unsealed brood and many young bees to feed the larvae.

## 5. Sustainability of beekeeping by rearing bumble-bees for pollination

Bees now reared for pollination include bumble-bees (Bombus), and during the late 1800s New Zealand played an important part in the history of their use.[10] Honey-bees introduced to New Zealand did not much visit flowers of red clover (Trifolium pratense); the tongue was too short to reach nectar in the deep corolla of the flower. You will know the story of the subsequent use of bumble-bees, but I will mention one aspect of it that you may not be familiar with.

As far as I know, the first record of the introduction of bumble-bees to New Zealand was by Dr F Buckland in 1873, but success in pollination was achieved only after the 1885 introduction of several species which included long-tongued ones. Why did Dr Buckland introduce bumble-bees in 1873? The major early works on insect pollination were published later, by Darwin in England in 1876 and Muller in Germany in 1879. It seems to me that someone in New Zealand must have read Darwin's The origin of species, published in 1859, because in it he stressed the importance of bumble-bees in the pollination of red clover.[2]

Bombus terrestris was found to be a good pollinator of tomatoes in greenhouses, but its use was not sustainable throughout the year, because a newly reared queen goes into hibernation as soon as she has mated. However, in 1985 Roseler in Germany discovered that if the young queen is placed in carbon dioxide for half an hour immediately after mating, she found a nest immediately, as if she has already overwintered.[16] Since then, the use of Bombus terrestris colonies for pollinating tomatoes has been sustainable through the year.

## 6. How organisms already in an area are affected by the introduction of new honey-bees

I cannot leave the subject of the sustainability of beekeeping without considering effects of introduced honey-bees or organisms already present in an area.

### 6.1 Where the same species of honey-bee is present

European Apis mellifera were taken to Brazil in 1839, and the results of introducing tropical African Apis mellifera to Brazil in 1959 are well known. The new bees spread rapidly through the

tropics, partly because small cavities were nest sites acceptable to their swarms, but not to swarms of European Apis mellifera. Also, the development period of African-type queens was slightly shorter than that of European queens, so a swarm emerging from a colony whose queen had mated with both types of drone was likely to be headed by an African-type queen. In much of the tropical and subtropical Americas, the sustainability of beekeeping with European honey-bees was destroyed by the arrival of a tropical type of the same species from Africa. However, although African-type bees were more difficult for a beekeeper to work with than European bees, once he had learned how to handle them, he could often get higher honey yields.[12]

From about 1990, beekeepers in South Africa were faced with a different types of problem. Apis mellifera capensis bees native to a small area of Cape Province are unusual in that workers in a queenless, or unmated queens, can produce female offspring which soon start to lay eggs. Since about 1990, beekeepers from the Cape have migrated many colonies of these bees into the area of Apis mellifera scutellata further north. Capensis queens entered scutellata colonies, which became nonviable as honey-producing units.[1]

*Bee breeding programmes*

Egypt, Israel and Germany are among countries that have undertaken national programmes to improve honey production by the widespread introduction of a non-native race of Apis mellifera more productive than the native race.

Beekeeping regions in Egypt, with native yellowish Apis mellifera lamarckii, are separated from other races by deserts surrounding the Nile valley. For the programme, queens of darker Apis mellifera carnica were reared in Dakhla oasis in the Egyptian Sahara, after all the lamarckii population there had been killed. The colour difference enabled any subsequent mismating of queens with lamarckii to be detected.[5]

Carnica was also introduced to replace the north European honey-bees in Germany, which has borders with a number of other countries. Near the borders, mating of carnica queens with non-carnica drones is a constant source of contamination, and requeening must be continually maintained. In Israel, with a longer active season and good potential honey yields, Italian bees (apis mellifera ligustica) were the chosen replacement for the local Apis mellifera syriaca. Here, also, sustainability of beekeeping with the better strain of bee requires renewed action every year.

## 6.2 Where a different species of honey-bee is present

I have already mentioned the loss of sustainability of beekeeping with Apis cerana in areas of Asia after European Apis mellifera was introduced.

Between 1850 and 1900 beekeepers in Europe and the USA were very eager to try out new species, races and strains of honey-bees.[9] The introduction of new bees was widely approved, and there was no conception of inherent dangers. CP Dadant wrote in 1892:[11] 'It behoves our (USA) government to take such matters in hand for the public good'. Many introductions - for instance of tropical African bees to Europe - were fortunately unsuccessful. So was Benton's 1880 attempt to take Apis dorsata from Asia to the USA.

Colonies of Apis florae, a small Asian honey-bee that nests in the open, were found in Sudan in 1985, and in Saudi Arabia in 1988 - they had presumably travelled in or on a plane, and although their populations expanded, they did not interfere with mellifera beekeeping.

However, a newly introduced species of honey-bee may carry a new parasite or disease pathogen which transfers to the bees used for beekeeping, and I shall discuss this in another lecture.

## 6.3 Where there are native non-Apis bee populations which pollinate native plants

Honey-bees form larger colonies than any other species of bee, so they may compete for forage with smaller colonies of native bees in the area to which they are introduced. Paton[15] discussed interactions of honey-bees with native organisms in Australia. Many native plants there are pollinated by stingless bees,[17] and the same is true in tropical America. The whole question of the sustainability of the pollination of native plant species was discussed at a Conference in Brazil in 1999, and a report published for further action: International Pollinators Initiative: The Sao Paulo Declaration on Pollinators. In addition, Heard[13] has reviewed many crop plants that are pollinated by stingless bees.

New Zealand, and America north of the tropic, are both too far from the equator for stingless bees to survive, and they had been separated from the Old World before honey-bees evolved. As a result, neither stingless bees nor honey-bees are native, and plants are pollinated by other agents, which many include insects, birds, bats and small mammals.

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During its long history, the sustainability of beekeeping has been very dependent on crop growing, because native bees kept in hives might obtain either more or less honey when their forage came from cultivated crops instead of native plants. In general the destruction of native plants by deforestation or fire was more likely to destroy the sustainability of beekeeping in the tropics than in temperate zones, because land in the tropics could more easily be denuded after forest clearance.

In some parts of the temperate zones both native and introduced plants provided bee forage, giving beekeepers a double benefit. Another double benefit can nowadays be obtained by moving hives of bees for crop pollination, since this provides more income for both the farmer and the beekeepers.

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# Varroa update:

## Management plan and Compensation claims

MAF is working with beekeepers and industries reliant on bees to develop and implement a management plan for varroa. A compensation process is also being developed.

### Management plan

The objectives of the management plan are to mitigate the impacts of varroa and to keep the South Island free from varroa for as long as possible.

A three-phase management plan was presented at the National Beekeepers' Association (NBA) annual general meeting in Gisborne in July 2000. The three phases of the management plan are:

Phase one: Immediate assisted treatment of infected areas – free treatment of all infected hives

Phase two: A two-year government supported management programme

Phase three: A long-term integrated varroa management plan

### Consultation on phase two

Phase one of the plan is nearing an end. MAF and the NBA developed a consultation programme to agree on the components of phase two. Consultation involved a series of 14 regional meetings with beekeepers. Following those meetings, a beekeeper representative from each region will attend a meeting in Wellington in mid September, at which agreement will be sought on the content of the government supported two-year programme.

### Compensation

MAF and the NBA have also been working together to develop a fair and timely compensation process.

*Legal criteria*

Section 162A of the Biosecurity Act 1993 specifies circumstances in which compensation may be paid for losses arising from the exercise of powers under the act. Key elements of section 162A are summarised below.

**Legal criteria**

1. Compensation may be paid only in relation to a loss arising directly from the exercise of powers for the purposes of managing or eradicating an organism.
2. The loss must be verifiable.
3. The amount of compensation must be such that the recipient will be in no better or worse position than any person whose property or goods are not directly affected by the exercise of powers.
4. Compensation must not be paid for a loss suffered before the time the exercise of powers commenced.
5. Compensation must not be paid to any person who failed to comply with the Biosecurity Act 1993 or regulations made under the act where the failure is serious or significant or contributed to the presence or spread of the organism.

*Compensation process*

It is very important that compensation processes enable entitlements to be determined fairly and efficiently. A three-step process will be employed to ensure this happens, and is outlined below.

**Compensation process**

Step 1: General information on the losses (August 2000)

General information is needed to understand the sorts of losses that have occurred and the volume and value of those losses. Beekeepers that consider they have suffered a loss that qualifies for compensation under section 162A have been requested to advise of their intent to make a claim. Formal claims will be sought later (see step 3 below).

Step 2: Specialist advice on the losses (September 2000)

A special advisory group is being established to review advice from beekeepers about their losses. The advisory group will make recommendations about the types of losses that qualify for compensation and calculate standard values to assist with determining the correct amount of compensation.

Step 3: Formal compensation claims (October 2000)

Formal claims will be invited early in October 2000. Claim forms and instructions will be supplied to all beekeepers that submitted advice of their intent to seek compensation.

Straightforward claims and offers of compensation should be determined relatively quickly. Where claims are more complex, advice will be sought from the special advisory group before a compensation offer is made.

The Biosecurity Act 1993 provides for formal arbitration where the amount of compensation cannot be agreed. However, before seeking formal arbitration, beekeepers will be able to request that MAF reconsiders an offer of compensation (e.g. where it appears that supporting information has been misinterpreted).

An 'intent to claim' form can be found on the MAF website (www.maf.govt.nz/Standards/anbio/varupdt/httoc.htm) or from Ashley Edge, Policy Adviser, Biosecurity Policy Coordination, phone: (04) 474-4213, fax: (04) 470-2730, email: edgea@maf.govt.nz

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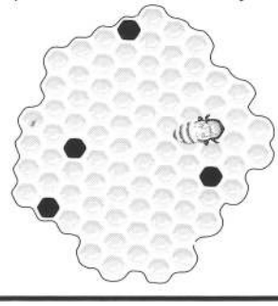

# From the Colonies

*by Frank Lindsay*

After a period of rain, its nice to get out into the garden and see the bees working the early pollen and nectar sources. In the spring, things seem to happen so quickly. You see the buds on the pussy willow and next thing you know the catkins have burst into full flower. Kowhai, (Sophora microphylla), Clematis paniculata are flowering in the bush fringes while around the city, many garden ornamentals are now providing valuable nectar and pollen sources. Despite the period of cool weather for a week last month, the season around here appears to be a month ahead of normal.

Some bee hives are reaching a stage where they need to be split to reduce the chance of swarming, while those with an old queen will need a replacement fairly quickly so that the bees have enough time to build up to full strength for the flow.

Some hives seemed to have anticipated my requirements and have already started to produce one or two supersedure queen cells along the bottom of the frames in the middle of the brood nest.

Beekeepers in the North Island might have difficulty obtaining replacement queens this year due to the restrictions put on to control the spread of the varroa mite. A lot of hobbyists may have to consider producing one of two for themselves this year or may have wait, as generally most queen breeders are fully booked for early spring queens.

It's fairly easy to produce a few queen cells using a four-frame nuc. All you have to do is reproduce the conditions that exist during swarming; lots of young bees and a good amount of pollen and nectar coming in. The whole idea behind producing good queens is nutrition. There has to be plenty of pollen in the hive right next to the frame with the young larvae on it.

How to: Take your strongest hive and put a new, fully drawn frame in the middle of the brood nest. Five days later find the queen (she's usually on the warm side of the hive in the morning on a frame of emerging bees) and put the frame you find her on against the front of the hive. That way, if she drops of, she will find her way back into the hive.

Remove the frame you put in five days before hand and check that there are young larvae along with eggs in the cells. Choose about five larvae that are tiny and still straight in the bottom of the cell and with the back end of a pencil, open out the mouth of the cells to about double its original size. Place this in the middle of the nuc box along with another frame of emerging brood and bees. Select a frame of honey and one of pollen for the nuc. Take the pollen frame and with a hive tool, scrape down to the midrib, a 50mm square of pollen and honey. Mash this up so that it combines into an orange mush. Dribble this over the frame of young larvae and then place both the frames into the nuc box so that there is a frame of honey on the outside, then emerging brood, the frame of your larvae and the pollen frame. Select two frames of brood from the original hive and shake the bees off these into the nuc. Sprinkle about a cup of warm sugar syrup over the bees and frames, cover the nuc, block the entrance with grass and remove to a cool dark place.

Reassemble the frames in the main hive in the same order as they were originally, being careful not to squash the queen. Move all the frames into the middle and replace the missing frames with fully drawn frames.

After 24 hours, check the nuc to see if the larvae you selected are floating on top of a small pool of royal jelly. This means they have been accepted as future queens. Also check to see if the bees have started building cells of their own. Break these down, as they will have been developed from older brood. If they have started feeding your selected cells, close up and continue to feed the nuc with a little sugar syrup using a top feeder every few days. If not, select a few more cells with tiny larvae and open these up as before. Repeat the mashing up of pollen and honey and close up again.

This time, check after another three days. If no cells have been produced, look for eggs, you may have had two queens in the hive or you moved the queen across to the nuc. If you did this by mistake, then the main hive will have produced queen cells by now. Bad luck as you didn't really want a break in brood rearing but at least you should get it requeened.

On the tenth day, check the cells. If more than one, leave the biggest and gently cut out the extras. Keep them upright as much as possible. Don't drop them. You can use these to requeen other hives or make additional nucs. Before you place a queen cell into the middle of the brood nest of another colony, wrap all but the end of the cell, (where the queen emerges) in a strip of catering foil. This prevents the bees tearing down the queen cell.

Or you can just let things be and in about three weeks you should have a mated, laying queen in the nuc, ready to unite with the main hive, ie kill the old queen, transfer the nuc into a full size super and place two single sheets of newspaper between the main hive and the nuc so they merge slowly.

September/October is spring clean and inspection month. Any hives showing deterioration should have their woodware replaced. Make a note of what is required and have everything ready so that all things including a brood inspection can be done at the same time. Just like you are taught when doing your DECA course, start at the bottom of the hive and work upwards.

Hives will be open longer than normal when doing your spring inspection, so have a cloth or a split board handy to cover exposed supers so the bees do not become agitated or loose too much heat.

Choose a warm sunny afternoon, when plenty of bees are flying to do your inspection. Place the roof on the ground in front of the hive and stack all the supers on top of this. Cover the exposed super.

Check the hive stand. Still sturdy with a very slight slope forward? It has to support a lot of weight during the season so be fastidious.

Replace or clean the bottom board or if you use the combination floorboards - turn it over. Brother Adam used to replace his floorboards in each apiary with spares, take them back to the Abby and clean them in an acid bath. We can do the same thing by scrubbing the surface with 75/25 mix of water and Janola (sodium hypochlorite) after first removing all the debris with the flat of the hive tool. This removes all the crud, plus sterilizes the boards of Nosema and Chalkbrood spores. Rinse off with a little water, wipe down and place back on the base.

Now place the bottom super back on the base. Remove an outside frame or if the hive hasn't been looked at for a while, free and remove the second frame in from the edge. Often if you force the outside frame, they tend to disintegrate. Remove it slowly so as not to roll the bees and check the frame. If it has a lot of drone brood, mark the frame and move it towards the outside of the super so it can be replaced later in the season with a new foundation frame. Similarly for dark combs you cannot see light through when held up to the sun.

Inspect all frames in the bottom super with the sun behind your shoulder. Shake off any bees on the frame into the base of the hive. Check each frame for AFB scale in the base of the cells, remove any buildup of wax along the top and bottom bars, remove any propolis along the edges of the end bars

(keep separate as this is worth money) and replace the frames back into the super. If you already have drawn out frames from last year, the dark, broken, end frame with large amounts of drone brood cells can be immediately replaced providing the old ones are free of honey or brood. Check the brood patern, (spotty could indicate it may be necessary to change her), note that there is enough pollen around the brood nest. Take a note of the amount of honey reserves. Replace the frames in the same order they were removed and press them close together in the middle of the super as this allows the bees to heat a greater frame area more efficiently. Don't expand the brood nest by adding new frames between the existing frames of brood as the brood can become chilled during a cold snap.

If you come across a single queen cell - DON'T KILL IT. At this time of the year, quite a lot of hives produce new queens through supersedure. Put the frame aside and keep an eye out for eggs. If you find them, then the hive still has a queen. Either put the frame with the queen cell attached back in the main hive or use this in the nuc.

Proceed through all the supers, covering the exposed super still on the up turned lid. Put everything back in the same order as it was removed. Work steadily and keep puffing a little smoke across the top of the frames to keep the bees under control. Don't let the honey reserves fall below three full frames, as this is the amount necessary to carry a large hive through a week of inclement weather. If in doubt, start feeding sugar syrup 50/50 with warm water until adequate reserves or a flow starts to supplement the stores. Reassemble the hive. Save the wax and burr comb for melting down during the summer.

This is the only major clean up work you have to do in the spring. Once you have fully checked all the frames for disease, you only need to monitor the emerging brood frames for AFB (Paenibacillus larvae) during subsequent hive inspections. Note in your diary when this was completed for your disease return.

**Woodwork**

All the woodware you preserved last month should be dry enough to assemble. Before assembling supers, protect the end grain by painting them with an undercoat. If you used metalex, use an oil-base paint otherwise use water-base paint.

Its easier to assemble supers in a jig or against a square structure. Something that holds the handle hole end plus both sides upright in the shape of the letter "U". This way, the whole super remains square when you nail on the other end.

Just a little reminder before nailing (or stapling), check that the rebates are both facing the same direction. Use at least 5x75mm galvanized flat head nails to on each corner of the super; top, middle and bottom on the end and another two in between these on the sides. Skew nailing (at an angle) will make the super hold together longer. Undercoat the outside, top and bottom edges and when dry, give it a topcoat. Paint, stencil, or brand (before painting) your hive number into a few supers so they can be seen from a distance.

After getting into a rhythm assembling supers, if you don't keep checking, you will occasionally top and tail a rebate. Don't try to take the super apart. If you have done a good job nailing it, you will only wreck it. Use a router to make another rebate and fill in the other one and adjust the hand hole.

Frames can be assembled when the supers are completed. I live in a relatively wet area and find the top bar lugs rot off in a few years if hives have insufficient top ventilation, so now preserve them. I paraffin wax dip mine but any non-toxic wood preserver (metalex, woodlife, etc) will do. Just drop the top bar ends into 3-5mm of solution and let the wood take up the preservative over the next 10 minutes.

There are many different types of ways of nailing frames - top, sides and at the ends. Use a decent nail at least 25mm long, top and bottom (or whatever suits you). If you nail top and bottom, why not make up a frame jig. A jig to hold the 10

frames square and they can be all nailed at one time. This jig looks like a 1/2 or 3/4 super, reduced in height and width so that it holds the assembled frame fairly tightly. Half way up the sides, rectangular holes are cut in (slightly less depth on the other side) and a tapered stick inserted which holds the end bars in place. Slide in the tapered sticks so that there is just enough room to place in the end bars. Press the top bars into position, nail, and then turn the jig over, position and nail the bottom bars. Slide out the end sticks that hold the endbars square and the frames should be able to be removed. These jigs are much quicker than nailing one at a time and make life easier for you. Some beekeepers prefer to glue their frames before nailing but I do not find this necessary. It all depends upon the type of nail you use. Smooth, chrome nails tend to slide out after a time so I do not use this type of nail.

What ever you do, don't take short cuts. You have invested a lot of money into your beekeeping gear. A quality job will see the gear last much longer.

Apart from inspecting your hives, continue to check their stores to see that they do not run out, clear away or spray the grass around the hives and keep an eye out for early swarming.

Spring is a time of rebirth. Spend an hour in the garden on a sunny morning, drinking up the sun and listening to the bees working the blossoms and flowers around you. Enjoy the moment.

## SNI Branch Notes

We had a very successful road show meeting in Wanganui. 50 beekeepers attended from throughout the region.

All but two beekeepers voted for movement control as a means of slowing down the spread of mites into our district. The two beekeepers against were directly affected by the movement control splitting their business operation. The majority were for moving the border north to geographic boundaries provided they didn't impinge on the existing beekeepers resident in the area.

There was much discussion on those beekeepers that move hives following pollination into the Waimarino District that they would be excluded by this change. These hives will have or could potentially be infected with mites. We were not against the beekeepers using the area provided the hives could be guaranteed to be mite free (ie bring hives down from a known mite free area) and that we would respect their apiary sites and the right to use them again when this area became infected.

However before any boundary changes could be contemplated we must prove the area to be mite free, and have requested further surveillance of the hives in the area to prove this.

The branch will be running another Camp Rangi introductory course for new and hobbyist beekeepers next August 2001 and will be making arrangements for those attending to sit their DECA test.

The Wellington Beekeepers Association will be hold another two DECA courses:

23 September 2000, at the Johnsonville Community Centre starting at 1pm,

28 October 2000 at the Pinehaven School Hall (Silverstream) starting at 8.30 am.

This is being held in the Upper Hutt area to pick up the beekeepers in that area and the southern Wairarapa Area. Cost $45.00

The Club will also be holding a Diseaseathon in the Wellington Area, 11 November with the assistance of AgriQuality NZ.

***Frank Lindsay***
***Branch Secretary***

# Craft and Control

## Networks, Strategies and Ordering in New Zealand Beekeeping

Readers will remember me from the 1998 and 1999 National Conferences of the NBA, and from meetings and events of the Canterbury Branch during 1998. My research was completed in the form of a Master of Arts thesis late last year. It had been my intention to publish the thesis in portions in the *New Zealand BeeKeeper magazine*. However, the thesis, including photographs, is too long. The following is part one of a three part series intended to provide a flavour of what appears in the actual thesis. Each part in the series will introduce at least one of the chapters in my thesis. I would like feedback; my contact details will appear at the bottom of each article. At this stage I expect to do a PhD thesis in England next year, which will develop issues and ideas raised in chapter one of my MA thesis. These issues and ideas concern beekeepers relationships with bees, the bees themselves, and the places where bees are kept. The PhD thesis will also compare beekeeping practices in Britain and New Zealand.

It was suggested to me by a participant in my research that commercial beekeepers 'see the world through the eye of the bee', and that they regard beekeeping as being one example of 'man's' interference with nature that is relatively low impact. The following quotation conveys this. It shows how 'those who lift the lids of beehives' distinguish themselves from 'mainstream' farmers whom they regard as outsiders:

They (mainstream farmers) only see the world in terms of what they are doing on their farm in the way of producing grass, producing crops or producing wool...And, generally speaking, farmers, although they say they are um environmentally aware, most of them are not...*We see a side of farming that other farmers don't see; that is, the fragility of bees and the importance of them* (Canterbury beekeeper, Interview, March, 1999).

## NATIONAL BEEKEEPERS ASSOCIATION

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CANTERBURY BRANCH

### SEPTEMBER EVENING MEETING

**Date:** **26th September 2000, Tuesday**
**Time:** **7.30pm sharp**
**Venue:** **Federated Farmers NZ Building**
**78 Armagh St**
**Christchurch**

**Programme: 1. More on Varroa Management Plan**
**2. General business**

NBA/MAF Control Option Development Committee and Exotic Disease and Pest Response Training Exercise to know more about these and other current issues, attend branch meetings. Industry issues need industry input.

**Supper/cover charge $1 per head.**

The first Christchurch MAF road show on the Varroa Management Plan was held on the 29th August 2000. About 70 people attended with representatives from the news media, Environment Canterbury, Seed Producers and hobbyist beekeepers. Feed back during and after the meeting was excellent. A big thankyou to Dr Helen Berhard, Paul Bolger MAF and Chris Badley MAF.

***TW CORBETT***
***Secretary***

The quote also suggests that 'those lifting the lids of beehives' have holistic views of 'nature'. Their work takes place in a slower world of bees, and means that they develop different conceptions of time. Beekeeping work attunes beekeepers to natural processes, such as the lifecycles and careers of bee colonies; yet it also subjects them to human contingencies, such as mainstream farming practices. Commercial beekeepers, in particular, are influenced by the time management regimes of others because they ultimately control bees to make a livelihood. This is one aspect of a tension between hobbyist and commercial scales of operation.

There is a further tension in beekeeping: Commercial beekeepers recognise themselves as a 'collective lot', distinct from hobbyists and mainstream farmers, at the same time as claiming to be rugged individuals working at 'one with nature'. The following quotations play this out:

*Canterbury beekeeper:* Oh *we're* a strange lot. *We're* - um - different probably - yeah beekeepers are a different type of person from the average...And they have their own conceptions of themselves. They are very individualistic and - um *I* like beekeeping because *I've* always been an outdoors person and its one way *I* can earn a living outdoors (emphasis added).

*Researcher:* So it's something to do with the nature of beekeeping itself?

*Canterbury beekeepers:* Yes, definitely...very strong um - beekeepers can be very, very strong - within themselves...physically and mentally. Very independent and, yeah, very independent (Interview, July 1998).

*Life member: We* are unusual people otherwise *we* wouldn't take the punishment *we* take because at times you get punished, you know, and *we* all do it. If *we* weren't unusual *we'd* walk away from it (Interview, July 1998).

Commercial beekeepers say they have a great fascination with the insects they keep because of the social order of bee colonies. They regard bee colonies as 'perfect societies' characterised by 60,000 or more inhabitants harmoniously working together towards shared goals. I see this fascination with harmony to be at odds with the individualistic ethos of "those who lift the lids of beehives", and to shape the ways in which beekeeping gets administered via the NBA.

Chapter one of my MA thesis, *Craft Knowledge: 'Doing the bees'*, reflects on the above aspects and tensions involved in beekeeping work. If focuses on the sorts of skills and know-how commercial beekeepers acquire and perfect when working with bees. I identify these skills and know-how as 'hand and body knowledge' or, more simply, as 'bodywork'. The necessity of bodywork in beekeeping has consequences for the inroad of science and technology. The craft is practised long-term, and often takes place within families or at places where beekeepers' have grown up as children. This is because beekeepers have to amass detailed and intimate knowledge of local environments where bees are kept, including weather patterns, land topography, and cycles of flowering flora. Family knowledge is part of the *local knowledge* that equips beekeepers to perceive and interpret nature's 'messages' in order to know the requirements of their bees and which apiary sites to use at different times during the season. Local knowledge operates like a sixth sense, comes with long practice in the fields with bees, and cannot necessarily be scientifically proven or written down.

Like technicians and repair persons, beekeepers have a knack for inventing and modifying equipment out of materials on hand in their honey houses, trucks and backyards. They have a do-it-yourself, make-do philosophy that allows them to solve concrete problems as they arise in the fields with bees or in the extracting plant. This philosophy has been prompted by beekeeper's conceptions of themselves as isolated individuals, and by the need to spread income received at particular points in time across the whole year. In actuality, beekeepers have ties of interdependency with other actors, such as the farmers on whose land they keep bees. I argue that, in the present context of free-trade, these ties of interdependency are multiplying, and that this goes hand in hand with beekeepers' varied capacities as pollinators, exporters, marketers, administrators, and producers of more than simply bulk blended honey.

The chapter on craft also considers the significance of local idiosyncrasies of apiary sites in particular areas giving rise to variability in craft practice across regions and between the North and South Islands. Beekeepers are already aware of this variability because at National Conference they like to talk about their operations, especially with those keeping bees in completely different areas. I argue that regional variability becomes a source of strength in the competitive marketplace for creating innovative and value-added products, like with the wine industry. This opens up the possibility of marketing locally derived products through information and communication technologies at the regional, rather than the national, level. A reworking of *national* control in beekeeping, in light of regional and locally based action, is therefore predicted. If follows that in the present free-trade environment it is increasingly difficult to organise beekeeping craft through traditional 'producer' organisations.

Part two of the article, in the next edition of the *New Zealand BeeKeeper*, will cover chapters two and three of my MA thesis. Chapter two is about the 1998 National Conference of the National Beekeeper's Association (NBA) held at Waitangi in the Bay of Islands. Chapter three is a case study of the Canterbury Branch of the NBA. The Branch chapter considers, among other things, the three Canterbury remits presented at the 1998 National Conference. My contact details are email at, b.newton@soci.canterbury.ac.nz, or telephone, after hours at (03) 337-1929.

***Bronwyn Newton***

# Honey Marketing

*by Bill Floyd*

I have attended two of the Varroa Information meetings being held around New Zealand.

As I have said before, it's not my place to comment on the varroa issues, nor on the detail of how control will take place; nor whether the South Island should try eradication as a first strike option. Those with their livelihoods at risk must debate and decide. I fully appreciate the anguish and the passion as those decisions impact on industry at an individual level. This is about families and incomes and in some cases generations of beekeeping practices being questioned.

One thing is for certain, and obvious: beekeeping will never be the same again: and beekeepers need assistance in combining skills and knowledge to survive and develop post-varroa techniques.

The role of the Marketing Committee over the next few months is quite clear: ensure that consumers and media are fully informed on the impact of varroa on honey's eating qualities; and continue to create new opportunities for beekeepers to improve their businesses.

And, just for the record, I'll spell it out again here: if Apistan is properly applied there is absolutely no affect on honey at all: there is no residual chemicals in the honey: it really is that simple. As they say in the USA, it's a 'no-brainer': so don't let anyone say otherwise! Contact me if you have a problem on that score. Beekeepers have enough cost problems without risking a drop in demand through misinformation.

The incoming NBA executive has given the Marketing Committee three prime objectives. They are:

- Investigate electronic trading of bee products for the benefit of New Zealand beekeeping.
- Assess and review the current honey research of products and develop a plan for the NBA's future research needs.
- Redefine marketing committee focus so that marketing development adds to overall beekeeper profitability.

Philip Cropp is the NBA Executive member responsible for Marketing. Philip's own company has specialised in hive product added-value development: and we'll be looking at extending the Marketing Committee focus more into hive products per se rather than just honey.

Few know that Philip's own company has just completed what is probably the largest investment in clinical trial research of any New Zealand beekeeper company for a hive product. The results which will be published later this year look set to spearhead his company's product into world attention. His background, and commitment to professional and ethical medical research for hive products, is going to add a new and exciting dimension to our generic marketing work for NBA members.

Floyd Marketing has been working with Philip in preparing a set of strategies to meet the Executive's prime objectives (above); the strategies are being considered by the Executive at their September meeting (this column is being written end of August; so I can't prejudge the final outcomes yet).

Once the Plan's 'strategic principles' have been agreed to by the Executive a Marketing Committee will be appointed to work with the industry's facilitator (at present Floyd Marketing) to

develop and implement them. That Committee will be picked for its expertise relative to achieving the objectives. The approved final Plan will be published in a future *New Zealand BeeKeeper Journal*.

At time of writing this column (August) Dr Peter Molan is attending a special meeting of scientific advisors to the USA's National Honey Board. Peter is presenting the current research programme to the Board; and is also interviewed by many USA media. Dr Molan's knowledge on honey has made him invaluable to the research teams in the USA. They are discovering or proving some exciting benefits; but Dr Molan is able to tell them why.

In this month's column I've summarised the projects currently underway at the New Zealand Honey Research Unit. This is partially to meet the needs of the New Zealand Honey Trust: who provide an annual Grant to the Research Unit on condition that we make the results of research available to all beekeepers; but also to spur some of those reading into thinking about opportunities for their own business.

## New Zealand Honey Research Unit (HRU)

### Annual Report to NBA members/August 2000:

### Background-

The HRU is based at Waikato University. The Unit is managed by a Liaison Committee. The Committee assists the Unit Director to identify research needs and to promote the results. The Committee this year is Jane Lorimer (Chair); Neil Stuckey (Committee); Dr Mark Goodwin (Committee); Dr Peter Molan (Director); Bill Floyd (Manager).

The following is a summary of all projects underway at present. Note that this is not a Report in the strict sense of the word. Its slightly informal, as I've developed some areas with comments that I think will be of interest to beekeepers. I've also shown where the research has resulted in companies creating specific and new consumer products as a result of the research.

Item "ACTIVE" MANUKA PRODUCTS - a general comment on product development with this unique honey.

The Australian company, Capilano, is developing international opportunities for their Medihoney, most of which is sourced from New Zealand. They have taken 'active manuka' to a new plateau of opportunity with their successful registration of it as a medicine in Australia. (That registration relied heavily on the expert evidence supplied by Dr Peter Molan.)

But a New Zealand company is rising to the challenge of being the world's most innovative Manuka honey products manufacturer. Bee and Herbal Ltd of Cambridge has just released a range of honey hospital dressings and special wound applicators under their Medibee trademark.

Bee and Herbal's commitment to manufacturing excellence has given the Honey Research Unit (and the New Zealand beekeeping industry) a world class product to provide to hospitals and medical teams around the world.

It will have tremendous promotional value for New Zealand honeys per se. (And as we develop increased knowledge about the enzyme antibacterial activity in our other bush honeys we will see these new technologies applied to both the enzyme and UMF(tm) types of honey.)

## Item USA NHBd Research

The USA's NHB is funding a range of honey research through the New Zealand HRU.

In particular this has focused on the enzyme values in honeys. Some of the work has to be subcontracted to other laboratories because of the highly specialised equipment and knowledge required.

## The key result of that work to date:

A 1% solution of honey (UMF or enzyme based) activates white blood cells; the honey is in effect an immune booster. Strength needed is much less than for topical antibacterial activity.

Honey's proven value against diarrhoea may be explained by this discovery: it means the honey hasn't been killing the bacteria itself so much as assisting the body's own defence mechanism to conquer the bacterial invader. If proven; this means that honeys may have a systemic functionality; and not have to be in direct contact with the site of a problem.

(The explanation? Molecules on the outside of bacteria activate the white blood cells. Peter Molan believes that honey may have glycated proteins added to the sugars and that these trigger white cell activation; or it may be due to the enzyme activity in the honey: the research continues on this incredibly exciting discovery!)

But this discovery raised the question: if honey kills bacteria systemically, why doesn't it kill the pro-biotic bacteria in our gut. (We need those 'good bacteria' for our own good health.)

So the HRU is testing to see if honey is in fact selective ie: it kills bad bacteria but not good bacteria.

A trial test has shown that one probiotic bacteria was not killed by active honey at 25% concentration. And yet superbugs (bacteria resistant to antibiotics) are killed at 4% concentration.

The answer may be that over the millions of years of development of the human body, a symbiotic triangle developed between humankind, honey and probiotic bacteria. (Makes sense to me! And only in the last few decades has the insidious and ubiquitous consumption of refined cane sugar upset what was a well tuned three-way partnership in our bodies.)

## Honey and Sports Energy:

Media Releases from USA researchers have already been published in *The New Zealand BeeKeeper*. Final results certain to confirm results to date: ie that honey is significantly different to and better than refined cane sugar as an energy source.

The very good news for New Zealand beekeepers here is that Peter Molan believes the enzyme/H2O2 factor may be part of the explanation.

This enzyme factor is very pronounced in New Zealand bush honeys: 'ordinary manuka', rewarewa, honeydew, and the dark polyfloral blends. Actually, there is nothing 'ordinary' about ordinary manuka! What I like is that maybe 40%-60% of our national crop may have these values: a huge commercial opportunity for virtually every beekeeper!

## Honey and Woundcare:

Two studies have now been done on bacteria in the UK. A paper has been published: two hospitals in the UK are now using honey. Results of the work in these hospitals are being published as case studies; one already in print.

A paper on the effect of honey on Pseudonomas in burns is to be published.

### Item: New Zealand Trust $20,000 Annual Grant

The Trust funds are being used on concepts where NHBd funding is not available; and specifically for named "Manuka" projects where it would not be fair to use USA funds.

### Item: HRU Consultancy Services

With the ever increasing publicity, the demand for advice from Peter Molan is growing daily. Where the inquiry is from a company wanting to get commercial advantage for themselves, Dr Molan's time is to be charged out at University rates.

### Item: A General Review of other projects:

1. Identification of the oligosaccharides in honey research continuing

2. Comparing methods of identifying the floral source of honey (GCMS, pollen analysis, organoleptic)

An Italian researcher based at Waikato University, Paola Galimberti, is continuing research on this.

(This research will be vital if any imported honey was allowed into New Zealand at any stage: it will allow New Zealand honeys

to be certified as not contaminated by overseas imports and can form the basis of a 'NZ Pure' Standard)

3. Improving the assay methods for antibacterial activity of honey (repeatability, reliability, proportionality) research continuing

4. Sensitivity to honey of wound-infecting bacteria not easily treated by antibiotics. Cardiff Hospital continuing research. Plus a student in the lab at Waikato Hospital is testing a range of rogue bacteria and fungi that infect wounds. (The research uses both enzyme-based and UMF(tm) honeys. Both effective, no major difference except betahaemophilic streptococci more affected by UMF.)

5. Sensitivity to honey of wound-infecting species of fungi

Fungi tested was tinea: Honey is effective. Other fungi species infect open wounds, and often cause fatalities in serious burns. These now being tested.

6. Sensitivity to honey of enteric bacteria not easily treated by antibiotics

Enteric bacteria that cause gastroenteritis are sensitive to honey at 5%-10% concentration. This is good indication of the potential for honey to be used in calf rearing.

An organic dairy farmer in Hamilton is now using rewarewa honey in trials on calf rearing.

7. Sensitivity to honey of bacteria causing acne.

This is an area where UMF(tm) or 'active manuka' may be unique. Peter Molan has just completed research using pork skin to prove subcutaneous effectiveness of UMF(tm) honey. Honey should be suitable as a prevention as well as treatment. This single concept: 'the world's best acne cream' could see New Zealands entire UMF(tm) crop go into one valuable niche market. (In anticipation of that the HRU is confirming that wound and burn treatment is effective with enzyme based antibacterial honeys: ordinary manuka, rewarewa, honeydew and polyfloral honeys.)



8. Sensitivity to honey of eye-infecting bacteria. Clinical trials on blepharitis and eye infections

Application has been lodged with the Ethics Committee for trials at the Opthalmology Department at Christchurch Hospital.

Peter Molan is keen for beekeepers to get farmers to send swabs of pink eye to the HRU. The HRU needs to test variable isolates to prove lab trials done on one farm.

9. Clinical trials of honey creams on atopic eczema

Honeys moisturising and antibacterial properties would be effective, but need to resolve the issue of a wetting agent being required to 'activite' the honey's enzyme values.

10. Investigating honey's stimulation of wound tissue growth (assays of cytokine production)

This work being done at Cardiff. Positive tests so far. Could be exciting new project: honey stops keytoid formation (scarring). Research starts in two months: will assay for anti-inflammatory activity, and cytokine activity.

11. Studying the production and action of hydrogen peroxide (H2O2) in honey (optima for GO action, inhibition of GO, catalase action, inhibition of catalase, free radical formation, iron chelation.) Note GO is "glucose oxidase", the enzyme that the honeybee adds to the nectar as honey is produced.

12. The H2O2 Residual value.

The enzyme potency in honey goes through the body. The question is: does the enzyme survive the stomach? The answer is perhaps yes. We're not sure yet of the interrelationship between honey being a t-cell immune booster and this H2O2 value. Enzymes remain active in honey itself for, for example, three years before being eaten (and honey is a ph3 solution). This maybe the same as being in the stomach for one hour at ph2.

13. Establishing honey as a valid treatment for sore throat (honey lozenges compared with antiseptic throat lozenges re: inhibiting and killing Streptococci)

A thesis on Strep pyogenes is available now. It appears that honey may be better than most proprietory sore throat products.

A New Zealand company will shortly be releasing a new range of products based on this research.

14. Developing confectionery made with antibacterial honey for protection from dental caries research is completed. Result: antibacterial activity at honey concentration in salvia will stop bacteria growing and or producing dextran (gummy carbohydrate polymer that lets bacteria stick to smooth surfaces). So no new bacteria. The acid in honey is not harmful: because the bulk of acid in honey is not a free acid.

This concept is now being developed by Waikato University itself. A special process for turning pure honey into a suckable 'mint' has been patented and a new product will be launched soon for both New Zealand and international markets.

15. Use of honey for flystrike

The HRU is studying the potential of honey for treating fly strike (inhibiting egg depositing, hatching, and maggot growth). Honey would dress the wound and kill maggots. Honey also stops the decayed meat smell = doesn't attract flies. And the honey smell itself may deter flies. Eggs don't hatch in honey and young maggots die in honey, and old maggots run from honey. A new product is being developed that could be used by farmers to hold honey in place on infected sheep.

16. Developing honey dressings that are convenient, and hold honey in place on wounds

Peter Molan has developed a number of concepts which are now being experimented with.

17. Clinical trial of honey as a dressing on chronic leg ulcers.

A trial is underway at present comparing the enzyme and UMF(tm) types of honey. Patients have gone through to complete healing. No antibiotics were needed while on the trial. Ulcers healing. (Note all patients had long standing ulcers).

18. Veterinary trial of honey for treatment of mastitis in cows

Discussion underway with vets on trial concepts.

19. Sensitivity to honey of pathogenic protozoa (eg Giardia, Trichomonas, Cryptosporidium, Coccidia)

Student has started on this project: funding from outside source.

20. Investigating the anti-inflammatory activity of honey

Project underway: Ph student funded from outside source

21. Surveying honeys to find floral types with significant antioxidant content (by free radical quenching, distinguishing from vitamin C)

Identifying the antioxidants in USA and New Zealand honeys. Research partially completed. New Zealand bush honeys may have exceptional antioxidant values!

22. Surveying USA honeys to find floral types with high antibacterial activity

Work ongoing.

23. The effect of honey on lipid peroxidation.

The concept is to prove that lipid peroxidation does not occur in honey products on storage. The HRU will investigate if honey antioxidants prevent lipid peroxides forming during cooking. Oxidised fats in food products (lipid peroxides) are very harmful. It may be that if honey is used instead of sugar in donuts etc, that the anti oxidant properties stop lipid peroxidation.

24. Effect of honey on Clostridium perfringens. (Trials of honey in place of antibiotics in poultry and pig production: Clostridia are anaerobics and can't tolerate H2O2 . Therefore concept is quite feasible. (Farmers risk 10% stock loss if antibiotics not allowed; especially important for organic farming concepts. Peter Molan has a post graduate student ready to do as a feeding trial: no ethics involved. Peter will organise trial design and feed honey mixes.

25. Glycaemic Index (GI) comparison with other sugars.

GI of all sugars are not the same.

In honey, fructose and glucose are in unequal proportions and this slows uptake. We don't know why yet.

The research being done by the NHB for sports performance likely to overlap with this work.

The results could have major ramifications for human dietary health and prove a major value for honey as a sweetener.

26. H2O2 in honey acts as insulin substitute and stimulates cell growth.

This means honey could help build body mass. It also raises the concept that honey could be a legal steroid substitute.

This is a project concept to develop at some stage.

And now my honey of the month...

It's a honey from Keith and Joy Pegram. They sent the Honey Research Unit four samples of a Blackberry Dew! And wow! This is something new and exciting...I liked it. The honey has a definite tartness to it that is very refreshing and balances the sweetness well. No bitter aftertaste although a slight hint of tannin and a dried apricot type flavour that I found very enjoyable. I know Keith sent it to the HRU for some tests; but I just had to do the taste thing as well! Might have some special medical values, we'll find out soon, but very good eating honey by any definition. (Keith you sent a little too much for the tests but don't worry, I'll "get rid of" the surplus!...on a good robust strong bread, like some warm buttered baguette or sourdough!)

# Possible causes of the recent widespread collapse of wasp populations

During early 1999 reports began to come in that wasp numbers seemed to be lower than since the arrival of the common wasp Vespula vulgaris (L) in the mid 1980s. Early this year (2000) there has been a great deal of evidence from a number of sources that wasp numbers in many areas have been far fewer this last summer/autumn. Major evidence of widespread wasp population collapse is reported by a commercial operator who from 1993 has exported tonnes of wasp larvae and pupae annually to Japan where they are consumed as a specialty food. Collectors from many parts of the country but especially the eastern South Island, ship whole combs to a central facility where large larvae and early pupae are extracted and treated. Quantities are commercially secret, but the operator states that after remaining essentially stable at a high level until the summer of 1998, the number of collected nests declined to the point where the weight of immature wasps extracted decreased by 30% of normal in 1999, and by 90% of normal in 2000. Nest collectors have found that some pockets of country still have abundant wasps, which further emphasises the scale of the collapses elsewhere.

There are many subjective reports of wasp scarcity during summer 2000. Beekeepers have related that wasps have been very uncommon in the beech forests in the Canterbury foothills and near Murchison. At Murchison a beekeeper obtained a late summer crop of honeydew in 1999 for the first time since the advent of common wasps, and in autumn 2000 again harvested honeydew. The ability of bees to harvest honeydew is attributed to the decrease in numbers of wasps feeding on honeydew droplets on beech trees. In autumn 2000 for the first time wasps have been virtually absent from vineyards in Central Otago, to the point where orders for control operations were cancelled. One commercial destroyer of wasp nests, which are reported by the public in Christchurch, has been dealing with 2-3 per week in early 2000, rather than about 2-3 per day as in previous years.

Counts of nests and wasps at two sites show recent year by year decreases. At Okuti Valley on Banks Peninsula the number of nests located by myself and others searching a specific area was 131 in late summer 1998, eight in 1999, and one in 2000. Instead of the air humming constantly with many thousands of wasps, in 2000 only an occasional wasp was flying and the air was totally without wasp hum. A new species of Sphecophaga from Israel was inoculated into wasp nests in the area in 1998, but there was only a limited attack on V germanica, and no attack on V vulgaris. At Castle Hill beech forest in the Canterbury mountains wasps were superabundant until about three years ago, with numerous nests, and thousands of wasps feeding on honey dew per beech tree. In late April this year a search of the area in excellently fine, clear, calm weather revealed only one wasp nest (in one of my trap nest boxes placed out over a decade ago), no more than a dozen wasps flying about any one beech tree, and only three wasps in total feeding on honey dew on 20 beech trees. In contrast to the scarcity of bellbirds in earlier years when wasps were abundant, bellbird song was continuous.

What is responsible for this widespread collapse of wasp numbers? There is no concrete proof that wasp parasitoids are responsible for fewer wasps, but several studies suggest that good numbers of wasps would be killed. Barlow et al (1996), using survey data from Pelorus Bridge for 1988 to 1992, concluded that the parasitoid's ratio of increase appeared to be about 1.3-1.6, which was close to 1, below which by definition it could not persist. Nevertheless it was considered

that such values suggested an ultimate suppression of wasp nest density of about 10%. However with one more year's data the same authors reported that the parasitoid's ratio of increase per year from 1988 to 1993 was 3.2, and that during 1993, 22,950 wasp nests were parasitized within a mean displacement of 6.98 km around the point of establishment (Barlow et al 1998). Toft et al (1999) found that the survival of overwintering parasitoid cocoons was higher than earlier estimated, which would ultimately translate to a maximum suppression of wasp density of 25% (and not 20% as referenced by Beggs and Rees 1999).

If parasitoid numbers have continued to triple annually since 1993, then theoretically parasitoids could be responsible for the amelioration of the wasp plague. A simplistic approach is to triple annually since 1993 the 22,950 wasp nests calculated to be parasitized at Pelorus Bridge that year by Barlow et al (1998). By 2000 the number is around 70 million, which is surely many times the number of wasp nests in the country annually until the recent decreases. The parasitoid has also established at least several other sites to the west and north of Christchurch (Donovan 1996). Another approach is to assume for example that in one year 10% of nests are attacked. If parasitoids were tripling annually, one year later 30% of nests would be attacked, and in the following year 90% would be attacked. The reported decline in numbers of wasp nests matches a theoretical increase in the attack rate.

The wasp parasitoid would be most effective if it was to attack and destroy the small wasp nests made by queen wasps in spring. Reichert (1914), Harttig (1929), and Nixon (1935) reported that small nests of common and German wasps in Europe were parasitized. In North America MacDonald et al (1975) found Sphecophaga vesparum burra attacking over 80% of colonies of Vespula atropilosa. Development of incipient colonies of this wasp appeared to be adversely affected. For example, nearly half of 161 worker cells in one nest were parasitized, there were only seven workers in the nest and the queen was not found. MacDonald et al (1975) surmised that the great reduction in the worker force may have lowered the trophic level of the colony enough to starve the developing brood and queen.

There is no reason to suppose that spring nests in New Zealand are not similarly open to attack by S v vesparum, and increasingly so if the parasitoid population was indeed tripling annually from establishment in 1988, to 1993, as reported by Barlow et al (1998), and if it has continued to do so since. Indeed, if an attacking parasitoid is to minimize the possibility of predation from adult wasps within nests, then new nests founded by queens before workers begin to emerge would provide the safest environment, as while the queen was foraging outside the nest there would be no possibility of predation until the queen returned. For this reason, selection pressure may cause adult parasitoids to preferentially seek out and attack, and as a result, probably destroy many small nests. In nature wasp nests are rarely noticed by people until a steady stream of workers is flying to and from the entrance, and of course a nest that was severely debilitated by early parasitoid attack would not reach this stage, and so would not come to attention except by accident. During the last years of the DSIR I attempted to address this problem by setting out 100 nest boxes for occupancy by queen wasps so that the first stages of nest construction could be examined for parasitoid attack. However, actions of managers of Landcare Research Ltd soon terminated this approach.

Other agencies have been postulated as possible causes of wasp demise. Weather seems unlikely to be responsible for widespread decline. Heavy rain during spring probably does drown some nests, but New Zealand is so diverse climatologically that there seems little likelihood that weather has been inimical to nest-founding queen wasps over almost all the country for two years running, with the second year more adverse than the first. Further, after colonising most of the country by the mid 1980s, common wasps were abundant every year until recently, so if weather was able to reduce wasp numbers almost everywhere at once, or even just regionally, one would have expected a number of reports of other wasp reduction events during the previous 15 years. The life cycle of bumble-bees parallels that of wasps, with colonies initiated in spring in similar cavities, and small nests probably at least as susceptible to adverse weather as wasp colonies, however there have been no recent reports of fewer bumble-bees. The stability of bumble-bee populations also suggests that rats and mice, which will predate small bumble-bee nests, are probably not responsible for fewer wasp nests. Diseases are sometimes suggested as a cause of low wasp numbers, but Rose et al (1999) stated that of over 80 microbes that have been isolated from wasps or wasp colonies, few have been confirmed pathogenic, and none could be used as self-sustaining, classical biological controls. Two other Sphecophaga subspecies or species have been field-released in the last few years, but numbers have been small and neither has yet been recorded established.

Another possibility is the 'queen quality' concept of Archer (1980). It was supposed that a year of abundant wasps would supply numerous queens in the following spring, resulting in much competition for nest sites. This would deplete the number of queens and possibly reduce their quality - that is their fertility and/or activity. The reverse would then apply to scarce wasp years. Thus, abundant and scarce years would tend to alternate, so producing a two-year cycle. This hypothesis was developed for the common wasp. Akre and Reed (1981) disputed that such a mechanism for controlling wasp numbers actually existed, at least not in the Pacific Northwest of North America. The much greater collapse of New Zealand wasp populations in early 2000 over that of 1999 suggests that if this 'queen quality' mechanism does indeed exist, it is not operating here.

There remains the possibility that there is some unknown cause of fewer wasps.

Summer 2000 has been the first summer since the invasion of the common wasp during the early to mid 1980s that much of the environment has been relieved of wasp foraging pressure to the point where in places such as Okuti Valley and Castle Hill, numbers have been well below the 80%-89.5% reduction suggested necessary by Toft and Rees (1998) to protect orb-web spiders, and 88% to conserve vulnerable free-living caterpillars (Beggs and Rees 1999). If S vesparum is the cause of wasp demise, destruction of overwintering parasitoids in cocoons by, for example, plagues of rats and mice may well result in some recovery of wasp numbers, at least locally. Introduction of further, different species of wasp biocontrol insects is necessary to help stabilise wasp numbers at a low level.

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# Colour change the protects bees... *from sex traps*

Bees are great, they are beneficial, and it is not good for them to be caught in pest monitoring traps used in Integrated Fruit Production.

To protect the bees the pheromone traps have undergone a colour change. HortResearch insect science staff have worked out which colours bees are attracted to, and moth pheromone traps used in Intergrate Fruit Production (that until now have been white), are to be replaced by coloured traps that do not appeal to bees.

Research in Auckland, Canterbury, Hawke's Bay, Nelson and Central Otago determined the impact of trap colour on the capture of target and non-target insects. Catches of native and introduced bees were much lower in red and green traps than in the yellow, blue and the standard white traps.

Max Suckling, manager of HortResearch's pipfruit sustainability group, is this week presenting a paper on the topic to the New Zealand Plant Protection Conference in Christchurch. Dr Suckling said, "the new traps are more bee friendly, they have almost no bee catch, yet they are just as efficient for catching the moth pests."

The researchers found that honey-bees (Apis mellifera) and bumble-bees (Bombus spp) were mostly attracted to white and blue traps. Native bees (Lasioglossum spp and Hylaeus spp) were found in white traps, followed by yellow traps with a few caught in green traps.

Trap colour did not affect catch of the target species such as codling moth, and light brown apple moth.

As a result of this work replacement of the standard traps with coloured traps (red or green) is recommended to orchardists to reduce impacts on non-target species, particulary during flowering, when traps have sometimes not been used in order to reduce the risk of catching bees. A reduction in non-target species catch should reduce the need for the sticky base to be changed so often.

## Message from the NBA and PMS Committee - (6/09/00) To ALL New Zealand Beekeepers

Two major initiatives are about to start in New Zealand beekeeping. The first is the varroa surveillance program in the North and South islands. The second is branch AFB inspections contracted under the PMS.

The key issue for both programs is DIRECT beekeeper involvement. Beekeepers and NBA Branches will have the opportunity to be paid for some inspection services as recognition of the time, knowledge, and willingness to ensure the success of the varroa and AFB inspection programs. Beekeepers have requested a greater, more direct involvement in disease inspection programs, and this is that great opportunity.

**BUT THE NBA NEEDS YOUR HELP**

We need AUTHORISED PERSONS in each branch. The Authorised Person is the critical link in branch inspection and varroa surveillance programs. They will lead disease inspection teams, and have the authority to enter property and inspect hives for AFB, varroa, and other Exotic Diseases. Last year 70 beekeepers received temporary Authorised Person warrants, which have expired. This year we are aiming at 250 beekeepers receiving the training to become permanent Authorised Persons. This would enable the full implementation of disease programs, while spreading the workload over many people.

**HOW DO I BECOME AN AUTHORISED PERSON?**

You need to attend an Authorised Persons course, which will be held throughout New Zealand starting in September. Agriquality New Zealand, on behalf of the NBA and MAF Biosecurity, will conduct these training courses to explain your legal obligations and responsibilities with disease inspections, under the Biosecurity Act 1993, and the PMS. Your only criteria is you must have a current DECA and have sat, or about to sit, the competency examination.

Your BRANCH needs to nominate all beekeepers willing to attend the course. These names need to be sent to Murray Bush at: bushes.honey@xtra.co.nz

**WHAT DOES AN AUTHORIZED PERSON DO?**

Have an opportunity to be a paid inspector with varroa surveillance. Lead branch inspection teams for AFB disease days. Some inspectors may be employed for follow up work. Ensure your branch has the opportunity to receive funds for AFB inspection work completed.

**BRANCH INSPECTION PROGRAM FOR AFB**

Branches will be contracted under the PMS, to inspect a specified number of apiaries in their area. The best way is to organise a one day inspection program where Authorised Persons act as team leaders with multiple teams; ie: same as Diseaseathons or current branch inspection days. The concept is not new, the difference is Branches will be paid for this inspection work. A contract will be sent to branches by mid September.

Authorised Persons courses for varroa and AFB have been confirmed for the following dates and times. Exact venues will be advised to participants.

| BRANCH | DATE | TIME | TOWN |
|---|---|---|---|
| Canterbury | 19th September | 9.00am | Chch |
| Nelson/Marlborough | TBA | TBA | TBA |
| West Coast | Mon 25th Sept | 1.00pm | Greymouth |
| Sth Canterbury/Nth Otago | Tues 26th Sept | 2.00pm | Oamaru |
| Southland | Wed 27th Sept | 1.00pm | Gore |
| Otago | Thurs 28th Sept | 11.00am | Alexandria. |
| Far North/Northland | Mon 2nd Oct | 12noon | Whangarei |
| Auckland | Tues 3rd Oct | 1.00pm | Auckland |
| Waikato | Wed 4th Oct | 10.00am | Hamilton |
| Bay of Plenty | Wed 4th Oct | 6.00pm | Tauranga |
| Poverty Bay | Thu 5th Oct | 2.00pm | Gisborne |
| Hawkes Bay | Fri 6th Oct | 1.00pm | Havelock North |
| Southern Nth Island | Sat 7th Oct | 11.00am | Palmerston North |

**Contact your branch secretary, branch disease coordinator, or Murray Bush for further details.**

# National Beekeepers Association Strategic Plan

## 1. Strategic Plan

This is a summary of the draft strategic plan developed by the NBA executive in August. The Executive sees that it is important that it receives beekeeper comment on this plan before it is formally adopted in October.

As with all plans, they are continually developed and changed. This is seen as a starting point and not the end in itself. Each member of the executive is allocated portfolios that they will sponsor. They will develop terms of reference for committees and specific roles, they will be in overall charge of all expenditure for their portfolios. It is important that we clearly set out responsibilities in this way, this ensures that we operate effectively in this every changing environment.

Any comment on this plan should be forwarded to the NBA Executive Secretary and it will be tabled at the next Executive meeting.

We have also agreed new reporting requirements. All portfolios, branches and committees will report quarterly in Beekeeper magazine. This will ensure that the members understand what is happening and can get involved in whatever capacity they wish.

The first round of Committee appointments will be made in September. If you are interested in any of the portfolios then please contact the Executive member responsible.

### 1.1 Vision Statement

The vision of the NBA is:

"To be a financially and managerially stable organisation that supports, represents and promotes the interests of all beekeepers to their greater benefit whilst fulfilling all statutory and managerial obligations."

### 1.2 Goals

The Goals for the next three years of the NBA are:

1. Financial - Meets all financial responsibilities by generating income from compulsory levies and commercial operations which are greater than expenses.

2. Financial - To ensure that by the end of 2003 then NBA has reserves amounting to 20% of turnover.

3. Managerial Stability - To develop a structure which the NBA vision and the achieving of goals through innovation, communication and the elimination of discrimination and conflict.

4. Management - To have an effective structure that services beekeepers needs and ensures that all obligations are met.

5. Governance - To identify and develop a governance regime that enhances the long-term effectiveness and is responsive to the environment that the NBA exists in.

6. Statutory - To ensure that the NBA can effectively meet all its statutory obligations.

7. Support - Support members as they respond to challenges (imposed/brought about/introduced) by disease, environmental, economic, legislative and social events.

8. Representation - all beekeepers on legislative and disease matters to government (local and national)

9. Representation - To assist beekeepers contact with allied industry liaison

10. Promotion - To promote the NBA and beekeeping through research, development and marketing to the benefit of the membership

11. Communication - Open forum. To provide opportunity common to all beekeepers for the promotion of social relationships and informed debate.

12. Exotic Incursions - Protect the Associations interests in regard to the two year varroa control plan

13. Exotic incursions - Develop long term options and Association funding for the management of Varroa and American Foul Brood

14. Export issues - Develop and implement strategies for the resolution of the current export issues.

15. Environment issues - Develop a plan to deal with the environmental issues affecting beekeepers

### 1.3 Portfolios

The Portfolios for the next 12 months are:

| Portfolio | Executive Member | Description |
|---|---|---|
| AFB PMS | Terry Gavin | Management of and future direction of the AFB PMS. |
| Communications | Lin McKenzie | All aspects of communications both internal and external. This includes the magazine, web site and other means. |
| Compliance | Richard Hatfield | Compliance of beekeepers and the NBA to legislative requirements. Simplification of processes, education and enforcement. |
| Environment | Jane Lorimer | Environmental management, GE/GM, OSH, Bee product safety and other beekeeper impacting legislation |
| Exotics | Terry Gavin | Exotic pest management, boarder control, risk management and government liaison. |
| Export | Philip Cropp | Exportation of bee products, legislative requirements, improving exporting potential |
| Finance | Jane Lorimer | Financial management of the NBA |
| Governance | Richard Hatfield | Structure and form of the NBA and its organisational units. Roles and responsibilities |
| Marketing | Philip Cropp | Marketing of all bee products. Research and Development of products saleable by beekeepers. |
| Support | Lin McKenzie | Development and management of support programmes for beekeepers |
| Varroa | Don Bell | Management of the NBA response to varroa |

### 1.4 2000/1 Objectives

The 2000/1 objectives are:

| Ref. | Area | Objective is to | Date |
|---|---|---|---|
| 14.2 | AFB PMS | Review and develop a plan for the longer term PMS direction. | |
| 14.1 | AFB PMS | Establish and maintain contracts for AFB PMS for the next year so that it operates within legislative requirements. | |
| 3.1 | Comms | To make available to beekeepers all information that is not privileged by electronic means | 10/2000 |
| 3.2 | Comms | Develop and institute an information access policy for the NBA that is generally conformant with government. | 10/2000 |
| 3.3 | Comms | Establish quarterly reporting for all organisational units within the NBA so that performance and issues are communicated to the membership | 10/2000 |

| Ref. | Area | Objective is to | Date |
|---|---|---|---|
| 10.1 | Comms | An updated NBA Profile Document to be completed | 03/00 |
| 10.6 | Comms | Develop and implement a PR plan that includes press releases on beekeeper related topics, regular articles in appropriate journals, road shows/displays and create news worthy items for the NBA at a national and local level | 10/2000 |
| 11.1 | Comms | Put in place an electronic medium - with limited control that is policed in the interests of beekeeping - that provides information and is a forum for active debate on topics | 10/2000 |
| 11.2 | Comms | Promote branches as forums for member participation by defining the role more clearly | 11/2000 |
| 11.3 | Comms | Review the purpose/role and delivery of the NBA journal | 9/2000 |
| 8.1 | Comms | Develop a communications/ lobbying plan and commence implementation | 10/2000 |
| 1.1 | Compliance | To collect all outstanding Levies and penalties due to the NBA regardless of the year they were incurred | 6/2001 |
| 1.4 | Compliance | That the beekeepers that have registered apiaries after the announcement of the Varroa will be investigated to determine if there has been a breach of the Biosecurity act and the about of back levy that may be due to the NBA. The first 20 by 30/10/2000 and then at a rate of 50 per quarter | |
| 1.5 | Compliance | Develop and implement a plan to deal with beekeeper non-compliance regarding apiary registration and payment so that the detected level of non registration is reduced below 5% | Dev 9/2000 |
| 6.1 | Compliance | Work with relevant statutory authorities to ensure that non complaint beekeepers are reduced from the estimated 40% to 15% | 7/2001 |
| 6.2 | Compliance | Identify, develop and implement an easy to use, beekeeper friendly compliance process, education programme, forms and methods reduce non-compliance | 12/2000 |
| 6.3 | Compliance | Bring the apiary register in house and make it more useful to the NBA and beekeepers by establishing electronic direct update, integrity management and quality management in the content | 7/20001 |
| 6.4 | Compliance | Implement a programme to ensure that export certification can be undertaken without compromising the AFB PMS | |
| 6.5 | Compliance | Resolve the inequity in the levy collection base with a recommendation to the next AGM that will eventuate in legislative change. | |
| 15.1 | Environment | Set up an environment committee to address bee product safety (health, residues), OSH, GE & GM and chemicals (pesticides, hive chemicals). | |
| 13.1 | Exotics | Lobby government to improve the incursion prevention for beekeeping | |
| 13.2 | Exotics | Develop a response plan as part of the crisis management plan for incursions | |
| 13.3 | Exotics | Develop an approach for exotic surveillance and incursion prevention. | |
| 14.2 | Export | Investigate an appropriate levy collection method for export certification. | 6/2001 |
| 13.3 | Export | Establish an export committee that will address all export related issues that the industry faces. | |
| 1.2 | Finance | Develop a sound fiscal policy to ensure that the NBA is protected from significant financial constraints | 12/2000 |
| 1.3 | Finance | Investigate the commercial opportunities and report to members | 4/2001 |
| 5.1 | Governance | Establish the governance frame work that will ensure the roles and responsibilities of all of the organisational units are well defined and inter-operate constructively | 9/2000 |
| 4.1 | Governance | Identify and develop the management structure required to operate the NBA for the next year by the end of this workshop | |
| 3.4 | Governance | Assign specific governance responsibilities to executive members by Aug 2000 and approved | 9/2000 |
| 3.5 | Governance | Develop a succession plan for all organisational units so that the unavailability does not affect the overall organisations performance | 12/2000 |
| 7.2 | Governance | Set up a crisis management plan for the NBA | 12/2000 |
| 5.2 | Governance | Investigate and report to the membership the long-term relationship the NBA maintains with Federated Farmers. | 6/20001 |
| 10.3 | Marketing | Investigate electronic trading of bee products for the benefit of NZ beekeeping | 3/2001 |
| 10.4 | Marketing | Assess and review current honey research of products and develop a plan for the NBA's future research needs | 10/2000 |
| 10.5 | Marketing | Redefine marketing committee focus so that marketing development adds to overall beekeeper profitability. | W/S |
| 10.2 | Support | Research and develop a beekeeper business management mentoring package including exporting and education of beekeepers. | 7/2001 |
| 7.1 | Support | Develop a NBA resource directory for assisting members in finding the correct agency/organisation for assistance incorporating the NBA library. | 9/2000 |
| 8.2 | Varroa | Develop a communications/ lobbying plan and commence implementation for varroa | 8/2000 |
| 12.1 | Varroa | Protect the Associations interests in regard to the two-year varroa control plan | |
| 12.2 | Varroa | Gain funding for the development of the phase 3 plan so that we can have a draft plan to beekeepers | 10/2000 |

| Ref. | Area | Objective is to | Date |
|---|---|---|---|
| 12.3 | Varroa | Develop long-term options and Association funding for the control of AFB and the management of Varroa | 2/2001 |
| 12.4 | Varroa | Establish a varroa phase one and two committee to minimise the impact of varroa on the NZ beekeeping industry. | |

# Buzz Sheet

## From the Newsletter of the Hawke's Bay Branch

### Spring Management

Yike! It's Spring already. I was hoping for another couple of weeks before thinking about bee work but too late, things are on the move. With a mild winter and some very warm days lately the bees have decided it's time to start building up.

Some young queens have laid right through winter and older queens should now be laying; with spring pollen starting to come in the bees will expand rapidly.

A good check to see if your hives have got enough honey (and you don't have enough time!) is to lift the back of the hive by holding the base board and lifting it up a few inches. You can get a good idea how much honey is in the hives by comparing hives and checking the light ones.

Make sure hives have about four full depth frames of honey and later on in Spring at least three full depth frames. This buys you some time and is good insurance in cold and wet weather.

If the queen is not laying out very well, or the brood is a bit patchy - then it's worth considering introducing a new queen or even a queen cell.

You can give a frame, or two - of sealed brood to a weaker hive by first giving the frame a light shake to remove the older field bees. This is the best way to help a weaker hive and the bees accept the nurse bees on the new frame of brood without fighting. **Make sure that you haven't taken the queen from the other hive as well.**

Taking brood from a strong hive doesn't seem to affect it and can help prevent swarming. The best strategy to control AFB is to check at least two frames in each hive every time you work a hive. Check carefully when you are swapping frames or honey between hives.

There are several triggers which encourage swarming, the main one being lack of room. The others include the strain of bee and sometimes the age of the queen.

Older queens will sometimes supersede, usually three or four cells, but a swarming hive may have up to 12 cells usually hanging down from the bottom of the frames.

Beehives often get crammed with honey in the second box, especially in town or on a good willow flow. Take frames of honey out and put empty combs, or foundation outside the frames with brood on; put a box of combs (first honey box) on top; a few dark combs in the middle will encourage the bees to store nectar upstairs; and preferably leave the excluder off for now. You can put an excluder in later on if the queen has been laying in the first honey box - check to make sure the queen is not there or put her down stairs if you find her. Check the top box a week later if you're not sure.

# Varroa Mites in Hawke's Bay

No; they are not here yet but it is certain that we will get the Varroa mites in the next few years so we must be ready to attack them.

These little horrors live in beehives and are spread by contact between bees. If untreated the numbers build up until the hive dies out leaving honey for other bees to rob out and spread the problem. Eradication is desirable but has been judged to be impractical. When they do appear in Hawke's Bay in a couple of years we must all be prepared to treat our hives to keep the mites at manageable numbers.

You ask why treat the hives? Why not destroy infested hives as they are found? One mite in a hive is not easy to find and by the time numbers have exploded to a detectable level bees will have carried mites to other hives and to the wild nests. The best we can hope for is that responsible beekeepers will work together checking and treating all hives in an area at the same time. Known treatments will not get all the mites as they begin life in the larvae cells where they do not come in contact with the impregnated strips placed in the hives. Remember that chemicals used must be potent enough to kill the mites without also destroying the bees. The best that can be hoped for is about a 90% kill at the time when there are not many larvae growing in the cells. In the first few years the mites will spread rapidly as infestation of wild nests and unmanaged hives will be unchecked. In the next few years these will die out and the incidence of re-infestation will drop off.

Honey is not spoiled by the mites provided the treatment is done correctly and the local beekeepers are confident that enough hives will be available for the pollination of crops grown by those who have traditionally hired bees. The downside is that charges will have to be higher as apiarists face up to the cost of treatment. Clover pastures and other crops which have relied on wild bees will have to be managed differently and the home gardener will notice the absence of honey bees. Wasps and bumble-bees are not attacked by the mites but they have been detected clinging to the latter.

The National Beekeepers Association in conjunction with MAF have proposed a strategy to control the spread from the Auckland area. This includes restrictions on the movement of hives and bees. In previous years thousands of hives have been moved all over the North Island plus many queen bees and packets of bees have been sent overseas or to the South Island. Because of this controls must have the minimum impact on the earnings of apiarists who must accept that they are necessary and in the best national interests.

# SOUTHLAND BRANCH REPORT

## SUMMER/AUTUMN 2000

**Temperatures:** The weather from November to the end of February was cool to cold with many days overcast. Short burst of heat during January and Febuary.

**Rainfall:** November and January above average.
**Ground conditions:** Cool with very little clover flowers.
**Crop prospects:** Variable, 20-25kgs average though blue borage produced a good crop, above the average, very little bush produced.

**General comments:** This past season produced a big change in honey crop from the previous season. This was brought about by one of the coolist La Nina seasons since the 1950's. We were sad to farewell Keith Herron after a long period of illness. The empty seat left by Keith at branch meetings will be keenly felt especially at this time of the mite incursion, something Keith always said was a case of not if but when this would occur. Some beekeepers have been late in finishing off extracting and checking hives for winter. Our branch is very concerned with the varroa mite outbreak in the North Island, and the effect it could have in time on Southland beekeeping, unless it is eradicated. The cost of chemical treatment would wipe out most of our profit, leaving beekeeping here not viable.

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Keep your hives free of mites this pollination period. Dose in the orchards and don't bring a load of mites home.

For monitoring we now have sticky boards in stock at $2.65 each.

Available late September: ***"The New Varroa Handbook"*** by Bernhard Mobus and Clive de Bruyn.

This paperback handbook (160 pages) contains much useful information for the serious beekeeper facing varroa. Written by two experienced beekeeper/researchers.

Sections on: Diagnosis, Population Dynamics, Control/ Management, Treatment, Mite Biology, etc, etc...

Written in an easily understood style - priced at $35 per copy, plus GST.

Also available: UK MAFF Booklets:

***"Managing Varroa"*** and
***"Varroasis - Aparasitic Infestation of Honey-Bees"***
available at $5.50 plus GST per copy

# Classifieds

**Full page: $400 • Half page: $250 • 1/4 Page $150 • Run-ons $25**

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An HT licence is required along with experience in all aspects of beekeeping.

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# IMPORTANT DATES FOR 2000

BRANCHES SEND YOUR MEETING DATES IN FOR 2000. NO CHARGE.
MAGAZINE Copy/advertising deadline 1st of month. EXCEPT for DECEMBER issue.
DEADLINE **25 NOVEMBER**

# COMING EVENTS...

## ANY IMPORTANT EVENTS COMING UP - LET US KNOW

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

**NZ QUEEN PRODUCERS ASSN**
Call: Mary-Anne (06) 855-8038

**AUCKLAND BRANCH**
Call: Jim (09) 238-7464

**AUCKLAND BEEKEEPERS CLUB INC**
Editor: Colin Bell
Phone: (09) 818-4325

**NORTH CANTERBURY BRANCH**
Meet the second Monday of every month
March to November inclusive.
Contact: Mrs Hobson
Phone: (03) 312-7587

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

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

**CHRISTCHURCH HOBBYIST CLUB**
These are held on the first Saturday each month, August to May, except for January on which the second Saturday is applicable. The site is at 681 Cashmere Road, Commencing at 1.30pm.
Contact: Maggie James, 21 Humboldt St, Christchurch 8002. Phone: (03) 337-2421.

**DUNEDIN BEEKEEPERS CLUB**
We meet on the first Saturday in the month September - April, (execpt January) at 1.30pm. The venue is at our Club hive in Roslyn, Dunedin.
Enquires welcome to Club Secretary, Dorothy, phone: (03) 488-4390

**FRANKLIN BEEKEEPERS CLUB**
Meet second Sunday of each month at 10.00am for cuppa and discussion and at 10.30am open hives.
Secretary - Gwen Whitmore,
RD1, Tuakau.
Phone: (09) 233-4332
All welcome - Ring for venue

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

**MARLBOROUGH BRANCH**
We are holding a Deca course and exam

**MAN**
Meets ev
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**OTAGO BRANCH**
Phone: Mike (03) 448-7811

**WANGANUI BEEKEEPERS CLUB**
Meet 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**
Phone: (06) 753-3320

**WAIKATO BRANCH**
Call Tony: (07) 856-9625

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

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

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