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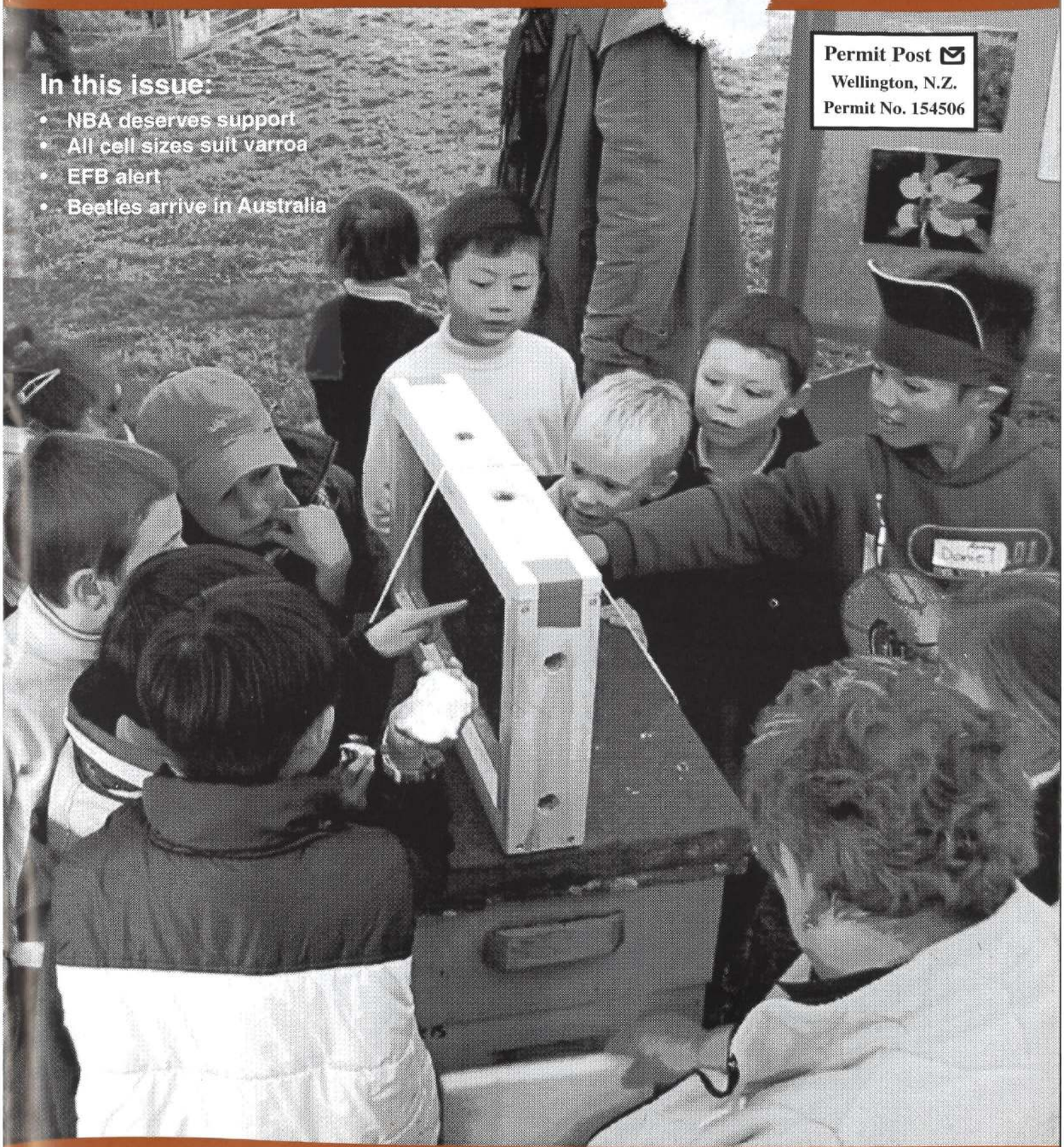

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Don Bell offers personal thoughts on beekeeping industry

Let's retain – and increase – NBA's strengths

November 2002

Dear National Beekeepers Association members

Ever since I became involved with the National Beekeepers Association and in more recent times with its executive committee, I have been concerned at the limitations of what the organisation is able to achieve for its levy-paying members. At the same time, I have developed a passion about the need to retain and strengthen the NBA. I am convinced this is the only logical organisation to represent beekeepers and the beekeeping industry.

Within this, I see the NBA in the role of the "over-body", over *arching* those issues which collectively form the environment beekeepers need if they are to grow their business interests, and retain the freedom to best do those things beekeepers are best at doing.

The organisation as such has, I believe, a strictly governance and strategic role to play.

- To represent beekeepers and their industry at the national level
- To contribute to the development of policies
- To provide the public and political face of the industry
- To be the single point of contact for political, statutory and regulatory concerns
- To be the advocate for beekeepers and their industry.

Similarly, to ensure the securities of the association, particularly in respect of finance; and to protect the assets, namely the technical library and the pest management strategy.

Within this structure the NBA might be likened to the bulldozers, clearing away the roadblocks and thus allowing the industry and its members go about their affairs unimpeded.

From the viewpoint of tactical considerations, these fall precisely where they belong – with the beekeepers, individually and collectively. The regional branch system, which has been the backbone of the NBA over time, is, in all respects, an appropriate vehicle to represent local and regional interests. It is robust in concept and in practice is well able to represent beekeepers and to advocate on their behalf at local, regional and even national levels as may be required. At the same time, it is responsible and sufficiently well versed to advise, direct where appropriate and to support the organisation at national level in each and every aspect of that body's role.

In this manner then, the onus falls fairly back on to the beekeeper to be responsible for his or her business management, the development of product range and the marketing of these in such a way as to maximise their commercial opportunities.

In addition, there is the opportunity for beekeepers to influence and, in effect determine the overall direction their industry takes, having due regard to the political and commercial restraints of the day.

Furthermore, it needs to ensure this is done without the undue influence of a "third tier bureaucracy", which the NBA was in so much danger of becoming as it sought to compensate for the withdrawal of those "tax-payer-inputs", the accepted norm until the late 1980s and early 1990s.

Backed by some 80 plus years of history, culture, a regional branch-based organisational structure and supported and reinforced by its Rules of Association, the NBA is a sound and well tried foundation on which to build a body beekeepers will need to take them and their industry into the future.

The Task Group commissioned by the executive to carry out an investigation into the member's requirements and aspirations presented its report to the executive on October 10. In it, they identified two possible options for any restructuring of the NBA.

1. That the NBA become a full Industry Sector Group of Federated Farmers of New Zealand (Inc.)
2. That the NBA restructures as a stand-alone organisation.

The Task Group's preferred option was to become an Industry Group of Federated Farmers and it recommended accordingly.

In respect of the association as an organisation, and considering its developing role as the industry representative, it is my conviction the Industry Group option offers the widest range of opportunities for the association and its beekeeper members.

It would mean the association's basic structure and philosophy need not be sacrificed; it will retain its autonomy, identity and integrity. Assets including the technical library, access to the Honey Research Unit, the Pest Management Strategy and such intellectual property as has been acquired, will be secured in the association's name.

Overhead costs will be minimised through participation in cost sharing of facilities and services, thereby enabling the gains from these economies of scale to be invested in more and better services.

Politically and in negotiating weight, the available "critical mass" will be hugely increased.

Above all, the association and its industry will be positioned within and directly associated with the major primary producer groups and the rural-based industries.

For these reasons I believe the "Industry Group" option with Federated Farmers as the mainstream group offer advantages far outweighing any real or perceived disadvantages. Federated Farmers are politically acknowledged as the mainstream organisation representing rural New Zealand in matters of Trade, Biosecurity and Social Welfare. These are the reasons I am firmly in support of the Task Group recommendation.

With this in mind I urge all members to give this matter of the NBA's future their closest attention in the days to come.

Yours faithfully
Don Bell
Sheffield, Canterbury

Queens determine hive profits

"Relationship between queen bees and honey production" was the title of a paper presented to the first Australian bee congress in 1973 by NEVILLE A. CUTTS, from the New South Wales Department of Agriculture. A copy of his talk was printed in the February issue of the 1973 *NZ Beekeeper*.

It has long been established that the queen is the centre point of the hive, around which the welfare of a colony of bees revolves. The queen is not only responsible for laying all the eggs necessary to maintain colony population. She also provides queen scent (odour) to maintain the morale of a colony.

She must have the ability to lay large supplies of viable eggs, right throughout the season and well into autumn, to ensure a strong colony, particularly when preparing to work winter honey flows.

Naturally, the yield or amount gathered by a colony is closely associated with the queen. This, in turn, is related to workforce or number of field bees available for nectar gathering.

What a lot of beekeepers lose sight of is how this high population of field bees is obtained, above the basic number required for hive duties, in caring for brood. Estimated number of hive population:

One queen for 10,000 workers, 6000 or 8000 maintaining colony.

20,000 workers, 10,000 maintaining colony.

40,000 workers, 15,000 maintaining colony.

The stronger the colony, the higher the proportion of bees available for honey gathering over and above those needed for brood rearing.

Which breed?

This point is not important. Have you seen black, yellow and red cattle? Surely if one strain was best, the other strains would disappear. Bees are no different. There are many strains, however no single strain has advantage.

A particular strain is the result of or developed by the genetic combination of the parents' line. The queen and the drone she mated will determine a colony. Unless compatible, they will not create a highly productive colony.

Hatchability and brood pattern

A good brood pattern, basically, is the result of a queen laying a high percentage of viable eggs – eggs which hatch and go on to develop into bees. Fifty percent, and the colony is basically a three-frame nuc and needs assistance by adding other frames of brood to survive. It thus would be useless as a productive colony and should be replaced. Nevertheless, this trait can be valuable in a breeding programme – strange, as it may seem. Daughters of low-hatchability lines cross mates with totally-unrelated drones and the high hatchability is restored.

In my capacity as a queen breeder, I make use of these factors in developing and maintaining various lines and strains of queens for using in the breeding programmes. A 95% hatchability rate is sought. If the figure drops to 65% or below, the colony will not get out.

Points to note

1. Some queen breeders and commercial beekeepers consider a breeder queen only maintaining a small brood nest is not suitable for breeding purposes. This is not necessarily so. If the queen is unrelated to drones in the area, then the daughters she throws will have good hatchability. That, combined with the queen's good genetic material, results in good breeding stock. If the queen is related to drones in the area, then low hatchability of daughters can be expected because they are being mated to their brothers and thus inherit the low hatchability.
2. Some queen breeders decide an outstanding hive in the apiary will have good breeders, assuming the daughter queens will be as good as the parent queen. They are often disappointed. If 100 hives are re-queened with 100 queens from that outstanding hive, what happens next season? You decide to raise some more queens . . . but the parent queens are mating with closely-related drones and the result is low hatchability. To avoid costly, time-wasting mistakes, think of your bees' family trees and try and avoid inbreeding.
3. Consider, also, the egg-laying capacity of your queens. A laying rate of up to 1800 eggs a day for a sustained period is needed to sustain a large colony. If, through inbreeding or other factors, the queen's egg-producing capacity falls short, to say 900 eggs per day, the colony strength falls off and the effective field force is reduced drastically.

Letters to the Editor

AFB proposal unjust

The major American foulbrood outbreak in the North Island last season is instructive. A large commercial beekeeper with multiple colonies on multiple sites has more chances of being infected and, similarly, infecting others.

In contrast, a single beekeeper who keeps a couple of hives in the back garden is less likely to infect other colonies as neither the hives nor hive equipment are being transported to other sites.

The scale of the operation obviously gives no guarantee of competence in AFB detection or management. In fact, AFB risks, and arguably the control costs, are proportionally higher for commercial apiarists, especially those engaged in pollination.

It is with this in mind that I write to express my extreme disappointment with both the decision of the National Beekeepers Association executive to forward its recommended proposal for an AFB levy to the Biosecurity Minister at the end of October - and the means by which this was done.

The "consultation" process was farcical as the executive was only interested in selling the one, pre-set agenda. As the person who screams the loudest is the person who pays the most, and as the executive itself is made up of largely commercial beekeepers, it was certainly captive to the proposal that saved them the most. Any lingering hope that they would achieve a balanced result is rapidly disappearing.

The AFB levy is now proposed to be $23.28 for those with one hive - equal to perhaps two-thirds the value of a single hive's annual harvest. The irony is, if a small or beginning beekeeper is not encouraged to register his or her hives, then AFB is likely to be around for much longer, extending the costs unnecessarily to all beekeepers.

I do not expect such incredible shortsightedness from the leaders of our industry. Young and beginner beekeepers need every encouragement, especially in these days of varroa. This proposal is heavily laden against them, seemingly in the name of short-term profits for larger operators.

If the executive wants the confidence of its members, it needs these matters to be decided openly and transparently. Surely a democratic vote between the three basic options, with time to reflect on the matter, would have achieved this and spared the membership the considerable expense of this latest junket, the costs of which I would be interested to know.

If those with less than 10 hives were excluded from payment as formerly, I would personally support this proposal. I do have more than 10 hives and I have been a commercial beekeeper for 20 years. But I also have a keen sense of justice.

- Robert Coad
Upper Moutere

NBA president Don Bell replies.-

I am sorry you feel as you do about the consultation meetings facilitated through the country by the NBA in May. They were not organised, as you suggest, out of any "pre-set" agenda devolving from executive members' personal or commercial interests.

American foulbrood affects all beekeepers, regardless of how many hives he or she has at any one time. Funding the cost of PMS, therefore, should be borne by all beekeepers and not just the selected minority.

The progressive increase in the cost of administering the strategy, on top of normal business and operational costs, are impacting on beekeepers, particularly those who are also facing the effects of varroa. This now means the practices of the past are no longer equitable across the board.

I appreciate your concerns over the possibility of "driving beekeepers underground" and then failing to comply with the strategy. But my experience has been that beekeepers in the main are responsible and sensitive of their obligations in respect to bee disease.

The Biosecurity Levy process provides an opportunity for persons to register their objection and/or support for a scheme. I urge you to detail your concerns in a letter to the Minister of Agriculture, Jim Sutton.

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Varroa destructor not thwarted by smaller sized cells, study finds

By Michelle Taylor
HortResearch

Smaller honeybee cells neither reduce the reproductive success or the amount of cells infested by the *Varroa destructor* mite, according to a New Zealand study.

The study was conducted by HortResearch for the South Canterbury branch of the National Beekeepers Association (NBA), which secured funding from the Sustainable Farming Fund to identify whether smaller sized cells affected the reproductive success or the amount of cells infested by the *Varroa destructor*.

Varroa is an external parasite that feeds off honeybee pupae and adult bees. Because it reproduces while sealed in the cell with the pupae, any method altering the environment within the capped cell potentially affects varroa reproduction.

It was initially suggested that smaller sized cells would have less room for varroa to reproduce, resulting in either limited or no varroa reproduction. The theory stemmed from a correlation found between African bees and varroa mites in Brazil. It was shown those bees produced smaller worker cells (4.5mm – 4.6mm in diameter) than those built by European honey bees (4.9mm - 5.4mm) and the smaller-sized cells had both lower varroa infestation and varroa reproduction (Message and Goncalves, 1995).

However, the research also identified a contributing factor was the shorter capped cell stage of the Africanised bee, reducing the length of time the mites had to reproduce. Therefore, it could not be assumed that a reduction in cell-size would have the same impact on varroa in New Zealand, especially since the research was conducted with a species of bee (*Apis cerana*) and a species mite (*Varroa jacobsoni*), both different from species in New Zealand.

The HortResearch trial used five different types of wax foundation with cell imprints 4.7mm, 4.8mm, 5.0mm, 5.1mm and 5.4mm (standard size) in diameter. The South Canterbury branch supplied the 5.1mm and 5.4mm foundation, the 4.7mm foundation was obtained from South Africa and the 4.8mm and 5.0mm foundations from the United States. All international shipments were irradiated on arrival.

Six sheets of each foundation type were drawn out in full-depth frames and then cut into 5cm x 8cm sections. One section of each cell size, plus a second standard (5.4mm) section, was randomly inserted into 20 newly-drawn, full-depth frames in a 2 x 3 mosaic, held together with melted wax

The 4.7mm and 4.8mm frames of foundation were inconsistently drawn out with uneven walls and in various sizes (Fig. 2). However, enough sections with correctly shaped cells were obtained for trial usage.

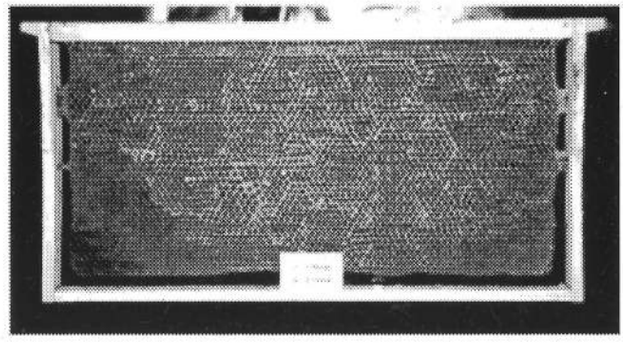


Figure 2. Frame of 4.8mm sized cells inconsistently drawn out. This frame was not used in the trial, as there were no suitably drawn sections.

Ten nucleus colonies were all established with two mosaic frames, a frame of varroa-infested brood, a frame of honey, varroa-infested bees and a mated sister queen. The colonies went through three brood cycles on the mosaic frames before beginning the analysis, ensuring each queen laid in each section.

Once the honeybee pupae were 19-20 days old, the frames were removed from the colonies and frozen. Then, 1636 cells were individually uncapped and the width of each measured. The age of the bee, the number of adult females and the number of female offspring were also recorded for each cell. The proportion of cells containing adult female varroa and the number of female offspring per adult female were then analysed.

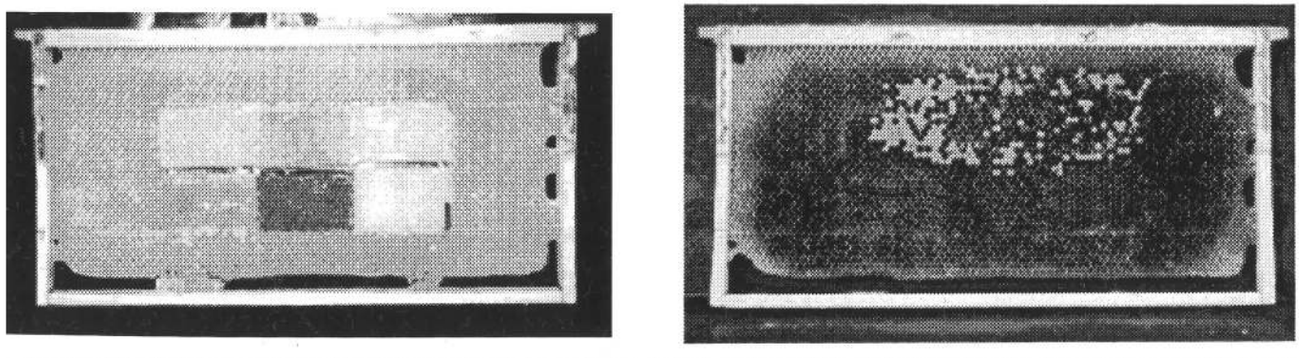


Figure 1. Mosaic frames with different sized honeybee cells. The photo on the left was taken prior to the bees drawing out the cells between the sections. The photo on the right was taken after the queens had started to lay eggs in the cells.

The inability of New Zealand bees to draw out small cells evenly was expected. This is because they are predominantly kept on 5.4mm foundation. In order to draw the cells out to the same width, a gradual step-down process from 5.4mm to 4.7mm would have been required, taking maybe a couple of seasons.

For this reason, the results were analysed using two approaches. The first was to analyse varroa infestation and reproduction for correctly-shaped cells from each foundation size, ignoring actual cell sizes. These results were analysed as though the cell sizes were the same as the foundation size. This analysis is referred to as "foundation size analysis".

We then ignored the foundation size and measured the actual size of the cells so we could look at the relationship between cell size and reproduction and infestation directly. This analysis is referred to as "actual cell size analysis".

Varroa infestation differed according to the five different foundation sizes. The number of cells infested with varroa ranged from 28% to 47% (Table 1). The 4.8mm cells had the highest mite infestation and also had the highest proportion of adult mites per infested cell (1.92 adults per cell).

	4.7mm	4.8mm	5.0mm	5.1mm	5.4mm
% infested cells	32.7	46.6	34.9	32.9	27.7
Adults per infested cell	1.51	1.92	1.62	1.48	1.27
Offspring per adult	0.94	1.08	0.91	0.87	0.74
% cells with-out offspring	29.6	19.6	20.8	28.6	33.6

Table 1. Percentage of varroa infestation and reproduction in *A. mellifera* worker brood cells drawn from 4.7 to 5.4mm foundations.

However, when mite infestation was assessed according to actual cell size, infestation levels were the same. The number of offspring per adult female did not change with cell size when analysed using either foundation size or actual cell size (Figure 3).

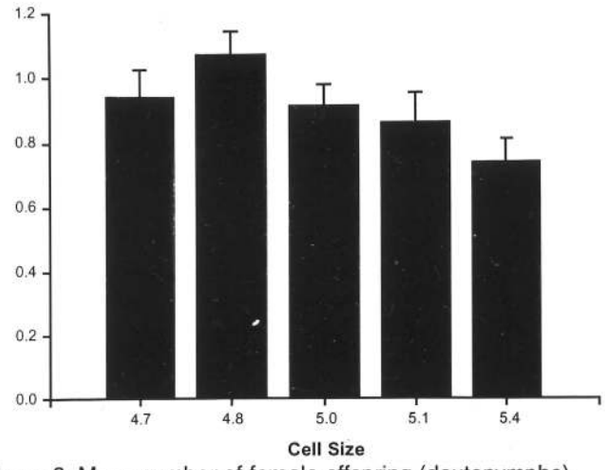


Figure 3. Mean number of female offspring (deutonymphs) per adult mite associated with five different foundation sizes.

In conclusion, varroa infestation was significantly higher in 4.8mm sized cells when assessed using foundation size, but there was no significant effect when assessed using actual cell size. Varroa reproduction was not affected by cell size when assessed using either foundation size or actual cell size.

Assessing the effects of cell size by measuring the actual size of each cell provides a more reliable result than the assessment of foundation size that has not been stepped down. This is due to the inconsistency in the size of cells produced by bees when they draw out smaller sized cells. However, even if the results from the foundation size had been more reliable, these results suggest cells smaller than 5.4mm may actually increase infestation.

Hobby beekeepers brush up on varroa

More than 60 beekeepers gathered in Raetihi at a recent workshop to hear more and to try and find the elusive varroa mites in local hives.

Local hobby beekeepers provided refreshments to those who had travelled considerable distances. They included folk from Taranaki, Wanganui, Manawatu, the Wairarapa and Wellington areas.

A significant number of commercial beekeepers have varroa-infected sites near or in their own apiaries, so the day was a great opportunity for everyone to learn the latest developments and ideas.

Biosecurity officer Paul Bolger told us about the Ministry of Agriculture and Forestry's varroa programme and outlined what was likely to lie ahead.

Dr Mark Goodwin from HortResearch presented a brief talk on the treatments and pitfalls of varroa. The economic aspects of varroa, both the cost of treatments and the looking to other means of increasing the gross profit per hive, was a wake up call for everyone.

Bryon Taylor from AgriQuality outlined his role as our advisory officer, and the fieldwork he and others undertook. American foulbrood and varroa have been consuming tasks for his team.

Sixty-four beekeepers were shown how to detect the varroa mite and learned about the different treatment options when Byron Taylor from AgriQuality attended a varroa field day, organised by the Wellington Beekeepers Association in Te Horo recently.

Russell Berry reported the impact varroa could make in both hive health and the economic aspects for beekeepers. His message was TREAT and use the Apistan and Bayvarol applications as specified. Hives treated correctly will produce honey - and with good yields, he said, but any omission of treatments causes hive losses.

After lunch, there were brief outlines on Screen boards, showing samples of four different methods of construction, and using different mesh.

Emphasis was placed on screen board use for hive ventilation, but more importantly with the use of an inspection board to check on varroa mite levels in the hive.

Sample boards were made from cardboard, backs of real estate signs and printing plates. One sample (from Frank Lindsay) had been under a hive for 12 months. Wanganui beekeepers who have used screen boards for more than 12 months all reported good hive health, with no loss of build up in the spring.

Everyone eventually put on their bee gear and went out to find the elusive mites. Mary Allen had treated all her Waimarino hives in the autumn and as they were brood-less over winter and just starting to build up, varroa levels were still low.

A few mites could be seen on all the of boards, and she said last year was similar, with mite levels rapidly building up as brood rearing progressed in October and November, plus the impact from invasion.

All recommended methods of varroa detection were demonstrated - icing sugar, soapy water, engine starter, and an Apistan strip in a jar. Beekeepers learnt the practical methods of getting enough bees into a lid to gather a sample 300 in a jar - ably demonstrated by a number of Southern North Island members.

Andrew Allen and Peter Lyttle from NZ Beeswax then demonstrated the Mitegone process, introducing the safety gear required when using formic acid, and then the process of soaking the pads, draining off surplus acid, then putting two Mitegone pads on to an outside frame of the top box (two box-high hive). Ideas and suggestions were shared with Peter, who explained the finer points of the treatment process.

From the colonies

Otago

It's been a cool spring with strong southerly winds keeping the temperatures well below average. That has resulted in low nectar flows, putting honeybees – especially in coastal areas – on the "back foot". Swarming, which is common at this time of the year, hasn't occurred and, although that makes life easier for beekeepers, they're having to work hard to keep their bees alive. In some areas, hives have to be fed.

Thyme is flowering well in Central Otago this year, possibly as a result of the 45mm-60mm of rain that fell earlier in the season. Back on the coast, mating is patchy in queen cells and everyone is just hoping the weather improves for the summer.

NBA future?

It's the same old story. Just a few people are willing to be involved in the administrative side of the industry while many others – myself included – aren't willing to put their hands up.

Heavy workloads are the usual reason and while that might seem selfish, isn't it better to have your own house in order before you can offer direction for anyone else?

- Blair Dale

Middlemarch

West Coast

It's been a wet spring with almost solid rain for the past two months. Dry spells have come only intermittently and, in that two-month period, there has been about four fine days. Considering the conditions, honeybees are coming along OK and some of the coastal foliage, like fuchsia, is flowering well.

The prospects are looking good for high honey prices and, with the overseas market particularly buoyant at the moment, it can only be good news for honey exporters.

Outbreaks of American foulbrood have been occurring around the country and a small infection occurred in this region.

NBA future?

Let's take a closer look at aligning the beekeeping industry with a larger operation. Federated Farmers is one option that should be examined, but there are possibly other organisations to consider, too. In the meantime, are beekeepers getting "value for money" from the NBA? It's widely believed they aren't with the pest management strategy programme.

More information needs to be made available – from all sides – so issues can be more broadly debated.

– **Lindsay Feary**

Dobson

Marlborough

Beekeepers have been enjoying a better spring than last year, when the region was struck with almost non-stop cold, wet weather.

This year, as a taste of the drought conditions forecast for Marlborough this summer, conditions are already dry in the Awatere Valley and along the coastal strip and clover flowers have dried up quickly.

NBA future?

Branch members are looking forward to finding more about the proposals members around the country were asked to send in by October 1. They are also awaiting notification about the "special meeting" in Wellington, where branch delegates were to gather and finalise new directions for the NBA.

When Marlborough beekeepers discussed the possible options, there was overall support for a national body to represent the industry.

– Will Trollope

Blenheim

Bay of Plenty

Spring frosts hit 50% of the region's early kiwifruit crops but pollination for "kiwifruit gold" crops are now underway. Sou'westerly winds and below-average air temperatures have been the predominant weather conditions this season. If the winds would ease, the current rewarewa honey crops could improve. Queen rearing does not seem to have been affected, however, and, overall, beekeepers are looking forward to a good honey crop.

NBA future?

This branch is waiting to see what options the restructuring task group comes up with, but favours hive levies paying for the placement of an industry CEO.

– **Bryce Hooten**

Matamata

Canterbury approaches Fed. Farmers

Levy-paying commercial members will no longer be legally recognised as members of the National Beekeepers Association after November 30, 2002, due to the expiry of the Commodity Levies Statute which now funds the association and its branches.

The Canterbury branch gave its support to delegates at the NBA's July 2002 annual conference where the national executive was asked to investigate joining with Federated Farmers NZ.

In September, 2002, following the Task Force Review of future options for the association, the Canterbury branch voted unanimously in favour of becoming a section of Federated Farmers NZ.

At a branch meeting on October 29, branch president Tony Scott and restructuring task force representative Geoff Hantz were asked to meet North Canterbury Federated Farmers the next day, to initiate a formal amalgamation of the two groups.

Canterbury branch members believe that becoming a Beekeepers Sector Group will give it representation to Government on issues specifically affecting Canterbury and the South Island, like varroa, pest management strategy, biosecurity, research and development and add value to their businesses. Members hope other branches will follow.

• (See also page 13)

- Tony Scott
Christchurch

MAF Sustainable Farming Fund

National Beekeepers Inc Project
EXPANDING OPTIONS FOR NEW ZEALAND BEEKEEPERS

Invitation for the submission of Expressions of Interests for Funding Support for Beekeeper Support Groups

The overall goal of the Expanding Options for New Zealand Beekeepers project is for beekeepers to strengthen their businesses by using an expanded range of income streams so they can survive and prosper after infection by varroa.

As part of this project, it is planned to establish a programme to support groups of beekeepers enhance their business operations. It is planned to establish/support 4 groups in 2002/03 and a further 4 in 2003/04. The budget allocated for each group is up to $4,000 per year. The focus of these groups will be on supporting commercial beekeepers business development and enhancement. It is anticipated that separate research currently underway in this project will provide a wealth of information highlighting issues and options for beekeepers. The planned groups will assist beekeepers clarify opportunities and support them in any area of change that they may decide to make.

The Project Management Committee is requesting "expressions of interest" for funding support from beekeeper groups. These groups could be:

- Established beekeeper discussion groups
- NBA Branches that wish to establish a specific initiative to support local members review and refine their business management practices
- Groups of beekeepers with a common community of interest e.g., white clover honey producers pollinators who wish to work together in an area consistent with the project goal

Funding was initially intended to support the cost of employing a group facilitator (either partially or fully) who would help organise and manage the group. Established groups, however, may have other suggestions for support for specific group initiatives that are consistent with the project goal, e.g., training support.

An expression of interest should include the following:

- Contact details, membership of the group – number of beekeepers, location
- Status of the group – is it currently active?
- The planned use of the funding support and over what period of time.
- The planned or actual level of funding support required by the group members.

A simple application form can be obtained from the project manager. Please send applications or contact the project manager by Dec 1. The applications will be considered at the next meeting of the project management committee on Dec 10. Applicants will be advised after that.

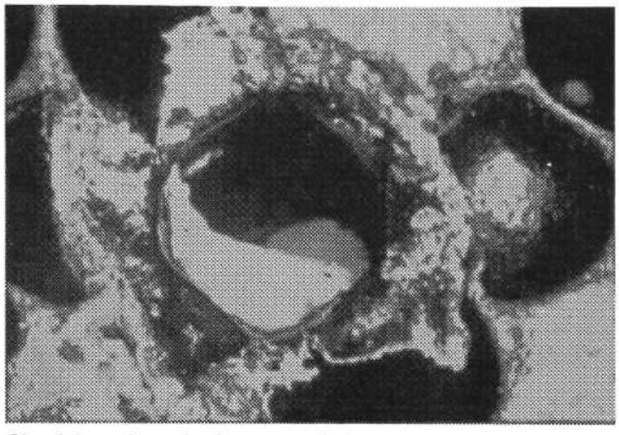
For further information contact: Jon Manhire, Project Manager, The Agribusiness Group
P.O Box 4354, Christchurch. Phone 03 365 6806, Fax 03 365 6308
E-mail jon@agribusinessgroup.com

Be alert, Kiwi beekeepers urged

Early detection can stop any European foul brood infection spreading in NZ

By Byron Taylor
AgriQuality apicultural advisory officer

Spring is in the air. Down in the home apiary, the air is buzzing as worker bees busily collect stores for the hive. The hives have come through the winter well, losses were few and many of these hives have already completed an early pollination contract. Actually, the season is shaping up to be quite good .



Check brood combs for unusual signs

As you casually check the combs of brood, you notice something a little different. On closer inspection, you see that a few of the larvae are a yellow colour and some are "corkscrewing" up the cell walls.

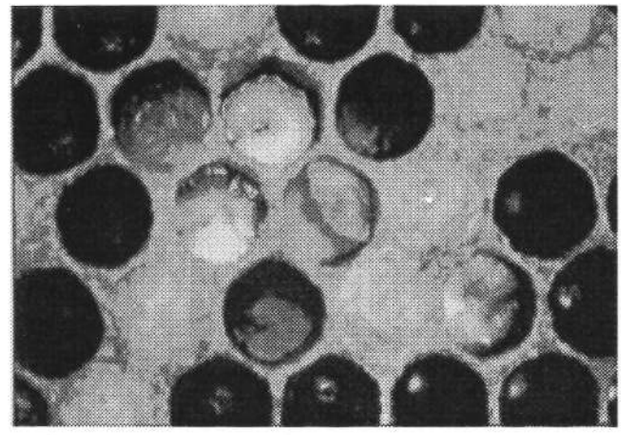
Just a bit of "half-moon syndrome", you say to yourself – or is it?

Could it be that you were not looking at half-moon syndrome but were staring at the first real case of European foulbrood in New Zealand?

European foulbrood (EFB) is an exotic honeybee disease caused by the bacterium *Melissococcus pluton*. The larvae of worker bees, drones and queens are all subject to infection through transmission of the bacteria. This happens when nurse bees feeding young larvae transmit it in the brood food. Between 48 and 72 hours after hatching, the larvae ingest the bacteria, which build up in the larval gut.

M. pluton actively competes for food with the larvae and can eventually starve it. This normally occurs two to three days after the initial infection, around the forth or fifth day of larval development. The result is the larvae often die in a c-shape at the bottom of the cell or "corkscrew" up the side of the cell as they straighten out and prepare to pupate.

New Zealand's beekeepers may well explain away the symptoms as being caused by half-moon syndrome, a nutritional disorder displaying almost identical symptoms to those of EFB. A combination of misdiagnosis and the ability of EFB to spread very rapidly and remain sub-clinical for some time could result in a pest management response being more difficult.



Larvae in a hive with EFB often die in a c-shape.

For New Zealand to have a good chance of eradicating an EFB outbreak, it is very important to detect the first visual symptoms as early as possible.

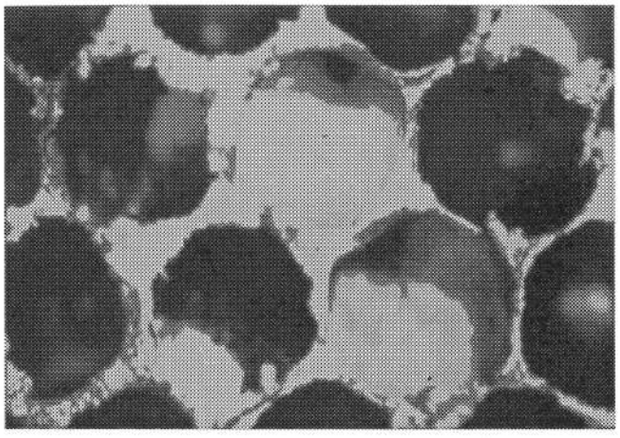
EFB can persist in the hive as a sub-clinical infection and appear when the colony is stressed. For this reason, EFB is more commonly found in the spring and particularly in pollination hives. It has been suggested that the susceptibility of the brood in the spring is the result of a low nurse bee to brood ratio at the height of brood rearing. This could result in the brood receiving less brood food and therefore being more readily starved.

Bees that are fed an abundance of brood food survive to the pupal stage but defecate into the cell prior to pupation, releasing millions of bacteria and thus contaminating the combs.

As the worker bee population is reduced by EFB, the hives may not produce any excess honey for the season and pollination efficiency would be greatly reduced. The economic cost of EFB in New Zealand would be incurred in three areas: the beekeeping industry through direct operational costs and loss of income; and the agricultural and horticultural industries, through the loss of hives for pollination.

The treatment of hives infected with EFB could be achieved initially using antibiotics, provided suitable antibiotics could be registered. In the medium to long term, management practices such as a more regular brood comb replacement policy and breeding for resistance may lessen the need for drug feeding.

It is almost impossible to tell the difference in the field between half-moon syndrome and EFB. Samples must be sent to a laboratory, where tests will be carried out for *M. pluton,* the bacterium causing EFB. Technicians may culture samples, perform an ELISA test (enzyme linked immunosorbent assay) or a PCR (polymerase chain reaction) or examine stained smears under the microscope.



Larvae collapsing, as if melting, is one of the EFB symptoms.

The message is simple. Because it is difficult to differentiate between European foulbrood and half moon disorder, if you see symptoms such as the following list, send samples for proper laboratory analysis.

Symptoms include:

1. Larvae change colour from white to yellow then yellowish-brown
2. The tracheae (or air tubes) are very white against the yellow bodies.
3. Larvae "corkscrew" up the cell or are found lying across the mouth of the cell.
4. Larvae collapse as if melting and eventually dry up to form a loosely attached brown scale.

If you suspect European foulbrood in a hive or are unsure about the symptoms you have come across, call the Ministry of Agriculture and Forestry exotic disease hotline on (0800) 809-966, or contact an apicultural advisory officer on (0800) 424-490 /(0508) 00-11-22.

Small hive beetle reaches Australia

A beetle that could devastate the Australian beekeeping industry has now been found in two areas – New South Wales and Queensland.

The Commonwealth Scientific and Industrial Research Organisation said honey production and hive management in Australia could change forever after confirmation of the arrival of the small hive beetle, *Aethina tumida*. The pest is endemic in South Africa and present in the United States. It was found in bee colonies located in Richmond, New South Wales. "Larvae of the small hive beetle are most damaging to honey bees," said CSIRO bee project leader Denis Anderson. "They tunnel through combs, eating honey and pollen and killing bee brood, completely ruining the combs.

"Bees may abandon combs and entire colonies once they become affected," he said. "Worse, the larvae defecate in honey promoting fermentation. Fermented honey cannot be used by industry, is abandoned by bees, and must be destroyed."

The small hive beetle is native to South Africa, where it is regarded as a minor pest of African strains of honeybees. However, in the United States, where the beetle was discovered in 1998, it has become a significant pest. Australia now is only the second New World country to which the beetle has spread.

The effect of the beetle in Australia is likely to be similar to that in the United States, as the climate and bee strains in Australia are similar.

"This means a complete change to the way hives are managed and honey harvested," Anderson said. "If the incursion cannot be reversed, it will be a significant issue and a major cost for Australia's beekeepers."

Primary Industries Minister Henry Palaszczuk said two apiaries in the Beerwah State Forest, about 80km north of Brisbane were quarantined after the suspected discovery of the small hive beetle. "Wider surveillance is being carried out to determine if the pest is present in the immediate area and elsewhere in Queensland," he said.

The discovery was made after New South Wales Agriculture traced the movement of hive material from a suspect site near Sydney to an apiary in Beerwah.

Palaszczuk said a consultative committee on Emergency Animal Diseases had met and agreed to form a working group comprising staff from his department, NSW Agriculture, the federal department of Agriculture, Fisheries and Forestry Australia, CSIRO and bee industry members to determine the extent of infestation. The Queensland government received immediate Executive Council approval to amend regulations making the beetle a declared pest, allowing the enforcement of quarantine and other regulatory controls, such as destruction orders.

There are 80,000 commercial hives in Queensland, producing on annual average 75kg a hive of honey. The Queensland bee industry produces honey, beeswax, honeycomb, queen bee exports and pollination services. The 6000 tonnes of honey produced by Queensland hives each year are valued at A$24 million (NZ$26.8 million). Beeswax production is estimated at 100 tonnes a year, valued at A$450,000. Queen bee exports of 20,000 queen bees at A$15 each represent A$300,000 to the industry annually.

– Bee Culture Magazine

NZ may review risk management

New Zealand beekeepers will be extending best wishes to Australian colleagues now dealing with the incursion of the small hive beetle (*Aethina tumida*), said biosecurity officer Paul Bolger from the Ministry of Agriculture and Forestry.

MAF was in contact with Australian officials dealing with the incursion and could review New Zealand's risk management measures for the beetle, Paul said.

A de-limiting survey and tracing of hive movements from the infested area are now underway in Australia. The mites are now known to have been in place for at least six months, although their origin has not yet been identified.

Christchurch Beekeepers to stand under Fed. Farmers umbrella

Discussions last month between NBA Canterbury branch president Tony Scott and Federated Farmers officers Gavin Forrest and Barbara McDonald resulted in the following proposals:

* The new group will be called Canterbury Beekeepers Section of Federated Farmers NZ.
* Annual subscription rates will be $186pa, plus GST (up to 200 hives) and $320 plus GST (more than 200 hives). A proposed levy to fund the AFB pest management strategy ($20 per beekeeper per annum, and 47 cents a hive, plus GST) will be additional.
* The Canterbury Beekeepers Section will enjoy full access to Federated Farmers' facilities and advisers, including on policy, legal, ACC and employment matters. Other services are.-

- Federated Farmers' administration and secretarial services from the local office (except for minute-taking at meetings).
- Magazines and newsletters issued by the national federation and local branches.
- Professional advice and advocacy to Government on all farming-related issues and draft legislation to Parliament referred to Federated Farmers for comment.

Barbara McDonald can be contacted, (03) 349-6092 or (025) 243-0411, with any queries about Federated Farmers membership or, for information about the Canterbury Beekeepers Section, Tony Scott at (03) 315-7549

NZ Beekeeping Web Page:
www.beekeeping.co.nz
Subscribe to mailing list:
www.beekeeping.co.nz/contacts/nzbkpr.htm
More information:
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Secretary: Chas Reade
Mobile: 025 772-502
Fax: (09) 634-4376

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

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

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

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

CHRISTCHURCH HOBBYIST CLUB
Meets first Saturday each month, August to May, except January which it is the second Saturday, at 681 Cashmere Road, Commencing at 1.30pm.
Contact: Linda Gardner
205 Trents Road
RD 6 Christchurch
Ph: (03) 344-1977
Fax: (03) 344-1974
Email: qtc@clear.net.nz

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

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

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

MARLBOROUGH BRANCH
contact Will: (03) 570-5633

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

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

OTAGO BRANCH
Peter Sales
Phone: (03) 472-7220
Fax: (03) 472-7221

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

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

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

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

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

WAIKATO BRANCH
Contact Tony: (07) 856-9625
Annette: (07) 366-6111

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

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