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In this Issue

- MAF Update
- Export Fee Rise
- Apitherapy CD Review
- From the Colonies
- Winter reappraisal
- Looking Back

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MAF Update for May

By Paul Bolger

Treatment of infected hives

Application forms for treatment of varroa have been sent to all registered beekeepers in the Infected Zone. As of May 1, 2001, approximately 250 beekeepers have been sent 45,000 Apistan strips. AgriQuality New Zealand Ltd reports that most requests are being responded to within 48 hours. In cases where the level of mite infestation appears high, beekeepers are urged to insert strips into hives without delay.

At the March 15 Varroa Management Group meeting, it was decided all infected hives would be eligible for funded treatment this autumn. Any alternative eligibility policies were seen to be either inequitable or administratively-unworkable.

It is likely the cost of this final round of funded treatment will exceed the $316,000 budgeted in the transitional management plan. No further rounds of funded treatment are planned, although there may be a case for limited preventative treatment to minimise spread close to the Movement Control line.

It is important for beekeepers to understand the two-year transitional management programme is working to a fixed budget of $7.68 million. Overspending in one area will have to be matched with corresponding reductions in other areas.

Movement controls

The restriction on moving live bees from the upper North Island to the lower North Island and South Island remains in place. A range of other risk goods can only be moved south under permit. Most items can move without restriction within the upper North Island. Movement control applications and inquiries should be directed to (0800) 424-490.

North Island surveillance

North Island surveillance is being carried out south of the Movement Control line this month. Surveillance will be concentrated on high-risk apiaries and areas. "High risk" is likely to include apiaries adjacent to honey houses, hives that have previously been used for pollination in the Infected Zone and sites along major roads immediately south of the line. In most cases, beekeepers who are Authorised Persons (APs) will be contracted to carry out the testing.

South Island surveillance

The first round of South Island surveillance started in March 2001, and is now well underway. In response to the initial surveillance mail-out in that first month, a large amount of updating of apiary details on the database was required, and a significant number of sites had to be re-allocated for inspection.

About 70 beekeepers trained as APs are testing approximately 10,000 hives. After an inspection is completed, the sticky boards, miticide strips and paperwork are returned to AgriQuality Ruakura for processing.

If you have an inquiry about South Island surveillance, contact Dave Grueber, (021) 515-633.

Varroa book for beekeepers

Last year MAF commissioned Mark Goodwin and Cliff Van Eaton of HortResearch to produce a beekeepers' guide to varroa. With a working title, *Control of Varroa: A Guide for New Zealand Beekeepers,* the external review draft was circulated to varroa experts in North America and Europe. Their comments have now been returned to the authors.

The review process has been a long one, but MAF believes it crucial to get the book right first time. Because of New Zealand's limited experience with varroa, we are trying to draw on the expertise of other countries.

The review draft is over 100 pages long. I believe every beekeeper who reads it will be impressed by the amount and quality of information it contains. MAF plans to mail copies to all registered New Zealand beekeepers next month.

Varroa treatment registration

Two varroa control products are registered for use in New Zealand, Apistan and Bayvarol. These products are both synthetic pyrethroids applied in polymer strip form. A registration application for a thymol gel product has been lodged with the Agricultural Compounds and Veterinary Medicines unit of MAF.

MAF has contracted HortResearch and a private pesticides consultant to work together on the registration of generic organic treatment programmes. HortResearch has assessed the range of treatments available and suggested oxalic acid (trickled as a syrup) and formic acid (applied in a pouch) as the two treatments most likely to be of use to New Zealand beekeepers.

Our objective is to have both these products approved for use during the coming spring. However, it is difficult to estimate how long the approval process will take, as this depends on the amount of data required to address safety and efficacy concerns.

Fees on export honey rise to better meet EU requirements

The residue testing required for exporting honey to the European Union (EU) was referred to by National Beekeepers Association (NBA) president Richard Hatfield in the March 2001 issue of ***The New Zealand Beekeeper.***

All countries wishing to export to the EU must comply with European law. Accordingly, in order to export honey to the EU member states, New Zealand must operate a residue-monitoring programme, meeting EU requirements.

In 1997, a residue-monitoring programme for honey was implemented in New Zealand, with collaboration of the NBA and the honey industry. To support New Zealand certification in relation to food safety for honey products exported to the EU, the programme is annually reviewed and has been financed in the past two years with a fee on honey products exported to the EU. It is charged on a per-kilogram basis at the point of export.

Last year, following an audit carried out by officials of the European Commission, the Ministry of Agriculture and Forestry identified that some aspects of the honey programme needed to be changed to comply adequately with EU requirements. More samples had to be collected, affecting the programme's costs. The changes were outlined to the NBA and exporters, prior to starting the programme for the 2000-01 honey season.

The NBA decided to stop facilitating the financial administration of the programme. MAF and exporters now work together to maintain it and address the financial mechanisms for its support.

The fee had to be increased from 1.6 cents/kg to 2.4 cents/kg, to ensure the sampling and analytical components of the programme were adequately covered.

With the implementation of the Animal Products Act 1999, it is envisaged the residue-monitoring progamme for honey will operate under the new legal framework provided by this Act. Further discussions and consultation will occur with the industry as this process develops.

- For further information on the residue programme for honey, contact Caroline Keast, MAF Food Assurance Authority, ph (04) 474-4149 or e-mail keastc@maf.govt.nz
- For further information on the Animal Products Act, consult MAF website http://www.maf.govt.nz/animalproducts
- For inquiries regarding the EU exporters support group, contact Allen McCaw, chairman of the honey exporters JAG, ph (03) 417-7198 or e-mail amccaw@clear.net.nz

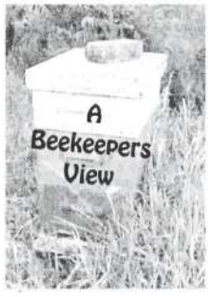
The New Zealand Beekeeper is published eleven times per annum; February to December. All copy should be with the Editor by the last day of the month previous to publication except for December when copy should be received by 26th November.

AUCKLAND BRANCH GENERAL MEETING AND REMIT MEETING

The May Varroa Meeting of the Branch on 28th May 2001 will also be our Annual General Meeting and Remit Meeting.

Apologies to the Secretary
Jim Thompson

Hive Levy



Is the National Beekeepers Association becoming bureaucratic? It would seem so. A preoccupation with finance, figures, compliance and reserves is turning it into something other than it should be.

The issue of the "Apiary Levy" or Hive Levy" is something the industry hasn't really got a handle on, and as its fundamental to the functioning of the NBA, it's important to get it right.

My concern is that if the NBA pushes through a change in legislation back to a Hive Levy, it will fix one injustice and create another in the process. It will also create more problems than it is trying to solve.

One of the problems in the past in levying hive numbers was it was easy for people to avoid paying. It is difficult to determine how many hives a beekeeper has at a given point in time, as many hives are shifted throughout the season.

An Apiary Levy was seen as an easier way to achieve compliance as it is a legal requirement to register an apiary and the provisions for dealing with unregistered apiaries are well documented in the Pest Management Strategy (PMS).

The compliance problem is really two issues: one is compliance in relation to the PMS, the other is compliance in relation to the Apiary Levy which funds the NBA.

As a past executive member said to me recently: What is the cause of the non-compliance?" Perhaps it's because the levy is too high.

The idea of levying every hobbyist beekeeper was rejected on the basis that it would cost more to collect the levy than it was worth; that compliance would be a major problem; and that many small beekeepers would "go underground" or simply not register their hives. I don't see how this has changed.

It seems the people most affected by the Apiary Levy are beekeepers in Canterbury and Otago and I can sympathise with them having to pay substantial increases. If the levy is changed back to a hive levy, it is going to mean that queen producers will have to pay a levy on every mating nucleus.

Under the PMS, a beehive means an object which has been constructed for the keeping of honey bees, also the colony of honey bees for the time being living in such an object (I hope there are bees living in your beehives!). If I have 50 mating nucleus in an apiary, why should I pay five times more than someone who has 10 hives? The reality is I am probably earning no more profit.

To solve the inequity which exists in the Apiary Levy, I think the answer is that it be changed so that those with 12 hives or less pay an equivalent of three-quarters of the Apiary Levy, i.e., $19.50. And those with apiaries with more than 12 hives pay $26.

The Annual Disease Return should also be changed so that for seasonal apiaries there should be provision to declare how many hives would normally be put on the site, and the applicable Apiary Levy would apply (either for 12 hives or less, or more than 12).

Another important point is that in terms of costs, whether they are for the register, NBA administration or the PMS, whether you have 10 hives or 40 hives on an apiary, the costs are basically the same.

I think a change back to a hive levy will result in more problems achieving compliance. After all, if an apiary isn't registered, then the hives won't be either. And in a sense, in terms of dealing with this problem of compliance, perhaps we are looking in the wrong place. Beekeepers will support the NBA if it is value for money. It would seem some people think it is not.

- Colin McLean

HAWKES BAY BRANCH MEETING DATES

Starting 14 June the Hawkes Bay branch will meet on the second Thursday of each month excepting January.

Biological attacks against varroa

How can the varroa mite be treated biologically during the active season? The strategy of biological treatment embraces all the possibilities of the swarm, drone brood sacrifice and the application of organic acids, writes KLAUS KLEBS, Switzerland in *Schweizerische Bienen-Zeitung* and translated for the *Scottish Beekeeper* (March 2001).

Drone brood sacrfice

Due to the mite preference for drone brood and the exceptionally rapid mite build up in this brood (10-12 times), cutting out drone brood shortly after sealing offers the early possibility in spring of slowing up the rapid rise of mite numbers in the colony.

Trapping varroa mites

At the hiving of a swarm, a laid up drone comb as well as foundation can be given. The mature mites will be forced to enter the brood cells of the larvae when they are at the seven to nine-day-old stage - just before the cells are sealed.

After a further five to seven days, when all of the brood is completely sealed, the drone comb, complete with its complement of mites, is removed. This leaves the swarm virtually mite free.

Comb complement renewal

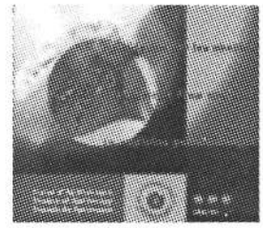
In mid-summer, sealed and open brood is removed from the strong colonies and placed in a spare brood box on a new floor board on another position.

Adult bees and queen on the old stand are given a laid-up drone comb and a full complement of foundation to trap the remaining mites. Feeding must be started, to encourage the bees to draw the foundation. A week later, the sealed drone comb and its mites are removed.

The new colony with the brood combs is given either a young queen or ripe queen cells. Once all the brood has emerged, the combs are sprayed with oxalic acid to destroy the mites. In this way, the mite population can be dramatically reduced even in early summer and the basis for over-wintering healthy colonies achieved.

If the mite treatment is delayed until late summer, viral infections could incur, making a later operation less effective and opening the colony to many mites in the following winter.

CD promotes apitherapy values



***Apitherapy* is the title of a new CD produced by the Apimondia Standing Commission.**

Selling for about NZ$100 ($49 Euro), it contains 350 pages of information, short video presentations and slide shows (four days viewing). FRANK LINDSAY reviews it.

Most people associate apitherapy with the use of bee stings to improve arthritis and multiple sclerosis or as a last choice after every other type of authorised medical treatment has failed. *Apitherapy* shows it can be more than this and covers the total spectrum of products from the hive to provide a synergy of treatments and well-being.

The CD looks at the bee hive - the oldest laboratory in the world; apitherapy and its constituents; apitherapy and the major pathologies; pharmacology and medical protocols; the humanitarian issues; facts about the hive and bees and Apimondia. Each subject is covered in detail, using the latest research information.

Did you know that honeys from around the world have different chemical markers which determine the type of honey and the geographic region they come from?

New Zealand's manuka honey has chemical markers suggesting these substances may be derived from honeydew collected from manuka bark (Frlen Abd El.).

Those producing medi-honey (referred to as Aro-honey in Cuba) would be surprised at the stringent hygiene standards required by the European Union. Different honeys have different properties for healing - some of these are produced in New Zealand.

The CD does have one or two drawbacks. Some of the slide presentations are narrated in the native language of the presenter with no English translations. But it is easy to use, has good search features and pop-ups on each page refer back to related subjects.

Minimum configuration P90Mhz, 32 Mb, CD8X, W95, Dsp800*600, 65.000col. Our Pentium 1 with 129mb of ram, CD 2X works OK, but is very slow when loading, moving between pages and scrolling (time to upgrade my CD reader, perhaps).

The CD can be seen and ordered through http://www.apiservices.com, a web site which also provides updated research, buying and selling service, recipes for all honey products and other information for beekeepers.

I recommend the CD highly.

From the colonies

Auckland

The learning curve in understanding how varroa is behaving in our area has begun.

The fast decline of hives which look OK when they go into the contracting brood stage of late summer and autumn is frightening. Certainly, "protecting your wintering bees" cannot be left until late autumn or winter. This rapid decline is even happening in areas where varroa has moved in by natural spread (where hives have had mites in them for more than six to nine months).

The recovery of hives once treated is pleasing. With brood in Auckland all winter, back-to-back treatments should see even badly-infected hives recover by spring.

Re-infection from outside sources is showing no signs of slowing down in areas like Mangere and Pakuranga, where varroa has been for 18-24 months. This suggests "the first wave" of varroa re-infection will be a minimum of two years and probably three to four. It could also suggest another factor is involved. Perhaps absconding bees, the distance bees fly and interact with each other or the role that drones play are not fully understood.

The number of Apistan strips needed in hives at various times of the year has been discussed. Over winter and early spring, one strip per hive could suffice. At the recent Waikato field day, Cliff van Eaton described how formic acid would be effective for three weeks. Its cost and the number of visits needed for each treatment make this method look promising. It is disappointing formic acid has yet to be officially trialled.

Hives of mine in kiwi fruit orchards in high varroa-infestation areas, were fully "Apistanned" and then went back into "clean areas". They still show no signs of varroa. In hindsight, it is a pity all hives used for kiwi fruit pollination were not Apistanned. It might have slowed the quick spread of varroa we are now seeing.

I was telephoned this month by a Canterbury beekeeper I met at the Gisborne conference. He wants to be well-prepared and have some "hands-on" experience with varroa before it reaches the South Island. We have arranged he will come up for a week next March. This idea could be worth other branches pursuing. Those in non-affected areas could arrange for a couple of members to liase with "varroa branches" (there are now quite a few) and get direct, hands-on experience to share with other members.

Finally, the world has had varroa for quite a few years. In all this time, no "silver bullet" or "instant cure" has taken place. Why they are now coming out of the woodwork here is puzzling. I suggest we should be wary of them.

- Brian Alexander

Nelson

American foulbrood inspections are underway and beekeepers around Nelson have received South Island varroa surveillance kits.

A very dry autumn has resulted in low pollen collections but most beekeepers are reporting good to average honey crops. There were good quantities of rata honey but little manuka.

Rain started falling in the second week of the month, but temperatures have remained warm for this time of the year. Weather forecasts are for another mild winter, keeping bees more active than usual for the season.

The branch annual general meeting was held on May 7, and Reuben Ellis voted the new president.

- Glenn Kelly

Waikato

Eighty-five people attended a recent field day, where varroa was one of the main issues being discussed.

Auckland beekeepers reported the mite has had a heavier impact on hives than first expected.

Mark Goodwin from HortResearch Ruakura said overseas research on oxalic acid suggested it could be a good substance for New Zealand beekeepers to use - once it had passed this country's long, rigorous tests.

Lots of survey work for varroa is being done in the Waikato and every week more finds are made, with some yards reporting between 60% to 70% infected.

- Lewis Olsen

Northland

About 40 people from the Northland and Far North branches had their first sight of the destruction caused by varroa mite at an Anzac Day field day held at Brendan Nichols' hives at Omanaia.

A couple of Auckland beekeepers who regularly deal with varroa-infected hives demonstrated how to inspect drone pupae. For those of us seeing it for the first time, it was horrific to watch bees, often very small, struggling around with no or hardly any wings.

As winter sets in and the region's gorse flowers offer bees a high protein source, we hope beekeepers wanting to move their hives do so responsibly. Although Northland and the Far North are part of the "no restricted movement" zone, nothing can be gained by hastening the mite's move into currently varroa-free areas. In the interests of working together for everyone's benefit, could beekeepers moving hives in the Northland area please contact Simon Peacey or myself (09) 434-6344, (025) 270-8922 or e-mail peacey@infogen.net.nz

In the Far North, Malcolm Haines can be contacted about hive movements in that region on: (09) 408-2200 or e-mail hainesbz@ktc.co.nz Beekeepers nearby can then be informed so they can start monitoring their hives for varroa.

A varroa discussion evening was held by the branch in the middle of this month and more are planned for the Hokianga, Dargaville and Paparoa areas.

- Sarah Peacey

Hawkes Bay

At the recent AGM, it was decided to changed our meeting dates to the second Thursday of each month, starting from June 14.

Three new committee members will bring fresh ideas, although we were sorry to see a long-serving member stand down.

The season here is winding down, with extraction due to finish soon. An improvement in the weather has seen some good, late flows with wasp predation down again this year. Hopefully, varroa mites haven't reached here yet as we keep testing hives in areas likely to be the first to show infestation.

At our recent meeting, we studied a German video recommended by Barry Foster. It would be worth branches purchasing their own copies - or perhaps Chris Taiaroa could get one for the library.

DECAs are now held by many of our members and another course and test is planned for August. It is likely to be held on a Saturday or Sunday, between 1pm and 5.30pm. Anyone wishing to take part should contact Ron or John Berry, 46 Arataki Rd, Havelock North, phone (06) 877-6205, indicating their preferred dates. If done now, a date to suit the majority can be finalised early and advertised.

Meanwhile, remember that next month's meeting is on June 14 at 7.30pm, Arataki Cottage Havelock North.

Contact Ron (06) 844-9493

- Ron Morison

Bay of Plenty

Varroa is now well spread over the district. Beekeepers are still doing their own surveying in order to get the last available free treatment. Varroa is more widespread than expected which only hints at the impossibility to actually survey for the very low infestation present a year ago.

The Bay of Plenty branch is organising its Autumn Field Day on varroa for Saturday, June 16. Please note, this date replaces a previously announced one. See the advertisement on this page for all details.

The season is winding down and members start to think about the off season, which will mainly be occupied by equipping for, and learning to cope with varroa.

The branch meeting held on May 8 was a remit formulating meeting. There were some strong opinions put into remits and some of the discussion was concentrated on possible changes to the organisation.

Opinions ranging from "breaking away as a branch" to being patient and a belief that changes will come, were expressed. The truth probably lies somewhere in between, but as always it is hard to do something about it.

- Gerrit Hyink

Winter a season for reappraisal

Beekeeping for the year is drawing to a close. As winter approaches and bees go into clusters, it is time to plan for the next season and look back on the previous one.

NIWA has indicated this winter may be warmer and dryer than average so bees may be out foraging on warm, calm days.

Situated near the coast, my bees don't close down completely during the winter so I work this into my management. Brood is reared year-round in some apiaries, stimulated by winter sources of nectar.

Wandering around a bush site the other day, I was surprised to see some manuka bush flowering again. Was it prompted by a recent 6ml of rain following our prolonged drought? Or is it triggered by high UV levels over New Zealand?

Other species are budding up for winter flowering. Spanish heath (*Erica lusitanica*), flowering from mid-winter to early-spring, is a valuable nectar source. Some Marlborough beekeepers harvest this as a winter crop.

Kohekohe (*Dysoxylum spectabilie*) is budding up. This native tree produces white, lily-of-the-valley-type flowers on stalks springing from bare parts of the trunk and branches. Unfortunately, the possums love these flowers, leaving only those on the tree's thin, outer branches. (Oh for an environmentally-friendly treatment to wipe out the possum.)

Another bush source budding up is the five finger (*Pseudopanax arboreus*). Located along the bush fringes and in creek beds, it usually flowers from July to September and is attractive to bees.

One of the most valuable trees for birds and bees, often overlooked because it is Australian, is the banksia. There are many varieties, surviving in poor, well-drained, sandy soils - and some are even frost-tolerant. The tall coastal banksia (*Integrifolia*) produces nectar and pollen during the winter and early spring months and does extremely well in my area. Being deficient in one or two essential elements, its pollen is not a complete bee food but if there are sources of pollen around, bees build up on this.

Review what's flowering around your apiaries. If there is a lack of early nectar and pollen sources, consider planting some. Ask local farmers if you could put in a few trees around your apiaries for nectar and shelter. Pussy willow and tree lucern (in frost-free areas) grow fast, provide early spring nectar and pollen and will shelter slower-growing trees.

Alternatively, consider pollen supplements for your hives. Many beekeepers simply feed sugar syrup to stimulate brood production in the spring. However, without good pollen sources, the bees use their own stored fats to produce brood, leaving the next generation weaker and with a shorter foraging life.

One South Island beekeeper's philosophy is: "Money in - honey out". Never scrimp during the spring build-up. Strong hives will always bring in a crop, no matter what the flow duration.

Spring is a good time to replace rotten woodware. Order it now so you can put it together during the winter. Protect your

Frank Lindsay

investment. Supers made from trees with little heartwood need protection.

Hobbyists tend to use metalex (copper naphthenate) and mineral turpentine or an equivalent preservative. Commercial beekeepers use a paraffin hot dip procedure to protect theirs. More about this next month.

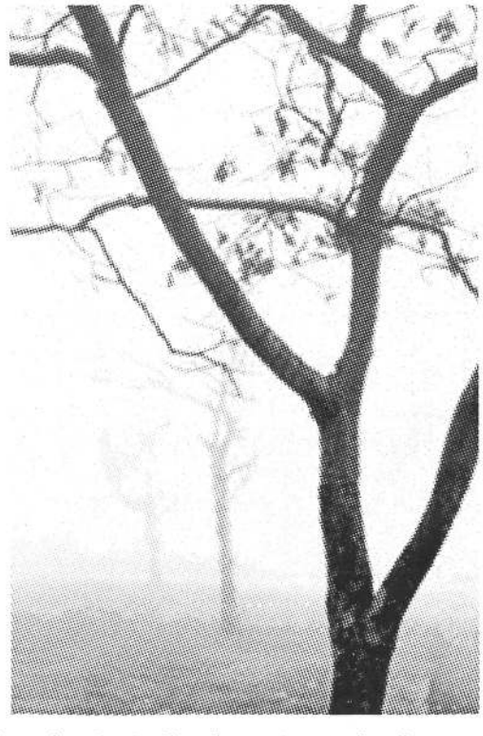
On the practical side, I try and visit all my apiaries in the middle of winter to see how the bees are getting along. The hives are tied with nylon cord to prevent cattle and storms disturbing them. Hopefully, the ties will hold the supers together and prevent the combs and bees being exposed to the weather. Any requiring attention are straightened up and the slop checked, ensuring rain runs off the bottom boards.

I ensure entrance reduces are still in place and look for mice activity in any hives with cappings wax in the entrance. These little horrors can quickly make a nest in the top super and chew through the stores, leaving the hive to starve.

I also look under the spilt boards for condensation. Bees give off carbon dioxide (CO2) and moisture as they consume the stores and when shivering their wing muscles to keep warm.

Hives require a constant circulation of about 2 cubic inches per second to replenish the atmosphere with oxygen and remove moisture. More than this and the bees use more honey to keep warm (those on the outside of the cluster cool faster). Less or no ventilation means the bees use more honey as they have to break from the cluster, often to force-ventilate the hive when the CO2 level gets too high. It's a fine balance.

If the split board is completely damp or if it is wet under the roof, raise the board/roof by placing small twigs or match sticks in each corner of the super. Hives with only a slightly



If there is a lack of early nectar and pollen sources around your apaiaries, consider planting some.

damp patch opposite the entrance in the split boards should be all right.

Try to prevent lugs on the frames becoming damp. They will rot if left wet over a few winters, become a nuisance during extraction and an additional expense. They are either rejected or a nail is driven in to replace the rotten lug. Ideally, an environment is provided where the bees are not stressed in any way.

Beekeepers in frost-free areas often winter their hives in single supers, preventing moisture build-up and allowing the bees to totally fill the super so ventilation is easier. With small populations, these hives are less likely to require attention and feeding than hives two or three supers high.

At this time of the year, commercial beekeepers render down old frames to recover the wax. There are many methods that recover about 50% of wax in the old combs. Some are as simple as heating frames in a container of hot water. After the wax has risen to the surface, warm water is added, allowing the wax to float off into a separate container.

Other methods are more sophisticated, but the wax must never be overheated or it will break down and turn into a soapy substance. Bees wax melts at 62-65degC so try to sustain the water within this range.

For the hobbyist with just a few hives, frames for rendering can be kept for use in the solar wax melter during summer or burned as fuel during winter. Old brood frames contain a lot of wax and burn fiercely. Ensure the chimney has been recently swept and only burn a few pieces of the old frames at a time. Wax frames and cell residue also compost well.

Take time over winter to read a few bee books. Check out your local library or use the NBA library. It has many book titles and recent world magazines. Videos are also collected and if you have the patience to look at my videoing, past conference reports and seminars are held in the library.

To see the real thing, though, come to the NBA's 2001 AGM and Conference in Queenstown, to be held from July 23-26. Seminar day (July 24) is well worth the trip. Remember, it only takes one tip that saves you money or boosts your income and your trip is paid for.

- Things to do this month: Plan for the new year. Review your plan. Render down cappings and old combs. Make up new equipment for the coming season.

Camp Rangi - Buzz Weekend

An introductory course for beekeepers is being organised in August by the Southern North Island branch of the National Beekeepers Association.

Aimed for the hobbyist and small, commercial beekeeper, the August 27-29 course will cover ways to look after hives and produce a crop. Each session will be hosted by experienced personnel. If there is sufficient interest, a Disease Elimination Conformity Agreement course will be included, with the chance to sit the DECA examination.

Organised in response to requests for a training weekend similar to one held in 1998, the Camp Rangi programme starts at 5.30pm on August 24 and finishes at 3pm on August 26. It will cover bee biology, basic hive set-up, spring build-up and re-queening, disease identification, food safety, extracting, propolis collection, nosema and varroa, plus hands-on hive manipulation.

Accommodation facilities are shared, segregated cabins. Participants must supply their own sleeping bags, eating utensils, plates and cups. Rosters will be organised for camp duties - from sweeping to peeling spuds.

Places are limited to 50 resident participants and 30 who can find alternative accommodation. Applications open on June 1 and close on July 31, or when positions are filled. Full registration (including course, accommodation and all meals) is $80 or $50 for day-only registration (including course, lunch, and morning and afternoon tea) . An additional $25 can be paid for the DECA training (to be refunded if insufficient interest).

- For more details, contact Mary-Ann Lindsay (04) 478-3367 or Peter Ferris (06) 378-7632. To register, send name, address, contact details and payment (and self-addressed envelope) to Peter Ferris, Camp Rangi Co-ordinator, Happy Ferris Apiaries, RD 11, Opaki, Masterton.

A Picture is worth a Thousand Words!

I guess that depends on who is in the picture.

We would like to be in a position to place more photos in the magazine. So how about using that camera at branch meetings and field days.

Send any photos to NZ Beekeeper, PO Box 5002 Dunedin, along with the names of those who were too slow to move out of the picture.

Bee analysis

Where can hobbyists get their bees analysed? Is it at the HortResearch laboratory at Ruakura which you have mentioned on page 5 of the April New Zealand Beekeeper? I have looked at the HortResearch web site, but no details of this service are supplied.

This question was asked at the last Manawatu Beekeepers Club meeting and out of the 20 of us there, no one knew. We used to send samples to Invermay. - Rosemary Clarke, Palmerston North.

Dave McMillan from Invermay Agricultural Centre, Mosgiel, responds. **Yes. All bee analyses are now conducted by Mark Goodwin at HortResearch Ruakura.**

SCOUT BEEKEEPING BADGE

Boy Scouts of American reintroduced this badge after dropping it — because of pressure from the beekeeping industry. After reading of its return I thought back to my youth.

The magic moments in your life, the triggering of destiny usually happen while you are young. As a young cub I got hooked into bees and today have 400 hives. I remember vividly when our cub pack visited Ashcroft's honey house in Havelock North, where there was a hive of bees on display. (In fact this is the only thing I remember apart from the long drive and the outside weather boarding of the shed.)

I went home determined to have a hive of bees. Putting out a honey pot in the garden I waited for the bees to arrive. Well, they arrived all right, and were robbing like mad. My brother got stung in the neck and my father was stung when he covered the honey pot with a sack. After this incident, I wasn't permitted to have bees untill I left home

Just think of where I could have been today with the right encouragement and guidance. There are children out there with a sense of wonder and this has to be tapped. I remember at the Scout Jamboree in Upper Hutt a few years ago, we had one young scout who just sat in front of the observation hive for three days asking questions. By the end of three days he had formulated a plan to get a wild hive out of a tree and into a super. Could be this is the beginning of another beekeeper?

We should all do our bit to guide new beekeepers into the profession. Let it be know at the local scout group, that you are willing to talk about bees and assist them gain the beekeeping badge. Have a group around while you are making up new woodware. Show them how the supers and frames are assembled. Better still; set aside a hive for them to make up themselves. Teach them how to imbed the wax into the frames. Have them out, to look in a hive in the spring and get them to put out feelers so they can catch a swarm. Once hived, they can watch it develop through the season and reap the reward of honey for their efforts. . Start now. It may take a little of your time but will be very rewarding.

This is what's involved in gaining the badge.

A. Beekeeping:

1. Study a hive of bees. Remove the combs, find the queen. Figure the amount of the brood, number of queen cells. Estimate the amount of honey in the hive.
2. Show the differences between the drones, workers, eggs, larvae and pupae at different stages. Tell the difference between honey, wax, pollen and propolis. Explain how bees make honey and where wax comes from. Explain the part played in the life of the hive by the queen, the drones and the workers.
3. Hive a swarm or divide at least one colony. Explain how a hive is made.
4. Put foundations in sections or frames. Fill supers with frames or sections. Take out filled supers from the hive. Prepare the honey for market.
5. Write in not more than 200 words how and why the honey bee is used in pollinating farm crops. Name five crops in your area pollinated by honey bees.

You never know one of these youngsters could eventually take over your business, so teach them well.

Library invites stock suggestions

The National Beekeepers Association library is up and running now and has catered for several researchers as well as sending out books and videos on request.

As mentioned previously, purchasing is on the agenda, so please send in ideas for books, pamphlets or videos that should be in the library.

Two new books have been acquired.
Value-added Products from Beekeeping, with chapters on honey, pollen, wax, royal jelly, adult and larval honey bees and cosmetics. 393 pages.

Pollination of Cultivated Plants in the Tropics (the title is misleading) covers pollinating a wide variety of crops, including yellow passion flower, macadamia nuts, watermelon, temperate region fruits like peaches, nectarines, plums, cherries, pears, feijoa, kiwifruit and tomatoes, linseed, red and white clover; pollinator behaviour, floral biology and research techniques. 196 pages.

Both books are published by the Food and Agricultural Organisation of the United Nations and are available for a $1 hire fee, plus postage costs.

Efforts to locate magazines weren't entirely successful, however feedback on the following plan would be appreciated. In an effort to make overseas magazines available to as many readers as possible in as short a time-frame as possible (so people see them while they are still "new") a list of interested beekeepers could be established. Bundles of magazines would be send out a regular basis. Each bundle would probably weigh less than 1kg, keeping postage to a minimum. In fairness to others on the list, there would have be some adherence to a due-date to circulate them quickly. To make library management easier, pre-paying for a number of postings would reduce the amount of book work.

Magazines available are: *American Bee Journal, Bee Culture, Bee World (IBRA), Australasian Beekeeper, The Scottish Beekeeper, The Speedy Bee* and *The Irish Beekeeper.*

If interested, please send an e-mail to the librarian: chris.tony.taiaroa@clear.net.nz

- Chris Taiaroa

Report by E. Smaellie,

Superintendent Beekeeping Advisory Services Division, 1973

Looking Back

Staffing

The Apiary Section is at full strength except for one apiary Instructor position at Auckland. This vacancy will be filled when there is a suitable applicant prepared to accept appointment to the position. Mr T. G. Bryant was appointed as Apiary Instructor for the Otago-Southland district and commenced duties at Gore on June 27, 1973. Mr G. M. Walton, Apicultural Advisory Officer, Palmerston North, has been on leave since April for a private tour overseas. He resumes duties in mid-August.

Statistics

Statistics show that the previous trend of colony increase and enterprise amalgamation has continued and total numbers of hives in the Dominion is the highest on record.

As at May 1973 there were 3640 beekeepers owning 15,486 registered apiaries and 209,276 hives of bees, of which 11,054 apiaries and 192,909 hives are kept by beekeepers owning 50 hives and over.

Comparison with 10 years ago shows in the "251 hives and over" commercial group there has been a 13.8 per cent increase in the number of beekeepers, and an increase of 20.5 per cent in the number of registered hives.

Present holdings we distributed as follows: North Island 2708 beekeepers. 7869 apiaries, 112,443 hives; South Island 933 beekeepers, 7617 apiaries, 96,833 hives.

Honey Crops

Most districts experienced drought conditions and crops produced in some districts were below average. Total honey production as assessed in May 1973 was 5340 tons, which is approximately the average of the previous six seasons.

One ton

North Island production was about 2790 tons and in the South Island 2550 tons.

Honey Grading

For the year ended August 31 1973, 1843 tons of bulk extracted honeys were graded by the Honey Grader. Of this total 109 tons were rejected as not complying with the standards for export grades.

A total of 215 tons of comb honey exported by beekeepers was graded; an increase of 60 per cent on the previous season's exports of comb honey.

Fermentation and Low Specific Gravity remain the most serious faults in the honeys rejected for export grading.

Disease Control

Inspection of apiaries for control of Bacillus larvae bee disease was continued with assistance from competent beekeepers acting as part-time inspectors. The overall incidence of disease found or reported was 2.21 per cent and 0.34 per cent respectively. While these figures indicate a low and decreased incidence of this disease, the apiaries in which it was found are widespread in all regions and no area can be regarded as disease-free. With this situation there is no room for complacency if the present low incidence is to be maintained.

Developments in Pollination Services

The demand for pollination services in both Islands has shown a steady increase. An estimated 2500 colonies of bees were introduced onto orchards for fruit pollination. Recent publicity on the need for bees to effectively pollinate Kiwi fruit has resulted in a well-founded Pollination service in the Bay of Plenty on similar lines to those operating in other fruit-growing districts.

FIELD INVESTIGATIONS/ EXPERIMENTAL WORK

Practical Evaluation of Single and Two-Queen Systems for Colony Management

This experiment was a two year practical follow-up to a previous experiment which statistically evaluated three methods of management. Over the two year testing period, a total of 269 colonies were manipulated and assessed. The two-queen system consistently produced more honey than the single-queen system. Greater differences occurred between seasons using the same method of management in either season. In both good and bad crop years the two-queen system required less equipment, truck mileage and apiary working time per unit quantity of honey produced, than the single-queen system.

Effect of Quantity of Honey in Store upon Honey Yields

Factors causing nectar collection have been little studied and it is not known whether the amount collected is related to the amount in store. The purpose of this experiment is to statistically test this hypothesis. This project is proceeding.

Bees Wax Separation in Manuka Honey

Because of its thixotropic characteristic, manuka honey requires special equipment to aid in the extraction, straining and wax process within the honey house. Basic handling techniques have remained unaltered since the early 50s and it is believed that the technique of vibration to break down surface tension has potential for improved processing of this type of honey. The effects of temperature and vibration on the separation of wax particles from manuka honey are being examined by the Food Technology Department at Massey University. This Ministry is co-operating with this project.

Honey Dew

Samples of pure honey dew and honey were collected and consigned to Dr Swallow, Chemistry Division, DSIR, for analysis. Descending paper chromatography and thin layer chromatography (TLC) are being used to determine the sugar spectra of the samples with the aim of developing a working definition for honey, honey dew honey and honey dew. The definition would be included in the Apiaries Act 1969.

Queen Cell Incubators

One static and one portable unit built by a commercial beekeeper are being tested for heat retention levels and relative humidity regimes.

Pollination of Cucumber Under Glasshouses

Six frame nucleus hives were found to be the most effective pollinators of cucumbers under glass when established in mid-November.

Pollination of Freesias

An excellent set of ~ was obtained on a trial planting of freesias under glass. The plants were pollinated early to mid-August by bees in a six frame nucleus. Some problems were caused by an infestation of aphids.

Apimondia congress

The Apimondia congress being held in Durban, South Africa from October 28 to November 1 2001, is already a success, measured by the number of papers submitted for presentation at the congress.

The Apimondia executive council and the South African organisers met last month in Rome, to work through the final details. The 370 papers already submitted is 100 more than for the last congress in Vancouver, Canada.

Presidents of the standing commissions have selected the papers to be presented at the congress. Its programme has 25 sessions in a variety of topics with lectures presented by some of the world's leading experts.

The deadline date for early registration is June 10.

GOLDEN HARVEST

by Lloyd Spear

There is much magic in this world. Mighty redwoods and oak trees growing from tiny seeds. Sunrises and sunsets. Cygnets becoming swans. Pollen is magic, too, in its use by honey bees and its value to beekeepers. Pollen is a wondrous substance and you can use its attributes for an annual harvest to increase both the joy of beekeeping and the annual income from your work.

Pollen is produced by plants to fertilise the ovum (egg) of the species to produce seeds. Some plants produce pollen that is spread by the wind, while others rely on insects (including honey bees), and birds, to transport pollen. These plants compete with one another and with other food sources (including nectar) to attract pollen-carrying organisms, and in so doing attempt to make their pollen more attractive than alternatives. Consequently, pollen comes in a wondrous variety of colours, scents and nutritional values for some of organisms to detect.

In this article I will describe the nutritional value of various pollens, compare those values with human food and discuss how you can enhance the health, and thus the value, of your bees by judicious feeding of pollen.

Food	Protein	Fat	Calcium	Sodium	Vitamin A	Overall Rank
Pollen	**96.3**	**19.5**	**915**	**179**	**14500**	**1**
Tomato	**50.0**	**8.8**	**588**	**138**	**41000**	**2**
Cabbage	**54.1**	**8.3**	**2,037**	**835**	**5410**	**3**
Chicken	**152.8**	**35.9**	**60**	**484**	**484**	**4**
Beans	**40.1**	**6.5**	**443**	**3,800**	**1070**	**5**
Bread	**43.2**	**12.3**	**407**	**2,200**	**trace**	**6**
Beef	**59.4**	**82.7**	**26**	**145**	**143**	**7**

The overall food rank, above, includes values for nutrients not shown (potassium, iron, thjamin, riboflavin, niacin and vitamin C) and ranks the values for fat and sodium in reverse order. The values are based on the amount in the quantity of food that provides 1,000 kcal of energy.

Proteins are necessary for the proper growth and development of all animals, including humans and insects. Honey bees are no exception, and they receive their protein almost wholly from pollen, which also provides them with amino acids, vitamins and fat (nectar is totally lacking in fat). The above chart compares some nutrient values of pollen with other common foods: [1]

Species:	% Protein	Species:	% Protein
Maple	26.4	Thistle	18.3
Blue Aster	34.7	Almond	30.0
Creosote Bush	25.8	Dandelion	14.7
Pine	7.5	Cottonwood	16.6

The nutrient value of pollen from individual plant species can vary widely, as demonstrated by the following protein values: [2]

A scientist working at the Carl Hayden Bee Research Center in Tucson, Arizona, Dr Justin Schmidt, has made numerous studies and observations of pollen gathering by honey bees. He reports that, when given a choice, honey bees collect the pollens containing the highest protein values. This is both amazing and logical, resulting in fully developed bees with long lives, likely to make a maximum contribution to the overall health of the hive.

Hives benefit greatly from being fed pollen, even in areas where pollen is plentiful. This is especially true in early spring, just before or just as natural pollen is being collected.

In late winter and early spring, it is not unusual for bees to collect pollen during one or two days of 50 degC temperature, then be confined to the hive for a week or more when a cold front arrives.

This can result in expanded brood production during the warm weather, and brood death from starvation, or weak bees maturing and having short lives as a result of inadequate nutrition during the cold spell. Two or three similar cycles can occur before the weather settles.

By feeding, you will be certain that the bees always have adequate nutrition, even when they cannot fly because of cold temperatures.

The best pollen to feed is from your own traps. By definition, it is local, and if your hives are alive and have been productive, you know it is highly nutritious. Next best is pollen purchased from a local beekeeper. If he or she is successful and has kept bees for several years, that his/her bees should be largely or entirely disease-free.

Next best is to purchase pollen from a dealer in the area. Ask if the pollen is local. If the dealer doesn't know, I suggest you look elsewhere, as pollen can carry disease spores.

If you don't have and enough pollen, consider mixing in one of the commercially available supplements. I understand a mixture of as little as 15% pollen (by volume or weight) to supplement will greatly enhance the supplement's value and attraction. Obviously, the higher the percentage of pollen,

[1] Excerpted from *Bee Products, Chemical Composition and Application*, by Dr. Justin O. Schmidt.

[2] Pollen feeding preference of *Apis Mellifera*, by Juston O. Schmidt and Bruce E. Johnson, *The Southwestern Entomologis*, March 1984.

the better. First, mix the supplement and pollen dry, then add sugar water as described below.

Bees will not readily take dry pollen, so it is best to mix it with sugar water. Dissolve a measure of sugar into a 1/2 measure of boiling water. i.e., dissolve four cups of sugar and two cups of boiling water. When cool, add pollen to form a patty about the consistency of bread or pizza dough. It is better to have a stiffer or more liquid consistency. If uncertain, start by adding some of the liquid to the pollen or pollen plus supplement, then stir and knead. If you have to throw out some syrup, it is inexpensive and not a big deal.

When the patties are the right consistency, you will have used about equal amounts (by weight or volume) of sugar syrup to pollen or pollen plus supplement. When your mixture is the right consistency, form it into patties about 1.5cm thick. I make up several patties at a time, each weighing about 120g.

I pile them on top of each other, separated by wax paper, put them in a container with a cover or in a plastic bag, and freeze. They will keep for months, and I remove them just before putting them on the hives.

Put one patty on each hive, immediately on top of the cluster. If the bees are not right up to the top bars, and you have a two-story hive, tip up the top hive body and put the patty on the top bars of the lower body, even if this means that some of the cluster is in each body. I place the patty so the moisture is down and the wax paper on top. The bees will take the wax paper out of the hive. Once you start feeding, replace the patty when it is gone if the weather is unsettled or is likely, based on past weather experience in your area, to be unsettled. The bees have used the pollen you have given them to expand their brood area, and you don't want them starving because they can't get out to get more pollen.

When the weather becomes settled, watch your hives carefully, particularly if this is your first year of feeding pollen. YOUR HIVES WILL BE MUCH STRONGER THAN IN PAST YEARS, AND MORE LIKELY TO SWARM! Get your supers on early, well before dandelion flow, and/or make splits. You don't want the benefit of all your feeding to end up hanging in trees.

Pollen is so good for bees that it must be good for humans! Right? Well . . . probably. The important thing, from the viewpoint of the beekeeper looking for some added income is that there is a widespread assumption that pollen is a wonder food. People eat it as is, sprinkled on cereal, mixed in cookie dough and in every other manner. It is widely sold in health food stores, at prices that make beekeepers drool. (It was widely reported that Ronald Reagan ate several tablespoons a day.) In 1984 the United States Food and Drug Administration (FDA) published an article titled "Bee Pollen Great Food – for Bees" and said, "Under law, since . . . pollen has not been shown to be harmful other than to those suffering allergy, bee pollen may be marketed as a food, provided no nutrition or therapeutic claims are made or implied regarding it. Thus, if the labelling (including pamphlets or advertising associated with the product) does not suggest that it is intended for use other than food, bee pollen marketed as a food need only meet the same general labelling requirements as other foods, and be prepared, packed and held in a sanitary manner." To the best of my knowledge, the FDA has not further defined such terms as "prepared, packed and held in a sanitary manner".

The *only* way I have seen pollen marketed to consumers is in a clear glass or plastic jar, with a label listing the name of the seller and the weight. No "instructions for use" or claimed benefits. But, rest assured, those consumers who are tuned into the world of natural foods and supplements *know* that pollen is a good thing and how to consume it, and are willing to pay very good prices for pollen from sources local to them.

I recently attended a meeting of the Ohio State Beekeepers Association, and the moderator asked (1) how many collected pollen and sold it retail and, (2) the retail price per pound. (500g) Out of perhaps 70 beekeepers present, six raised their hands. The reported selling price per pound was $7 to $11, and beekeepers reported collecting 10 to 20 pounds per hive! Personally, I am not set up to sell retail, so I wholesale all my excess pollen in 5-gallon pails (22 litres) (which hold about 30 pounds) for $3.50 to $4.50 a pound. *American Bee Journal* recently reported nationwide per pound wholesale prices ranging from $3.50 to $6 and retail prices ranging from $6 to $15. To beekeepers, this is "Money lying in the street" and should be taken advantage of.

• ***Lloyd Spear collects sells pollen in Guilderland, New York. He is the owner of Ross Rounds.***

How Many Trees Will Neutralise A Litre Of Petrol?

This may not be the precise question a forestry research team will be asking but it does tend to sum up what they are seeking. A carbon verification program (CVP) is currently looking at a forest area near Urbenville, New South Wales to determine how much carbon is really stored in trees. Under the Kyoto Protocol, 1997, Australia is pledged to ensure its carbon emissions, primarily from fossil fuels, for 2008-2012 AD are no more than 8% greater than its 1990 emissions. Investing in the right types of forests to ensure the nation keeps ahead of carbon emissions can only be good for our industry.

From The Australasian Beekeeper

ADVERTISING RATE

Current for all issues in 2001.

FULL PAGE	**(180 x 260mm)**
Two Colour	$480
Black & White	$400
HALF PAGE	**(180 x 125mm)**
Two Colour	$310
Black & White	$250
QUARTER PAGE	**(65 x 125mm)**
Two Colour	$185
Black & White	$150
Eighth Page	**(65 x 60mm)**
Black & White	$75
Sixteenth Page	**(65 x 40mm)**
Black & White	$40

A 20% discount on the quoted rates for 11 consecutive placements.

Rates for inserts and 4-colour advertisement along with specified positions are subject to negotiation.

Straightforward typesetting and layout for advertisements will be included as part of the insertion rate. Additional costs will be incurred where logos and graphics are required to be scanned.

Please contact Allan Middlemiss for clarification and costings. — All payments to be made to Crown Kerr Printing Ltd. P.O. Box 5002, Dunedin

Copy for advertisements may be mailed, faxed, emailed or supplied on disk providing it is formatted for Macintosh. Please check with us before you forward the disk.

Articles published in the NZ Beekeeper Magazine are subject to scrutiny by the Associations publication committee but do not necessarily reflect the views of either the Association or the publisher.

BRANCH CONTACTS AND MEETINGS

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

AUCKLAND BRANCH
Meets last Monday of the month at 7.30p.m.
at Ceracell BeeKeeping Supplies
24 Andromeda Crescent, East Tamaki
President: Brian Alexander
Phone/Fax: (09) 420-5028
Secretary
Jim Thompson
Phone/Fax: (09) 238-7464

AUCKLAND BEEKEEPERS CLUB INC.
President: Ian Anderson
Phone: (09) 480-8327
Email: ianderson@clear.net.nz

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

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

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

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

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

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

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

MARLBOROUGH BRANCH
contact Jeff: (03) 577-5489

MANAWATU BEEKEEPERS CLUB
Meets every 4th Thursday in the month at Newbury Hall, SH 3, Palmerston North.
Contact: Andrew MacKinnon
Phone: (06) 323-4346

NELSON BRANCH
Phone: Michael
(03) 528-6010

NELSON BEEKEEPERS CLUB
Contact: Kevin
Phone: (03) 545-0122

OTAGO BRANCH
Phone: Mike (03) 448-7811

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

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

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

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

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

TARANAKI AMATEUR BEEKEEPING CLUB
Phone: (06) 753-3320

WAIKATO BRANCH
Contact Tony: (07) 856-9625

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 Burnett,
21 Kiwi Cres, Tawa,
Wellington 6006. Phone: (04) 232-7863
Email: johnburnett@xtra.co.nz