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President's notes

by Richard Hatfield

The past month was very busy for a number of beekeepers and executive members. Varroa remains in the forefront with the two year plan review and movement control issues.

The second draft of the varroa management plan was published by MAF for discussion. The executive supported by the branch delegates made representations to MAF that there were some significant departures from the original document circulated back in June. These issues were extensively discussed and MAF seem to have taken the comments on board. There were a number of smaller meetings focusing on specific issues. MAF will be issuing a new draft, hopefully this will be more in line with beekeeper and wider industry needs.

On the subject of varroa, mediation was required to determine the protocols and boundaries for movement in the North Island. Bruce Cottrill, a professional mediator, was engaged to mediate a resolution to these matters involving the affected branches. This process seems to have been successful with many agreements. Some people are focusing on the disagreements and the personalities involved. We must remain focused on the issues and not the people.

MAF have now received the preliminary claims under the Biosecurity Act. There is a compensation advisory committee that is looking at these claims to determine what falls inside the Act. They are taking legal advice and if there is a conflict of interest seeking confirmation on advice given. Under the Act, the claimant has to demonstrate that:

1. There is a loss related to MAF exercising their powers under the Biosecurity Act and
2. The beekeeper has complied with legislative requirements under the Biosecurity Act and the PMS order.

I have recently received a number of phone calls saying that the NBA is not looking after individual beekeeper interests. I would offer the following:

1. At the executive insistence, all beekeepers received a copy of the June Varroa Control plan and the compensation process and requirements from MAF.
2. Active lobbying of ministers, MAF and other parties to ensure that the industry's interests are protected in the wider context.
3. Active participation on various committees set up by MAF to deal with Varroa issues.
4. Insistence on each branch having a representative at the varroa meetings and that representative being properly briefed.
5. Starting the process to improve accountability of committees, branches and contractors so that members are informed and able to make informed decisions.
6. Undertaking strategic planning that is achievable and tracking against that plan. Plans always change due to circumstances, but at least we will know that it has changed.

The list is endless. I will leave the matter there.

Another major issue is the financial health of the NBA. I have received many comments blaming individuals and groups for this situation. I personally do not care how this came about, just that we have to collectively sort this issue out. The NBA executive has put in place a number of strategies. Some non-paying beekeepers will be aware of one of them. I would recommend that anyone that has not paid their levy then pay it now. The NBA will be taking legal action to claim what owed and the cost of this legal action can be into thousands that will be payable by the beekeepers concerned.

I would like to finish on a positive from the mediation:

"beekeepers found a new sense of cooperation..."

Cooperation makes industries strong.

Letters to Editor

To All Beekeeper's
Sub-Committee Positions

At our last Executive meeting, we looked at appointing people to fulfil several positions in the many sub committees we have formed.

One of these is the Environment Committee.

This portfolio covers environmental management, Genetic Engineering/ Genetic modification, Occupational Safety and Health (OSH), Bee product safety - currently issues with ANZFA (Australia, New Zealand Food Association), and other beekeeper impacting legislation - which includes areas like the Animal Products Act.

It looks as though any issues that get bought to the Executive's attention, which do not fit neatly into the other portfolios will be sent our way.

We would like people who would be interested in becoming involved with this committee to contact me. We are looking at two possibilities: one is that a member from each branch become a member of this committee, so that if there is an issue raised that is pertinent to your area, we can direct correspondence to you, for you to act upon. As an example, I have received a brochure from Environment Waikato, asking if we wish to become involved in "Project Watershed", which will cover Flood protection, Soil Conservation, River Management Works.

Each Regional Council is likely to have its individual projects, which you could become involved in. It may be that we can influence what plant species are used in soil conservation plans - of course they would be bee friendly pollen and nectar bearing trees and shrubs, or suggest more appropriate times to spray noxious weeds.

From this large committee, we could then elect our main-core committee, who would oversee the committee's work, prepare submissions where necessary - or delegate them to others. The other possibility is to have a committee of 3-5 people to handle this job.

A large number of people involved in this area will mean a greater number of skills to draw on, and a lighter load for everyone concerned.

Jane Lorimer
Executive Member responsible for the Environment Portfolio

Dear Sir

When I read Tony Lorimer's letter I doubled up laughing. When I regained my composure, I thought to myself, I will offer my services and be a member of the firing squad and perhaps put a few more up against Tony's brick wall.

Gerard Martin

Cover photo: Courtesy of Dick Schoneveld, Opotiki

The New Zealand BeeKeeper

THIS ISSUE

Letters to the Editor

Dear Sir

Biological Control of Varroa

A letter in your August issue (sorry I've forgotten who wrote) proposed the setting up a fund to enable investigation to be carried out into natural methods for control of varroa mite and we wish to support this move.

Soon after the discovery of varroa in New Zealand we could see that Government response to an eradication attempt was likely to be too tardy, too late and too little, so to set something going, and perhaps encourage a quicker and more serious official response we proposed the setting-up of an industry-supported fund for this purpose. With this in mind we sent a cheque to the NBA for $2,500, representing a donation on the basis of $10 per hive owned by us. Our hope was that other beekeepers would do likewise and that orchardists and farmers would also contribute. A fund of several million dollars appeared to be possible.

However, this did not eventuate and I have lately discussed the situation with Terry Gavin, who was president at the time. I proposed that as eradication had been decided against by the Government that the money be put into a biological-control research fund. Terry thought the money should be returned to us in the meantime, and we will hold it until it is called upon for this purpose.

What is the response of other beekeepers?

It seems to me that South Island beekeepers, in particular, are going to be in an advantageous position, at least for some time (I believe varroa will eventually spread there) and I would appeal to them, and to everyone, to take this up seriously, wherever they operate.

I am convinced that chemical control such as apistan, is not a long-term solution to the problem, and also that the production of organic honey is of major importance.

Dan Hansen,
pp The Wilderland Trust
RD1, Whitianga

From the North Canterbury Beekeeping Club

September Newsletter

Club News

It was a pity that we were unable to have our AGM last meeting, but things should all be in place for the October meeting.

Disease elimination was the big topic at the August meeting, and the options for fulfilling the requirement of passing a competency test. I hope many of you were able to go to the 16 September course and test run by the Christchurch Hobbyist Beekeepers Club, and that you did find it worthwhile.

Our Club hives was looking happy and healthy on 27 August, and it was set up for spring, with a good turn-out of members getting a good look at everything. Peter has offered to check regularly for swarming between then and the next Club Day on 14 October.

For our next meeting

1. This meeting includes our AGM - be ready to vote for who does what!
2. Bring along your favourite strategies to avoid swarming, setting up your hive for maximum honey, etc.

National News Briefs

MAF is working with beekeepers and industries reliant on bees to develop and implement a management plan for varroa and a compensation process. Fourteen regional consultation meetings with beekeepers have been held, and a representative form each of these meetings attended a meeting held mid-September in Wellington. A discussion booklet of several possible operational plans has been distributed to beekeepers.

It has been realised that varroa will spread far more rapidly in New Zealand because our hives live over the winter with a higher population of bees and therefore of the mites that elsewhere in the world. Hives are being killed much more quickly when infested, and there is not natural 'rest' during the year.

If you have access to the internet you can check the MAF website for updated information on the varroa management programme amongst other things: www.maf.govt.nz

Do you know where this library book is?

Guide to Bees and Honey by Ted Hooper

Please contact Damon Hurley if you do.

Tony Scott, of Hanmer (phone: (03) 315-7549), is a beekeeper with 700 hives. He needs part-time helpers for a couple of days a week. He is interested in anyone who has passed their DECA Competency Test, and is willing to learn as they work. Contact him for details of the work and the remuneration.

Practical Beekeeping by Herbert Mace

Bees always fly direct to a point they wish to reach, so that if there is a field of clover two hundred yards (180m) from the hive and nothing in the line of flight, they will keep low down. If there is a wall or fence between, they will rise just high enough to clear the obstacle and no more.

When there is any doubt, or experience shows that passers are continually going through the bees' line, the problem can be solved by the erection of screens enclosing the hives in as much space as possible. A height of 6-8ft (2-2.5m) is sufficient.

NEXT MEETING

9 or 16 April, 2001.

Rangiora Bowling Club Committee Room, 7.30pm.

Reminiscences of the season, honey tasting

Detecting Varroa

reprinted from the American Bee Journal

There are a number of good techniques to detect *Varroa* mites in your bees. The problem is to interpret what the finding of a given number of mites means. In the fall, when there is little or no brood, the meaning of the numbers will be different from the spring when your colony populations are expanding. You are interested in two questions. When do you treat for *Varroa* and, do your bees have any resistance to the mites? This paper discusses the techniques and points to the pitfalls in the methods we use. However, the question of what a given number of mites in your hives means is left dangling because I don't know and I can't find anyone to give me clear and concise instructions! We know to little about how *Varroa* populations grow.

The Asian honey-bee mite, *Varroa jacobsoni*, causes the most serious of all bee diseases. It was first found in United States in 1987. We have good chemicals to control *Varroa* mites and the development of honey-bees resistant to the mites is underway. The most difficult aspect of *Varroa* control is to determine how many mites are present in your hives and when you should treat to control them.

Methods of detecting Varroa

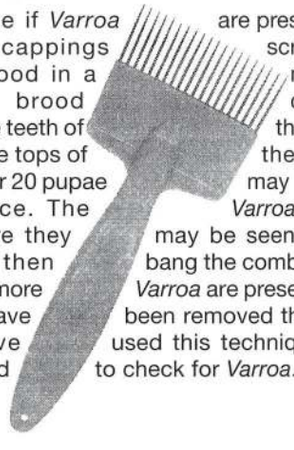
There are a number of methods of detecting *Varroa* and determining the level of infestation in your hives. These include uncapping brood and removing the larvae and/or pupae from their cells to expose the mites (most of the mites will be on the drone brood), the ether roll, placing sticky boards on the bottomboards to collect mites (sometimes with special bottomboards), smoking bees to force them to drop off of the mites onto sticky boards, surveying the hive debris on the bottomboard, and placing adult bees in solutions and shaking them to free and count the mites.

There is variation in the effectiveness of these methods and shaking bees in a liquid solution is the most accurate method of determining how many mites are present (see side bar). The greatest disadvantage of using shaking solutions is that the method is slow and some bees are killed. However, the alternative is to treat bees routinely, usually twice a year including sometimes when no treatment is necessary.

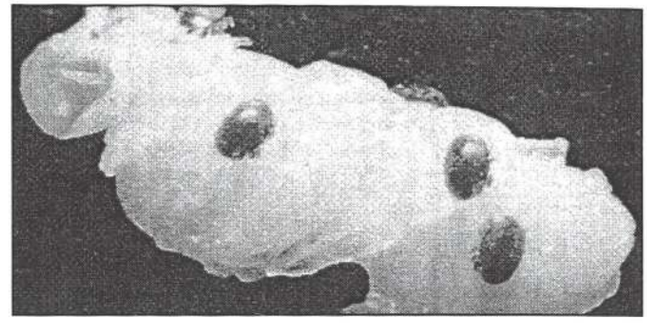
Cappings scratcher

Cappings scratchers are approximately seven inch long tools that have 18 to 20 sharp, needle like teeth moulded into a high-strength plastic handle. They are usually used to cut and/or break the cappings on combs of honey that are being extracted and that have been missed with an uncapping knife or plane. Szabo (1989) gave instructions about their use. He wrote, in the first American paper on the subject, that he had observed scratchers being used successfully in Hungary to check for *Varroa*.

To determine if *Varroa* are present or not the teeth of the cappings scratcher are inserted into the brood in a manner to suggest that the brood cappings are being lifted off. The teeth of the scratcher are slid parallel to the tops of the cappings. In this manner, 20 or 20 pupae may be lifted from their cells at once. The *Varroa* are exposed on the pupae where they may be seen and counted. You many also then bang the comb on a piece of white paper and if more *Varroa* are present in the cells where the pupae have been removed they will fall from the cells. I have used this technique successfully on drone brood to check for *Varroa*.



A Cappings Scratcher



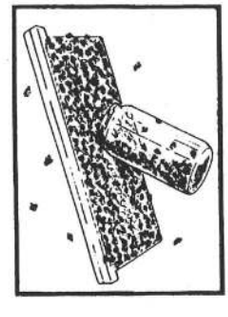
Varroa mites on a larva. (Camazine photo)

The problem with this technique is that it does not give us a good quantitative determination as to how many *Varroa* are present though certainly if more than one *Varroa* mite is seen on each drone pupae there is cause for concern. However, the method is fast and if the drone pupae have only a few *Varroa* on them you might believe the infestation rate in your hive is low.

Ether roll

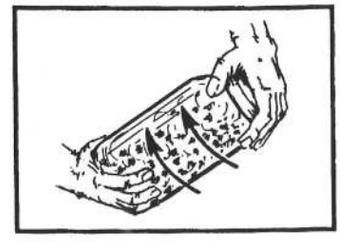
The most popular method to detect *Varroa* mites has been to brush about one third of a pint of worker bees into a one or two quart glass jar and to squirt ether into the jar. The cap is put into place and the jar is shaken and rolled. Under these circumstances the bees are killed as are the mites which then leave the bees and may be seen stuck on the glass, inside the jar. The ether roll is another European idea that was observed in Turkey by Burgett and first written about in this country by Burgett, Krantz and Capizzi (1987).

Calderone and Turcotte (1998) recommend the following procedure in an effort to standardise the use of the ether roll and to use it in the most effective manner. A predetermined volume or weight of bees, collected with a vacuum device, is placed in a quart and a half glass jar. The bees are sprayed with a two second burst of car starting fluid (primarily diethyl ether). The cover is quickly placed on the jar, which is "shaken vigorously for 10 seconds, then rolled three complete turns on its long axis". The mites clinging to the inside of the jar may be counted. To determine your accuracy with the ether roll, which varies from person to person, the bees may next be placed in alcohol and shaken as they are with the soapy water technique (see graphic). When removing bees for ether roll, be sure to get only workers and drones.



Remove 300 or so bees from brood nest area

Cap, and spray ether jar for two seconds.



Shake jar for two to five minutes. Mites let go of bees and stick to inside of jar

Delaplane and Hood (1997) were obviously dissatisfied with the ether roll technique as a quantitative measure of the number of *Varroa* present in a colony because of the variability they found. Still, finding no mites with the ether roll is comforting, while finding more than a dozen suggests treatment is needed. The time of year is important with spring counts being more accurate than when the colonies have more bees in the summer.

Caution: Ether is a toxic substance and care should be exercised in its use. I have been told by a few people that they have been ill through over exposure to the fumes. Moreover, the fumes tend to excite nearby bees so move away from a colony when spraying.

Shaking solutions

The most accurate method of determining the number of mites present on your bees is to brush some bees into a glass jar with about a pint of hot water, soapy water, or alcohol (De Jong, Roma and Conclaves 1982). The jar is shaken and the mites are dislodged and may be counted. Alcohol is the favourite of bee researchers but in my experience soapy water is nearly as accurate and certainly easier to obtain.

Sticky boards and S-mesh hardware cloth covered bottomboards

Sheets of sticky paper that fit into a bottomboard have been tested both to determine the number of *Varroa* present in a hive and as *Varroa* mite control devices. It is known that a given number of mites fall onto the bottomboard each day though it is not clear as to why this occurs. It is most likely as a result of grooming, both self grooming and the grooming of others. Most of the mites that fall to the bottomboard in this manner attach to another bee and return to the brood nest area. Smoking a colony after the sticky board has been put into place will cause even more mites to drop off of the bees and onto the bottomboard. Tobacco smoke is especially effective in this regards though the use of various materials that may be placed in a smoker to produce this effect are still under study.

The sticky board is covered with a piece of 8-mesh hardware cloth so that the bees will not come into contact with the sticky stuff and be caught themselves. Sanford (1999) reviewed what had been done both in Europe and the United States. He concluded that using sticky boards "slowed *Varroa* population development, for these mites". Delaplane and Hood (1997) wrote that "bottom board inserts are the more reliable survey method for making treatment decisions".

You may make your own sticky board by spreading Vaseline or some other light-weight grease over a piece of white paper or wax paper that will not absorb the grease.

Varroa distribution in a hive

A recent study by Calderone and Turcotte (1998) shows that *Varroa* mites are not equally distributed on bees throughout a hive. The infestation rate among bees in the honey supers is about half of that found on bees from the brood nest. There are also significant differences in the number of mites on bees from comb to comb within the brood nest.

As a result of these observations it is stated that *Varroa* population estimates will be most accurate if taken in the spring or late autumn when the bees are in one or two supers when most of the mites are on the adult bees. If you count *Varroa* mites in the summer when the colonies are supered it is best to collect the bees you sample from three or more combs in the brood nest. It is always possible to inadvertently collect a queen when collecting bees from the brood nest and it is best to find her before the sample is taken.

The Bees in Brazil

We believe we are close to developing and using European honey-bees that are resistant to or tolerant of *Varroa* mites. Where will these bees come from? They may come about as a result of special bee breeding programs or they may develop from feral colonies in your own backyard. The answer to this question may come in part from examining what has happened in Brazil. However, to determine the level of infestation you need a good *Varroa* detection technique.

Varroa mites are everywhere in Brazil but the Africanised bees there have a high degree of resistance to them. The mites were found in the United States. No beekeeper in Brazil treats bees for *Varroa*. Under the most severe circumstances researches find about three mites per 100 bees. A level that can be tolerated. This was not always the case.

When the *Varroa* mites were first found in Brazil beekeepers would usually find about 60 mites per 100 bees but rarely more. The number was determined using the shaking solution technique. Apparently, Africanised honey-bees already had some natural resistance to *Varroa* when the mites were introduced into that country. It is not clear why this was true but it may have been the fact that Africanised honey bees naturally show a greater degree of hygienic behaviour as regards most bee diseases. However, most important is the fact that there were no colonies killed by *Varroa* in Brazil as has been the case with North American bees that have their ancestry in Europe.

Because no treatments were made in Brazil the more susceptible colonies of Africanised honey-bees were weaker and produced fewer drones, if they produced any at all. This changed the genetic makeup of the remaining bees since drones from the more susceptible colonies were not available for mating. As a result of this change, the bees in Brazil became increasingly resistant to mites. This selection has continued to the present and today we find only about three *Varroa* mites per 100 bees. This is what we call evolution at work - the fittest survive.

We know there is great variation among North American bees and that some tolerate *Varroa* more than others. The feral (wild) colonies of honey-bees are virtually gone in North America because of *Varroa* but a very small number remain. It is among those feral bees that remain that we hope natural resistance may arise. This, together with the efforts of several bee breeders to select resistant stock should some day give us the stock we need and relieve this great problem.

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Avoiding Bee Stings

People often learn lessons from painful mistakes; suffice it to say that I have learned a lot about bee stings. One of the first lessons I learned through personal experience is that inappropriate actions by a beekeeper working bees can lead to stinging incidents. A study of beekeeping's literature has shown me that there are many good ways to avoid bee stings. It is my intention to share some of what I have learned to help beekeepers avoid making those same painful mistakes.

If there is one thing certain about beekeeping, it is that a beekeeper will get stung. Stings just happen to be an unavoidable occupational hazard. Still, careful adherence to appropriate guidelines will help a beekeeper avoid most bee stings. Even though avoiding bee stings is more of an art than a science, a beekeeper's knowledge of scientific findings can be used to minimize their occurrence. Before looking at guidelines for avoiding bee stings, however, beekeepers will do well to examine several of the common misconceptions about stinging.

A number of frequently mentioned guiding principles have been shown by scientific research to be misleading, if not just plain wrong. For instance, the conventional wisdom of beekeeping suggests that beekeepers are less likely to get stung on warmer days when the sun is shining and the nectar is flowing. This suggestion contains a series of half-truths, and working honey bees in accordance with this maxim actually can lead to an increased incidence of stinging. Scientific research has shown that both increased air temperature and intensity of sunlight are positively correlated with defensive behaviour. Scientific study also has shown - and this will come as quite a surprise to many beekeepers - that the presence or absence of nectar flows do not contribute significantly to the intensity of defensive behaviour exhibited by honey-bees.

Southwick and Moritz (1987) examined factors hypothesized to account for heightened defensive behaviour of honey-bees in colonies of approximately the same size. Using multiple regression analysis, these researchers measured the number of stings directed against leather targets dangled above open hives under varying weather conditions. The bees were stimulated to respond to the alarm pheromone isopentyl acetate that was introduced above the top bars of the frames. What the researchers discovered was that the variation in sting response was affected strongly be meteorological conditions. In fact, 92.4% of all the variation in defensive behaviour was explained on the basis of meteorological data. Figure 1 shows the relative influence of the meteorological factors that accounted for the observed variance in the number of bee stings on the targets.

Southwick and Moritz showed that stinging incidence was likely to be greater under conditions of higher temperature, lower wind speed, atmospheric pressure, clearer skies, and higher humidity. The occurrence of nectar flows made no significant difference (0.1% of variance in data) on the intensity of stinging. Some 7.4% of the variance is controlled by other factors that remained undetermined. Any claim that one of the best times to work bees is when the air is warm, the sky is blue, and the nectar is flowing is laid to rest by these results.

Earlier research by Southwick and Moritz (1985) showed that perhaps the single most important factor in determining the level of defensive behaviour in honey-bees is group size. Very little response per bee is shown to the attack pheromone isopentyl acetate by one or only a few bees. This is consistent with the belief that bees generally sting to protect their nest and not themselves, unless they are directly threatened (eg

trapped in one's clothing, squeezed, or tangle up in one's hair). A larger group of bees (ranging up to about 1,000) is more likely to show a higher intensity of defensive behaviour per bee due to the presence of the same concentration of the pheromone in the air. Above 1,000 bees the presence of isopentyl acetate does not appear to affect the bee rate of stinging at the same concentration. In this study Southwick and Moritz argued that theoretically bees responding to alarm pheromone exposure would themselves release additional pheromones, increasing the total concentration in the air and eliciting additional defensive behaviour. From this one may conclude that larger colonies are more likely to demonstrate higher levels of defensive behaviour (Gary, 1992).

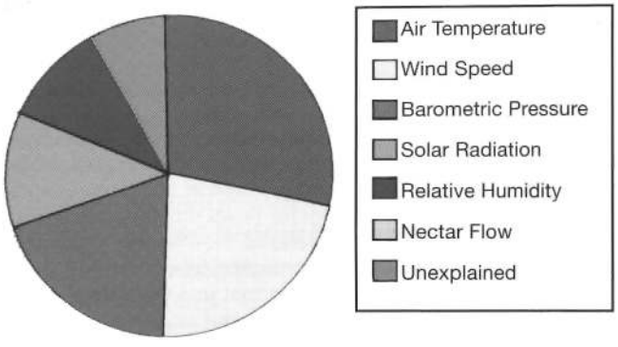


Figure 1: How meteorological conditions account for variance in the rate of stinging in colonies of roughly equal size. Nectar flow had negligible impact on the incidence of stinging. After Southwick, 1992.

The work by Southwick and Moritz suggests that beekeepers are less likely to be stung when working bees under the conditions of smaller colony size, lower temperature, a steady breeze, barometric pressure with the associated cloudier skies, and lower relative humidity - conditions typical of springtime when bees are frequently characterised as 'gentle'. The converse is generally true late in summer when bees are often characterised as 'aggressive'. Granted, the studies are based upon stings on leather targets, and do not take into account the harassing behaviour of guard bees that can make management of a colony more difficult. Further, the 1987 study does not take into account rapidly changing meteorological conditions that may be associated with an increase in the defensive actions of bees.

Scientific research and the craft wisdom of beekeeping provide a number of guidelines that appear to keep defensive behaviour at a minimum when working with honey bees. In general, there are three strategies that may be followed to reduce the incidence of stinging. There is no guarantee that following these strategies and the associated guidelines will prevent a beekeeper from being stung, but doing so should help reduce the incidence of stinging considerably. The strategies are as follows: (1) wear protective attire, (2) avoid actions that elicit defensive behaviour, and (3) avoid conditions that encourage stinging.

Wear Protective Attire. Donning appropriate apparel is perhaps that most effective way to avoid bee stings. Regardless of the (mis)behaviour of the beekeeper, a beekeeper's protective attire can ensure to a reasonably high degree that the wearer will not feel the stings of defensive bees. Nonetheless, even the most expensive body armor currently available can not be assumed to be an absolute defense against bee stings. Even though complete protective attire may be worn, there is a chance that a bee's stinger might penetrate the material if it is stretched tightly against part of the body, or if a bee finds an opening.

Direct protection against bee stings consists in suiting up with the complete regalia of beekeeping: supported veil and coveralls (a bee suit in combination), gloves, boot bands, and boots. The veil should be either self-supporting or supported by a helmet that prevents the veil coming into contact with the face and neck. Further, the veil should be attached to the coveralls by a zipper or sewing, or should fit tightly against the protected neck and chest with the aid of a pull cord. Coveralls should be loose fitting, and should be worn over a layer of thicker protective clothing. It will be a rare event when a stinger is able to penetrate these layers of defence assuming, or course, that clothing and veil are worn correctly. The weak points in any protective beekeeping attire are pocket, leg, and arm openings, and the border between an unattached veil and a coverall that might allow entrance of bees. Protective bee suits should cover the body from head to foot, and should have no openings for bees to gain entry. Such apparel also should be smooth textured and light coloured because alerted bees have a propensity for attacking dark fuzzy objects (Free 1961).

There are different materials from which coveralls and bee suits are made today. The traditional cotton blend attire, available for a modest price, is good protection against bee stings, especially if a thick layer of clothing is worn underneath. The main drawbacks of such layering are that it tends to be hot and cumbersome, and that there may be problems with durability. Coveralls and bee suits made of more modern materials such as rip stop nylon or Tyvek® are perhaps better protections against bee stings than cotton blends. These new materials have a slick and tightly woven fabric. They are also much lighter in weight and cooler in use. Still, there may be questions of cost and durability, depending upon the suit or material in question.

Beekeepers should suit up before approaching hives, and this sometimes can mean a distance of several tens of yards or more, depending upon the temperament of the colonies housed in the apiary. Removing protective apparel likewise should be done at some distance from the hives. Beekeepers need to make certain that no defensive bees are waiting to alight before unsuiting. In the event that there might be one or even a few bees determined to sing that will not depart, both defensive and offensive measures can be taken to eliminate them.

Among the defensive measures are smoking oneself and the immediate vicinity, and walking through a dense grove of trees or tall bushes. If objects such as branches and leaves interpose themselves between the beekeeper and attacking bees, the bees will be confused quickly and will let off their attack (Sammataro and Avitabile, 1998). Another defensive measure would be to move into a darkened outbuilding where bees generally will not continue their pursuit. Among the offensive measures is the clapping of one's gloved hands quickly and repeatedly in front of the face. This rapid movement frequently will draw the attention of and attract bees where they are then crushed between the palms of the gloved hands (Lashbrook, 1998). This procedure might require a minute or two to work, but the anecdotal experience of the author and others bears witness that this method can eliminate the last remaining defenders. If bees just will not leave, drive away from the apiary with protective attire on and the vehicle's windows open. Bees generally will leave a vehicle as it departs the apiary. Upon entering any vehicle, the unsuited beekeeper should be certain to scan such things as seat cushions and steering wheel where bees might be resting. Pinching, squeezing, or sitting on these bees also may lead to a stinging incident when the beekeeper least expects it.

Avoid actions that elicit defensive behaviour. Experienced beekeepers who really know bees rarely get stung, even if they wear little to no bee sting protection. This is because they have learned to avoid actions that encourage defensive behaviour of bees, and to deal effectively with harassing behaviour once it begins. Until the novice beekeeper comes to know the way of the bee - in some sense to think like a bee - he would be well advised to continue wearing protective attire. Only after a beekeeper has learned to see things from an apian perspective and knows that he is not allergic to bee stings,

should he attempt to work bees without complete protective attire. Regardless of the amount of protective attire worn, the following guidelines should be followed when working bees, in order to avoid placing undue stress on the bees and thereby eliciting defensive behaviour.

Before moving to the hives, carefully prepare a smoker that can deliver dense clouds of cool smoke for the period required to work the hives. Why exactly smoke helps to manage bees is not known with certainty. One suggestion is that smoke masks the alarm odor released by guard bees. Another suggestion is that smoke repels bees and disrupts their system of defense for the hive. Experience shows that guard bees may be driven temporarily from their posts at the entrance by an application of smoke. These and other bees may move to the comb to fill themselves with honey in preparation for fleeing. According to Jaycox (1982), approximately 60% of the bees located on comb will engorge themselves with honey when confronted with smoke. It has been hypothesized that engorged bees find it difficult to bend their abdomens sufficiently enough to inflict a sting. Regardless of why it works, experience shows that the application of smoke, if done correctly, minimizes defensive behaviour that leads to bee stings.

Advancing of the hives, select which hive will be worked first, and approach this hive from the side or back. (If the hives of an apiary are arranged in parallel rows, the front rows should be worked behind disturbed colonies.) Upon reaching the first hive, gently smoke the entrance and wait one or two minutes for the smoke to have its desired effect before opening the hive. Failure to wait the prescribed time may be one of a beekeeper's gravest failings. When smoking the bees at the entrance, minimize movement there as such motion has a tendency to put guard bees on the defensive and alert the whole colony to the presence of the beekeeper (Butler and Free, 1952).

Working the bees from the side or back of the hive, lift the outer cover slowly, gently introduce a few puffs of smoke, and then remove the cover. If propolised, use a hive tool to pry apart the inner cover from the top super or brood chamber. Avoid pounding on the hive tool as this too will put bees on alert. Keeping the nozzle of the smoker more or less elevated, use the smoker to gently waft a cloud of smoke over the bees by 'reflecting' the smoke off the gloved hand. This technique will keep ashes, embers, and fuel particles from the smoker from falling into the hive.

The amount of smoke required to manage bees depends upon both the temperament of the bees and the weather conditions under which the bees are being worked. Use the smallest amount of smoke necessary to keep the bees calm. Avoid over using the smoker as this actually may invite defensive behaviour. Too much smoke, or too hot a smoke, may cause the bees to 'boil' out of the hive and become airborne where they are more likely to act defensively.

An application of smoke will last only a few minutes, and it is essential to realise the bees must be resmoked repeatedly. Smoke the bees periodically to preclude defensive behaviour that will be evidenced by bees flying up from the top bars and harassing the beekeeper's hands or head. When such behaviour is observed, it is certainly time to apply more smoke.

During hive work it is helpful for the beekeeper to move slowly and deliberately, while at the same time avoiding the mistake of keeping any one hive in an apiary open for too long a time. A hive that is open for too long may invite robbing behaviour that ultimately will put the colony residing there on the defensive. If a great deal of time is required to work a particular hive, consider placing a hive cover or a manipulation cloth over open hive components to keep robbing at a minimum.

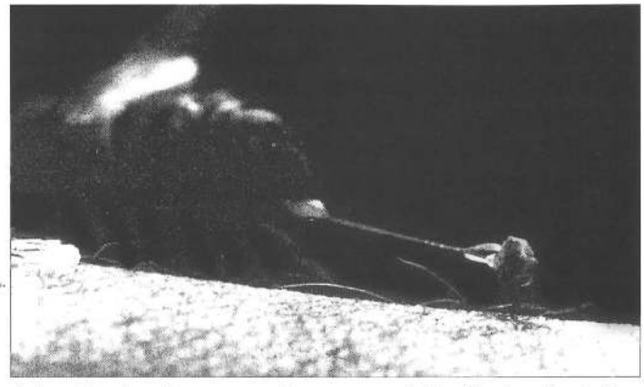
Should bees become overly defensive, it is best simply to close the hive and move slowly away, while holding one's breath. This removes the irritant carbon dioxide that is part of the warm exhaust breath that can stimulate defensive behaviour even in European bees (Schmidt, 1992). Resist the urge to swat at bees with body parts as quickly moving targets attract the attention of defensive bees and invite stings (Free, 1961). Come back one to two hours later; by that time most colonies of bees will have become less defensive (Butler and Free, 1952).

As the hive is worked, avoid crushing bees as this too will release the alarm pheromone that could invite defensive behaviour. When setting down supers and brood chambers, it is best to place them on hive covers that have been laid upon the ground up-side-down alongside or in back of the hive. Hive boxes should be placed in a crisscross fashion atop the covers to minimize the contact area between components, and to avoid crushing bees as much as possible.

Animal scents are know irritants for honey-bees (Free, 1960). Even leather appears to invite bee stings (Gary, 1992). Smoke new leather gloves before using them for the first time. Smoke any sting sites that are noticed on gloves and protective apparel. Such smoking may serve to make the sting pheromone

that smells like banana oil to humans and is an open invitation for defensive behaviour to bees. Periodically clean leather gloves and coveralls or bee suits to remove the odor of human sweat and the scent of the attack pheromone.

If removing honey from the hive for human consumption, it is good to give some preplanning to the strategy that will be used. Separating bees from their hard earned honey stores often leads to confrontations between beekeeper and bees. The use of a Porter bee escape or an escape screen can minimize the occurrence of such confrontations. Some beekeepers will shake bees from frames of capped honey and use a bee brush to remove the adhering bees. If fill frames are removed in this fashion, the bee brush should be used sparingly as its use probably will bring out defensive behaviour. Using a bee blower or a fume board with butyric acid (eg Honey Robber® or Bee Go®) may be better than brushing, but these methods will put bees into the air where they are more likely to sting, and onto the ground where they are more likely to be crushed.



A bee leaving the scene after successfully stinging its victim. Note the glistening, transparent venom reservoir attached to the upper left part of the sting apparatus. (From ***The Hive and the Honey Bee****, 1992 edition).*

When reassembling the hive, be certain to smoke the bees on the top bars and at the edge of the hive body where the various hive components contact one another. Gently bring the hive parts together, starting with a single corner. Slowly, and with a gentle rocking motion, reassemble the hive. The bees will, when given sufficient time and warning, move away from the contact spots between the hive components. When replacing the covers, it is a good idea to shake off adhering bees in front of the hive by gently tapping the hive covers on the ground.

Avoid opening hives very early in the morning, late in the evening, or after nightfall. Working hives just after sunrise and just before sunset can stir up bees. Moving a 'closed' hive after sundown, especially, will place a significant stress upon bees. Hive disturbances at any of these times - dawn, dusk or night - are closely associated with the actions of predatory animals. Bees do not distinguish between humans and predatory animals that have a history of attacking colonies.

Avoid conditions that encourage stinging. Besides suiting up against bee stings, and working the bees in such a way as to avoid inviting stings, beekeepers also might avoid keeping bees under conditions that are closely associated with defensive behaviour. Experience has shown that even within a given strain of bees there are more and less aggressive colonies. Defensive behaviour appears to be closely linked to honey-bee genetics (Breed et al, 1990). If aggressive colonies are requeened, then within about eight weeks a new generation of genetically different honey-bees will be in place that, hopefully, will exhibit a milder temperament. A novice beekeeper concerned about stings might do well to start out working with bees that are naturally less defensive. Carniolans are said to be 'exceptionally gentle' (Sammataro & Avitabile, 1998, p5). Caucasians also have a reputation for gentleness.

Africanized honey-bees (AHB) are much more militant defenders of their hives than are European honey-bees. If AHB become established in an area, beekeepers can not be too cautious in approaching hives that previously were known to contain European bees. Africanized honey-bees have a reputation for taking over European colonies that are either weak or queenless (Wilson, 1992). Swarm of AHB have been known to land on hives housing European bees, move into the entrance, and kill the queen and many of the defenders. The remaining European bees are overwhelmed by a parasitising swarm, and the Africanised queen usurps the hive. Obviously, the chance for unexpected stings increases dramatically in the presence of AHB. Therefore, it is imperative that due caution be shown for parisitisation in regions where AHB become established. Beekeepers in such areas should requeen annually with marked queens. In addition, colony inspections should be made regularly to check for the presence of these queens. Even laying queens of European descent that results from supersedure might have been fertilised by Africanised drones and should be replaced.

Several types of amphibians, insects, birds, marsupials, and mammals use bees as food. Generally outside the tropics only mammals and insects pose a significant problem as far as stressing colonies and putting bees on the defensive is concerned. Free (1952) showed that mammal scents, including human sweat rubbed on experimental targets, appear to put honey-bee colonies on the defensive and invite stinging behaviour. This may be strongly related to the fact that bees have an excellent olfactory sense, and that animal scents may be associated closely with predation.

Among the mammals that cause bees the most problems are skunks. Skunks not only prey on bees, they also can reduce colony size and make honey-bee colonies defensive in a way that few other animals can. They do this through repeated night-time visits to the hive. The scents from skunks, their dark furry nature, their scratching behaviour at the hive entrance, and their consumption of bees that come out to investigate the disturbance, all have a tendency to make colonies defensive. Watch for signs of skunk predation. Usually it is characterised by signs of scratching at the hive entrance and on the ground beneath. Fecal pellets that are composed primarily of honey-bee remains also might be found near the hive. Skunks that present a problem should be removed or otherwise disposed of in accordance with local laws. Alternatively, hives might be cordoned off with fencing or put up on stands where the underbelly of the intruder can be attacked more readily. In some areas opossums, raccoons, coatamondis, coyotes, and bears put bees on the defensive through similar actions.

Insects that stress honey-bees include wasps, ants, and honey-bees from other hives. Wasps, especially yellow jackets, may rob out hives leading to a large number of confrontations between wasps and guard bees. Yellow jackets are opportunistic predators, and they will attempt to take advantage of weak honey-bee colonies. When this happens,

the colony remains in a state of high alert and the beekeeper might become a victim of 'collateral damage' upon approaching the hive. The best way to defend against such attacks by yellow jackets and to avoid stings is to maintain strong colonies so that the bees can defend both themselves and their honey stores from predators.

Robbing behaviour by ants also might bring out defensive behaviour in honey-bees. Robbing by ants can be reduced or eliminated altogether by placing hives on stands whose supports are protected by oily or sticky barriers. Ants also may be controlled by applying an approved pesticide to their nest site. Care should be used, however, as such pesticides are highly toxic to bees.

The Small Hive Beetle (SHB), having only recently arrived on the American scene, may be hypothesized to put colonies of honey-bees on the defensive given their feeding on brood, honey, and pollen, and the ultimate absconding of heavily infested colonies. Indeed, anecdotal evidence by experienced beekeepers who have worked with SHB - infested hives suggests that this might well be the case. If this is so, then timely and proper treatment for the SHB might reduce the defensive behaviours of such colonies.

Sammataro and Avitabile (1998) suggest that a significant presence of Varroa and tracheal mites in a colony, the effects of pesticides, the presence of a disease, queenlessness, laying workers, and the wearing of certain hair oils, lotions, deodorants, and perfumes also are associated with some bees' "irritable disposition". To the extent that this is the case, beekeepers would do well to guard against stress-inducing factors.

Getting the Point. Having read the majority of this article, the reader might get the impression that a bee sting is a bad thing. To some extent yes, but to a greater degree no. It is rare to find a beekeeper who enjoys the pain of a sting, and a small portion of the population that is allergic to bee sting venom will have life threatening reactions if stung and left untreated. Nonetheless, there are many who speculate that bee venom has medicinal value, and have offered anecdotal evidence of its worth (American Apitherapy Society, 1999). Nonetheless, there are scientifically proven facts about bee stings that are truly good news. Defensive behaviour, which is essentially a reaction of bees to stress, appears on the whole to be genetically and environmentally controlled. The intensity of this behaviour can be predicated to some degree on the basis of meteorological factors, and beekeepers can modify their behaviours accordingly. In addition, beekeepers can both directly defend against stings and exert control over the bees' genetic factors. All of these actions together can help a beekeeper in avoiding bee stings.

Sociobiologists tend to believe that the stinging behaviour of honey-bees arose as a colony-wide evolutionary response to the stress of predation. Though individual bees may die as a result of stinging, the colony as a whole benefits. Descendants of colonies that exhibited a greater propensity for sting were the ones most likely to have survived long enough to pass on the genes of the queen to future generations. The African honey-bee, Apis mellifera scutellata, shows all the traits of having evolved under difficult circumstances.

An unexpected bee sting can be a surprising thing. Perhaps it should come as a greater surprise that only a very few bees within a typical European colony will demonstrate defensive behaviour. Jaycox (1976) puts this number at considerably less than one half of one percent of the total colony population. This is a an amazingly small fraction in light of the fact that failure to defend the nest successfully endangers the colony and its ability to pass on its genetic information to future generations. If sociobiologists are correct, passing on genes to future generations is the major driving force behind evolution. We should be thankful the European honey-bees are comparatively gentle and not like their cousins - Africanised honey-bee.

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By Carl J Weening.
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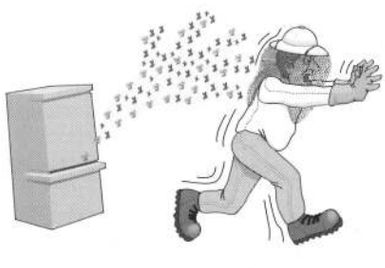


Super Storage

Many of us are short of room for super storage over the winter months. I mentioned this to a fellow beekeeper who suggested using shrink wrapping. I tried it and am very pleased with the result as shown in the photos.

The stack in the foreground indicates the method of stacking that stabilises against the wind.

If storing wet combs it is best to put hardboard on the bottom (or Hardiflex). This will stop bees, waxmoth vermin etc entering. In colder climates storage in the open with exposure to frosts can be a useful way of destroying waxmoth already in the combs.

Using an old pallet stops moisture affecting lower boxes. Old pallets are easily obtained from local carriers, fruit markets etc.

Gary

Dominoes

As children we were often fascinated with seeing dominoes falling one by one along a line. However to see this occur in an apiary is less enjoyable. Sometimes the domino affect is started by cattle but sometimes those of limited intelligence also like to see hives in a domino situation as in the accompanying photo.

Also enclosed is a photo showing a way of placing hives in a row which avoids the domino affect if one is pushed over.

Gary

From the Colonies

by Frank Lindsay

Spring is really here along with the odd shower and a really good snowstorm. The weather is so changeable. One day its as hot as summer, the next is wet and windy. The new spring growth on trees and shrubs in the bush looks spectacular with all the different colours and hues. Everything seems to be flowering and the bees are building up well. The bees brought in a tremendous amount of honey from the willow and this has set them up well for the expected dearth in November.

The other day I walked to the railway station to attend a meeting in the city and was amazed at the amount of trees and shrubs flowering. Lemonwood, Kowhai, Rangiora, Taupata, Karo, Kohuhu as well as lots of garden shrubs, and like many other inner city suburbs, not a honey-bee in sight. We have received at least three calls this spring with the same complaint. People like to see bees around but don't want a hive next door to them.

Around the farms and bush fringes, Barberry, Mingi Mingi, Cabbage Tree and Hawthorn are just budding up. When these come into flower, swarming usually occurs as hives quickly get packed out with honey.

Swarming is said to be caused by the following:

A lack of space for the extension of the brood nest (reversing the bottom two supers assists with this).

Lack of storage room for honey (Add that extra super to give the bees more room well ahead of time).

Crowding of the brood nest. (As above).

Insufficient ventilation and high temperature (crowding outside on a hot day - lift the top mat a little with a twig - add another super).

Lack of vigour in the queen and an intermittent honey flow.

Any or all can stimulate swarming - take your pick.

Make preparations now. Read your bee books on swarm prevention and plan ahead. Consider what you are going to do when you see that egg in the queen cell bud. Cutting out queen cells doesn't generally work. A swarm issues shortly after the first queen cell is capped on the ninth day or soon after, weather permitting. Not when the queens are about to emerge on the sixteenth day.

There are many labour intensive schemes around that help to prevent swarming. LE Snelgrove produced a book on "Swarming Its Control and Prevention" where he uses a screened board to divide the population of the hive. A good read from the NBA Library. Try it once if you like to get the idea. However the easiest method to follow is simply requeen hives every second year, give the bees plenty of room ahead of time and during October, when all the brood is in the second super but extends part way down into the bottom super, reverse the supers to create more room.

For those hives that are determined to swarm, have extra equipment handy and make splits as soon as you see a hive making preparations to swarm. Check your hives every ten days or so by splitting the hive apart between the first and second super and looking for queen cells developing along the bottom bars of the second super. Once cell development has begun, find and put the queen along with two or three frames of emerging brood and a few frames of honey in a super, on top of the existing hive (with the split board entrance to the rear). Plug with grass to stop the field bees returning to the lower hive. (Release next evening). At the flow (December), reverse the hives, old queen goes to the bottom and unite with two sheets of newspaper. Essentially it is better to artificially swarm a hive and unite it back again when the honey flow starts rather than loose your honey crop with a swarm.

Apart from Auckland (where one might encounter small swarms as a result of hives absconding from varroa mite pressure), its time to put out a few bait hives. A super with a couple of old drawn frames and the rest with foundation frames. Close the entrance down to 10-20mm and place the super on a shed roof

or up high somewhere near your hives. Swarms are attracted to apiaries and will quickly find your bait hive.

If you observe the bait hive for a while, you will notice a few bees coming and going and congregating around the entrance. Over the next few days the activity gradually increases until at about 11 am. on a beautiful fine morning, the swarm will arrive. That evening, the swarm can be transferred to your apiary. If you want to use the swarm to increase your hive numbers, order a new queen for it, otherwise leave it for a week or two to establish or until the new queen arrives. By this time the swarm should have produced a little brood making the old queen easier to find and dispatch. If you don't want an increase, kill the queen and unite the swarm to a weak hive using two single sheets of newspaper between the supers so they unite slowly without fighting.

Some queens are hard to find. Dark bees generally run off the frames. A legacy from one hundred and fifty years ago, when the bees that did not run out of a skep during honey harvesting were killed with sulphur. Today a lot of the feral colonies in the bush still exhibit this tendency to run when disturbed.

Generally, the queen can be found on a patch of emerging brood laying in the freshly cleaned cells. Use only a minimum of smoke. As you go through the hive, observe the face of the next exposed frames of brood. She is larger and stands out more against the light. If she is not there, observe the fame in your hand looking systematically across the frame for a gap between the bees. Bees tend to clear a space for her when she is laying but surround and groom her when she stops.

An alternative is to drive the queen into the second super by puffing smoke into the entrance two or three times a minute a part. Split the hive and look for her in the second super. As a last resort, drive all the bees through a queen excluder. She will remain behind but this can be very disturbing for the bees and the neighbourhood.

When found, dispatch her with a hive tool and expose the candy plug of the queen cage and pop in the new queen between two brood frames with the candy hole upwards. If you really want to make sure she will be accepted (introducing a yellow queen into dark Apis mellifera mellifera bees), there are two safe methods you can follow. Kill the queen and pop the cage in without exposing the candy. After four days, open the hive and observe the bees covering the queen cage. If they are grooming the cage, release her immediately on to the frame (handle with care as young queens tend to fly) and watch her for a minute or two. She immediately starts pushing her way through the bees looking for cells to lay in. If the bees pounce on her, cage her again and look for another queen or some queen cells. After another four days try releasing her again. This time it should work. Another method is to use a push in cage. Shake the bees off a frame of emerging brood, push a wire gauze cage (80mm X 80mm) into the surface of the comb, then lift one corner and pop the queen underneath and press the cage down again. The emerging bees will look after the queen and she will be accepted. Remove the cage once she has started laying.

At this time of the year, we get numerous calls for assistance from anxious homeowners saying we have bees in our house, yet they didn't see a swarm. Generally its only scout bees checking out a new home but they are very noisy communicating their intention. During this scouting stage it's easy to put off the bees by spraying a little fly spray in the hole/cavity they are investigating. This kills a few scouts and masks the odour they leave at the entrance, which directs more bees to investigate. Once you see pollen on their legs, a swarm has moved in and its a little more difficult and costly job to remove/kill them.

With all the above in mind, I have been out during the fine weather doing my spring inspection. Clearing away grass and spraying it for good measure. Stripping down hives, replacing broken and dark frames with last year's drawn ones, scraping bur and brace comb off the tops of frames and the sides of supers (into plastic bags for later rendering). Adding a honey super to those hives that have massive amounts of sealed brood and always on the look out for AFB and mites. I have also been marking the queens as I come across them. Actually it's really surprising how many have superceded during the early spring. Hives marked for new queens now have young, fat, downy covered queens laying at full speed. In some hives, the queen cell she emerged from is still intact.

Some hives are now becoming very strong. The first hive I opened the other day was full of queen cells (this was mid September). A reasonable hive, full of bees, but was headed by an old queen with a patchy laying pattern. She was confined to the bottom super, as the one above was full of honey. Nothing much I could do at this stage. Find the queen and put her in a split above the existing hive. I left two or three good size queen cells in the bottom hive and top split and let nature do its thing.

In fact this was the only hive with queen cells I found all day but I did observe a number with a lot of queen cell buds. I'll have to split these hives next time through, as they are likely to swarm if I don't.

Not all my apiaries are well sited and I have one that was near to starvation when I visited it. Happens every year now that I think back and it is also short of pollen as well. Time to make this a seasonal apiary and let the bees build up on better pasture.

The other day I was sitting in front of a hive having my lunch, watching the bees coming in with different coloured pollen and tried to work out what flowers the bees were visiting.

Broom is easily identified. Bright yellow and the bees' backs are covered with pollen from the tripping mechanism of the flower. Pure white had to be from the onion weed. The deep red/purple could be from the native fuchsia but I'm not sure about the rest of the light yellow to darker yellows that were coming in. So many plants are flowering.

Beekeeping now becomes intense with its routine of inspections, checking and feeding. Remember that the bees produced in the last two weeks of October are the ones that bring in the honey during December. Look after your hives, give them room to expand, make sure they have plenty of stores and keep the queen laying so they will be strong at the start of the honey flow.

Things to Do.

Check food and pollen, BL check, raise queen cells, requeen hives with mated queens, swarm control, cull out old frames, remove entrance reducers, and check stored supers for wax moth.

Craft and Control:

Networks, Strategies and Ordering in New Zealand Beekeeping.

The following is part two of a three part series reporting on findings of my Master of Art thesis.

The thesis examines what is happening in beekeeping in the present context of free-trade, and talks about the emergence of new interests and capacities on the part of people involved with the craft.

Chapter two of my thesis, National Conference, discusses proceedings of the 1998 Annual General Meeting and Conference of Branch Delegates of the NBA in terms of the opposing strategies of individuals and groups vying for national control in beekeeping. I compare the approaches of 'wasps' on one hand, and formal position holders on the other hand. Both groups claim to be exercising common sense. 'Wasps' are players who tend to be actively involved in packing, marketing and exporting 'value-added' bee products. They prefer to stick to what they regard as the written rules in order to counter the actions of other players. The other players, such as the National President, are willing to depart from strict applications of the rules in order to advance proceedings for "those lifting the lids of beehives". During the Special meeting at National Conference, one wasp exclaimed that,

...the reason why I raise this issue is because, not because I want to make it difficult for anyone, in fact I want to make the decision easier for the Executive. We've just heard an impassioned appeal by (a retiring Executive member) as to why we should be reasonable about this, and I want to be reasonable, but I also want to follow the rules...(National Conference, 23/7/98).

In the chapter, I also explore some positive and negative consequences of conflict inherent in the democratic process, and uphold the value of meeting face-to-face in beekeeping.

At the closing stages of the Waitangi National Meeting Conference, the 'wasp' quoted above again addressed the audience. He stated,

I would like to say thank you to the Chair for seeing us through this conference. It hasn't been an easy tack. It never is actually an easy tack...I don't envy the task that is ahead of you, but I do say this, that we will continue to chisel away at the outside like we have been doing - I can assure you of that...I'm afraid that's the democratic process that we have (23/07/98).

The wasp's statement alludes to the different factions present at National Conference. It, therefore, hints at the range of interests, needs, and capacities on the part of those presently involved with beekeeping. The statement also reveals how the 'wasp' understands himself as an 'outsider' in the national forum and, by implication, as an 'insider' at Branch (regional) level. My chapter on National Conference is about the ways various industry participants are changing their sense(s) of place in beekeeping, and of the need for 'modern' Conferences to accommodate diversity among 'the membership'.

National Conference is not the only forum in beekeeping where players fight for control. In chapter three, I disclose what takes place during regional Branch meetings when members get together to formulate Branch remits. The chapter conveys how these meetings are about local participants struggling to co-ordinate diverse interests and needs in beekeeping, and to project a particular version of these interests and needs into the national forum as regional knowledge. In Canterbury, the informal and subversive strategies of 'wasps' are matched by the common sense and practical know-how of 'those lifting the lids of beehives', especially as members of the 'Ashburton cavalry'. This is in addition to the administrative and orthodox strategies of Branch players also occupying positions on the National Executive. As the discussions unfold, I note that the tactics of the respective players change, reflecting their varied interests and shifting capacities.

Chapter three, The 'Canterbury' Way, is therefore a case study of the Canterbury Branch of the NBA. In the chapter, I go through the deliberations and conflict between players that results in the two remits concerning the position of Executive Secretary in the Association, and the remit relating to commodity levies. I also trace the interpretation and consideration of these 'contentious' remits at the 1998 National Conference. What characterises discussions during Branch meetings are shared beliefs and taken-for-granted understandings about how beekeeping gets done in Canterbury. This is despite 'loose cannons' within the region choosing not to attend Branch meetings, and stipulations of local farmers effecting changes in pollination practices.

Next month's edition of the New Zealand BeeKeeper will contain the final part of this trilogy of articles concerning findings of my MA thesis. I will report on chapter four where I consider the development and role of electronic mail distribution lists in beekeeping, and on chapter five where I discuss how I set about doing my research and why the research took the form that it did. My contact details are email at b.newton@soci.canterbury.ac.nz, or telephone, after hours, at (03) 337-1929.

Honey Marketing

by Bill Floyd

World Sugar and Honey Prices Up?

The news isn't all bad - NZ Honey Packer's Association President Richard Benseman is predicting an increase in the world honey price. It's all to do with the price of sugar, says Richard. The world sugar industry has had three major natural disasters (leaf spot blight, white cane blight and flooding in key production areas.) These have been severe enough to reduce the world sugar crop by five million tonnes.

As well as that, 25% of the world's sugar crop is used to produce ethanol for energy use. And with the skyrocketing price of petrol there's been a major increase in the use of sugar for ethanol production.

The end result: Sugar prices are up dramatically. And that means two things for the New Zealand beekeeper. The cost of jam production has risen and will continue to do so. So our biggest competitor is having price increases. And most of the world's honey crop is used as a sweetener in food manufacturing where it competes with sugar. So honey's industrial ingredient price is set by the sugar price. Sugar price up and less sugar means honey is used more: and the world commodity honey price goes up. When the world honey price goes up the New Zealand honey price (can go) up as well!

I say "can" because honey is bought and sold in a free market: so pricing still depends on internal competition and individual pricing decisions.

Supermarkets Cull Copy Cats

On the grape vine we hear that some supermarkets are again looking at culling honey products where there are too many 'lookalikes'. The honey industry is not alone with this type of increasing pressure on brands. The wine and spirits industries have had a major reshuffle over recent months and many smaller independent wineries are going to end up off the shelves.

Grocer's Review Magazine makes the comment that insiders agree on one thing: smaller boutique winemakers will have to merge or amalgamate into Cooperatives if they are to maintain their place on supermarket and liquor warehouse shelves. Otherwise they'll be left to survive on mail order, vineyard sales or growing grapes for larger ventures. So for those honey packers who wished they were in a lovely trendy profitable industry like wine,...not so! And those wine companies have massive capital investments in their businesses.

The need to be different, to have something unique about your product, or face falling sales and diminished profits, is true across the whole food and beverage market. As is the need in many small industries to see rationalisation: the development of cooperatives, of joint ventures: and it has to happen in honey as well!

I also believe we are going to see a major surge in the growth and ever increasing sophistication of Community Produce Markets in New Zealand as a reaction to supermarkets culling out regional products.

That will be good, as popular markets will allow traditional vocations like beekeepers to create their own niche market opportunities. Called Farmers Markets in the USA they are huge there! And Supermarket actions will create Community Market Success in New Zealand. Neither the consumer nor regional industry wants, say, just a choice of three brands, and two of them owned by the supermarket chain!

Summer Drink Trends Favour Honey

Six months ago we predicted Smoothies would be a huge summer drink trend. Smoothies are sensational with a little

honey whipped in! Grocers Review Magazine has just done it's beverage predictions for Summer 2000/2001. In are: flavoured milk; smoothies; iced coffee and chocolate based drinks.

Not only is honey perfect with each one but (my opinion) pure clover is the best variety to use. On the subject of which...

What Price Clover ?

When the Marketing Committee developed it's first strategies we worked on the premise that clover's problem was that the polyfloral price dragged it down. Get rid of the polyfloral's and pure clover could get it's true market value, was our rationale. We were right then but the drop in the world clover price since, has meant that even as the darker New Zealand bush honey's have found their own prices, clover honey's value hasn't increased much.

As a mainlander besotted with the sheer pure dazzling beauty of the pastoral gem, I'm miffed that it's not getting what I think is it's real value.

So what would I do if I was a pure clover producer?

I'd demand the NBA (yep I mean the Marketing Committee) and the Packers Association get together and set a definition for clover and make it public, and shame a few packers into backing off from prostituting clover and it's price potential with rubbish blends.

"Floyd's not on again about standards", I hear some of you say.

YES and you know what: with clover I think it could really work! After all, go for 0 to 25 on the pfund scale and you've just about solved it. (Okay that's the first argument).

Yes some Nodding Thistle and some very light Rata could slip in but only if those producers wanted to get less for their honey because good Rata and Nodding Thistle is earning more than clover.

I often get told that clover has no flavour. Slumgum!

A gentle pure clover honey is to a tawny rewarewa what a lovely dry riesling is to a rich pinot noir: two totally different packages of flavour delights each to be enjoyed in it's own right.

So 'mainlanders' form yourselves a group - agree on a definition and lets put some chutzpah back into clover. Count on me to work with you. But you need to be pro-active.

NBA Marketing Plan for 2001

We're still working on the details and the dovetailing within the Executive's broad plan.

My Honey of the Week:

Wet, fermented and spicy.

Doesn't sound too good? You're right if it was a table honey: but this is a bottle of Cottage Wine's Taranaki Mountain Mead. "A special wine liqueur made from manuka honey with a taste of ginger".

And it is superb! I mean delish...! Clean and smooth.

I always remember icon mead maker Leon Havill saying to me that there was 3/4lb of honey in a 750ml bottle of mead. A person could drink a bottle in a night, well not everyone of course...but I could be persuaded...but no one could eat 3/4lb of honey in a night.

There's a few very good meaderies around: Havills, Mark Atkin's Valhalla wines in Wellington and now Cottage wines. I'm sure that's not all, so let me know of others so I can go and seek them out.

It's time we (New Zealand beekeepers) got behind our meaderies and helped then grow. There's no doubt it's a drink that would appeal to the taste palate of young women. But it's also a sensational mixer. Apologies now to all mead purists but this is pure business: mix mead 50/50 with Tequila, serve next to frozen. And you will not believe how sensational it is. (Probably best not to have too many!) It's potent stuff because its so delicious you forget about the alcohol content.

Imagine every New Zealand province having it's own mead style.

The New Zealand Mead industry could be an icon of individual kiwi endeavour. And remember every glass of mead is a glass of honey. I think it's something with huge potential. A pure Southland clover mead with a measure of Glenfiddich (a type of Kiwi Drambuie or Glayva). A full bodied Nelson manuka mead bursting with flavour. A clean tangeriney coloured delicious rewarewa mead from Hawke's Bay. Groups of producers could try contracting out manufacturing to existing meaderies and start to get economies of scale. It's worth thinking about.

Maybe a special Mead competition at next year's NBA Conference?

Olympic Gold Medal for the Honey-bee?

No, unfortunately New Zealand didn't have any athletes that I'm aware of, using hive products.

But I'm intrigued with the notion that some other countries may be using hive products a lot more than commonly realised.

I was amazed at the sophistication of the Cuban hive products industry when I was at Apimondia last year. Their virtual dominance of trade displays to do with hives and health really impressed me. And we know that third world countries are often those that have to resort to folk lore remedies: they can't afford to give huge profits to drug and processing companies.

So...I got to thinking about the research being initiated in New Zealand: concepts like enzyme rich honey's (most New Zealand bush types), having natural steroid - mimic values; enzyme rich honey's (most New Zealand bush types) having significant energy recuperative effects at muscle tissue level, and pollen phospholipid values improving mental acurity...and I note how well the Cuban's did...could it be a case of 'attitude + apis = Olympic success'?

Yeah, yeah, I know: gone a bit far with the extrapolation there. But it's a niggling seductive thought. A good hypothesis to chew on.

And remember: they once laughed at manuka honey!

Propolis

I talked with a beekeeper last week who has suddenly realised that they could make more out of propolis than honey! And of course: it's not a case of one or the other! So the double income stream will have a profound effect on their business.

How many others are ignoring the propolis opportunity? All predictions are that the demand will keep rising.

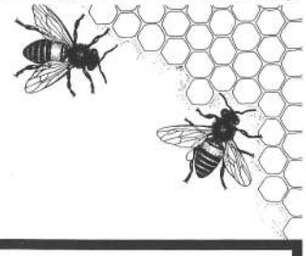
More Clinical trials.

Robert Davidson's own company has just completed a set of clinical trials on Apis Mellifera skin cream.

The trials were carried out by the Wellington School of Medicine on the cream's efficacy in treating eczema. The results will (a little bee tells me) be very good news for hive product credibility.

Some exciting things happening in the industry: it's certainly not all bad news.

So that's all for now: going to go and have a mead margarita and have our first barbecue of the year and watch the sun set. Barbecue is Greenshell mussels brushed with a chilli/kiwifruit/manuka honey sauce and cooked to the point where the mussel meat is falling apart and the sauce has gone rich and caramelly!



The Latest Buzz on Bee Pollen

Mother was wrong. Beauty isn't only skin deep. Proper attention to good nutrition and health practices will do more than just keep the doctor away. Vibrant health imparts a glow no cosmetic preparation can manufacture. The eighteenth-century poet William Shenstone said it best: "Health is beauty, and the most perfect health is the most perfect beauty."

Longevity and the Aging Process

Ponce de Leon didn't have to travel halfway around the world. He might have found what he was looking for in his own backyard if he had been a beekeeper. The products of the beehive have been used as both beautifiers and food since the dawn of time - and just might qualify as the legendary Fountain of Youth fabled in song and story.

In Norse mythology, the secret of the eternal life of the many gods was reputed to be ambrosia. Back then, ambrosia was simply an incredibly rich combination of raw honey and bee bread, another name for the bee pollen that bees store in the waxen cells of honeycomb. This same food was reserved for the original Olympic athletes of ancient Greece to increase their energy and enhance their performances. Ancient texts unearthed in Babylon, China, Persia, and Egypt agree this revered food contains the secret of eternal youth and health.

According to G Liebold, a holistic physician and psychologist of Karlsruhe, Germany, "Bee pollen is an excellent prophylaxis and therapeutic treatment against all the precocious symptoms of old age. It should be considered a universal geriatric treatment in the form of a natural remedy.

"Bee pollen causes an increase in physical and mental abilities, especially of concentration and memory ability, activates sluggish metabolic functions, and strengthens the cardiovascular and respiratory systems. This natural nutriment from the bees removes the causes of cardiovascular symptoms, such as arteriosclerosis, cerebral insufficiency, and other sequelae. It prevents nutrient deficiency during old age, gravidity (pregnancy), and the lactation (nursing) period. Bee pollen accelerates convalescence after illness and/or an operation, increases the body's physical defensive powers of the immune system, stimulates mental and psychological resistance to stress, and creates a harmonising of vegetative and hormonal disorders."

Dr Nicolia Vasilievich Tsitsin, the USSR's chief biologist (and botanist) and an acknowledged expert on geriatrics, spent quite a few years pursuing the secrets of the many in what was the Soviet Union who live extraordinarily long lives. He visited the numerous small villages that dot the landscape high up in the Caucasus mountains, where the air is always clear and sweet. In summer, the breezes there are perfumed with the scent of thousands of wild flowers. The villagers work their small farms and tend their kitchen gardens without the dubious 'benefits' of the space-age technologies employed by agribiz conglomerates. This is one of the few areas left in the world where the old ways still prevail.

The stalwart families who make their homes in the mountainous regions of the former Soviet Union are some of the most long-lived people in the world. On examination, many exhibit signs of 'silent' heart disease, scars of 'silent' heart attacks that would have most certainly been lethal to a modern man or woman. The hard physical work they do every day well into what some of us in the so-called civilised world considered old age plays a part in their remarkably healthy lifestyle.

Dr Tsitsin was amazed to find more than 200 individuals over 125 years of age, all still working every day and participating actively in village life. The hard facts of their daily existence

partially explained the extended life span they achieved, but Dr Tsitsin remained puzzled. He knew there had to be some other factor entering into the equation. He set himself the task of finding the common denominator. Then he stumbled upon it.

These people kept bees. Beekeeping is a profession that in itself historically confers some sort of 'magical' life protection on its members, a fact validated by today's scientific research. Still, only very well informed, modern beekeepers are knowledgeable about the many health-promoting benefits of bee pollen and regularly serve it at table. The villager didn't fit the profile. Dr Tsitsin dug deeper.

He found the answer. These beekeepers, happy and fulfilled though they were with their almost idyllic pastoral existence, were very poor. Bartering among themselves to exchange homegrown or handmade products for services was the accepted way of life. They had little cash available to them, so they regularly harvested - and either sold or bartered away - the pure, clear honey from the combs of their beehives. What they kept for themselves and ate regularly was the thick residue that accumulated on the bottoms of their hives.

When he was served some of the sweet, sticky stuff in the home of one of the villagers, Dr Tsitsin realised that this was the magic elixir that contributed to the remarkable longevity. The tasty but unattractive glob was rich with golden granules of bee pollen.

Dr Tsitsin attributed the remarkable health and extended life spans of these particular Russians to the scientifically documented action of bee poll. He concluded his report by saying "Taken regularly and in sufficient amounts, bee pollen will prolong the life span of man for years."

Another Russian scientist, Naum Petrovich Ioyrish, chief of Academy of Vladivostok and author of Bees and People, agrees. In 1975, Dr Ioyrish reported without any qualification, "Long lives are attained by bee pollen users. It is one of the original treasure houses of nutrition and medicine. Each grain contains every important substance necessary to life."

As one of Nature's nutritive storehouses, bee pollen qualifies as a dynamic vitamin-mineral-and-more supplement. Whether you are interested in putting these golden granules on your menu as a wholesome, whole food or as a natural preventive medicine, the best place for you to find this gift from the bees is your local heath-food store.

Shopping for Bee Pollen

Bee pollen is available fresh, canned, tableted, or capsulised. You'll also find it used as a ingredient in many all-natural formulas targeting specific conditions.

In order to keep them sweet tasting, fresh raw bee-pollen granules must be refrigerated. Each little granule contains a multitude of live pollen spores, tightly packed and tamped together by the bee that collected them. Fresh granules are usually slightly dried to remove excess moisture. The moisture removal consists of sending a controlled flow of dry air over a tray of granules for a short time. High heat is a no-no. Too much heat destroys the nutrients and actually 'kills' the pollen spores. Fresh granules are available in sealed poly bags in weights ranging from one-half pound to five pounds. Look for fresh bee-pollen granules in the refrigerator case of your favourite health food store.

Many producers offer canned bee pollen in half-pound and one-pound containers. Canned bee pollen also consists of fresh granules that have been slightly dried to remove excess moisture. Before the can is sealed, nitrogen is pumped in to force the damaging oxygen out. To make sure you're getting a quality product, look for canned bee pollen marked 'nitrogen packed'.

When shopping for bee pollen in tablet or capsule form, it's very important to make sure the source is reliable. If the label does not state the origin of the bee pollen, it is probably an inexpensive, single-source import. You won't be able to tell if the bee pollen in the finished product is good, bad, or indifferent after it has been ground up and mixed in with the tableting or capsulising ingredients.

Single-source bee pollens just cannot contain all the nutrients nature intended. There's a very good reason for this. One of the most disturbing facts I uncovered while researching bee products is that there is not one area left in the United States - perhaps in the entire world - where the soil still contains a complete complement of nutrients. This fact is substantiated by the soil-nutrient profiles of each state within the United States. It took me three and a half years of intensive research to gather these soil studies together. I consulted every government source I could find, including the United States Department of Agriculture and many county extension agents. I wasn't at all pleased to realise that chemical fertilisers, pesticides, herbicides, soil enhancers, and so on were being used in alarming quantities to try to correct the soil deficiencies people had caused in the first place.

Once I had the soil profiles from every state, I laboriously consolidated and extensively analyzed the mountain of information. What I found was frightening. Thanks to human tinkering with the environment, there is not one state left where the soil still has all the nutrients present that should be there.

If the nutrients are not in the soil, they can't be in the pollen the bees gather from the plants growing in that soil. What this means is that pollens are top heavy in some nutrients, deficient in others. For example, high concentrations of selenium are found in North and South Dakota and in some parts of Colorado, New Mexico, and Arizona. However, the entire Northern portion of the United States from Washington and Oregon to New England - the area that was once covered by glaciers, which left tons of nutrients in their wake - along with the East Coast and most of California have soils deficient in many minerals, including zinc and iodine, and all the water-soluble vitamins. States of the East Coast and in the Midwest are universally deficient in many trace elements, including selenium, one of the important minerals science says protects the hearts. The soils in these states also test very low for the water-soluble vitamins, including all the B vitamins and ascorbic acid (vitamin C).

Here's a big surprise: citrus fruits grown in California, the Golden State, contain 50 percent less vitamin C than citrus grown in Texas and Florida. The soils of California test the lowest of all the fifty states in calcium. However, the California climate offers something no other state can match. California has eucalyptus trees that live a thousand years.

I had to conclude that only a true multisource bee pollen can really be called nature's perfect food. It was certainly apparent to me that the only way to deliver the 'best bee pollen' in the world was to blend pollens from many areas. I really didn't want to go to the trouble and expense of mixing pollens harvested in so many different areas. Why? This is a very costly procedure. I realised the blending process would inevitably result in excessive powdering of the fragile granules, leading to the loss of a high percentage of the product. Still, blending was necessary. Once I knew about the solid deficiencies, I had to do my best.

It's manifestly impossible to shop for fresh foods on the basis of where they are grown. You can't very well go into a produce market and ask for one stalk of broccoli grown in Arizona (for its selenium), another grown in Florida (for its vitamin C), and another grown in Montana (for its trace minerals). Produce doesn't come with a label giving a nutrient breakdown. On the other hand, blended multisource bee pollen really does offer a full complement of nature's nutrients.

When shopping for bee pollen, you don't have to be an expert to judge bee-pollen granules, be they fresh or canned. You can see, feel, and, best of all, taste the difference. Trust your senses.

See. Pour out a bit of fresh pollen and take a good look at it. Although most bee-pollen granules are varying shades of gold,

a good multisource bee pollen will exhibit a mixture of colours. These colours can range from a very pale straw shade all the way across the spectrum through orange, brown, and purple to almost black. Occasionally, some pure reds and beautiful blues show up. Treasure these rarities.

Feel. Roll a granule around. It should be a little soft and springy. Rock-hard grains have most likely been subjected to high heat. Too much heat kills live enzymes, reduces nutrient content. If your bee pollen crunches between your teeth, you can be pretty sure most of the live nutrients and all the vital enzymes have been destroyed in the processing.

Taste. The proof of the pollen is in the eating. Although some high heat treated pollens taste rather good, though very hard and crunchy, you might as well eat potato chips for all the nutrient value they offer. Worse, a lot of imported pollens, even some harvested here at home, are chewy, gummy, and musty tasting. Stale pollen grains are unpalatable. They taste just plain nasty. Even some nitrogen-canned bee pollens have this telltale taste. If they go into the can old and stale, all the nitrogen flushing into the world won't make them taste good. But fresh raw bee-poll granules taste the way flowers smell: faintly sweet and as field-fresh as a sunny meadow filled with spring flowers dancing gently in a warm breeze. Think of chewing on a tender blade of grass or nibbling on a flower petal when you were a youngster and you'll come close.

How to use bee pollen

If you are a beginner, introduce bee pollen into your diet slowly, a granule to two at a time. Whether you are beginning with granules, tablets, or capsules, or a combination formula, follow the label directions.

Once you are accustomed to all the richness, there are many ways to enjoy the sweet-tart tasting granules. I eat them by the spoonful, but you may prefer to enjoy them in other ways. You can reduce the grains to powder by grinding them in a seed, nut, or coffee grinder. The resulting powder mixes with - and improves the nutrient value of - just about anything.

Just don't cook with the granules or add powdered granules to anything that requires heat. Heat destroys the live enzymes and reduces the nutrient value. Otherwise, the sky's the limit. Following are a few suggestions to get you started.

Powder an ounce or two of granules and add cinnamon to taste. Cinnamon adds a delightful spiciness and aroma to the sweetness of pollen. This mixture makes a tasty topping for apple sauce or yoghurt. Or enjoy it "as is", by the spoonful.

Stir powdered granules into vegetable or fruit juices, or even into water sweetened with raw honey. Whirl the powder into protein shakes and salad dressings. Sprinkle whole or powdered granules on toast topped with honey or peanut butter. Stir a spoonful into yoghurt. Top off your morning bowl of cold whole-grain cereal with a sprinkle of nature's sunshine.

The following two bee-pollen recipes come from my daughter. Both are favourites at home. My staff is particularly partial to the candy. When my daughter brings a batch to the office, it disappears in no time.

Honeybee Pollen Candy

1/2 cup bee-pollen granules
2 tbsp carob powder
2 tbsp water
3 tbsp raw honey
1/2 cup crunchy peanut butter

1. Put the bee-pollen granules in a mixing bowl. Dissolve the powdered carob in the water and stir into the bee pollen.
2. Add the raw honey and mix.
3. Add the peanut butter and mix thoroughly.
4. Using a melon baller, form little balls from the mixture. Store the candy balls, which will remain soft, in the refrigerator.

Yield: 18 balls.

Honeybee Pollen Milkshake

5/8 cup nonfat milk
1/2 cup ground bee pollen
1/4 cup carob powder
1/4 cup ground almonds

1. Place the nonfat milk in a blender. Add the powdered bee pollen and carob, and blend well.
2. Add the powdered almonds and blend thoroughly.
3. Pour the shake into a large glass and drink immediately.

Yield: 1 serving.

NATIONAL BEEKEEPERS ASSOCIATION
CANTERBURY BRANCH

President - Richard Bensemann - Phone/Fax: (03) 324-4410
13 Spring Place, Leeston
Secretary - Trevor Corbett - Phone/Fax: (03) 314-6836
80 Glenmark Drive, Waipara, North Canterbury

CANTERBURY BRANCH

OCTOBER EVENING MEETING

Date: **31st October 2000, Tuesday**
Time: **7.30pm sharp**
Venue: **Federated Farmers NZ Building**
78 Armagh St
Christchurch

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

Supper/cover charge $1 per head.

The Christchurch Biosecurity Training and Exotic Disease Surveillance Exercise 19 to 21 September 2000, was well attended with 50 beekeepers from different areas of the South Island. As well as becoming Authorised Persons we had the opportunity to ask a lot of questions of the AgriQuality NZ staff, meet up with old friends and make some new ones. Since the exercise I have had several phone calls from beekeepers wanting to become Authorised Persons.

TW CORBETT
Secretary

From the Franklin Beekeepers Club Newsletter, Oct/Nov 2000:-

October/November in the Hives. Feeding • Pollen • AFB • Requeening • Entrance Reducers • Supering up • Varroa. At our last field day at John and Heather's, I had agonised prior to the meeting, as to my description of emergency requeening by use of a syrup dip for the queen and then tossing her into the new hive, as it is several years since I had carried it out. Ten days ago I found both a queenless hive and a recently starved out hive with a very lonely surviving queen, and having syrup with me, I used that method. Amazingly she sat on a top bar and sipped up syrup and YES, this week she is happily laying in the now queenright hive. So there are occasions when recently starved out hives are found. Always go carefully through the hive and find that last surviving bee, as it is usually the Queen and she alone can restart your hive, providing you can get a frame or two from a friendly beekeeper.

Feeding. A close check must be made on stores as October is still some two months from the main nectar flow, and these warm days with localised mini flows, such as Phebalium, Tree Lucerne and some Willows will have the queen increasing her egg laying rate. Masses of larvae does make great inroads into the larder. At this time, winter's one frame consumption per month may not coincide with the queen egg laying rate and bees may be left hungry.

To feed a starving hive, use a warm thin syrup, three to four litres for a strong hive at least and follow up in about two days as a thirsty colony consumes rapidly before settling down to feed the nursery. Supply some sort of flotation as in the struggle to consume syrup large numbers are drowned and the syrup seems to contaminate and ferment leading to more starvation. In this situation a top feeder laced with bracken or straw prevents mass suicide but flotation and scrambling net does help in the internal feeder. Sprinkle thin syrup over the apparently dead on the floor and you will be surprised on the number that will revive.

Pollen. Shortage in our area is never a big problem, but always check for it's presence at this time, as owing to the shortage of field bees and the huge amount of pollen needed for rearing, scarcity does occur in the odd hive to the detriment of the health of brood and your bees. Pollen substitute can be purchased from Ceracell Bee Supplies. Often a second hive will have an excess of pollen which could save the situation.

American Foulbrood. We constantly push the need to watch out for AFB but with the arrival of Varroa, I believe the situation has become more acute. Strong healthy hives tend to remove AFB dead larvae and pupae and repel robbing tactics of other hives, but a hive weakened by varroa mite are unable to resist robbing bees from your strong hives, thus allowing further infection to occur. So a more careful observance must be kept to catch the AFB at an early stage which is further complicated by the dead from varroa as well as the usual difficulties of recognition in the presence of sac and chalk brood both of which occur in cases of stress.

Each time you go through your brood, run your eye over the recently evacuated brood cells for any dark brown mass. If found, probe with a match sized stick, twirl and slowly withdraw. If the mass ropes out in a thick string of up to 20mm, you have AFB so return all frames and close down the hive before getting in touch with someone who HAS experienced this disease for confirmation. You may need to seal the infected frame wrapped in paper and then into a bee proof plastic bag and bring it to Des, Bob or myself to verify. Too many hives have been destroyed because of the curable disease of sac and chalk broods and now varroa particularly when two or more are present. AFB is not easily recognised without experience.

Requeening. Many of us have difficulty in finding the queen and on the first occasion I was tricked into manning a demonstration hive, a lady who had kept bees for 25 years, told me that this was her first sight of a queen. When purchasing a queen, ask for it to be marked so that you can identify her and thus protect her every time you go through the hive. So often one hears of new beekeepers losing their queen and often the hive, and usually one can put it down to having accidentally squashing her or dropping her away from her home. A dab of twink on her back makes her easily found and makes beekeeping a more interesting hobby.

Queens are available through the post and with the help of our experienced members, easily placed. I find Daykel Apiaries queens phone: (09) 408-5895 among the best and proprietor David Yanke (pronounced Yonky) gives great advice and service. A man who has done more for improving the quality of queen production that any other I know of.

Entrance Reducers. Nights are still cold but as soon as I see my bees cluttering up the entrances, I deem it is time to take off the reducers which I have already done on my warmer sites. At least extend the opening to make it easier to come and go.

Supering up. Bee lingo for giving your bees more living space. If only one box high, a second box should be added as soon as the bee spaces between the frames are filled. At this stage six or more frames of brood will be present, so take two of the oldest brood and place in the centre of the second box, which will encourage both the queen and nurse bees to expand the brood chamber. Replace this brood with fully drawn comb placed on each side of the centralised brood. If you are already two supers high and packed with bees, put on a third box.

Your aim should be to keep the queen and nursery area within these two bottom supers. This is easily achieved by lifting frames full of honey and pollen to the centre of this third box which should have only eight frames evenly spread. Eight frames means less frames to extract and two less bee spaces meaning deeper cells and more honey per box. While the wider frames are easier to uncap.

Swarm prevention. Regular two yearly requeening from reputable queen breeders will prevent most hives from swarming and together with a policy of supering up when the hive is down to about four empty frames of bees, will lead to a

busy, well behaved and happy hive without notions of swarming and leaving home.

Early indication of swarming are the manufacture of queen cells along the bottom of frames, unlike the queen cells appearing on the centre of the brood frame, which is the indication of the growth of a queen to superceed the present reigning queen.

If a swarm cell is found, you should shake of all bees from the brood frames to better find every queen cell, for if only one is left, swarming will proceed. Having done this you will need to requeen immediately for the queen with swarming impulses is difficult to stop.

I would place an excluder under the hive to prevent the queen from leaving and feeding syrup will maybe settle the hive into the belief that the flow is on, which I believe does delay the swarming instinct. Swarming is a natural instinct and the only way the unmanaged bee world can replace the natural loss of colonies through natural disasters.

Varroa. Apistan strips are now being put into the hives of those beekeepers who have applied, by Agriquality directed beekeepers and will be removed by the same people in not less than six weeks and not more than eight weeks.

As the strips contain a miticide, care must be taken that all honey in the hive should be used by the bees and must not remain in the hives where the honey would be taken off for human consumption.

Beekeepers inserting the apistan strips are directed NOT to treat hives containing extractable honey.

As one of the above apistan inserters, I have been amazed at how quickly varroa infected colonies have deteriorated, and also distressed knowing that some beekeepers, in using their legal rights, are not treating their hives, with the result that our treated hives will become more easily reinfected.

Varroa is not here to stay and overseas experience and the rapidity of deterioration we have seen, indicates that those beekeepers unwilling to fight this destructive mite, will soon be forced out of beekeeping by the varroa killing off their hives.

NOVEMBER MEETING

Date:	12 November 2000
Time:	10am Cuppa. Discuss problems. 10.30. Open hives.
Venue:	23 Whangarata Road, Tuakau
Hosts:	Paul and Linda Hughes and 13 beehives. Phone: (09) 236-9235.
Directions:	From the George Street/River Road/ Whangarata Road intersection proceed along Whangarata Road and find number 23 is the second house on the left. There will also be a hive indicating the correct drive.
Programme:	Paul wants to see if the queens he placed in the hives today (29/9/00) have quietened the hives sufficiently that Linda can now hang out the washing. This is the reason for requeening. He would also like to check to see if he is doing things right.

Accidentally left off in the September issue of the New Zealand BeeKeeper, an acknowledgement to Barry O'Donovan for his article on Wasps.

'Possible causes of the recent wide collapse of wasp populations'.

Classifieds

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HUGE VARROA SALE

Due to record (low) sales we are overstocked of many items and therefore offer the following special prices in order to try to move surplus stock "into our bank account". With prices generally rising (who said except honey?), now would be a good time to take advantage of our problem. Special prices apply to cash, cheque or credit card sales only. Goods are offered on a first in first serve basis and apply to stock on hand only (in most cases). No returns or refunds. Prices exclude GST.

Special prices expire at 5pm on Stuarts birthday (15th November 2000)

General Equipment		Current Price	Special Price
Queen Excluders Assembled	per 100	1200.00	1080.00
Queen Excluders Frameless style	per 100	1200.00	1000.00
Galv. Roofs sprung ends	per 100	900.00	790.00
Gloves - USA: Medium only	per 2pr	99.00	59.00
Gloves - NZ: S, M, L, XL	per 2pr	69.00	59.00
Hats - Woven Fabric	per 2	66.00	50.00
Hats - Plastic Dadant	per 2	69.00	50.00
Hive Strappers emlock type bare	per 100	560.00	475.00
Hive Strappers emlock type complete	per 100	836.00	750.00
Jenter Queen Rearing Unit	per 2	299.00	150.00
Honey Gate 47mm Nylon Perfection	ea	60.00	30.00
Honey Gate 60mm Brass & Chrome	ea	65.78	48.00
Honey Refractometer Atago 12-26%	ea	578.00	480.00
Honey Refractometer Meopta 0-36%	ea	255.00	190.00
Liquid Smoke - pillow pack	per 10	60.00	40.00
Liquid Smoke - 450ml bottle	ea	78.00	60.00
Smokers, Italian. 4" Galv smoker	per 2	80.00	60.00
Smokers, Dadant 4" S/S - std or tall	per 2	198.00	149.00
Storeys F.D. Commercial Std	per 100	1038.00	995.00
Frames Hoffman Standard 1000+	1000	735.00	698.00
Beesuits sizes 4 - 13	per 2	227.56	169.00
Jackets - Long Sleeve	ea	84.44	67.55
Veils - buy any 3 - 20% eg. Round	per 3	44.00	35.00
T-Shirts - Bee Healthy Naturally only	per 3	47.88	30.00
Bee Healthy Caps	per 3	53.34	30.00
Books			
Beekeeping is School Grounds	ea	16.44	8.22
Bee Education Resource Pack	ea	24.89	12.44
Breeding Queen Bees	ea	31.06	23.30
Contemporary Queen Rearing	ea	33.33	16.67
Hive & The Honey Bee	ea	128.00	96.00
Honey Bee Diseases & Pests	ea	22.22	16.67
Queensland	ea	34.22	17.11
Stinging Tales of Adventure	ea	22.67	11.34
The Classroom	ea	35.51	17.75
Creative Candles	ea	26.62	19.97

Books Continued...		Current Price	Special Price
How to Make Beeswax Candles	ea	8.53	6.40
Making Craftwax Candles	ea	8.53	6.40
Traditional Candlemaking	ea	23.56	17.67
Honey Bee Colouring Book	per 10	17.33	8.67
Willamena The Wiggly Waggly Bee	ea	11.51	8.63
Honey Bee Study Prints	per 12	79.11	59.33
CD Rom: Honey Bees & Other Insects	ea	62.18	31.09
Wall Chart: The Life of the Honeybee	ea	35.51	26.63
Wall Chart: Info on Topbar Hives	ea	19.56	12.00
Candle Moulds - USA Stock			-50 %
Candle Moulds - European Stock			-25 %
General Plant	**Qty**		
Bee Blower Dadant Petrol	2	1280.00	1000.00
Bee Blower Hitachi Electric	1	295.00	240.00
Drum Heaters - Vertical	1	1230.00	1000.00
Drum Heaters - Horizontal	1	1290.00	1000.00
Pollen Dryer with 4 trays	1	347.00	250.00
Pumps			
Lega 11/4" 1000kg/hr bare	1	853.00	650.00
Lega 11/2" 2000kg/hr bare	2	1088.00	800.00
Lega 2" 5000kg/hr bare	2	1324.00	1000.00
Mono CP1600 75mm inlet bare	1	1690.00	1450.00
Lega 2000kg/hr single speed	1	1890.00	1700.00
Extractors			
3 Frame S/S Lega Extractor	7	422.00	399.00
4 Frame S/S Lega Extractor	9	576.00	549.00
5 Frame S/S Lega Extractor	1	884.00	799.00
Packing Machines			
Lega 400kg/hr Complete	1	8500.00	6900.00
Lega 400kg/hr Head Only	1	5600.00	4500.00
Lega Cut-Drop System	1	1050.00	900.00
Plastic Goods			
Roofs (too small, can be fixed)	min.20 179	13.33	6.00
Multi Bins	min 10 106	18.00	10.00
Wax Moulds 8kg Rectangular	min.20 239	6.40	4.50
Drum Lids 620mm	min.10 43	16.00	10.00

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BEEWAY

Don't Throw those scrapings away

Most beekeepers scrape the top bars of their hives when they make their first spring visit. But unfortunately, they usually throw the scrapings on the ground.

Hive scrapings can be valuable, as illustrated by this example. Several weeks ago, Andrew was given some beehives by a friend of his grandfather's.

During our initial inspection, we chose one of the hives at random. The hive wasn't anything special, but had been fairly well looked after and was fairly typical of the standard you find in many commercial outfits. We gave the hive a simple scraping along the top bars, and also scraped propolis from lid. As we scraped, we graded the material and separated obvious wax in the form of burr comb from the browner, stickier propolis. The whole job only took a couple of minutes.

When we got back to the factory and weighed the scrapings we were amazed to find they weighed 156 grams. Andrew, who is a good judge of these things, reckoned the material was at least 50% pure. So those couple of minutes were worth about $11.85!

(This was taken from Comvita's PROPOLIS Newsletter - Issue 3 - August 2000).

Following the sad passing of our Librarian the late John Heineman, the Executive welcomes Mrs Chris Taiaroa to her appointment as Honorary Librarian. As a trained librarian Chris comes well qualified to the position and of course she has an in depth knowledge of Beekeepers and their needs and interests.

We are still in the process of developing Terms of Reference but I do not believe they need be too onerous. Borrowers will be expected to meet any disbursements, including postage, phone calls and any costs involved in overdue follow-ups.

The Executive acknowledges there has been delay in re-establishing the Library but feel sure Chris will maintain the standards set by our past Librarians Chris Dawson and John Heineman.

Lin McKenzie

Starvation

Starvation was mentioned briefly in a recent ABK. It's a problem commonly found at this time of year so a little repetition won't go astray.

Starvation ranks with disease as one of the great killers of honey-bee colonies. In the natural environment it is one of nature's stratagems for sorting out the weak from the strong. Colonies which can survive the rigours a long periods of no food are fit to live in that environment. However, in the managed colony, starvation is usually a sign of poor or inadequate management.

The signs of a starved colony are very clear. They are:

1. An absence of stored honey. Very occasionally an odd sealed cell of overlooked honey or pollen can be seen but this is the exceptional case. Occasionally colonies will die of starvation in very cold winters when the winter cluster becomes isolated in an area of the hive away from the main honey stores.

2. Worker bees will be found dead between the combs or on the bottom board. Many bees may be found head first into the cells of the combs.

3. An almost complete absence of unsealed brood. Often starving colonies will eat their eggs and larvae although some remnants of both may be found, looking very much as if they have suffered some disease condition.

Colonies may die of starvation at any time but the period from mid-winter to early spring is the most common time of greatest losses. This is the time of greatest food demand in the colony's reserves and also the period when the colony strives to build up the population necessary for swarming and gathering the next season's crop.

Colonies which have been too heavily robbed in autumn and not had access to a late autumn or winter flow are at most risk.

Overcoming starvation

It is essential to assess the viability of the starved colony before undertaking any remedial measures. The queen must be present and there must be enough bees to make the revived colony worthwhile saving. Otherwise uniting the starving colony onto a more prosperous one, although a risky business, may be the best option.

Colonies which are found on the verge of starvation can usually be saved by an immediate donation of honey from a strong healthy colony which has surplus stores. Of course feeding honey is liking feeding a time bomb - it may carry the viruses and other disease organisms of its creating hive. But, from an immediate economic point of view it may be the best option. The rule here is NEVER feed extracted honey and NEVER feed comb honey from an unknown source.

The best food for a starving colony is a sugar syrup mixed to a ratio of three parts of sugar to one part of water. To make this solution the sugar will have to be boiled and fed when warm to cool. Do not give more than 0.5 litres at any one feed and discard any food not consumed inside 48 hours. Food should be given inside the hive and in such conditions as will avoid robbing. After a few feeds on the heavy syrup the amount of sugar can be reduced as the colony starts to store it as honey.

Do not worry about pollen feeding until such time as the colony is fully recovered and showing signs of egg laying. This may be anything from a few days to two weeks after the first recovery feed.

Government approves prophylactic treatment of beehives.

The Government has approved a programme of targeted prophylactic, or preventative, treatment of beehives.

The aim of the programme is to reduce the spread of varroa during kiwifruit pollination, while minimising unnecessary use of treatment chemicals.

The programme also provides for the treatment of hives being moved close to the movement control boundary with the lower North Island. This recognises the need of beekeepers to move hives for honey production, while reducing the risk of varroa spreading to the lower North Island.

MAF is working with the beekeeping industry to prepare a two-year varroa management plan. This will be presented to Cabinet in late October. Cabinet has authorised an immediate start to the hive treatment programme because of the need to move pollination hives.

Cabinet approved the treatment plan on October 9. Treatment will begin as soon as eligible beekeepers can be mailed details of the programme and application forms.

The Government will cover the immediate cost of treatment materials only. Beekeepers will be responsible for inserting and withdrawing the strips in their own hives.

The following hives will be eligible for treatment under the programme:

* All hives eligible for treatment under Phase I that are being moved to pollination sites (i.e. hives that are known to be infected, or have a high probability of being infected). Treatment of these hives will be compulsory, and movement permits to pollination sites will not be issued unless the hives are under treatment.

* All hives being moved into pollination sites where varroa is present, and where there is a high risk of varroa spread. This includes the infected region around Auckland, and all sites within 5km of the infected apiaries in Te Puke. This covers many of the pollination hives being moved into Papamoa and the central Te Puke kiwifruit area, including No 1 Rd, No 2 Rd and No 3 Rd. Treatment of these hives is voluntary.

* All hives being moved from the North to within 10km of the upper/lower North Island boundary line. This treatment is compulsory, and hives that have not been treated will not be issued movement control permits. As these hives are being moved to honey production sites, beekeepers will probably choose to begin treating them while they are in pollination, before they move to the boundary area.

Strips will be made available to beekeepers whose hives are eligible for treatment, who agree to use them according to label conditions, and who are prepared to return the used strips after pollination. Beekeepers who do not return the strips will be invoiced for their cost at the market price. This measure is to prevent any attempts to stockpile strips for later use.

Further information, including forms to request treatment strips, will be mailed out to known affected beekeepers immediately.

RECIPES

Honey Brownies

1 1/2 cups flour
1 tsp baking powder
1/2 tsp salt
1/2 cup butter
3 oz unsweetened chocolate
1 egg, beaten
1 tsp vanilla
1/3 cup sugar
1/2 cup honey
1/2 cup nuts, chopped

Sift together first three ingredients and set aside. In a heavy-bottom saucepan melt butter and chocolate squares, stirring constantly. Set aside to cool. In a separate bowl combine beaten egg, vanilla, sugar and honey. Stir dry ingredients into egg mixture alternately with chocolate mixture. Do not overmix. Fold in nuts. Spread in a 9-inch square greased pan. Bake in 350°F oven 25-30 minutes.

Granny's Honey-Baked Chicken

1 small chicken (2-3 lbs) cut up
1/2 cup honey
1 cup barbecue sauce
1 tbsp lemon juice
1 large onion, chopped
1 lime, thinly sliced
Salt and pepper

Arrange chicken pieces in a baking dish. In a small bowl combine honey, barbecue sauce, lemon juice and onion. Salt and pepper chicken. Pour honey sauce over pieces. Cover dish and refrigerate several hours. Remove dish and let warm to room temperature. Arrange lime slices over chicken. Bake uncovered in 325°F oven approx an hour. Turn chicken pieces once during baking process. Increase oven temperature to 350°F the final 20 minutes.

Honey Oatmeal Yeast Bread

1 cup milk, scalded
1 cup rolled oats
1/3 cup shortening, softened
1/3 cup honey
2 tsps salt
2 pkgs active dry yeast
1 cup warm water
2 cups whole wheat flour
2-3 cups all-purpose flour
1 egg, beaten

Pour the scalded milk over the oats. Stir in shortening, honey and salt. (Use large mixing bowl.) Let cool. Dissolve yeast in the cup of warm water. In a separate bowl sift together flour. Into the scalded milk mixture stir the dissolved yeast, beaten egg and half of the sifted flour. Beat till smooth. Stir in remaining flour till batter becomes stiff. (Only enough to make the batter stiff.) Turn into two greased 9x5 inch loaf pans. Cover and let rise in a warm place to half above pan. Bake in preheated 350°F oven approximately an hour.

IMPORTANT DATES FOR 2000

BRANCHES SEND YOUR MEETING DATES IN FOR 2000. NO CHARGE.
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AUCKLAND BEEKEEPERS CLUB INC
Editor: Colin Bell
Phone: (09) 818-4325

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

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

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

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

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

MARLBOROUGH BRANCH
We are holding a Deca course and exam at the end of April.
For application forms and meeting dates 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

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

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

OTAGO BRANCH
Phone: Mike (03) 448-7811

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

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

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

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

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

WAIKATO BRANCH
Call Tony: (07) 856-9625

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

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

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