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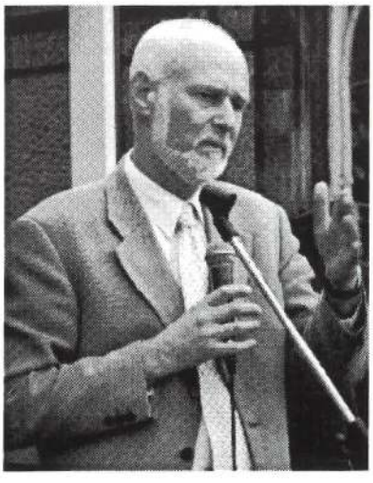
The New Zealand BeeKeeper

GE - a multi-dimensional issue, says Minister of Science Research and Technology Pete Hodgson.



In this Issue

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Beekeepers and the Animal Products Act

"Your missing finger will earn you credibility points with the beekeepers," advised Paul 'you-can-bank-on-me' Bolger during the lead up to the National Beekeepers Association annual conference in Queenstown.

Paul didn't anticipate the first beekeeper MAF Food's technical advisor (Animal Products Group) would attempt to win over with his potential source of credibility would be Graham Cammell. Outmatched on the missing digit front, Glen Neil decided for the rest of the conference to stick to matters of government policy.

The Ministry of Agriculture and Forestry (MAF) creates opportunity for, and manages risk to, New Zealand's food, fibre, forestry and associated industries.

MAF Food administers the Animal Products Act (APA) 1999. The Act regulates the production and processing of animal material and animal products to:

- Manage risks to human or animal health
- Facilitate overseas market access

The Act defines an "Animal" as any member of the animal kingdom, and includes any mammal, bird, finfish, shellfish, reptile, amphibian, insect, or invertebrate..

Under the APA, all beekeepers who extract honey are defined as secondary processors. This definition also applies to those who prepare comb honey for sale.

Processors who need an official assurance for export purposes (i.e. an export certificate) are required by the APA to develop and implement a Risk Management Programme (RMP). At the NBA Conference I advised beekeepers that the APA would require this by November 2002. This deadline is currently being reviewed, however. I will update you as soon as possible.

A processor (including anyone extracting honey) who wishes to sell product on the domestic market must comply with the Food Act 1981, or implement an RMP. The Food Act option requires either a Ministry of Health-approved Food Safety Programme (FSP), or complying with the requirements of the Food Hygiene Regulations 1974.

Discussions with the NBA Executive and other beekeepers leaves me in no doubt that almost all honey houses need to be certified to export standards, as beekeepers are often unaware of whether their honey will be sold locally or exported.

Implementation of RMPs across an entire sector requires guidance. MAF Food is working with the NBA Executive and a team of industry volunteers to draft a Code of Practice. A two-day meeting in Wellington in August resulted in considerable progress.

Meeting participants felt the code should be published as soon as possible, despite the current uncertainty about the deadline. The code can be used as a template for processors to develop and implement their individual RMPs. Expect to see a draft next month.

It is important to point out that beekeepers who harvest honey from hives and have it contract-extracted, do not need an RMP – unless they further process it. An RMP is required for all products intended for human or animal consumption – from honey to venom and even wax if sold in the form of comb honey.

- For further information on the APA visit the MAF website www.maf.govt..nz
- For further information about the code, contact Glen Neil at MAF Food, e-mail: nealg@maf.govt.nz or phone (4) 498-9934.
- Alternatively you might like to speak to one of the working group members: Jane Lorimer, Phillip Cropp, Allen McCaw, Barbara Bixley, Barry Foster, Chris Elmsly, Don Stedman, Ivan Dickinson, John Rawcliffe, John Wright, Mike Stuckey, Russell Berry, Steve Olds, Sue Johns, Tony Taiaroa

Letter to the Editor

I read with interest the last letters to the editor and in particular comments of George Jonson of Taranaki where he alleges a Bay of Plenty beekeeper has approached farmers south of the line to place beehives on their property.

First, I would like to state that I am not that beekeeper nor in anyway agree with such an action. George along with other beekeepers south of the line seems to like to portray the beekeepers in the infected areas as a pack rogues. In fact many of us have suffered great personal loss and hardship. I believe 99% of the beekeepers have respected and co-operated with MAF Biosecurity regulations, while only the other 1% have not. I personally resent being implicated with a small percentage of rogues.

My family and I have been beekeeping in the Bay of Plenty for nearly 50 years now and I would like to point out some facts that are directly related to our business. As the pioneer of kiwifruit pollination nearly 30 years ago, I have seen this industry grow very large and beekeepers from outside the area like Auckland literally put bees on our back door. I have no problem with this because it is a matter of their livelihood. When the mite was first found, my reaction was – it is here, we now have to learn to live with it and beekeepers from outside areas will still have to bring bees into their orchard clients in the bay to make a living - hence the mite infection we have in our hives today! Then someone drew a line in the sand and said this is north of the line and this is south of the line, and divided even more an already fragmented beekeeping industry.

I have followed by the letter of the law all bio-security regulations and have been very co-operative with MAF and AgriQuality with which I have a very good working relationship. We have kept bees south of the line in a remote valley for a few years until last December when we could not put bees into these apiary sites due to the movement controls. This cost me tens of thousands of dollars in loss of Manuka production. I wish to say here that MAF has acknowledged part of my claim for this, which I am grateful for.

Mr Jonson, I would like now to point out that a prominent beekeeper from down your way who in the past, to my knowledge, has not kept bees in the area south of the line where I keep bees, recently canvassed all my farmers and told them that Mossop's Honey cannot put hives on their property this year because of the MAF movement controls. He asked for the farmers' permission to put bees on my sites, offering to pay money and honey for the use of the sites! This beekeeper does not as a normal practice offer money for any of his new or existing sites, so this offer was unique to this situation and was his way of trying to take over our sites. This is a slap in the face in light of the loss already suffered due to the movement restrictions put in place to protect this beekeeper and others. I have been conscientious in doing my part in trying to slow the spread of the mite south – but what for – to protect a fellow beekeeper like this who is out to take advantage of my misfortune. I wonder - who is the real rogue?

Instead of complaining about beekeepers north of the line perhaps you could bring into line the ungrateful and self-centred beekeepers in your midst. What I have stated I can prove through written statements from farmers, but I rest my case here as I am busy battling the mite and fighting for survival with the major economic changes and cost increases of mite control. But somewhere in the bottom of my heart I would like to think that beekeepers south of the line would begin to acknowledge the hard work and losses of beekeepers in the north who have done their best to help slow down the mite movement south. It would be encouraging to hear some acknowledgement of our sacrifice and a simple thank you occasionally.

I remain an eternal optimist.

Neil Mossop
Bay of Plenty

Hive maintenance reaches its peak

Frank Lindsay

October, November and December are the most import months in the beekeeping calendar. Everything is full on to secure a honey crop.

The bees are building up quickly and must be given ample room, otherwise they will swarm. Actually, swarming is not really a quick response as it generally starts a month beforehand with the production of drones. Next can be seen the production of queen cell buds along the top, bottom and edges of the combs. The bees like to have these cells in the hive, so it's no use removing them all, as they will simply rebuild them again

I generally remove the queen cell buds along the top bar and comb edges, but leave those along the bottom of the comb. This makes it easier to do a quick inspection for queens cell production. Split the hive every 10 days and look along the bottom of the frames in the top rood super for queen cell development.

With a young queen, the buds generally stay buds and are there just in case. However a second year queen (or older) usually has a spurt of egg-laying in the early spring that looks great, but can't keep up with the ever-increasing egg production. This creates an imbalance in the hive. Her pheromone levels decrease, causing some of the worker bees' ovaries to develop. This triggers them to construct queen cells..

The workers polish them, making them receptive for the queen who lays in them and then everything goes into reproduction mode. Once you see eggs or larvae in the queen cell buds you have to act to prevent the hive from swarming.

Simple steps can be taken to reduce the chance of swarming. Reverse the bottom two brood supers every month so the main brood super is on the bottom. This helps to stop congestion and gives the queen somewhere to lay.

When you discover queen cell development, there's only one practical thing that can be done. Artificially swarm the hive. There are several methods. Some are easy, some more technical and time-consuming. One of the quickest is to remove most of the field force by bodily swapping the swarming hive with a weak hive. Another method and one I prefer, is to make a nuc using a queen cell from the hive.

Take four frames of emerging brood and bees and a frame or two of honey and place these above the colony on a split board with the entrance to the rear. Move the remaining brood frames into the centre of the super and place drawn frames outside these. Order a new queen as the new one you are raising in the nuc could have a propensity to swarm.

When she arrives, find the new queen in the nuc, dispatch her and put in the purchased queen. After 10 days, check that she is laying OK and then, when the main flow starts, unit the top unit back on the original hive with newspaper..

Most commercial beekeepers are into a 10-day regime of inspections, feeding and requeening.

Requeening consists of removing the old queen, leaving the hive queenless for a day and then putting in a caged queen, which will be released when the bees chew through the candy plug.

I don't like this idea, as it doesn't allow for failures. If everything is perfect, then you get a 90%-plus acceptance, but not everything goes to plan and some queens are lost during the process. I prefer the nucleus method of requeening.

Make a four-frame or six-frame nuc as above. Provide extra bees by shaking them off another brood frame to make up for field bees returning to the old hive. (You don't have to do this if the nuc is removed to another apiary).

Block the entrance with a loose plug of green grass (enough to prevent the bees emerging).

I recommend you remove the attendants from the cage and place the cage in between the brood frames, candy exit facing upwards. (You can get rid of the attendants by releasing then inside against a window one at a time - hold your thumb over the hole when the queen tries to get out).

Don't do this outside, or the queen will fly away if she gets out. If she does escape, leave the cage for a few minutes on top of the hive you were working. Stand back and she might return in a few minutes to the cage. If not, look along the entrances of other hives for a ball of fighting bees. If there is one, she'll be in the middle.

Pick the lot up, move inside or into a vehicle and remove the worker bees one at a time from the queen and re-cage her. (Often when a queen is being balled, the first indication you get is that you hear her piping: "peep, peep, peep" quite loudly).

During November, there is generally a period of dearth. Hives quickly use their honey reserves and starve. Keep an eye on your hives and feed if they have less than three frames of honey, (one weeks supply of food).

Super well ahead of the hives requirements. Every 21 days you will have another super of bees emerging and they need somewhere to go. Add the odd frame with foundation inter-spaced between the drawn frames to give the bees something to do on those wet days. If you are a new beekeeper and are not quite sure if the hives is getting crowded, look along the bottom of the frames in the bottom super.

If eight of the 10 frames are covered with bees, it's time to put on another super.

Another reason to get the honey supers on early is that you don't know when the flow starts unless you have a hive on scales. Sometime the flow is only one to two weeks long. By the time you see the top super is full, it could be all over. Better to over super the hive so you don't miss out on the extra super of honey.

Swarms

Catching these can be an interesting experience. Generally, a newly-emerged swarm is easy to handle. Don't take it for granted that the bees will be gentle. Always wear your protective gear just in case a few turn nasty.

Shake most of the cluster into a super or a cardboard box and the rest will march in. Once you see the bees starting to come out again, block up the super and remove it.

I carry a cardboard box and a large piece of shade cloth to wrap the box in while it's being transported. This provides plenty of ventilation and stops any bees escaping. If I see the queen in the swarm, I cage her.

Advise the landowner a small cluster of field bees will gather in the evening and it's best they be dispatched after dark to prevent agitated bees flying around for the next few days. If the swam is close to home, leave it until dusk and remove them when all the bees are in the super / box.

However, there are some tricks that will assist you.

When you get the swarm home, add a frame of unsealed brood to the swarm. A virgin queen sometimes heads swarms and these swarms don't generally settle in a hive for long. With a frame of brood, the bees will stay in the hive you have set up for them. (Don't forget to order another queen).

We get called that a hives has swarmed into a house. On questioning, you might find it's just bees investigating a new hive site.

Questions to ask:

- How many bees are coming and going?
- Are they carrying pollen?
- Are they still there in the evening?

If not, tell the house owner to block up the hole (plastic shopping bags do fine) and spray the area with fly spray. This will mask their scent marker and kill any bees that come into contact with it. As a service, you could leave a nuc box there for a week to catch the coming swarm.

Getting bees out of hedges, off posts, or off a house is easy if you use a little benzaldehyde on a paper towel. The gas helps to drive them down into your box and is much easier than smoking the branch and upsetting the bees.

Use the same method if the swarm has just gone into a house wall. A squirt in the entrance will bring them piling out again. Use the shade cloth to make a net to hold them in; otherwise you will have to wait another hour for them to settle into a cluster.

Don't work over your head on a ladder. It's dangerous and not worth the risk. Use a rope over a branch to bring it closer to the ground or just forget about it.

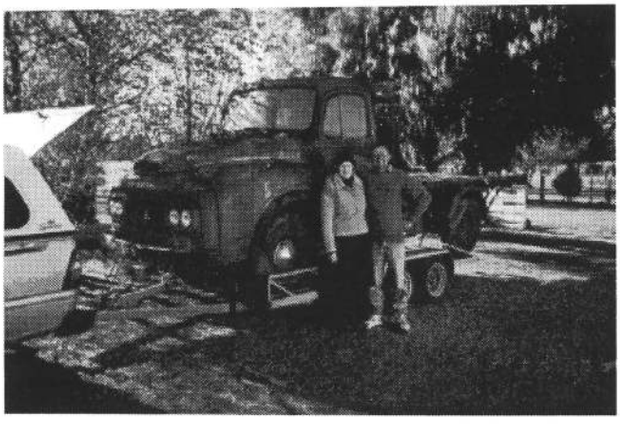
And what should you do with all the swarms you catch that you don't really want?

Pile them up as one hive, using split boards, and when the flow starts, remove the split boards and replace with two sheets of newspaper. With luck the combined swarms will fill every super with honey. A bonus in drawn frames and more honey than first envisaged.

Things to do this month.

- Check stores and pollen. Feed if necessary.
- AFB check if not already done.
- Raise queen cells and put them into nucs.
- Continue to cull old frames and introduce new foundation frames into the honey supers (third super).
- Air the stored supers ready for the flow. I leave entrance reducers on all year round, as the hives tend to produce more honey that way.
- Have fun beekeeping!

Prospects brighten for old Austin



One final family photo - Charlotte and Peter Ferris get ready to farewell Austin..

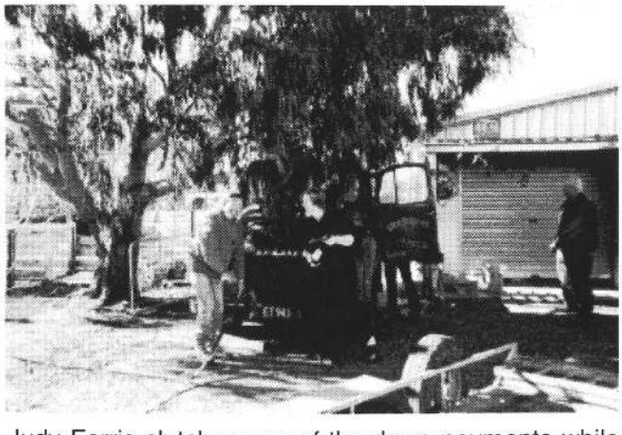
Some readers may recognise the above, well-known Masterton beekeeper who has had a 1962, two-ton Austin truck stored behind his honey house for a number of years.

He learnt to drive in this truck on his uncle's farm and had grand plans to eventually restore the truck to its former glory. Sadly, it just sat behind the honey house and nothing happened.

Eventually, a solution was found. In exchange for some bottles of red wine (not Martinborough), the truck was towed out from the paddock and into the yard, then loaded on to a trailer for destination Wanganui.

Built in 1962 and only driven 25000 miles (35,000km), the truck is complete but unfortunately not driveable, having been stored outside for the past eight years. However, the tyres were pumped up and it towed out without difficulty.

Eventually it will be restored and used by another person with a dual interest in vintage vehicles and beekeeping.



Judy Ferris clutches one of the down payments while Peter Ferris secures a rope fitting to the 1962 Austin.

Certification needed for all beehives

The Certificate of Inspections will be sent out to all non-Disease Elimination Certification Agreement holders.

It is important to have all hives inspected thoroughly for disease and the relevant forms checked and signed by an approved beekeeper before they are sent back to AgriQuality NZ Ltd.

The onus is on the "approved beekeeper" to make sure the compulsory sections are all completed. Details will then be provided of the landowner, that person's address (including a rural rapid number on the white marker outside their residence), hive location and grid reference. This information is essential in locating hives during an emergency response and for audit purposes.

Hives are considered abandoned if they are in an overgrown condition and haven't been looked at for a few years (i.e., they are difficult to get apart to inspect).

Beekeepers who find any hives they considered to have been abandoned or not registered should report them to AgriQuality NZ Ltd or Tim Leslie at Federated Farmers, Wellington.

Busy time ahead for beekeepers as hives reawaken in spring

The first two months of spring are the most important months in beekeeping. Brood production has been stimulated by early nectar and pollen sources and we must see this is kept up, providing room and yet preventing swarming.

There is an easy way to determine when a hive needs supering. Tilt the supers back and look along the bottom of the frames in the lower super. If the bees are covering all but the outside frames and the bottom bars of the rest, it's time for another super.

City beekeepers must be alert to this - strong, early flows either lead to honey production or swarming.

Spring inspection

Choose a warm day when the bees are flying to do your spring inspection. Read your bee books or AgriQuality's "Honey Bee Exotic Diseases and Pests" pamphlet to refresh yourself on disease symptoms. An inspection can take awhile, so have a cover or an extra crown board handy to cover those supers not being worked on.

Place the roof in front of the hive and the supers on top of that, exposing the hive floorboard. Remove the floor and inspect the hive foundations.

Most of my hives are on pallets to keep them off the ground and now need replacing. Hives must have a firm foundation.

Replace the floorboard and check that it has a slight slope towards the entrance of about 1cm. If it shows signs of rot, replace it, as it has to carry a tremendous weight during the year.

Brother Adam was a stickler for hive hygiene. He recommended cleaning floorboards of any hive debris, as this is a source of infection. He would scrub them each spring and every four years soak them in a caustic soda/water solution (one pound to 25 gallons). They would then be scrubbed clean, dried and repainted.

I scrub mine using a Janola® (Sodium Hypochlorite) / water mix. I rinse that off with clean water, then remove excess water with a cloth.

Replace the bottom super on the floor and cover the other exposed super with a cloth or crown board. Gently prize up the outside frame and place this against the entrance. The frame and super should be dry inside. Mould or dampness on the outside frames or inside the super indicates that more top ventilation is required. (Put a twig under each corner of the crown board or top mat when reassembling the hive.

The twigs should be just a bit smaller than the diameter of a bee, to prevent robbing.)

Inspect all the frames for American foulbrood scale and capped brood cells that remain from last year. Any bees on the frames can be removed by a quick jerk of the frame into the super. If you find any odd capped cells well away from the brood, flick off the capping with a hive tool and inspect the cell. It will probably be a chalk brood mummy but it pays to check, as this could be a source of further disease.

As you inspect each frame, scrape off the propolis between the frames so they fit snugly together. Keep the scrapings as these can be sold. Most hives contain $2 to $5 dollars of propolis so why not get paid for your efforts.

Close fitting frames assist the bees to expand the brood nest, so never split the brood nest or add new frames to the middle of the brood nest until the main honey flow is underway. Replace any heavy, dark frames you can't see light through after holding them to the sun, and any with masses of drone brood with frames drawn out on last year's honey flow.

Do not put any foundation frames in the bottom super, as the bees tend not to draw the foundation all the way to the bottom bar. Place the second super on top and proceed to clean the frames and check the brood area for disease (i.e. sunken or holed cappings in the vicinity of emerging brood. Most probably this will be just a larvae being capped. But it pays to check and get used to seeing what healthy brood looks like).

If you are not sure what you are looking at, get another beekeeper to assist you. If you are still not sure, contact your local apiary advisory officer who will send an AP2 person to visit or get you to send a sample to the laboratory for analysis.

Looking at brood frames is like reading a book of the past two months of the hives activities. You can clearly see the bands of brood, progressively getting bigger as the population of the hive increases.

Notice the spotty appearance of the brood in the centre, yet the new brood on the outside will have a uniform appearance with no missed cells. The initial spotting was caused through Nosema or insufficient protein, but generally clears up when the bees begin gathering fresh nectar and pollen. If the spotty brood appearance persists, it could be a number of things.

In the morning, check the hives have pollen stored in the frames. If none, consider feeding pollen supplement.

Check an area of unsealed larvae. Are they all the same age or do they vary from cell to cell in size? The latter indicates an old queen or nosema. If the queen is shiny and has worn wings, then she is old and should be replaced.

Are there many old, dead bee bodies on the ground just in front of the hive (i.e., 100 or more old bee bodies or bees on the landing boards with distended abdomens and unable to

fly)? Grab one, remove its head and pull out the mid-gut by removing the stinger. The ventriculus should be the colour of pollen or darker.

Light or white is an indication of Nosema but this should be confirmed by microscopic examination. Hives can be medicated with Fumidil-B® but that must be applied six weeks before the main honey flow.

Honey produced from medicated hives is excluded for certain export markets. In the long run, Nosema is a management problem.

Three frames in the brood nest should be replaced each year. Apiaries need good pollen supplies nearby and hive need morning sun and a good airflow around them.

Take note of any hives with large patches of drone brood. That shows good health and indicates the bees have latched on to good supplies for nectar and pollen and could be preparing to swarm. Check the hives every 10 days for queen cell bud development along the bottom bars of the second super. They are the first indication of swarming.

Do not remove them but monitor their development. Once you see an egg or larvae in the cells, split the hive or take off a nuc to prevent swarming.

Continue inspecting all the frames, replacing any old or rotten ones. Assess the honey reserves and try to always keep three full frames of honey in the hive. This is about one-week's food for a strong hive. If the food reserves are below this level, add a feeder and start feeding thick sugar syrup or add frames of honey you have been holding back for this purpose.

Strong hives can be given raw sugar as this takes the bees considerable effort to convert to nectar so won't be a stimulant to induce swarming.

Frame Assemble

Before assembling frames I used to soak the ends in 1cm of Metalex for an hour to prevent rotting lugs. It is no good if you want to collect propolis straight away, but does give frames extra life.

These days, using a paraffin wax dipper, I dip the whole top bar into wax for a few minutes or until the bubbles stop rising. A piece of wire netting can be spread across the dipper and pushed into the base so each end is bent over the outside of the dipper. Free all the top bars from their packing strap and place gently into the melted, a few at a time so they don't splash or stick together.

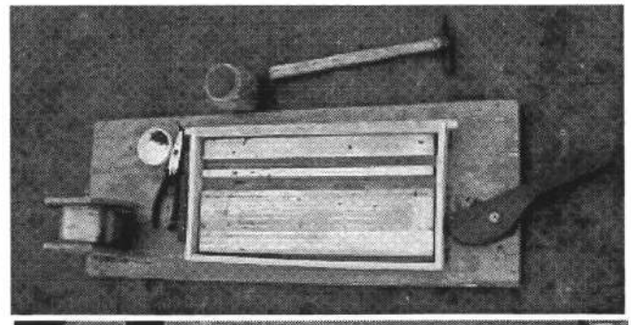
Hold them under the wax with an inverted "T" stick until they stop bubbling. Then lift out the wire netting (with all the top bars), allow to drain, cool, and then stack them back into a cardboard box. A few will be warped but not many, if the frame-manufacturer has selected straight-grained timber.

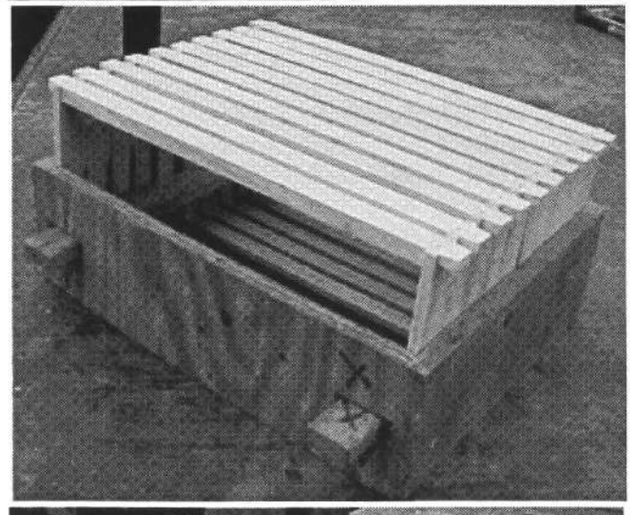
Use cement-coated nails which don't easily pull apart (commercial beekeepers use staples).

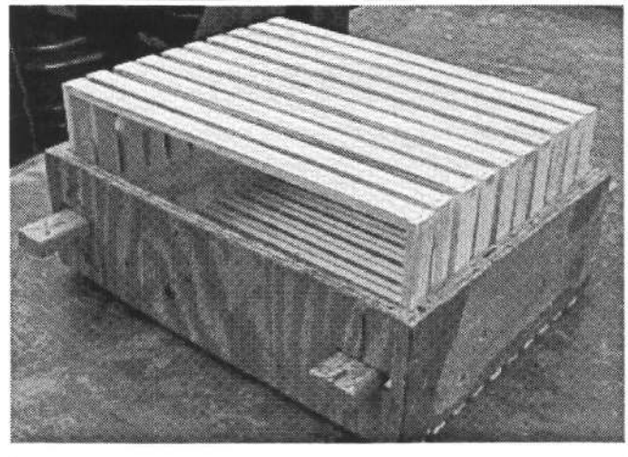
Avoid bowed frames. Check by lying on a flat surface and see if all corners touch it at the same time.

Frames can be glued just before assembly or the top bars locked in by driving an additional nail from the top of the side bar into the top bar.

Frames can be wired ready for waxing but don't imbed the wax into the wire until they are ready to go on the hives. (Cold wax embedded now will sag when it's put into the hive and warmed by the bees).







The above photograph shows a frame assembling jig and wiring jig. The assemble jig is a square box with two slightly tapered wedges holding the end bars upright, ready for the top bar to be fitted.

It is 10 frames wide and just a few millimetres larger than the frames. If you make it a little bit big and the frames are sloppy in the holder, add a bit of corrugated cardboard as a packer until the frames are held snugly but are still reasonable easy to remove when the tapered end-bar wedges are removed.

Risks of nosema rise in spring - check your hives

Spotty hive cells and old, dead bee bodies on the ground are among the signs of nosema that beekeepers need to look out for when inspecting their bee colonies. FRANK LINDSAY provided the following information at Camp Rangi, Pohangina Valley, for hobbyist beekeepers in August.

Nosema disease, caused by the microsporidian *Nosema Apis* Zander, is the most widespread, adult honeybee disease in the world.

Often confused with other conditions affecting adult honeybees, like bee paralysis, starvation, pesticide poisoning and dysentery, nosema symptoms include dislocated wings, distended abdomen, absence of stinging and bees crawling about the hive and in the grass. It can also cause winter losses, dwindling spring numbers, queen supersedure and reduced honey yields.

Bees with nosema tend to shake, whereas bees with paralysis tremble when the paralysis goes into the brain and other organs.

Nosema appears most frequently in autumn and late spring, because the development of nosema spores in the bees is related to the temperature of the brood nest. During winter, when hive temperatures fall, the spores develop slowly within the bees. Once brood rearing starts and the temperature in the hive increases, the bees metabolism increases and so does spore development.

Nosema spores are ellipsoid (football-shaped) and cannot be seen without 400 magnification. They have a thick outer coat, thinner and weaker at one end. Inside that weakened end is a coiled filament.

Bees must swallow spores to be infected. When the spore enters the bee's ventriculus, the honey/hydrogen peroxide levels in its gut triggers the spore to release the coiled filament with such a force it imbeds into the epithelial cells of the ventriculus.. Two nuclei in the spore then travel up the filament into the ventriculus cell lining and begin to increase in size and multiply. This is the non-infective stage.

In six to 10 days, the host epithelial cell becomes filled with new spores, which are either shed or rupture, releasing the spores. These migrate to other epithelial cells and the cycle is repeated.

The honeybee does not secrete digestive enzymes directly into the ventriculus. Instead, the bee sheds epithelial cells and these burst, releasing their contents, the digestive enzymes. Within 21 days, the digestive function of the bee becomes repressed. The bee becomes distended and, in several cases, voids in the hive or at the entrance, releasing more spores before it dies in front of the hive. As other bees clean the hive, they pick up the spores and the cycle is repeated.

Nosema affects individual worker bees in many ways. The life span is reduced by 22% to 44%, the ability to feed brood is greatly reduced as hypopharyngeal glands become atrophied and bee behaviour in the hive changes, due to physiological ageing.

The affect is most noticeable in late spring, when there are suddenly fewer bees in the hives. (Older apiary books referred to nosema as "the disappearing disease".) In extreme cases, the hive will die off in summer.

Reduce nosema

1. Ensure bees have access to spring and autumn pollen of high nutritional value. If this is not available, feed hives with a pollen supplement.
2. Requeen in autumn to encourage cleaning of brood combs and maximum population numbers during winter.
3. Replace at least three dark frames in the brood nest each year to reduce build-up of disease organisms.

Treatments

1. Fumigillin (Fumidil-B) is a proven treatment that suppresses the growth of the vegetative stage in the cell lining. Apply before symptoms appear in autumn and spring, normally by feeding with syrup. There must be a continuous level of the drug with the bees over a long period for this to be effective, however it cannot be fed within six weeks of a honey flow or drug residues could be left in the honey.
2. Select good apiary sites with good air drainage. Colonies should be wintered in warm, sheltered environments with at least three hours sun a day, allowing the bees to fly.
3. Thermal sterilisation: Store brood frames in a hot room (49degC, but no more) for 24 hours to kill the spores. Combs must contain little or no honey and pollen in them.

From the colonies

Hawkes Bay

Neglected hives can sometimes be saved. Last summer, we were advised of a hive with no known owner and it turned out that a beekeeper had shifted all hives from this property except this one, that was missed. The oversight had occurred 12 years previously, so we decided to see if anything could be salvaged, as the bees were still active.

Armed with a spade, replacement boxes, and frames with no foundation, we tipped the hive over and pried the boxes apart with the spade. To our surprise, the upper frames were in reasonable condition but the lower ones fell apart. Working carefully, we tied the pancakes of brood into the empty frames as we moved as much as we could to the replacement boxes that we set up in the position of the old hive.

After a couple of days, the resettled bees were transferred to another apiary to be left until the spring.

In the middle of September, the hive was inspected, the string ties that had been chewed were replaced with framing wire ties and all the original damaged frames were moved toward the top box, even though this meant disturbing the brood pattern. Our theory is that the nurses will look after this brood until it emerges. After that, the cells will be used for nectar storage allowing the old frames to be taken off for extraction and discarding. Apart from some missing bottom bars, the worst feature was broken lugs.

Who knows how many times the queens had been superseded but the current one is laying well and producing a nice, quiet strain.

- Ron Morison
Taradale

Canterbury

Canterbury Field Day
Sunday, November 25, 2001
Symes Apiaries - John Symes Staveley, RD 1, Ashburton
Guest Speakers: Tony Taiaroa - Risk Management Programme
Mark Goodwin - Feral Eradication (To be confirmed)

- The Best Invention Competition

If you think you've invented something that is going to rock the beekeeping world then show and tell - We mock not.

- Boot Sale

Have you any beekeeping apparatus lying around and under-utilised bring it along and hock it off.

- Activities
  Horsetreks
  Hovercraftrides
  Lollyscrambles

Goldfish gazing - what do they do when the little lakes are solid?

Next branch meeting: Tuesday, October 29, 2001- a lot of issues need to be resolved, so we need your attendance.

(Note: regional councils publish in local newspapers on September 22 where ground and aerial spraying will be taking place around rivers)

Southern North Island

Most of the region is drying our fast with only half the annual rainfall being received to date. The warm spring has brought the hives through the winter well and some in the low land and around the cities are now starting to swarm.

Our field day on September 29 was a great success. The weather turned out to be beautiful and members came from all over to hear Gerrit Hyink talk on the science behind mite drop. He certainly shocked us as to how the mite population increases during the acute phase when there is constant re-invasion.

He explained the approach he is taking with mesh floors, single brood chambers and the type of integrated pest management system he hopes to use when the organic acids are approved.

It was all very thought-provoking and timely. Stuart Lindsay, a pharmacist from Palmerston North Hospital, talked on bee-sting reactions, what leads to an allergic reaction and what precautions can be taken. Anakits are now no longer available so beekeepers now have to purchase Epipens (two are required). Stuart also suggested beekeepers carry a cell phone and when in trouble, seek medical assistance. We now have to protect ourselves as well as anyone else in the locality likely to be harmed by the bees.

One very important point to come out of the discussion was that we must provide assistance. We can be sued for administering to somebody else and also if we fail to administer assistance. One of our members has submitted a protocol beekeepers could follow for Occupational Safety and Health's approval. It was suggested that we require an industry-wide code members could follow in times of emergencies.

With all this in mind, everybody dressed in suits to go through some well-behaved hives where requeening and

making splits was demonstrated and general hive condition analysed.

Ample time was also spent jawing, which is usually the best part of a field day for ideas to be exchanged.

We are now into planning "diseaseathons" and more Disease Elimination Certification Agreement courses.

- Frank Lindsay

Johnsonville

Franklin

The next club meeting will start at 10am, November 11, at Emma and Kurt Reichelt's property, Maxted Rd, Drury (phone 09 294-7106). To get there, turn east over the motorway from the Great South Rd at Ramarama. Maxted is the third (sign-posted) road on the right.

Taranaki

A practical workshop on October 27 will provide members with instruction on how to construct, wire and embed frames or simply use available wiring boards and embedders so they are ready for the flow. Making "mite bottom boards" could also be demonstrated. A likely venue is 195 Carrington St, New Plymouth, between 9am and noon. Telephone George Jonson, 753-3320, by October 24 to indicate interest.

Otago

Lots of brood and lots of bees are the happy consequences of a warm, fairly dry spring.

The favourable weather has generated good pollination rates and early pasture flowers, with lots of fresh nectar around. Drier-than-usual October soils could be the forerunner to a dry summer and poor thyme growth in Central Otago is already a sign of less rain than usual. Southern beekeepers, though, are relishing the absence of the usual spring downpours.

Branch members elected not to volunteer their time for American foulbrood surveillance in the area. Members believe levies paid to the NBA should cover all pest management strategy costs – including wages for people undertaking the work. And while beekeepers may be the most competent people to do the job, how objective are beekeepers checking other beekeepers' hives?

Otago is pro-PMS, just opposed to the way it is handled. An independent-operating PMS may mean levies have to rise, but at least beekeepers would be left to look after their own operations.

- Blair Dale

Middlemarch

Poverty Bay

Spring had a perfect start with three weeks of fine weather and only light winds during September..

The good weather made it more tolerable for beekeepers to put in the long hours required when orchardists needed their golden kiwifruit crops pollinated.

That occurs when the golden kiwifruit starts flowering, typically over a week or two across the region. This year, perhaps as a result of winter frosts nulling the effectiveness of the "Hi-cane" harvest-boosters orchardists apply to their plants, flowers all appeared at the same time, in one to two days. The subsequent rush , getting hives to orchards for the vital pollination, kept beekeepers on their toes.

Willow trees in the region are returning to life after their winter dormancy, showing no signs of the damage caused by sawfly attacks at the end of last summer.

The annual "disease-athon" was held last month, checking hives for American foulbrood. Official Ministry of Forestry results have not been filed yet, but most areas seemed clear.

- Peter Burt

Gisborne

Nelson

Fifty millimetres of rain over a recent fortnight was welcomed after last summer's dry conditions. The past winter was good, with regularly cold temperatures keeping the bees clustered and not using up all their stores.

The expanding wine industry has seen more land being used as vineyards and 10% less apple orchards in the area, meaning 10% fewer pollination contracts for the bee industry. Most people have lost some work.

Apple trees that do remain will have finished flowering by Labour Weekend, anyway, and hives will be moved into boysenberry patches.

The branch was meeting in mid-October to call for people willing to carry out American foulbrood survey work. It is used as a fund-raising activity for the branch, with it taking money paid by the National Beekeepers Association to get the work done.

Some concern is being felt by members at the resignation of Dave Gruber, the only Ministrry of Forestry officer working in the Nelson area. Widely respected for his work and assistance to beekeepers, he is taking on a job with the Marlborough District Council and it is understood no replacement will be made.

- Reuben Ellis

Nelson

GE would irreversibly destroy NZ's organic trade, rally hears

By Angela Crompton

"Wadda ya wanna be?" a loudspeaker voice called.
"GE free," the masses chanted.
"Wadda we wanna be?" the voice asked.
"GE free," the masses called again.

It was almost a religious chant, and the long line of people shouting it out marched orderly along Dunedin's George Street, stepping in time to rhythms set by rice-filled soft drink bottles and hand-held African drums.

The rally was one of several organised around the country by the Coalition for a GE-Free Environment on October 6, marking national GE-free day as the Government prepares for its October 31 decision about the future of genetic engineering in New Zealand..

The *NZ Beekeeper* turned up to the Dunedin event after reading an e-mail invitation, distributed to NBA Otago members by branch president Blair Dale, urging beekeepers to show their support, wearing hive gear.

Sadly, there wasn't a white overall or veiled head in sight.

"Too busy," Blair offered as a collective excuse on the telephone a couple of days later. Most beekeepers were sympathetic to the anti-GE cause, he said, "but it's a busy time of the year."

People who did find time included Service and Food Workers Union members, the Dunedin Environment Centre, owners of an organic grocery store, Green Party representatives, and a small group of Scientists Against GE, along with crowds of others with no obvious affiliations.

They gathered in the lower Octagon, paying scant attention to a small group in the upper Octagon holding placards promoting the benefits of GE research.

Most people weren't opposing the benefits of research, said Dr Ruth Lawson, an Otago Polytechnic biologist associated with the Physicians and Scientists for Responsible Genetics." We're [just] saying: 'Keep it in the labs.'"

Bees and wind will carry GE-pollen beyond any protective boundaries, says biologist Dr Ruth Lawson.

She was one of five people to speak to the rally before the long march set off down George St to Labour MP Pete Hodgson's electorate office in Regent Rd a few blocks away.

Dr Lawson started her talk with the word "Ignorance". That, she said, was the main source of concern about genetic engineering. DNA, the blueprint for life, controls the cells in living organisms, but despite thousands of academic papers written and millions of dollars spent on genetic research, less than 5% of DNA material was currently understood.

"We don't know how DNA controls cells in the first place, [yet] genetic engineers place unknown pieces of DNA in unknown places among the integrated and balanced genome of another organism and then tell us that we should not worry about unexpected consequences."

The consequences were unknown, she warned the gathering.

"There have been a sum total of zero clinical studies on the human health effects of GE food that have appeared in journals vetted by other scientists."

The Royal Commission on Genetic Modification, held in New Zealand earlier this year, had acknowledged many things were still unknown about genetic engineering and identified the need for more research, she said.

"Yet it still recommended that field trials and commercial production of GE crops be given the go-ahead," Dr Lawson said.

Reports from Canada, the United States and Britain had shown it was not possible to prevent modified plant genes from contaminating conventional crops because bees and wind carried pollen great distances.

"When the [modified] gene confers resistance to herbicides, as many of them do, it can make the conventional plants or weeds resistant to that herbicide."

Proponents of genetic engineering often said one of the draw cards was the need to use less herbicide on crops with deliberately-bred resistance to disease or insect attack.. The opposite seemed the case, Dr Lawson said.

"Data shows that several times more herbicide is needed."

If GE-crops are allowed into this country, New Zealand's organic industry would be destroyed, Dr Lawson predicted. "Conventional and organic crops will be contaminated by GE genes . . . Either through pollen or by the inadvertent - or even intentional - mixing of seeds.

"Once these genes have contaminated our seed stock and environment, we have closed off the organic option and we will have to live with some level of GE contamination of our conventional crops."

GE "pollution" could never be reversed, she said, and then rated such an event worse than an oil spill - or even nuclear pollution.

Pete Hodgson, the Minister of Science, Research and Technology, was waiting out on the street by the time the rally arrived at his office. Genetic engineering was a multi-

dimensional issue, he said, and measurable on many grounds, including science, ethics and spirituality.

"What is GE-free?" he challenged the crowd.

"If it means there must never be the interference of a DNA chain by any New Zealand scientist for any purpose, than this process began in 1950 and is why we have insulin.

"If GE means that, then the Royal Commission does not agree, and nor do I.

"If it means not putting our environment at risk . . . Then the Royal Commission agrees with you and so do I."

Someone asked how people could protect themselves from consuming GE-food products when they wanted to eat only natural products. Mr Hodgson then said legislation was due out in the second week of December, enforcing products to be labelled.

Library

The library has been fortunate to receive five videos, donated by Stuart Ecroyd.

These are:-

Video 42: *Package Bee Production in Australia*

Video 43: *Chalkbrood Disease of Bees*

Video 44: *Bee Parasites Exotic to Australia* (includes varroa mite)

Video 45: *Endemic Bee Disease*

Video 46: *Honey in the Comb*

A number of new books have been ordered and will be available soon. Requests for these can be sent to the library now.

The Honey Kitchen

Beeway Code Devon Beekeeping

The classroom by Jerry Hayes

Honey bee diseases and pests Scott Dupree

(Two for recreational reading)

Stinging tales of adventure and

Queensland both by Norman Rice

The videos of the conference and seminar day at Queenstown are also available now

Video 47: Seminar (morning)

Video 48: Seminar (afternoon)

Video 49: Conference

Video 50: Conference

If you have a catalogue, please add all of the above items.

There will not be a loan fee on any of the videos.

A couple of things to remember:

- Waikari is on SH7, and only a short detour from SH 1, so if you are travelling in the North Canterbury area and would like to visit the library please feel free to do so.

- Old beekeeping books may be of value to the library so if you are moving house, run out of space and can't keep all your books please consider donating them.

The magazine posting system has taken off and consideration is being given to subscribing to another overseas journal, or two. If you have any suggestions as to good apicultural magazines please contact the librarian. Two under consideration are *Bee Biz* and *Bee Improvement and Conservation.*

BIBBA, publishers of the latter, are keen to receive any articles, letters or comments about the conservation of indigenous bees in any area of the world.

- **Chris Taiaroa (Hon. Librarian)**

Telford student settles into beekeeping industry

Ben Dandy from Eketahuna seems on track to becoming a successful, commercial apiarist.

Based at his parents' property in the Putara Valley, Ben (18) has 54 hives on the Dandys' Putara farm, Waioui Wild, 15km from Eketahuna. Although far from a commercial venture at this stage, he thinks he will be in business in a couple of years from now.

A former Wairarapa College student, Ben spent last year at the Telford Rural Polytechnic apiculture unit near Balclutha. Of the nine awards made at the unit for 2000, he won six, including New Zealand Honey Industry Trust bursary ($2100) for students showing effort and promise; Airborne Honey bursary ($300) for making a contribution to queen bee rearing; Ecroyd Beekeeping Supplies award of a bee-smoker for the most-improved student; the Graeme Clarke Cup for the most successful queen bee breeder; and the Findlay Cup for ideal trainee. Ben is now working at Taihape for Tweedale Apiaries, an apiary with about 7000 hives. In the weekends, he returns to the Potara Valley to look after his own beekeeping interests and hopes to settle back there permanently as a commercial beekeeper in two years.

Ben's father, Paul Dandy, a physician and chemistry teacher at Solway College, tries to help out in his son's new enterprise where he can, but it was a teacher at Wairarapa College who sparked the young man's interest in apiculture.

- Photo By Courtesy Wairarapa Times/ Age Midweek

Ben Dandy has 54 of his own hives.

Ian Trass, head of the college's agriculture and horticulture department, has four hives for his students to look after. "Bees are just one of those practical things we are able to offer," he said. "It's part of what happens on our school farm."

- *Wairarapa Midweek*

Varroa mite endangers US pollination honeybee industry

With most wild honeybees wiped out by a parasite, agriculture pollination is in jeopardy, reports Cornell University, in Ithaca, New York State.

Some 90 different crops, including apples, zucchini and cucumbers depend on honeybee pollination. To some extent, other insects will pollinate specific crops. However, no insect is as widely effective as the honeybee. In the United States, the value added by honeybee pollination to American agriculture is estimated to range from $US 5 billion ($NZ 11.6 billion) to $US $20 billion ($NZ 46.6 billion) a year.

"Parasitic mite and mite-related diseases have caused the death of most wild honeybees, and left the commercial colonies at tremendous risk," said Nicholas W. Calderone, head of Cornell University's Dyce Laboratory for Honey Bee Studies and an assistant professor of entomology in the College of Agriculture and Life Sciences.

Calling the varroa mite "the greatest threat to beekeeping", Calderone said beekeepers have only one registered chemical (Apistan) to control varroa mites, "and European mites have already become resistant to that chemical, so we must assume the same thing will happen in the United States".

Roger A. Morse, a recently-retired Cornell apiculture professor who spent 25 years tracking the mites and diseases, agrees.

"The mites represent the greatest threat to beekeeping since European bees were brought to this continent more than three centuries ago," Morse said. "But if we can get the results of research to the beekeepers, we can keep the crops growing and the honey flowing.

The mite diseases had killed 95% to 98% of the wild honeybee colonies, he noted, and more than half the hobby beekeepers had lost all or most of their colonies.

"However, commercial beekeepers in this country are surviving, though they, too, have had serious losses. Research on the biology and control of bee diseases is making it possible for the industry to cope."

Despite dramatic losses in wild honeybees and in colonies maintained by hobbyist beekeepers, Cornell University apiculturists say the pollination needs of commercial agriculture in the United States are being met now by commercial beekeepers, although their supplies are precarious. With the disease losses among wild and hobbyist honeybees, the commercial honeybees are more important than ever, Morse observed.

Crop pollination is a migratory enterprise, with honeybees following seasonal crops week by week as trees and other plants bloom. Many commercial beekeepers' bees winter in Florida and travel on trucks that hold up to 500 colonies and 10 million to 15 million pollinators.

Commercial beekeepers place their colonies near crops that need pollinating and charge growers for the service. Migratory beekeepers also sell the honey and other bee products that result, but fees for pollination services are their main source of income.

"We need to sustain a significant research effort to protect the safe and affordable supply of fruits and vegetables to which people have become accustomed," Calderone said. "Mites are living organisms, and mite populations will eventually adapt to whatever control measures we develop."

So research efforts at Cornell and other institutions are focusing on the biology of the varroa mite, trying to understand how it locates bees in the first place. "If we can determine the host-location mechanism and discover the physical and chemical cues the mites use, we may be able to manipulate those cues for a control mechanism that will protect the bees," Calderone said. A number of natural products, including essential oils from herbs and spices, are also being examined for their potential in mite control, he added.

A genetic solution, breeding bees resistant to mites, would be more difficult, Calderone predicted. Even if beekeepers started with disease-resistant stock, it would be almost impossible to control mating (with non-resistant males) when new queens left the colonies, he explained.

"Commercially-viable, disease-resistant stock is the best answer, but that is years away, at best," Calderone said. 'Nonetheless, it remains the long-term focus of several research programmes around the country."

"Meanwhile, commercial beekeepers are surviving by applying good management techniques in their craft, Morse said. Dead colonies are replaced when beekeepers "split" their surviving colonies each year to maintain the stock needed for pollination.

Growers who rent bees are well aware of the problems and are making plans with beekeepers for the colonies they will need for next spring's pollination," Morse said."

• **Cornell University College of Agriculture and Life Science**

Telford desperate for apiculture students

Tertiary-level training courses in apiculture currently run by Telford Rural Polytechnic include a one-year, full-time course, a short, four to six-week queen bee-rearing course and a two-year correspondence course. There is also an option for students in a second year to complete a Diploma in Rural Business, specialising in apiculture.

There are excellent job opportunities for graduates and current student numbers cannot meet the demand for full-time employees in the industry.

Following a recent review of Telford courses, the low student numbers puts the one-year, full-time course in apiculture at risk. Student numbers need to increase to ensure the course survives. It provides the major training ground for people seeking employment in the commercial beekeeping industry, both in New Zealand and overseas. To remain viable, it needs 10 to 14 students each year. Only five students are taking it this year.

Facilities at Telford Polytechnic for apiculture students include 330 beehives on 20 apiary sites in the district, a honey extraction plant, equipment workshop, bee insemination laboratory, grafting shed, a four-wheel-drive truck, classroom, computer and accommodation facilities. To establish this facility elsewhere in the country would require a large financial and human resource input, an unlikely step, given the current cost-saving environment polytechnics are operating under. Nationally, then, it is in the beekeeping industry's interest to support the course and help Telford increase its student numbers.

Telford calls National Beekeeper Association branches, and ideally hobbyist clubs, to identify a young person in their area keen to do a one-year apiculture-training course at the polytechnic, starting on January 28, 2002. Some may be able to offer the trainee some financial assistance. In return, the student would be contracted to work for a commercial beekeeper from the branch area after graduating.

Branches could sponsor trainees by paying part or all of their course fees ($2756) or a beekeeper or company could provide sponsorship. The student would also be eligible for Telford bursaries, although these are a limited and are highly contested.

Presentations on the beekeeping industry could be given to local high schools' fifth and sixth formers (year 11 and 12) and the apiculture courses at Telford promoted as a way of getting into it. Young people will become the commercial beekeepers of tomorrow and help to run your business.

- Dr David Woodward

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US antique honey house illustrates tough times for early beekeepers

By Dewey Caron

There is, in Roger Morse's apiary a portable antique honey house built in about 1800 by W. L. Coggshall (1852-1926), a world-famous beekeeper who once kept about 4000 colonies in central upstate New York. There was a similar building in each of Coggshall's bee yards. It was used for extracting in the summer and honey and super storage in autumn and winter.

The combs of honey were harvested by brushing the bees from them. Brushing angers bees, and the harvesters were thoroughly stung, just as one would be using the same technique today. The combs of honey without the clinging bees were placed back into the supers and taken to the honey house on a wheelbarrow where they were uncapped by hand with a cold knife.

Each honey house had its own boy-powered, four-frame reversible extractor. There was a hole, approximately two feet square, in the wooden floor that held a large bucket into which the honey ran from the extractor. The buckets of honey were then poured into a straining and storage tank, and then the honey flowed into wooden barrels, each holding about 60kg.

The barrels of honey were picked up in autumn by bobsled after the first snowfall, when the honey had granulated. They were sold to grocery stores, where proprietors would hammer out one end and sell the honey by the scoop. Or, if the honey was firmly granulated, it was cut into blocks with a sharp knife.

This was truly "raw" honey and fermentation was a problem, as it usually is when granulated honey is not pasteurised.

The honey house is portable and comes apart in sections. The wooden floor was removed and replaced with one of poured concrete to eliminate a place where rats, mice, woodchucks, skunk and other pests might nest. Early generations were forced to live with and tolerate many pests now eliminated by building cement floors and buildings.

The Coggshall building is 4m x 5.5m, with one small window and a single door. Unfortunately, the original door on this building had been replaced by one made of plywood before Roger bought it. The insides of original Coggshall buildings had a board on which was written the number of barrels of honey harvested, alongside the corresponding year.

The building comes apart in 10 pieces. The two side pieces are 4.8m long and 2.1m high. The ends are made up of two pieces, each 2m wide. The two edges where the end pieces join with the sides are 2.1m tall and rise to a height of 3.6m in the centre, so as to make a peaked roof.

The roof is made-up of four pieces; each covered with corrugated iron. The corrugated pieces overlapped on the centre sides, and it is necessary to use a long cap the length of the peak of the roof to keep water from leaking through the joint. There is a 12mm diameter, 3.6m-long rod in the middle of the building a little over 1.8m above the floor to hold the two side pieces in place.

This building is covered with 15cm-wide tongue-and-groove boards that have never been painted.. The boards are in reasonably good condition considering their age. Now that the building has a solid concrete floor that is about 15cm above the ground, it should last another 100 years.

Visiting this antique building is a good reminder of the progress made in agriculture and beekeeping in the past century. It is recorded that when Coggshall visited his bee yards, he left home Monday mornings with a wagon and a team of horses and his helpers on bicycles behind. They returned home Saturday night.

Coggshall arranged for meals with farmers along the route, and he and his men slept in barns along the way. It made a good working week.

- Dewey Caron is extension entomologist and Professor of Entomology at the University Of Delaware, Delaware, New York state.

***Beeculture*, the Magazine of American Beekeeping**

Varroa shows resistance to pyrethroid in UK

Honeybee apiaries in the South West United Kingdom have been threatened by the first case of resistant varroa mites.

Laboratory tests conducted during the week beginning August 27, 2001, at the Central Science Laboratory (CSL) confirmed at least one apiary in Devon has mite populations resistant to pyrethroid.

The resistance found in Devon appears to be localised. Recent spot checks elsewhere in the country have revealed the continued high efficacy expected of Apistan and Bayvarol, the only two pyrethroid-based treatments authorised for use in the United Kingdom.

"Beekeepers are requested most strongly to follow the label instructions on varroa-cide products carefully," said the laboratory's head of environmental biology, Medwin Bew. Misuse, for example prolonged application of the product or abuse of the active ingredient or use of cheap, untested analogues, has been the cause of every original focus of resistance in Europe, he said.

A simple field kit developed by Vita (Europe) Ltd and CSL was first used to test colonies of the beekeeper whose hives showed resistant varroa mites. It was part of a routine screening programme introduced by CSL, with the aim of following up reported cases of suspect resistance or to check colonies of beekeepers believed to be misusing pyrethroid.

"So far, five apiaries belonging to the beekeeper have been screened by field tests," Bew said. "The effectiveness of the test Apistan strips against varroa was found to be as low as 2%. This resistance is worrying and will almost certainly be of a similar order for both Apistan and Bayvarol.

"Apistan treatments are normally 95%-100% effective. All the beekeeper's apiaries are under standstill notices."

Past studies have shown a close level of agreement between the results of field tests and confirmatory laboratory tests. There is little reason then, to assume the unconfirmed field tests are other than sound.

Currently, CSL is organising a resistance-monitoring programme of neighbouring apiaries in the areas around these Devon colonies. This will be limited by the approach of [the northern] autumn and its success will depend upon local beekeepers' co-operation.

CSL has also stepped up its surveillance in other areas.

Varroa facts

- The infestation of varroa in UK honeybee colonies first occurred in 1992. Apistan and Bayvarol are the two varroa controls currently authorised in the UK.
- Varroa caused devastating losses of honeybees in the early years of its infestation. Most beekeepers have now learned to live with the parasite, but the majority of feral colonies have since collapsed. Since bees are important pollinators of many commercial crops and of wild floral, it is essential a healthy population is maintained.
- Apistan and Bayvarol treatments usually have an efficacy of 95% to 100% against varroa mites. A tenfold reduction of this efficacy means that treatment will reduce mite populations below the threshold necessary to both preserve the colony and prevent further spread of damaging levels of mites to surrounding colonies and apiaries.
- In Devon, an estimated 1900 beekeepers manage approximately 12,000 colonies of bees. Devon is also a popular location for migratory beekeepers from other countries wishing to take advantage of moorland blossom. Thus, many hundreds of beekeepers move colonies into Devon for about a month each August to crop honey from heather.

Check the CSL website at Http://www.csl.gov.uk for other details.

- Central Science Laboratory

Book offers overview of honey bee mites

Mites of the Honey Bee
Editors Thomas C. Webster and Keith S.Delaplane
Publication date 2/1/01
Hbk $15.95 plus shipping

When I was handed this book at the National Beekeepers Association July conference in Queenstown, I very quickly learnt to hide it as it was immediately pounced on by everyone who saw it.

Having read it cover to cover, I feel that their enthusiasm was justified. For some time I have been buying everything on varroa that I can lay my hands on and until now have been left feeling somewhat dissatisfied. This book, however, fills up the gaps very nicely indeed. Because of its very nature it was, of course, a little bit out of date even before it was published, so it is important to keep up with the latest research. But the book brings together the findings of experts from all over the world in a readable and manageable format.

Mites of the Honey Bee doesn't just cover varroa of course, but also tracheal mites, Tropolaelaps and various other mites associated with honeybees. The book is broken up into four sections with one each devoted to varroa and tracheal mites. Each section is further divided into chapters covering biology, treatment methods, drug resistance, etc.

The book is necessarily an overview of all the research that it draws on, but it still contains an awful lot of information and, at the end of each chapter, has a comprehensive list of references detailing where the information came from.. I suspect that it would be worth buying just to get the lists of all the research papers and where they were published.

My fifth form biology seems a long time ago and some of the chapters, particularly on the way that mites and bees are put together, were pretty heavy going. I did not understand a fair number of the more obscure words and could have done with some anatomy-type pictures, but even in the chapters most heavily littered with long, anatomical words I think I managed to get the idea of what was going on and the chapters which seemed most relevant to me, as a beekeeper. For example, one on how to kill the mites was certainly easy enough to read.

This book does not contain the panacea that we have all been hoping for with varroa, but it does give a well-rounded picture of what can and can't be done about it, what's been tried and has and hasn't worked and just what makes varroa and the other mites tick

. Unfortunately, I made the mistake of offering the review copy to Telford Polytechnic so I guess I'll have to go out and buy my own copy now. It's too good a reference book to not have in my own bookshelf.

- Peter Berry

Hive-proud honeybees clean up varroa

Corie Lok

Honeybees can be bred to be more "hive-proud". New research indicates bees that detect and remove the parasites now endemic in many of the world's hives might be a cheaper, greener alternative to using pesticides.

The rise of pesticide resistance means many beekeepers wage a costly fight against the blood-sucking varroa mite. A strain of "hygienic"' bees that can rid their hives of varroa-infected larvae and pupae could be good news for the honey industry and for food crops such as apples, berries, melons and almonds that bees pollinate. Many farmers rent out their bees to place near these crops to boost yields.

The bees, bred by artificial insemination from an Italian colony by Marla Spivak and Gary Reuter of the University of Minnesota, St Paul, kept their hives mite light for up to a year without pesticides and retained comparable honey production to their more slovenly cousins. They were, however, overwhelmed when mites infested more than 15% of them.

"These bees would undoubtedly decrease our dependence on chemicals," says Troy Fore, executive director of the American Beekeeping Federation, "but would probably not eliminate chemical use altogether."

They may only be a millimetre long, but varroa mites sap bees' energy and productivity and can kill a colony within two years unless fought with expensive pesticides — pesticides that are becoming increasingly ineffectual and can also contaminate honey. Beekeepers are thus keen to find alternative ways to defend their hives against these tiny troublemakers.

Breeding promises to be an effective non-chemical option, says Jeffrey Harris, a bee breeder with the United States Department of Agriculture in Louisiana.

Breeders will have the most success with bees that fend off mites in several different ways, for example those that can kick out infected larvae and pick mites off fellow adults.

Unfortunately, it will take years of field experiments to see how combining these traits will affect the bee and its honey production.

References

• Spivak, M. & Reuter, G. S. Varroa destructor infestation in untreated honeybee (Hymenoptera Apidae) colonies selected for hygienic behaviour. Journal of Economic Entomology 94, 326-331 (2001).

- Nature News Service / Macmillan Magazines Ltd 2001

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

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

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

CHRISTCHURCH HOBBYIST CLUB
Meets on the first Saturday each month, August to May, except in January for which it is the second Saturday.
The site is at 681 Cashmere Road, Commencing at 1.30pm.
Contact: Fiona Bellet "Oakwood"
Bradley Road, RD 5
Christchurch. Phone: (03) 347 9919

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

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

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

MARLBOROUGH BRANCH
contact Will: (03) 570-5633

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

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

OTAGO BRANCH
Phone: Mike (03) 448-7811

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

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

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

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

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

WAIKATO BRANCH
Contact Tony: (07) 856-9625
Jan Klausen: (07) 386-0111
Next meeting will be in 2001
(date yet to be confirmed).

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

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