

Eradicating American foulbrood from New Zealand

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New Zealand beekeepers are currently trying to eradicate American foulbrood disease (AFB) — a disease of honey bees. Although this is something that no other significant beekeeping country has ever tried to do, New Zealand has a history of eradicating diseases; e.g., hydatids. Interestingly, the idea of eradicating AFB is not new to New Zealand beekeepers.

This from Volume 1 of the *New Zealand Beekeeper* 1939:

‘the disease can and should be eradicated completely. Under the present system which has had many years’ trial elimination of disease from all apiaries in New Zealand seems to be as far away as ever and it certainly high time that something more definite was done about it.’

Why is the goal to eradicate AFB from New Zealand desirable?

- 1) Once eradication is achieved there is no need to invest in AFB control.
- 2) By looking for AFB and burning infected colonies, New Zealand beekeepers have an eradication policy for their own hives. It therefore makes sense for the New Zealand beekeeping industry to have the same strategy.
- 3) Feeding antibiotics to control AFB is not sustainable long term. Many countries are currently finding that AFB is becoming resistant to the antibiotics being used.

Why is eradication possible?

- 1) AFB is difficult to spread. Large numbers of bacteria (500 million spores/litre) need to be fed to a colony to cause an infection. It is therefore not necessary to eradicate the bacteria itself, which is probably impossible, but just to reduce the number of bacteria to a point that the infection of new colonies is unlikely to happen.
- 2) Many beekeepers have eradicated AFB from their own outfits. If some beekeepers can do this then it is possible for all beekeepers to do so.
- 3) One problem for eradication is that the feral bee population cannot be inspected for AFB. However, every cloud has a silver lining. Thanks to varroa, the feral honey bee population is being eliminated.
- 4) Another benefit of varroa is that it is changing beekeeping practices. Those beekeepers not really interested in keeping bees have lost or sold their hives. Also many beekeepers managing large numbers of hives per labour unit are reducing their hive numbers to better control varroa which also means they have more time to control AFB.

- 5) New Zealand is an island, therefore not subject to continual reinvasion once AFB has been eradicated.
- 6) Most AFB is spread by beekeepers, so changes in the way beekeepers manage hives can have a dramatic effect on AFB levels.

So how can eradication be achieved?

Eradication can be achieved through a combination of two approaches.

- 1) The first is the traditional approach of trying to find and burn AFB hives faster than beekeepers can infect new hives. The approach taken is to have every hive inspected each year by someone capable of recognising AFB. This is achieved by a combination of training beekeepers, approved beekeepers carrying out the inspections and compulsory inspections. Assuring that all hives are thoroughly inspected each year at an appropriate time of year could by itself result in eradication.

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- 2) The second approach is to educate beekeepers to reduce the rate with which new hives are infected.

As long as more AFB hives are found and burnt than are infected each year, eradication will happen, the only question is how quickly. The trick is to get the right balance between search and destroy and prevention of infection.

What could stop eradication being achieved?

There are a number of threats to eradicating AFB.

- 1) As far as we can determine we do not have European foulbrood (EFB) in New Zealand. When we get EFB we will need to feed antibiotics to control it. The use of antibiotics can at times make it more difficult to diagnose AFB.
- 2) Politics are also a threat. While everyone was part of the same beekeeping organisation, whether they wanted to be or not, there was little incentive for beekeepers to use the eradication programme for political gain. However, now that the beekeeping industry is splintered into a number of organisations competing for beekeeper members, there is a larger risk that the programme will be damaged by beekeepers seeking political advantage.
- 3) If the eradication programme is not well managed and objectives of the programme are not met, beekeepers will lose their enthusiasm for carrying it out.
- 4) If the participants in the eradication programme forget that reducing the spread of AFB is at least as

important as trying to find infected colonies, eradication will not be achieved.

The final eradication may be difficult. It will certainly need a new approach. Once AFB has been isolated to some small areas, strategies like extensive inspections and investigations into hive movements can be used to track down the last infected colonies.

In the end eradication can only be achieved by beekeepers, both commercial and hobbyist. Most AFB is found and destroyed by beekeepers and most AFB is spread by beekeepers. No outside agency can do it for beekeepers: it can only assist them. For this reason AFB eradication is about changing beekeepers' beekeeping behaviour.

REPORTING AFB OR REGISTERING AN APIARY?

Please contact your nearest AgriQuality
Apicultural Consultant:

- Phone 0508 00 11 22; or
- Write c/-Byron Taylor, Private Bag 3080, Hamilton.

Trees and Shrubs of New Zealand

Pittosporum eugeniodes

Maori Name: Tarata

Common Name: Lemonwood

Although this tree is called lemonwood it isn't the wood that smells of lemons but the crushed leaves and gum.

The Tarata is a white barked tree up to 12 metres high with pale green leaves, often green/yellow in colour. Nurserymen have produced a variegated variety with a sort of white/green leaf.

The flowers are small, greenish yellow and fragrant. The compact mass of flowers appears August to November, depending on altitude.

This is a great nectar and pollen bearing plant. The honey is extra light amber and fine grained, and the pollen is pale yellow.

The Maori collected the gum from the Tarata and used it as a body scent and it was also chewed to get rid of foul breath. The leaves, boiled, were used for relief from rheumatism or sore joints and also as a form of disinfectant.

- Tony Lorimer

