

Why have a Pest Management Strategy for American foulbrood disease?

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American foulbrood (AFB) disease of honey bees can be found in almost every country and is considered to be the worst disease of bees. Once the disease reaches a certain level it will always kill the colony. Any colony then introduced to the used equipment will also die. Unchecked incidences of the disease can reach 100%. In the 1900s AFB nearly destroyed the infant beekeeping industry in New Zealand.

Because of the severity of the disease every country uses one of two strategies for control.

1) Antibiotics

Most countries, e.g., USA and Canada, feed antibiotics to control AFB. This usually consists of feeding all colonies once or twice a year to prevent the disease, or just treating infected colonies. In the short term feeding antibiotics to honey bees is a cost-effective solution which allows management of the disease in a way that is compatible with normal beekeeping activities. However, in the long term there are problems associated with the use of antibiotics such as residues in bee products and treatment failure due to AFB developing resistance. Canada, USA and Argentina are struggling with the resistance problem at the moment.

2) Search and destroy

Some countries, e.g., Australia and England, have had a search and destroy strategy to manage AFB. This usually consists of some sort of government programme where officials inspect colonies and beekeepers have to destroy any hives with AFB. The use of antibiotics is usually forbidden. This system has the advantage that it is sustainable and there are no resistance or residue problems. However, this strategy can be more expensive than the use of antibiotics due to the need for inspections and destruction of diseased colonies. In addition, the bigger, and often unrecognised cost associated with this strategy are those resulting from hive management restrictions needed to prevent the spread of AFB between colonies.

New Zealand beekeepers have traditionally chosen the search and destroy approach to control AFB. However, for this to be successful all beekeepers need to carry it out and one of the ways to achieve/enforce this is through supportive and empowering legislation. Whereas most beekeepers will successfully control AFB without the need for legislation some will not, and their hives will be a source of infection for their neighbouring beekeepers' hives. Without legislation there is nothing to stop beekeepers exposing AFB-infected equipment

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to robbing bees, keeping hives with AFB, extracting honey from infected hives, etc.

Historically, the legislation needed to control AFB in New Zealand was in the 1967 Apiaries Act and the AFB control programme was paid for by government. However, about 10 years ago the government told the beekeeping industry that it was no longer going to pay for AFB control and that the legislation controlling AFB was going to be removed. The industry was then given two choices:

- 1) to have no legislative control over AFB. The end result of this would have been New Zealand beekeepers having to resort to feeding antibiotics to control AFB.
- 2) for New Zealand beekeepers to write their own legislation to control AFB. This legislation had to be written in the form of a Pest Management Strategy (PMS) under the Biosecurity Act.

As most New Zealand beekeepers do not wish to feed antibiotics to control AFB, the only option was to write a PMS. However, it quickly became apparent that the legislation controlling pest management strategies (the Biosecurity Act) was complex and clearly not designed to make it easy for an industry as small as the beekeeping industry to write one. To make matters more complicated, the Biosecurity Act was new and nobody had written a PMS before. So not only was it a steep learning curve for beekeepers, but also for the Ministry of Agriculture and Fisheries that controlled the legislation.

The first requirement of the AFB strategy was to have a goal. A committee of beekeepers was formed which asked the industry for submissions. From these it was decided that the primary goal was to eradicate AFB from New Zealand.

The next step was to write how this would be achieved and explain why the approach taken was the best. After one year, seven drafts, 100 pages, 55,000 words, weeks of committee meetings and public meetings all over New Zealand, it was completed. The beekeeping industry had done which many thought was impossible for them: they had written a PMS.

The PMS is almost identical to the previous Apiaries Act, with only two major changes:

- 1) before the PMS, each year every registered beekeeper was sent a statement of inspection form under the Apiaries Act. This required beekeepers to provide a signed statement confirming that they had checked their hives for AFB. Unfortunately many forms were signed without the inspections being carried out, and many people signing forms were not competent at inspecting hives for AFB. The PMS changed this by requiring the inspections (certificate of inspections or COI) to be carried out by people (approved beekeepers or APs) who could prove they could recognise AFB. By being 'approved', beekeepers could also avoid having to provide a certificate of inspection for their own hives.

- 2) the PMS recognised that no outside agency could eradicate AFB. All it could do was help beekeepers to eradicate it by providing a free AFB testing service, counselling and an education programme.

So in conclusion, beekeepers probably had few other options but to have a PMS for AFB. AFB control has now been shifted from being a government responsibility to being a beekeeper responsibility. This is probably a good thing, although I am sure few beekeepers enjoy having to pay for the PMS. It is now left to beekeepers to make sure that the PMS works and eradication is achieved.

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