The Southern North Island Beekeeping Group is fund raising to support the two trained sniffer dogs and to maintain the purified AFB spores held at Massey University. (Each one is dependent on the other).

Background

In 2019 Down Under Honey put a proposal to the Sustainable Farming Fund supported by the Honey Industry Trust, Massey University and the SNI beekeeping Group to test whether dogs could to detect purified AFB spores.

There were a number of unknowns. Did AFB spores alone produce an odour, could the dogs detect these and if so, to what level could they detect the spores in a trial situation and in the field.

Pete Gifford form K9 Search Detection Dogs was commissions to train two dogs, Plant and Food were commissioned to purify AFB spores and a committee set up to oversee the project.

Purified spores were places in secure, filtered containers ranging from 2.5 to 7 millions spores. One of these containers along with five dummy containers of the same type were placed on a carousel in a secure training area and the dogs had to identify the correct position of the AFB spore container.

We were very happy at the 100% level of detection these dogs provided.

A paper is being prepared by Massey University for peer review and publication, as this is a world first.

Progress so far.

Unfortunately delays in get the AFB samples means that the funding for this project ran out before we could undertake field trials. In the mean time Pete has been feeding the dogs and proving ongoing training as his own expense. He can no longer support this project at his own expense.

Without further funding from the Industry and perhaps another grant from the SSF, this project will collapse and the dogs will be assigned to be trained on other things.

The AFB PMP Board will not support this endeavour financially until the paper has been published, however they have put forward a proposal to amend the Regulations so that in the future dogs can be used in the detection of AFB.

So what will sniffer dogs provide for the industry?

At present most beekeepers rely on visual inspections and in the meantime, AFB may take up to three years to show clinically. By this time, if a quarantine system hadn't been used, spores will have spread within the apiary and as far away a one kilometre either by drifting bees, robbing or the interchange of equipment by the beekeeper.

A Sniffer Dog can inspect 20 hives in about 15 seconds. This method of detection is very advantageous especially when hives are concentrated together as they are before going into pollination. Dogs can also be used to identify AFB in used equipment if laid out on the ground. Another form of detection is viewing individual frames under UV light. It took one company in Canada weeks to go through all their frames individually.

There are other methods we can use to detect AFB in hives and equipment before it shows clinically. The Foster Test developed by 'dnature' uses qPCR multiplication to determine spore loading in a hive and can now determine whether AFB is likely to show or not.

There are trained Sniffer Dogs in the South Island that can detect AFB however in a test, they detected sick hives including those with AFB spores but not exclusively AFB infected hives. Further testing was needed to determine those hives with AFB.

The SNIBG would like to maintain the trained dogs ($36,000 per year), complete the field trial before handing the dogs over to a handler who will have them available for beekeeper's to use.

We need Industry funding before we can approach other funding sources.

The commercial beekeeping sector is in a mess. Beekeepers are leaving the industry or going bankrupt through low honey prices and with hundreds of tones of unsold honey. This situation is likely to take another three to four years before the honey stockpile and hive numbers are reduced to a more sustainable level.

In the meantime we are approaching all beekeepers including the hobby sector and Bee Clubs for funding, suggesting that individuals contribute $5 - $10 each for three years.

What do hobbyists get out of funding the dog project when AFB is mainly a commercial sector problem? Unfortunately AFB does not discriminate between Hobbyist and Commercial hives.

Apiaries used to be 2.5 kl apart and this separation helped control the spread of the disease.

Now with apiaries are as close as the next paddock, drifting bees and robbing assists in spreading AFB and you could be next. For a commercial beekeeper killing a hive is part of the business, but for a hobbyist, it’s like killing your pet.

There is also a possibility that AFB levels could increase over the next three years due to commercial beekeepers abandoning hives following the collapse of the "Manuka Gold Rush". We currently have a sustained level of 0.3% which means that this dreaded disease is not being detected before it has already spread. Beekeeping will be so much better without AFB. Finding it early is the key.

As a sideline it would be interesting to determine that the dogs are picking up both types of AFB we have in New Zealand. (ERIC I - dies at 12.5 days and ERIC II - dies at 5 - 6 days).

From samples sent in to Plant and Food (1990's to late 2000's), when testing of suspect samples was free, 50% were of ERIC II, being harder to identify in the field so it was concluded that perhaps 10% of AFB out there was ERIC II. Yet in the last lot of samples collected by AP2's and tested by MPI, none were of the ERIC II type. Is it that we no longer have ERIC II or that the AP2's are not trained to identify it in it's early stages where other countries are.

Whatever the situation, AFB is out there and we need to use every means possible to detect it before it spreads to other hives.

Please consider donating to this project through internet banking

Acct number. 15-3977-0067333-00

All funds will be receipted.

Allan Richards

Secretary: Southern North Island Beekeeping Group