Biosecurity New Zealand
Ministry for Primary Industries
Manatū Ahu Matua

Bad for our bees: keep these four out of New Zealand

These high priority exotic honey bee pests and diseases are not in New Zealand but would have serious consequences for bee health and our honey exports if they become established. If you suspect a new pest or disease, or experience large-scale hive losses, report it immediately by calling **0800 80 99 66**.

You can find detailed information on each organism, and more, at www.mpi.govt.nz/biosecurity/how-to-find-report-and-prevent-pests-and-diseases/bee-biosecurity/bee-pests-and-diseases/

Small hive beetle
Aethina tumida

- A small black beetle that affects bees worldwide, and as close as Australia. Once in a country, it can spread itself around by flying long distances between apiaries (15kms).
- Larvae of the beetle are most damaging, tunnelling through comb, destroying brood and honey crop with a slime. The slime also contains a yeast that can cause human disease and destroys the honey crop.

European foulbrood (EFB)
Melissococcus plutonius

- A bacterial disease that affects bees worldwide, and as close as Australia.
- Not as tough as American Foulbrood (as it does not produce a spore) but works in a fairly similar way—it's a brood disease.
- EFB bacteria kill honey bee larvae by growing in their guts and causing them to starve. Diseased larvae often look yellow and are coiled up in the cell.
- Other countries use antibiotics to treat EFB infections, but this doesn't always work. Antibiotic use is prohibited in New Zealand. If EFB gets here, it will cause difficulties for bee health and our honey exports because it is a trade-sensitive organism.

Tropilaelaps mite
Tropilaelaps sp.

- A parasitic mite of honey bees that is much smaller than varroa but can still be seen with the naked eye. The name is pronounced as "tro-pil-lay-laps".
- Tropilaelaps reproduce much the same as varroa (within a brood cell), and scientists and beekeepers are worried that this mite could be even more deadly than varroa.
- Because they don't feed on adult bees, when mites do emerge from a cell they almost immediately enter another cell (they move quickly) and this makes it very difficult to see any mites on adult bees.

Tracheal mite
Acarapis woodi

- A microscopic internal mite that invades honey bee trachea (their breathing tubes).
- High infestations in a colony can result in lots of dead bees in front of the hive. Some infested bees can show "K wing" symptoms, with their wings at odd angles.
- Tracheal mites can cause more than 80 percent colony losses when they first arrive in a country, until bees eventually get used to them.

NOT IN NZ

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Common bee pest and diseases of New Zealand

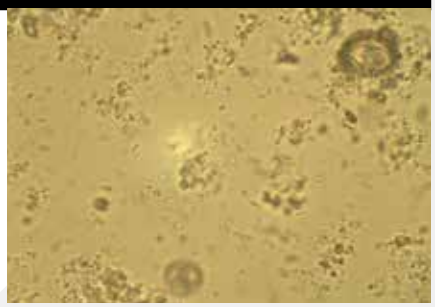
Honey bee pests and diseases already present in New Zealand impact colony health and productivity, as well as operating costs including the need for ongoing treatment and monitoring.

You can find detailed information on each organism, and more, at www.mpi.govt.nz/biosecurity/how-to-find-report-and-prevent-pests-and-diseases/bee-biosecurity/bee-pests-and-diseases/

Varroa mites
Varroa destructor

- Varroa mites have been present in New Zealand since 2000. They have become the main cause of colony deaths in the winter.
- Varroa mites can be kept to low levels by using chemical treatments, hive management techniques, and regular hive inspections.
- It is especially important to monitor the level of varroa infestation, using alcohol-wash, sugar-shake, hive floor monitoring or another similar method.
- Techniques that prevent robbing or drift of bees between hives may help. Working together with other local beekeepers can also reduce the risk of varroa reinvading your hives after a treatment has finished.

Nosema
Nosema sp.



- Nosema disease is caused by two related fungi. It is common in New Zealand honey bees.
- Both forms of nosema infect adult bees, but not larvae or pupae.
- *Nosema ceranae* often causes the sudden death of a colony in the spring. There is no way for a beekeeper to diagnose this disease for certain. Sudden large-scale colony deaths should still be investigated, to make sure it is not an exotic disease. Call the MPI hotline on 0800 80 99 66.
- *Nosema apis* is thought to cause diarrhoea (dysentery) in adult bees. You might see this as lots of bee poo on the front of hive boxes. It can also weaken or kill hives.

American foulbrood (AFB)
Paenibacillus larvae

- American foulbrood (AFB) is a serious bacterial disease of honey bees, which occurs in New Zealand and most other countries.
- AFB is subject to special laws in New Zealand that place legal responsibilities on all beekeepers. The AFB Agency has more information about this: www.afb.org.nz
- All beekeepers should be familiar with the symptoms of AFB, and the actions they must take if they discover it.
- AFB can be diagnosed by hive inspection and seeing the clinical signs of the disease, which include a “ropiness test” performed with a matchstick on a diseased-larva, looking for “pupal tongue”, or dried scale remains of AFB larva.

Deformed wing virus

- Deformed wing virus causes stunted wings in adult bees. It also harms their development and they do not live very long. This virus can be very damaging to the health of a beehive.
- Deformed wing virus is spread by the varroa mite. If a beekeeper does not control varroa well, then deformed wing virus will cause extra problems for the colony.
- Good control of varroa is the only way to get good control of deformed wing virus.
- The effects of deformed wing virus often persist for a very long time in a colony, even once varroa has been reduced to low levels.

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