



Varroa Elimination Unit (VEU)



Snapshot

Industry partners: Cooling Solutions Ltd

Project length: 1 year

Start date: December 2019

Estimated completion date: December 2020

Industry funding: \$60,600

MPI funding: \$59,000

An SFF Futures project led by Cooling Solutions Ltd will trial 14 Varroa elimination units to help protect bee colonies from Varroa infestations.

The opportunity

The parasitic mite *Varroa destructor* has caused significant damage to New Zealand's honey production since 2000, with infestations impacting the health of our honey bees. Conventional chemical treatments fail to deliver consistent and adequate dosages throughout hives. They are susceptible to various factors such as wind, venting, temperature and humidity. Additionally, the effects of current hive treatments don't last long. Beekeepers require a more effective management method to kill Varroa and prevent reinfection.

The solution

Cooling Solutions Ltd will design, build and test 14 Varroa elimination units (VEU), with the aim of delivering the correct dosage of fumigant (miticide) at the right time and for the proper duration. The VEU device will be placed in the hive and will measure the amount of miticide circulating within the hive using

sensors. It will automatically release an appropriate dosage to ensure that a suitable level remains continuously within the hive, without negative impacts to the bees and honey it contains.

The benefits

If successful, this project is expected to benefit New Zealand by:

- reducing beehive losses and improving bee health;
- saving beekeeper time, money and stress;
- ensuring a premium export product.