Varroa destructor – Transition to Management: what happens now?

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- Varroa mite (*Varroa destructor*), the most serious pest of European honey bees, was detected for the first time in Australia at the Port of Newcastle (NSW) in June 2022
- An emergency response was initiated according to the Emergency Plant Pest Response Deed (EPPRD) supported by the Commonwealth, state and territory governments, and agricultural industries potentially affected by this pest
- Both the strawberry and Rubus industries were involved in this response, as signatories to the EPPRD
- The Response was led by the NSW Department of Primary Industries, and was the largest agricultural biosecurity response in Australia to date
- In September 2023 the National Management Group (NMG) agreed it was no longer feasible to eradicate Varroa mite and a plan to assist industry and the community to transition to management (T2M) was developed
- The T2M plan was approved in February 2024

The aim of the T2M plan is to provide an orderly transition from the response program which focused on eradication, to management of the pest while minimising the ongoing effects of Varroa mite naturalisation on the European honey bee industry and pollination-reliant industries.

The plan focuses on maintaining business continuity for the honey bee industry and the horticulture industries that rely on honey bee pollination.

It aims to slow the spread of Varroa mite to allow beekeepers, pollination-dependent industries and the community sufficient time to prepare for the inevitable spread of Varroa mite.

The T2M plan will be delivered over 24 months to allow for recruitment of personnel, with the majority of activities delivered during the first 12 months.

There are four objectives within the plan:

- Completion of activities under the response plan
- Building industry resilience
- Slowing the spread of Varroa mite
- Future-ready industries

An adult female Varroa mite feeds on a developing bee. Photo credit: Scott Bauer, USDA Agricultural Research Service, Bugwood.org

Completion of the activities planned under Response Plan Version 3

All activities associated with eradication were completed by March 2024, including tracing and surveillance for infested premises, opt-in hive euthanasia for beekeepers who were in previous eradication zones, and wild European honey bee surveillance and baiting.

The NSW DPI compliance team are continuing to investigate complaints and progress prosecutions relating to offences under the Eradication phase of the response.

Building industry resilience

It was agreed by all industries involved that the most effective way to prepare for the impact of Varroa mites is to train beekeepers and provide them with the skills they need to manage Varroa mite and maintain healthy hives.

Over 70% of the budget is allocated to delivery of training and extension services to achieve this. Under the T2M plan, tailored resources are being developed to provide accessible, current and consistent information and training programs for best practice beekeeping in the Australian context.

Training will include nationally delivered online and face-to-face training for beekeepers, by state-based trainers who have completed a 'Train the Trainer' program delivered by Tocal College, NSW DPI technical specialists and Bee Biosecurity Officers.

The ***Australian Honey Bee Industry Biosecurity Code of Practice*** and the ***Bee Biosecurity Manual*** will also be updated as part of the T2M plan. The Code of Practice provides a framework for beekeepers to use best practice biosecurity measures to achieve pest and disease prevention and control.

Varroa Development Officers (VDOs) will be engaged in each state to work with commercial and recreational beekeepers to promote best management practice guidelines and resolve problems. The VDOs will also establish, coordinate and maintain a voluntary Varroa mite monitoring program, in collaboration with volunteer beekeepers and beekeeping clubs.

For pollination-dependent industries, a National Pollination Industry Coordinator (PIC) will work with industries to identify their concerns, knowledge gaps and future needs related to managing pollination.

The PIC will coordinate the development of resources specific to the needs of pollination-dependent industries and will work with existing IDO networks to support delivery of resources to growers. The PIC will act as a key point of contact for IDOs to clarify information or raise concerns about industry needs. The VDOs may also work with plant industries, where a beekeeping perspective is required for engagement with growers.

While diagnostic capability and capacity within NSW have been well established through the emergency response, more work is required to bolster this on a national scale to support ongoing surveillance and management needs. The T2M plan will share knowledge and expertise to enable interstate diagnostic laboratories to detect Varroa mite and associated exotic viruses quickly.

Slowing the spread of Varroa mite

After the decision that Varroa mite was no longer technically feasible to eradicate, NSW introduced biosecurity zones aimed at preventing the movement of heavily infested colonies throughout NSW. These zones will be kept in place for no longer than 12 months. Varroa mite will remain a notifiable pest in NSW.

Other states are considering options for consistent movement conditions for bees, queens, hives and other associated material across borders, that are practical, least restrictive to trade, technically justified and address the risks to support business continuity and pollination security.

Beekeepers in NSW will be audited to ensure they comply with monitoring and reporting requirements, and conditions of beekeeper registration. Compliance activities in Vic, SA and Qld will focus on interstate movement of risk material to ensure compliance with permitted movement. Activities may change if Varroa is detected in other states.

The VDOs will engage with beekeepers on a voluntary basis to help them undertake surveillance activities in their apiaries, to facilitate the collection of surveillance data from managed commercial and recreational hives. This data will support decisions around intra- and interstate regulation aimed at slowing the spread, and help to measure the success of the T2M program.

Future-ready industries

As part of the T2M plan, a survey similar to COLOSS will be initiated, to help understand the effects of Varroa mite and how it is being managed. COLOSS is a global initiative which conducts standardised colony loss surveys in 30 countries to better understand the risk factors of colony loss. This would be initiated for Australia as part of the T2M plan, with support beyond the plan being provided through alternative funding mechanisms.

A system will also be introduced to collate and analyse monitoring and surveillance data nationwide, in order to map the spread of Varroa mite over the next 3 to 5 years. Consistent data reporting is important, as the beekeeping industry is mobile, with hives moving across state borders to provide pollination services.

Upskilling of queen bee breeders will also help to future-proof the industry, to enable breeders to use advanced techniques for the selection of Varroa mite-resistant queens and improve breeding for Varroa mite tolerance.

Finally, the T2M plan will include a review of current research supporting greater pollination efficiency in a post-Varroa mite Australia, and provide recommendations for further work to support future ready industries.

The establishment of Varroa mite in Australia will radically change the way European honey bees are managed, and potentially the access to pollination for industries that rely on honey bees. The activities in the T2M plan have been developed to provide the knowledge and tools needed to minimise the impact of this pest to beekeepers, pollination-dependent industries and the community, and enable management of Varroa mite in the long term.

More Information

The Australian Honey Bee Industry Council (AHBIC), in collaboration with AgriFutures Honey Bee & Pollination program, is hosting a series of podcasts and interviews on Varroa mite which can be accessed at https://honeybee.org.au/varroa/podcasts-webinars

For more information about the transition to management go to bit.ly/VM-NSW or honeybee.org.au