

Northern Territory Honey Bee Biosecurity Guide



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Useful Contacts

Do you need assistance with Bee Biosecurity in the NT? Think you might have a pest or disease in your bee hive(s)? Have questions?

Don't hesitate! The below contacts are here to assist you and keep our NT bee's strong, healthy, productive and pest free. Not sure which one to contact first? Plant Biosecurity is your first port of call and can redirect you if necessary.

Plant Biosecurity (NT)

08 8999 2118 plantbiosecurity@nt.gov.au

Bees in the Northern Territory are regulated by the Plant Biosecurity Branch (PBB) of the Biosecurity and Animal Welfare (BAW) division within the Department of Industry, Tourism and Trade (DITT). NT Plant Biosecurity Officers are based in Darwin, Katherine and Alice Springs and travel across their regions.

Entomology (NT)

08 8999 2258 insectinfo@nt.gov.au

There are many invertebrate pests such as mites, moths and beetles that can seriously damage NT honey bees and some invertebrate pests are notifiable. Entomology can assist you to collect samples for accurate identification. Entomology works closely with the Plant Biosecurity Branch.

Chemical Services (NT)

08 8999 2344 chemicals@nt.gov.au

Some pesticides are toxic to bees. Beekeepers and farmers can take steps to manage the risk of bee poisoning. The use of chemicals is controlled by both Australian and NT law and regulations. They apply to everyone who uses chemicals - from the householder to the farmer or pest control operator. Concerns about the use, management, or disposal of chemicals can be directed to Chemical Services.

Exotic Plant Pest Hotline (National)

1800 084 881

The Exotic Plant Pest (EPP) hotline is a 24 hour-a-day, seven-days-week service that can be called from anywhere in Australia, as long as you have phone service. When you make a call to the EPP hotline a state government department representative will take your call and discuss the symptoms with you.



Websites

BeeAware beeaware.org.au

An important source of information for beekeepers, including the biosecurity code of practice, contact details for bee biosecurity officers, videos and online biosecurity training.



Plant Health Australia planthealthaustralia.com.au

Plant Health Australia (PHA) is the national coordinator of the government-industry partnership for plant biosecurity in Australia.

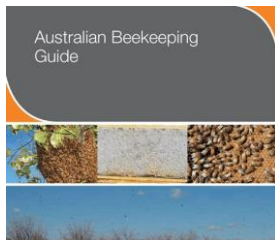


Australian Honey Bee Industry Council honeybee.org.au

The Australian Honey Bee Industry Council (AHBIC) aims to maximise the efficient use of industry resources and funds to ensure the long term economic viability, security and prosperity of the Australian Honey Bee industry in Australia.



Publications



Australian Beekeeping Guide

142 pages | General beekeeping information

Published Feb 2015

[Australian Beekeeping Guide | AgriFutures Australia](#)



Biosecurity Manual for Beekeepers

64 pages | Essential bee biosecurity information

Version 1.1 January 2016

[Biosecurity-Manual-for-Beekeepers.pdf \(beeaware.org.au\)](#)



The Australian Honey Bee Industry Biosecurity Code of Practice

20 pages | Framework for best-practice bee biosecurity

Version 1 July 2016

[Australian-Honey-Bee-Industry-Biosecurity-Code-of-Practice.pdf](#)

Introduction

Bees are productive insects that play a key role in agricultural pollination, as well as providing income and enjoyment for professional and hobby beekeepers.

European honey bees are becoming increasingly important in the Northern Territory as the demand for pollination services expands. Agricultural industries that depend on honey bee pollination for a significant part of their production include: zucchini, rockmelon, melons, mangoes, cucumber and pumpkin.

Honey bees world-wide are under threat from many pests and diseases that impact their health and productivity. Some of these are established in parts of the country and others are “exotic”, meaning they are not found in Australia. Bee populations in the Northern Territory are in a great position because they are free from many of these serious pests and diseases.

Beekeepers have an important role to play in protecting their bees and the honey bee industry from the spread and impact of diseases. All beekeepers, whether hobbyist or commercial, need to educate themselves on the legal requirements concerning beekeeping, about the different established and exotic diseases, and best practice management to minimise disease risk and keep their bees healthy.

This document is intended as a reference to provide general beekeeping biosecurity information for beekeepers, or people considering keeping honey bees in the Northern Territory. There is a great assortment of general beekeeping information online and you might also consider joining a local beekeeping association to meet and share knowledge with other local beekeepers.

Note on native bees: While European honey bees are significant pollinators of our food crops, there are also many important native pollinators including native bees, beetles, moths and birds. A backyard garden can be a haven for native bees and other pollinators. By providing food and water, undisturbed habitat and nesting material and minimising the use of pesticides you can attract a plethora of native pollinators and predatory insects.

[More information on native bees](#)ⁱ.

Responsibilities of all beekeepers

Beekeeping can be a rewarding hobby or profitable business, but there are legal and ethical responsibilities that you need to consider before you decide to go ahead.

Understand the rules

You must comply with the law concerning bees in the Northern Territory. The relevant law is the [Livestock Act 2008](#)ⁱⁱ and [Livestock Regulations 2009](#)ⁱⁱⁱ.

The NT is free from many serious diseases that damage the health of European honey bees in other Australian states and territories. The legislation provides control measures to prevent entry into the NT of major pests and diseases to preserve this pest-free status and the important pollination benefits that bees provide to many crops.

As per the *Livestock Act*, if you own bees, you MUST:

- Register your hive(s)
- Notify the Department if you become aware or suspect that any bees or things are infected with a notifiable disease

You MUST NOT:

- import bees, bee products or used equipment from other states or territories except in accordance with a NT Health Certificate; or from overseas except in accordance with a [Department of Agriculture, Fisheries and Forestry](#) (DAFF)^{iv} import permit
- sell or transfer bees that are infected with a disease; or products from infected bees

Hive Registration – Property Identification Code

All honey bee hives must be registered with a Property Identification Code (PIC). Your PIC is a biosecurity tool to help us communicate with you in the event of any outbreaks of disease. We may also contact you to provide information, or to invite you to attend events to assist you on your beekeeping journey. [Registration or updating your existing PIC is free and easy](#)^v.

Legal requirements about moving bees, products and equipment

Bee pests and diseases can be spread through the movement of infected bees, products (including honey) and used equipment or clothing. To prevent the spread of disease and protect the Territory's bee populations, the importation of bees, apiary equipment and bee products is strictly controlled.

The only bees that are permitted to enter the Northern Territory are:

- hand-picked queen bees and no more than 6 (six) escorts
- package bees sourced from the [small hive beetle free](#) area of Western Australia

Beehives including used brood boxes, supers and nucleus hives are NOT permitted entry into the Northern Territory. For full details of import requirements for bees, bee products and used apiary equipment, please see the [NT Health Certificate forms](#)^{vi}.



Hive management

No matter what type of hive you have, managing honeybees requires time and commitment. In addition to the legal responsibilities of beekeepers, there are moral and biosecurity obligations that beekeepers need to understand and follow.

The Biosecurity Code of Practice

Biosecurity in terms of beekeeping, refers to a set of preventative measures designed to reduce the risk of introduction and spread of pests and diseases. The Australian Honey Bee Industry Biosecurity Code of Practice (the Code) is a framework for beekeepers to engage in best-practice biosecurity. It was developed by the industry body Plant Health Australia, in consultation with governments and beekeepers.

The Code outlines principles and requirements for minimum standards of biosecurity, and is endorsed by the NT Government, along with all other states and territories. The Department strongly encourages all beekeepers to adhere to the requirements, as part of their shared responsibility to protect the Territory's honey bee populations.

Code of Practice base Requirements

For all Beekeepers:

1. Beekeepers must be registered
2. Beekeepers must report notifiable diseases
3. Hives must be regularly inspected for pests and diseases
4. Beekeepers must control or eradicate pests and diseases and must manage weak hives
5. Beekeepers must maintain records of biosecurity-related actions and observations
6. Hives must be appropriately constructed and branded
7. Beekeepers must not allow hives, or appliances to become exposed or neglected
8. Beekeepers must allow their operation to be assessed

For Beekeepers who manage 50 or more hives:

9. Beekeepers must demonstrate a minimum level of knowledge of pest and disease identification and management
10. Beekeepers must have honey tested annually for American foulbrood
11. Beekeepers must provide additional information annually to enable assessment
12. Apiary sites should be identified with signage
13. Beekeepers should maintain a barrier system of hive management

[Download a copy of The Code](#)^{vii}, or contact plantbiosecurity@nt.gov.au to request a hard copy.

[The Biosecurity Manual for Beekeepers](#)^{viii} is another document that outlines simple and practical ways to protect your hives and the Australian bee industry as a whole.

Biosecurity Training for Beekeepers

An online training course is available for beekeepers to provide guidance on how to care for honey bees in accordance with Code of Practice. The course includes information on the main pest threats and shows how to check hives for signs of pests and diseases. The course is designed for people with a basic understanding of beekeeping practices, but all beekeepers should find it helpful.

The course was developed by Plant Health Australia and the Australian Honey Bee Industry Council with funding from AgriFutures Australia. [Register for the free training here](#)^{ix}.

Hive construction and location

Beekeeping in the Northern Territory can be challenging due to the climate and limited floral resources at certain times of the year. Consider available seasonal floral resources, taking into account your location and the number of hives that may already be present in your area.

Bees require a dry, sunny position protected from wind. Consider flight paths and place hives away from areas like footpaths, back doors and vegetable gardens. Hives (including swarm catch boxes) must be maintained in a good condition to minimise the risk of disease spread.

When setting up and maintaining your hives:

Do

- Ensure that all hives have intact external surfaces with bee access only available through specific access points
- Maintain all hives in a way that allows frames to be individually removed from the hive for easy inspection
- Clearly and legibly mark each hive with your Property ID Code
- Ensure that any swarm catch boxes contain only clean foundation (no brood, honey, pollen etc.)
- Destroy or properly dispose of any unwanted bees or parts of a hive

Do Not

- Allow a used hive; equipment such as frames or tool; hive products including honey or beeswax to be exposed in a manner that may attract robber bees (including during transport)
- Abandon a hive
- Neglect the management or care of a hive

Pests and diseases

Notifiable bee pests and diseases

There are many harmful bees and bee pests which could seriously damage the NT honey bee industry. If you suspect or confirm an endemic, emergency or exotic bee pest or disease, you must report it as soon as possible. Contact NT Plant Biosecurity on 08 8999 2118 or email plantbiosecurity@nt.gov.au

[See a full list of Notifiable honeybee diseases in the NT^x](#) (From Gazette 30. 2020)



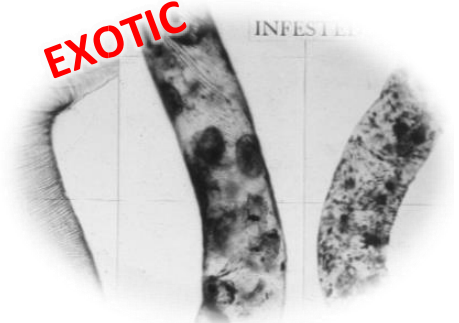
TROPILAELOPS MITE

Feeding on an *Apis dorsata* pupa
© Denis Anderson,
www.beesdownunder.com



VARROA MITE

Visible as a dark, oval shape, an adult female Varroa mite feeds on a developing worker bee. © Scott Bauer, USDA Agricultural Research Service, www.Bugwood.org



TRACHEAL MITE

Healthy and Tracheal mite infested trachea
© FERA



EUROPEAN FOULBROOD

Central cells show infected larvae. Note larvae is curled upwards in its cell and is off coloured.
© Food and Environment Research Agency (FERA)



AMERICAN FOULBROOD

AFB infected brood. Non-uniform pattern and some sunken cells indicate AFB.
© Doug Somerville, NSW DPI



BRAULA FLY

Braula fly on the thorax of a worker bee
© The Food and Environment Research Agency (FERA)
Present in VIC and TAS ONLY



SMALL HIVE BEETLE

Close up SHB larvae and bees on frame.
© Nick Annand, NSW DPI

Endemic pests and diseases are present in Australia. They may or may not be present in the NT. These include:



CHALKBROOD DISEASE

Mummies are moved from the infected cells or hive floor to the hive entrance. © Jeff Pettis, www.bugwood.org



GREATER & LESSER WAX MOTHS

Wax moth larvae and webbing in stored combs
© Kathy Keatley Garvey, UC Davis Department of Entomology



SACBROOD DISEASE

Body of a Sacbrood disease affected larvae that has become a fluid filled sac.
© Food and Environment Research Agency (FERA)



ASIAN HONEY BEE

Apis cerana queen. © DAFF Queensland
Present in QLD only

[More information on these and other diseases, including identification and management.](#)^{xi}

Government services available

Free identification and advice services are available to the general public. If you notice a pest or disease in a beehive you can contact Plant Biosecurity to organise submitting a sample for identification.

National Bee Pest Surveillance Program

Plant Health Australia coordinates the National Bee Pest Surveillance Program (NBPSP). It is an early warning system to detect occurrences of exotic bee pests and pest bees. There is a focus on surveillance for Varroa mite, as this is considered the greatest exotic threat to the Australian honey bee industry.

The program monitors locations considered to be the most likely entry points for pests across Australia. Surveillance activities include: floral sweeping for collection of single bees; use of sentinel hives at port locations; catch boxes for collection of swarms; and collection of Rainbow Bee-eater pellets for detection of Asian honey bees. [More Information on the NBPSP](#)^{xii}.

Disease status in the NT

American foulbrood

American foulbrood (AFB) was first detected in Alice Springs in late 2019 and again in 2020. To-date the disease has not been detected outside of the Alice Springs Township. The Department responded by implementing a surveillance program and worked closely with local beekeepers. All known infected hives were destroyed. It is not considered feasible to eradicate AFB from the region. However, due to the ongoing commitment of beekeepers in collaboration with the Department, it is hoped that AFB has been removed from local residential hives.

How the disease is diagnosed

AFB can be difficult to detect visually, especially in the early stages of infection. The easiest and most effective way to test for AFB is through a laboratory analysis using a honey sample. Laboratory tests can confirm the presence of AFB spores in honey with very high confidence, even at very low levels. If you suspect your hive might be infected, you must report it to the Department. We can provide assistance in coordinating testing for your hives. [More information on AFB](#)^{xiii}

Small Hive Beetle

In 2010, a single small hive beetle (SHB) was detected in a queen bee shipment that entered the NT. The beekeeper noticed the beetle before the package was opened, and notified the Department. The beetle was destroyed, and a surveillance program was carried out with no further detections. The Territory remains free of SHB. This incident highlights the important role that beekeepers play in early detection of pests. It also emphasises the necessity of buying from reputable suppliers and observing all requirements of the Health Certificate system.



Adult Small hive beetle are brown or black with clubbed antennae. © James D Ellis, University of Florida

Exotic Bee Pests

The National Bee Pest Surveillance Program (NBPSP) managed by Plant Health Australia aims to detect new incursions of exotic bee pests (which includes Asian honey bee) and their parasites into Australia. The NT is on alert for Asian honey bee as they are a significant threat to Australian and NT honey and pollination industries because they could carry the Varroa mite which feeds on bees. They can also spread other pests or diseases to European honey bees, which are used to produce honey and pollinate fruit and vegetable crops.

The Asian honey bee was detected in Queensland in 2016, 2019 and 2020. Response plans were implemented on all occasions. Authorities are asking the community to report any suspect bees to help protect beekeeping and plant industries.

Minimising and Managing Risk

Every beekeeper must be familiar with established pests and how to minimise and manage them, and how to monitor for exotic pests. Beekeepers have a responsibility to minimise the risk of pest and disease spread within their own apiaries and to other apiaries. Bees, brood and hive material must be regularly inspected for evidence of pests and diseases. Early detection enables faster management responses and more successful outcomes.

Inspection of hives

The Biosecurity Code of Practice states that beekeepers must examine each apiary by visually inspecting every hive for general health and for the presence of pests and diseases.

Inspections must be carried out:

- in a manner that will enable likely detection of any visual evidence of a pest or disease, including visual inspection of at least three brood frames
- as often as necessary, but at a *minimum* of at least twice a year, 4 months apart.

For the detection of arthropod pests, including Varroa and Tropilaelaps mites, inspections using: sugar shake; alcohol wash; or drone uncapping must be carried out in at least one hive in an apiary, twice a year. [Find out how to do the sugar shake test at home, and other methods of exotic mite surveillance](#)^{xiv}.

Record keeping

Record keeping is an important part of good beekeeping and effective biosecurity for both hobbyist and commercial keepers. Accurate records are essential for tracing the source of disease and should be kept for all hive management actions and observations. Keeping accurate records is a requirement of the [Biosecurity Code of Practice](#)^{xv}.

It is important to keep records of:

- The dates of hive inspections and any observations, such as hive strength and any pests or diseases
- Details of all actions taken to manage any pests or diseases
- Details of any tests for the presence of American foulbrood
- Dates and details of movements of hives (including swarm catch boxes)
- Details of introductions of any bees, used hives or hive parts, including dates and supplier
- Details of any biosecurity-related training

[See a variety of record templates here](#)^{xvi}

Barrier Management

Barrier systems help to prevent disease spread through the transfer of infected material within and between apiaries. This type of system works by dividing apiaries into smaller sub-units, where there is no interchange of equipment, bees or products between sub-units. Good barrier management systems are effective in reducing the spread of disease and assist with tracing. They do not prevent outbreaks, and brood inspections are still required. [See more information on barrier systems here](#)^{xvii}

Full website addresses

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- i <https://www.aussiebee.com.au/>
 - ii <https://legislation.nt.gov.au/en/Legislation/LIVESTOCK-ACT-2008>
 - iii <https://legislation.nt.gov.au/en/Legislation/LIVESTOCK-REGULATIONS-2009>
 - iv <https://www.agriculture.gov.au/>
 - v https://nt.gov.au/industry/agriculture/livestock/get-a-property-identification-code?SQ_VARIATION_172107=0
 - vi <https://nt.gov.au/industry/agriculture/livestock/honey-bees-and-beekeeping/rules-about-moving-bees-equipment-and-products>
 - vii <https://beeaware.org.au/wp-content/uploads/2017/09/Australian-Honey-Bee-Industry-Biosecurity-Code-of-Practice.pdf>
 - viii <https://beeaware.org.au/wp-content/uploads/2019/05/Biosecurity-Manual-for-Beekeepers.pdf>
 - ix <https://beeaware.org.au/training/>
 - x <https://nt.gov.au/industry/agriculture/livestock/honey-bees-and-beekeeping/bee-pests-and-diseases>
 - xi <https://beeaware.org.au/pests/>
 - xii <https://www.planthealthaustralia.com.au/national-programs/national-bee-pest-surveillance-program/>
 - xiii <https://beeaware.org.au/archive-pest/american-foulbrood/#ad-image-0>
 - xiv <https://beeaware.org.au/biosecurity/keeping-honey-bees-healthy/surveillance-for-exotic-pests/>
 - xv <https://beeaware.org.au/wp-content/uploads/2017/09/Australian-Honey-Bee-Industry-Biosecurity-Code-of-Practice.pdf>
 - xvi <https://beeaware.org.au/code-of-practice/record-keeping/>
 - xvii <https://beeaware.org.au/code-of-practice/barrier-systems/>