

# Student workbook answers

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## What are varroa mite?

List at least three words that describe varroa mite and their place in the environment.

Answers vary, this is about student's current understanding.

tiny \_\_\_\_\_ insect \_\_\_\_\_

parasite \_\_\_\_\_ invasive \_\_\_\_\_

brown \_\_\_\_\_ deadly to honey bee colonies \_\_\_\_\_

Complete the form based on the PowerPoint you have viewed.

## What are varroa mite?

varroa mite are a tiny pest that are deadly to honey bee colonies \_\_\_\_\_

## Where do they live?

They live in honey bee colonies. varroa destructor (the species in this outbreak) only survives within honey bee brood and on adult honey bees \_\_\_\_\_

## What do they eat?

They feed on bees and bee pupae \_\_\_\_\_

## Why are they a problem?

varroa mite are easily spread from hive to hive when they attach to workers and drones (female and male bees) and through beekeeping practices. varroa feed on bee pupae and adult bees, this spreads viruses and disease which weaken the whole honey bee colony and all unmanaged hives. Poor health and lack of production eventually kill the colony. \_\_\_\_\_

# Lifecycle of varroa mite

Number the stages of a varroa mite's lifecycle in the correct order.

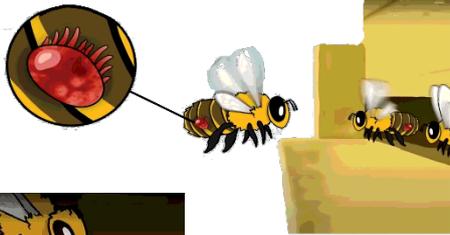
Describe each stage.

4



When the brood cell is capped the mite remains inside feeding on the developing bee.

2



When the adult bee returns to the hive, the varroa mite comes with it.

7



When the adult bee emerges from the brood cell the mite and the babies emerge with it, infesting other bees.

6



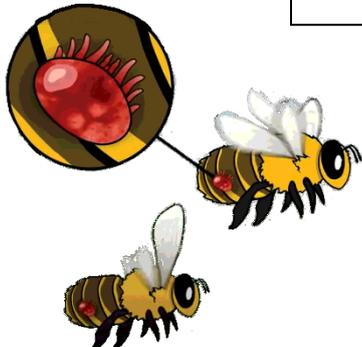
While inside the brood cell the adult mite lays three to four eggs.

3



Once inside the hive, the mite drops into a brood cell where bees grow from eggs to fully formed bees.

1



Varroa mites attach themselves to any adult bee and can spread fast.

Images on this page are adapted from the video *Honey bee and Varroa mites animation. How Varroa Destructor devastates honey bee colonies*, available on YouTube at <https://youtu.be/h-wDgd5yURo>

## **How are varroa mite spread?**

**How many eggs can one adult varroa mite lay?**

Three to four \_\_\_\_\_

**Describe the way that varroa mite spread from one area or hive to another**

When the mites emerge from the brood cell they attach to adult bees. The mites are spread from hive to hive as bees from different hives mix while they are out of the hive. \_\_\_\_\_

**What impact does this have on efforts to control the spread of varroa mite?**

This makes outbreaks of varroa mite hard to control, if the outbreak is not detected early, or control measures are not put in place quickly, the mites can spread to many hives.

## **The emergency response**

**What are beekeepers and staff in the emergency response doing to control varroa mite?**

When the mites were detected NSW DPI moved quickly to put control measures in place. Emergency zones were established around all infested hives. Beekeepers are asked to notify NSW DPI of the location of their hives so that they can be checked or euthanised as required. Beekeepers across the state are restricted from moving hives and those beekeepers outside the emergency zones are asked to check their hives and to notify response staff if their hives have been in the emergency zones or they find varroa mite.

Many DPI staff and volunteers are providing large scale response teams to work in offices and in the field conducting surveillance to

trace the spread of varroa. They plan to utilise the information gathered to eradicate the mite from Australia.

### **How will this help contain the varroa mite outbreak?**

Establishing the extent of the outbreak is vital. Euthanising infested colonies, restricting movement of hives and surveillance of the zones around the eradication zone limits the spread of the varroa mite.

### **What can we do to help?**

Learning about the outbreak and the requirements of the emergency response is a good start. If everyone works together we have a chance of containing this outbreak.

Stay up to date by visiting the DPI website where you will find lots of useful information including Frequently Asked Questions and maps showing the response data. Report any wild honey bee colonies to the hotline.

Sadly many bees have to be destroyed for there to be any chance of containing the outbreak. This is both a sad time for the beekeepers and a difficult financial burden for their businesses. Support is available for beekeepers including a compensation package from the state and federal governments.

**More information about support is available at [Assistance guide for beekeepers - Varroa \(nsw.gov.au\)](#).**