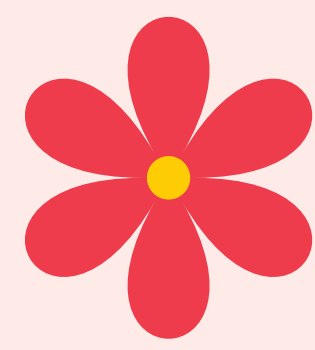




Problem Card 12

Bee Pollination



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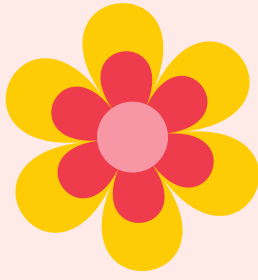
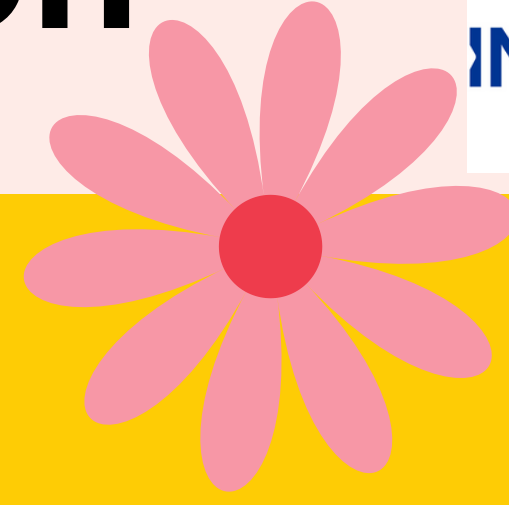
Where have you seen bees?

What were they doing when you saw them?

Could you imagine life with out them?

You may have seen bees buzzing around in your garden looking very busy! They were! Whilst visiting flowers, gathering and spreading pollen grains as they go, they are the key in a process we call pollination.

Pollination is the transfer of pollen from an anther to the stigma of a plant. This assists plants to reproduce.



So how does this effect you?

Who else does this effect?



Almonds are a huge crop in Australia. 61% of almonds are grown in Mildura's Sunraysia district in Victoria. Almond pollination in Victoria requires 200,000 bee hives. Victoria has 120,000 bee hives and relies on the additional bee hives to come in from NSW. When the Varroa mite outbreak was detected in NSW in June 2022.

The hives were 'locked out' of Victoria to protect the bees. When this happened the almond growers were seriously worried about the timing of the pollination of the almond crops. Concerned about how they would pollenate crops without the extra help of the NSW bees.

PROBLEM:

Varroa mite (Varroa destructor)

A small round brownish-red blood sucking mite with a big impact.

The mite has only recently been detected in Australia in New South Wales (NSW) and affects bees.

The Varroa mite causes bees and their larvae to have:

- body and wing deformities
- reduced overall health
- increased chances catching viruses

The presence of the mite makes it hard for the bees to perform their role of pollinators for important food crops like almonds, avocados, fruit and grains.



Bee Lockdown

Australia is one of the only countries in the world that does not have a permanent population of Varroa mites. To control the most recent outbreak, the government has called a 'lock down' of bee's keeping NSW bee keepers out of Victoria! This move helps to protect the bees and limit the spread of the Varroa mite. But it comes with a cost for industries like the almond industry. They require bees to pollenate their trees as they blossom at the beginning of spring. No bees means fewer almonds for the whole growing season in Australia.

Explore & Innovate

1. Why are bees so important to our agricultural industries?
2. What could happen if bees do not pollenate crops?
3. Discuss food availability and the types of food that would be used instead.
4. Imagine that there is a technology that can help. Explore what this could be and how it would help with the pollination process.
5. What are the problems facing bees and crop growers. Brainstorm some possible solutions to these problems.
6. Explore the possibility of creating more bee habitat to help overwintering of bees. What would this involve?

Industry challenges

Agriculture Victoria research scientists work to help the horticultural industries thrive! Their role is to help solve problems that may arise through the presence of pest plants and animals. In Victoria science researchers and field officers work closely with growers to help reduce threats to the industry.

Look further:

- Bee maps and gardens
- Paintbrush techniques
- Bee hygiene and checking
- The purple hive project
- Pollinators & Pollination

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