

# Upskilling community leaders for Australian Pollinator Week

Planting floral resources (food) for insect  
pollinators



## **DISCLAIMER**

Hello and thank you for being part of this project.

This presentation is designed to be shared with the broader community. It is not designed to be changed in anyway, unless authorised by the author.

A script has been provided so that you can confidently deliver this presentation, with some basic facts and wonderful images donated by enthusiastic photographers.

If you have any questions, please feel free to either visit the Bees Business website or email Megan Halcroft

Ok! Let's begin!

(You are welcome to share links with participants, or you can download and print this document so that everyone has a hard copy)



# Australian Pollinator Week

Why should we celebrate it  
and how can we get involved?



**[www.beesbusiness.com.au](http://www.beesbusiness.com.au)**  
go to the Australian Pollinator Week tab



Hello! And welcome to this presentation about the importance of pollinator week! This presentation has been created by Dr Megan Halcroft, from Bees Business, to teach people about the importance of pollination and to encourage communities to get involved in Australian Pollinator Week.

## What is pollination?



So, first things first, what is pollination?

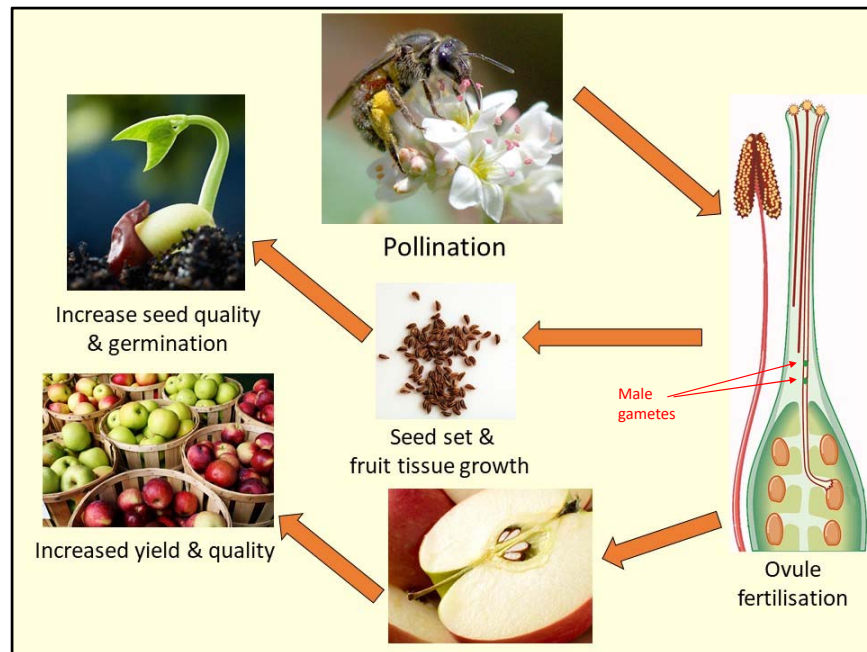
Put simply, pollination is the process by which plants reproduce.

Like in humans, plants have sex cells. Male sex cells are called pollen and are found on the anthers of a flower. Female sex cells are called ovules and are found in the base of the stigma.

For pollination to occur, male and female sex cells must unite.

This requires pollen to be carried from the anthers to the stigma. This is done by a pollination vector, which can be wind, water or an animal.

Once pollen has made contact with the stigma, a sugary secretion on the stigma nourishes the pollen grains.

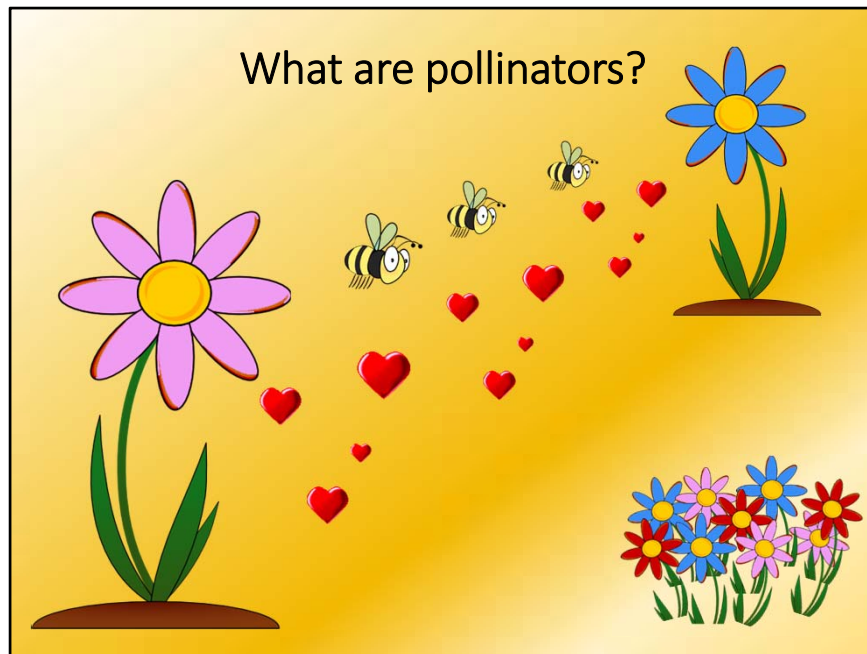


This nourishment causes the growth of a pollen tube, which carries the male gametes down the stigma towards the ovules

When the male gametes finally unite with the ovule, fertilisation occurs and causes the development of seeds.

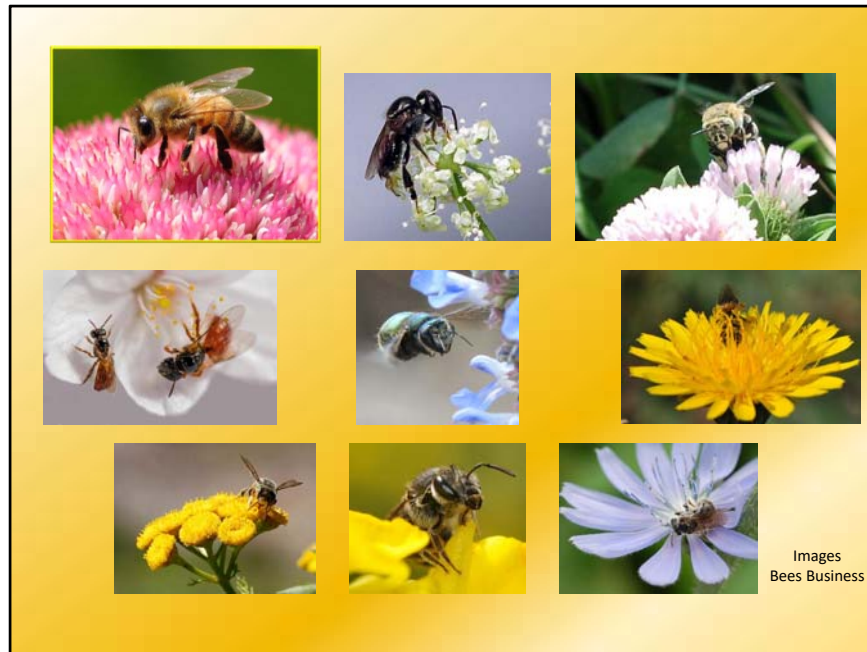
These developing seeds produce a plant hormone which stimulates fruit tissue growth.

This in turn increases fruit and seed quality, and fruit yield.



### **WHAT ARE POLLINATORS?**

A pollinator is an animal that assists in the reproduction of plants, by transferring pollen from flower to flower, with the largest group of animal pollinators being insects.

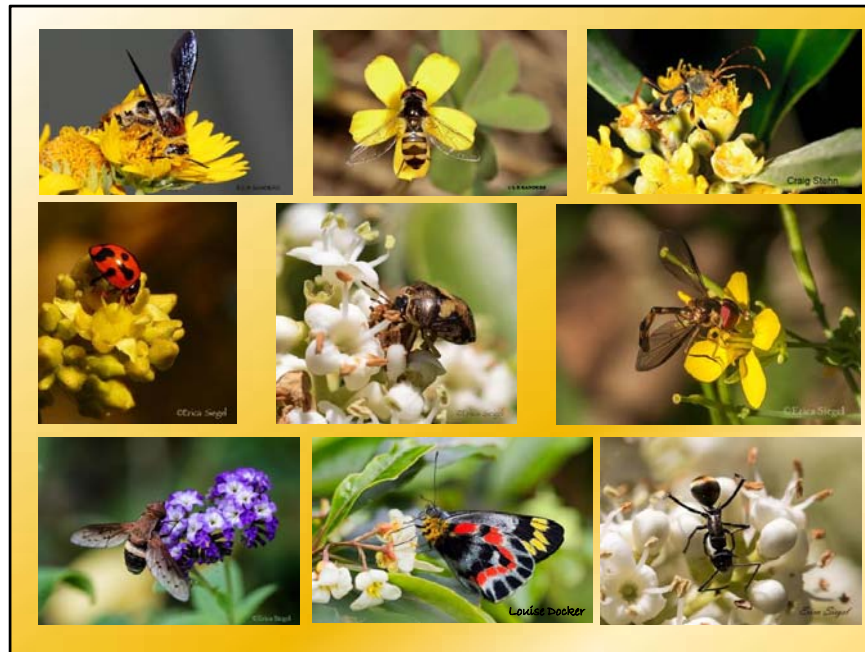


Despite the fact that European honey bees are used widely in Australia's crop production, they are not actually native to Australia.

Australia has approximately 2000 species of native bee.

Many of these bees visit flowers to collect pollen, which is protein, to feed to their babies and nectar, which is sugar, to use as an energy source.

Our native Bees actively collect pollen and most of them pack it into special hairs under their body. As they move over the flowers, large numbers of pollen grains are transferred between flowers.



Australia also has a wide variety of other insect pollinators.

Wasps, hoverflies and ladybeetles also collect nectar from flowers, to give them the energy to perform other useful roles.

Wasps require the energy to hunt other insects for food. This includes pest insects.

And Hoverflies and ladybeetles need energy to hunt aphids.

As the pollinators visit flowers, small amounts of pollen get stuck to their bodies, and is transferred to the stigma of flowers.



## What is Pollinator Week?



What is pollinator week?

It's a designated week when communities, businesses and organisations can come together to raise awareness of the importance of pollinators and support their needs. Pollinator week has been celebrated in the northern hemisphere since 2007. But June is not a very inspiring time for insects in Australia.

Australian pollinator week did not come into being until 2015, as part of a community project called "Bee aware of your native bees."

Australian Pollinator Week acknowledges **our** important and unique insect pollinators during the Southern Hemisphere's spring

It is held during the 2<sup>nd</sup> week of November, every year.

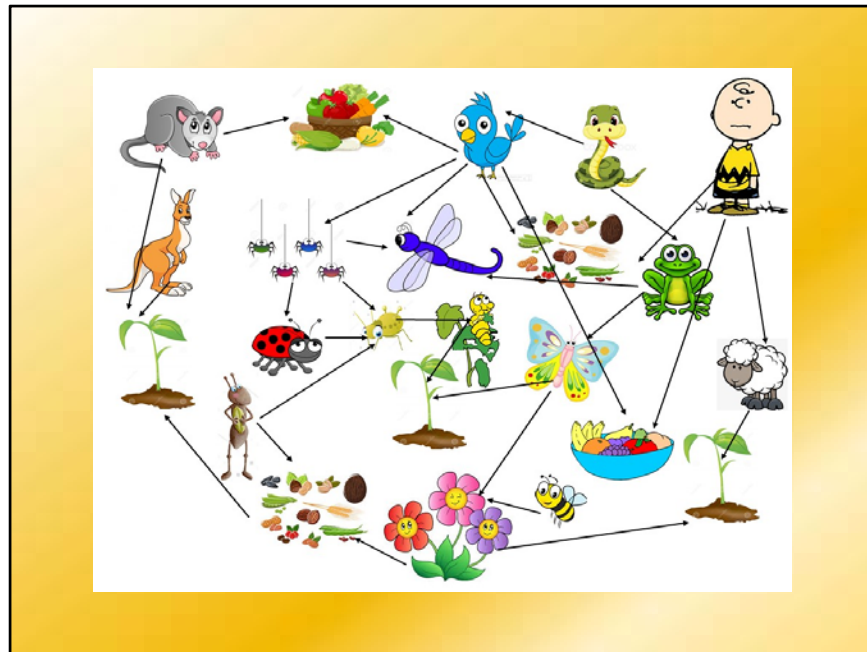
It is held from Sunday to Sunday, to coincide with the Wild Pollinator Count





So why should we participate in Australian Pollinator Week events?

Because Pollination services within agricultural and horticultural systems are vital for food production.



And Pollinators drive biodiversity.



But Currently, some pollinator populations are declining due to inappropriate pesticide use, habitat loss and food resource loss.

We need to make people more aware of the importance of our insect pollinators. And that they are under threat.

## What can we do?



What can we do?

As Individuals, we can help reverse pollinator declines.

We can reduce or stop using pesticides,

We can plant more flowering plants in your garden

and we can create nesting spaces such as bee hotels, or making space for ground nesting insects in your garden



However, the biggest thing that people can do is to spread the word about the importance of pollinators  
Through education, and events such as Australian Pollinator Week, we can make people aware of these hard-working insects.  
And hopefully this will encourage more people to care for the pollinators around them.





Group activities encourage discussion and further engagement, while having fun

# Planting floral resources

## Healthy pollinator populations help drive biodiversity

Plant for successive flowering

Include understory plants as well as trees

Food builds healthy native pollinator populations

Insects can provide free pollination services for

- crop plants
- native flora

### Choosing plants to attract native bees

Although most native bees are generalist foragers, collecting pollen and nectar from a variety of flowers, it is advisable to incorporate some specialist plants into your garden. Native plants not only attract bees, but they attract other beneficial insects such as predators and parasitoids. Predators hunt and eat many pest insects such as aphids, caterpillars, grasshoppers and beetles. Parasitoids lay eggs inside many pest insects' bodies. The balance between beneficial and pest insects is a delicate one, and if we provide the ideal habitat garden for the beneficial insects the balance will swing more toward controlling the pests.

This doesn't mean that you must use native plants exclusively, but that their inclusion will help with pest management. There are many exotic plants that attract bees and provide good quality pollen and nectar.

### Australian native plants

Choose local plant species if possible, as they are more likely to do well in your area. Some examples of bee-attracting flowers are shown below, but they are not limited to this list.

**Myrtaceae**, with their large bowls of easily accessible nectar, are a particular favourite with many Australian native bees. Their plant-forged bees, in the family Colletidae, are the most diverse in the world because they have evolved with these beautiful food resources.



Eucalyptus - Tea tree      Eucalyptus & other species      Eucalyptus - Cottony tree



Banksia      Grevillea      Nylaea      Monardella

[www.beesbusiness.com.au](http://www.beesbusiness.com.au)

This presentation is designed to increase community awareness by engaging the public in 'planting floral resources for insect pollinators.'

There are many free resources that can be found on the Bee Business Website, but many ideas are contained here.

Insect pollinator need a consistent supply of flowers to meet their energy needs. provide plants that flower throughout the year to build natural populations of native bees, wasps, beetles, flies and butterflies.

This ensures their presence in the environment during crop flowering, which helps provide free pollination services.

There will also be a healthy population of native pollinators present to ensure native flora is effectively pollinated, thus setting viable seed to reproduce.

Hence, driving biodiversity.





Activities can include something as simple as planting flowers in the family garden, planting flowers at the local school, or day-care centre, retirement village or park. To something as big as Revegetation of local areas, with the help of Landcare or Bush care groups

Plant understory as well as trees

Choose to provide a succession of flowering times

Wetlands are important food and habitat resources



Wetland plants are also important food resources for pollinating insects, as well as many beneficial insect-pest predators

Flowering plants provide food for many wetland insects. These are part of the complex food web that makes up the diverse ecosystem

### Creating a pollinator habitat garden

- Large areas of the same species
- Provide a succession of flowers
- Flowers available all year round
- Don't be too tidy



When planting a 'pollinator habitat garden', plant large areas of the same species. This is more attractive to pollinators, especially native bees. Plant species that will flower one after the other. Succession planting ensures there are flowers available all year round. Don't be too tidy. Dead stems, rotting wood, bark and rocks provide nesting habitat for cavity nesting insects.



Plant Large areas of the same plant species, rather than scattering different plants around the area.

Large areas of flower are more attractive. And there is more chance of the flowers being pollinated, and producing seed.

If possible plant a few species that will flower in succession. This will feed the pollinators all year round

Don't be too tidy. Plan to let some vegies bolt

It doesn't have to be BIG



It doesn't have to be big. Several pots filled with flowering plants can help attract pollinators into smaller spaces.

Planting for Australian native bees,

[http://beesbusiness.com.au/poll\\_week\\_res\\_2017/Pollinator\\_week\\_Planting\\_for\\_Australian\\_native\\_bees\\_2017.pdf](http://beesbusiness.com.au/poll_week_res_2017/Pollinator_week_Planting_for_Australian_native_bees_2017.pdf)

[http://beesbusiness.com.au/articles/Choosing\\_plants\\_to\\_attract\\_native\\_bees.pdf](http://beesbusiness.com.au/articles/Choosing_plants_to_attract_native_bees.pdf)

[http://beesbusiness.com.au/poll\\_week\\_res/Pollinator\\_Week\\_Creating\\_a\\_pollinator\\_habitat\\_garden\\_general.pdf](http://beesbusiness.com.au/poll_week_res/Pollinator_Week_Creating_a_pollinator_habitat_garden_general.pdf)



Don't forget ground nesting bees & other insects  
Leave some unmulched ground for these insects



Don't forget the ground nesting bees and other insects. Leave a bit of bare ground for these insects.

## Ground nesting bees



Mulch is very difficult for very small insects to burrow under. By leaving some bare areas, you may attract native bees and other beneficial insects to nest in your space. Hundreds of individuals were found nesting in this bare garden



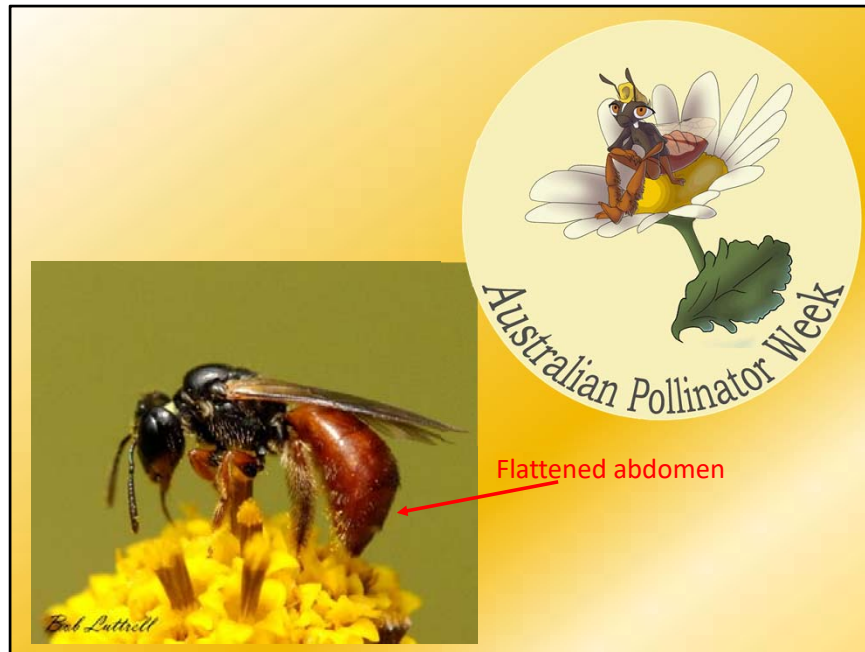
## Meet Rita the Reed bee



To help encourage participation in pollinator week, Megan Halcroft and Ebony Salama designed Rita the Reed bee to be the Australian pollinator week mascot  
Rita is a semi-social Australian native bee



She progressively feeds her young in the open brood chamber of a small, hollow plant stem.



Whilst designing Rita, Megan and Ebony tried to stay true to the morphological structures that define reed bees.

Her red abdomen has flattened metasomal segments.

She uses this to defend her nest by blocking the entrance.



She has a black thorax pinched at the waist, and yellow markings on her clypeus or forehead, made more distinct by her gorgeous pompadour.



Rita's legs are very hairy, as she needs them to carry pollen back to her nest to feed her babies.

## Australian Pollinator Week



So Come and join Rita in spreading the message about Australian Pollinator Week!



Please share these presentations with friend and colleagues

They are available on the Australian Pollinator Week page, on the Bees Business website

Share the awareness.