

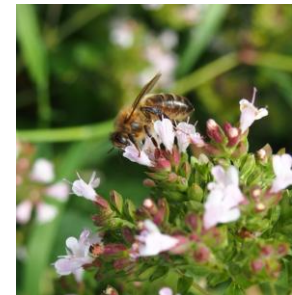
Pollinators – Plants’ Helpers

What is a ‘pollinator’?

Pollinators are animals that transfer the male pollen grain to the female part of the flower, enabling fertilisation of the flower. They include certain types of insects, bats, non-flying mammals, birds and reptiles. Pollinators pollinate over 90% of all flowers and are therefore very important economically for the production of agricultural crops and ecologically for the conservation of our native wild flowers. Ireland only has insect pollinators which include bees, butterflies, moths, wasps and flies.



Pollinators are in severe decline worldwide. This decline is primarily due to habitat loss, e.g. agricultural expansion and intensification, and urbanisation. Common agricultural practices which reduce foraging resources (food) and nesting sites (shelter) for pollinators include the use of fertilisers, cutting the grass frequently and intensive grazing. Some pesticides directly kill pollinators. Other causes of decline include parasites, disease and climate change.

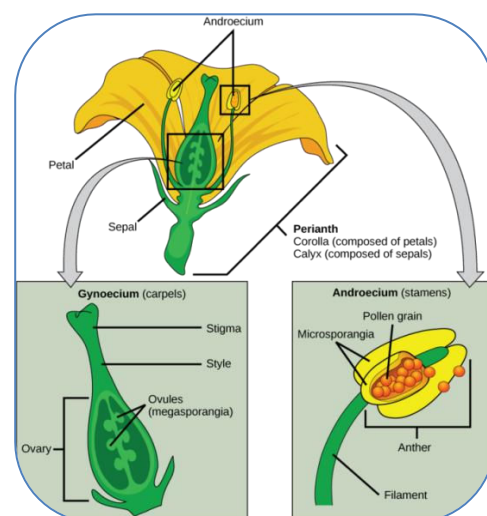


Research has shown that fields containing a large number and variety of flowers have more pollinators than fields containing fewer flowers. Research has also shown that fields surrounded by large proportions of natural and semi-natural lands have more pollinators than fields surrounded by small proportions of these same habitats. Natural and semi-natural lands benefit pollinators by providing them with nesting/larval habitats (shelter) and flowers for foraging (food). Examples of natural and semi-natural areas include broad-leaf forests, natural grasslands, heath lands, woodland scrubs and peat bogs.



Pollination - What happens in the flower?

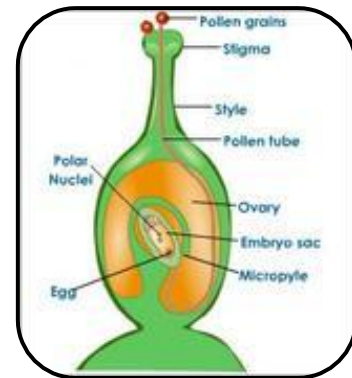
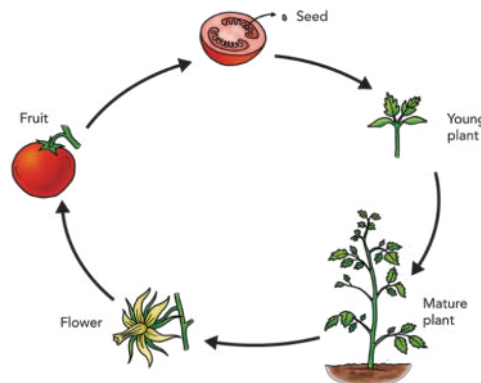
- Pollination is the process of moving the pollen grain from the male part of a flower (the ‘stamen’) to the female part (the ‘carpel’) of a flower.
- Biotic pollination is pollination which requires the help of living things such as birds, insects, bats or other animals, to transfer the pollen.
- Abiotic pollination is pollination which requires the help of non-living things such as wind and water to transfer the pollen.



Flower Life Cycle - Fertilisation

Pollination leads to fertilisation. The pollen grain fuses with the egg to form a seed; this is known as fertilisation. The ovary develops into a fruit which protects the seed(s) inside. Plant reproduction is important to the plant because it ensures the continuation of the plant species. Pollinators pollinate over 90% of all flowers and are therefore very important for the production of agricultural crops and for the conservation of our native wild flowers.

A **Plant** → Produces a **Flower** → Pollination occurs, producing a **Seed** → The Seed grows within a **Fruit** – > The Fruit falls off the parent plant and after a time the seed(s) inside germinate(s) into a new **Plant**.



Did you know that some plants are very clever!? They make their fruit extra delicious to attract certain animals. These animals will stop by to pick and eat the tasty fruit and will often carry the fruit a little distance away to eat it in safety; thus unintentionally they spread the plants' seeds! So the seedlings don't have to compete with the parents for light or nutrients!

Fruit and vegetables which are pollinated by animals include **apples, pears, coffee, tomatoes, almonds, mangoes, cocoa, sunflowers, beans, melons, mustard, peas** and **blackberries**

What bee did you see?



If you would like to explore the diversity of Ireland's 20 Bumblebee species in more depth, or wish to identify a bee that was buzzing around your school garden, go to the identification guides on the **National Biodiversity Data Centre's** website at:

- www.biodiversityireland.ie, and specifically at;
- www.biodiversityireland.ie/projects/irish-pollinator-initiative/id-guides/

To find out more about some of our most important pollinators in Ireland, download the following:

- **'The All-Ireland Pollinator Plan 2015-2020'** and
- **'The All-Ireland Junior Pollinator Plan 2015-2020'**

These are really excellent educational publications with straight forward advice on how to feed and provide shelter for bees on your school grounds or at home. They can be readily downloaded from the

Green-Schools Website www.greenschoolsireland.org, under the Biodiversity Resources page, or on the **National Biodiversity Data Centre's** website www.biodiversityireland.ie

