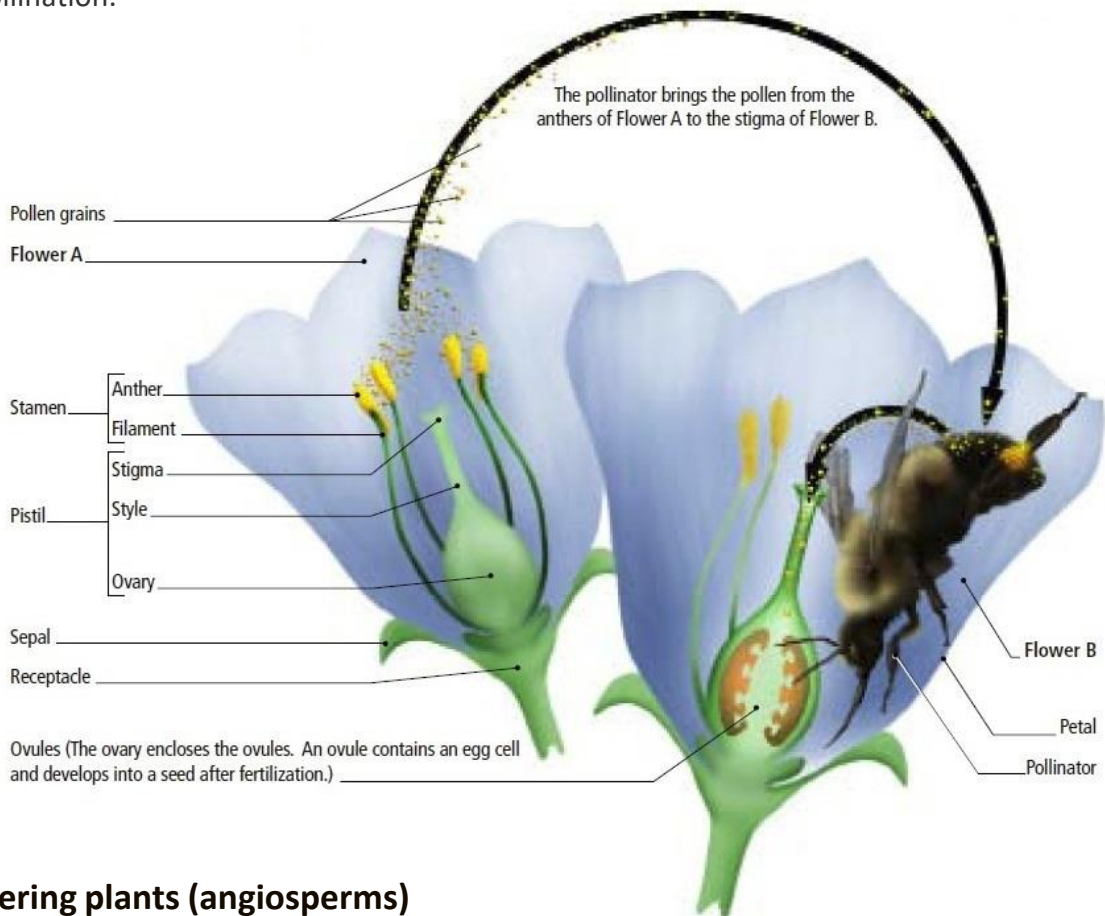


## The Process of Pollination

Not all plants are seed-producing plants (known as *spermatophytes*) but most fall into two major groups: the flowering plants and the conifers. Of the more than 230,000 known species of plants worldwide, about 200,000 are flowering plants; another 500 are conifers while others include such plants as ferns and mosses. Most seed-producers owe their great success, in part, to pollination.



### Flowering plants (angiosperms)

Flowering plants include broadleaf trees and all of our familiar garden vegetables, rice, wheat and other grains — almost every plant we use for food. They keep their reproductive parts deep inside an often showy display of petals. **Anthers**, which top off the stamens, produce the male pollen. **Ovaries** produce female egg cells and sit at the base of the pistil (which includes a “landing area” for the pollen called the stigma). Pollination for flowering plants is the process of bringing the pollen from the anthers to the stigma where it can find its way down the pistil to the eggs in the ovary. Eggs fertilized in such a manner develop into seeds, and the surrounding ovary becomes a fruit.

For additional resources visit:

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## Conifers (gymnosperms)

- This includes such trees as the pine, spruce and fir that dominate many Canadian landscapes. Gymnosperms don't have flowers; they produce male and female cones. Seeds are produced when pollen grains from the male cones fertilize eggs on the female cones. The seeds grow up naked on the cones without ever developing fruit

## Self-pollinating Plants

- Some plants can self-pollinate (a process called autogamy); others must cross-pollinate (syngamy) to produce viable seeds. In autogamous plants, pollen moves from the male to the female part of the same flower or the same plant and then fertilizes an egg cell. In syngamous plants, such as shown in this illustration, seeds are produced only when pollen from one plant combines with the eggs of a different plant of the same species. Syngamous plants must have a partner nearby! There are a few species of flowering plants, such as the dandelion, that can produce seeds without pollination.

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