

## Snohomish County Master Gardener

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Pollinators and Pollinator Protection

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### **Protecting our Pollinators protects our food supply**

Pollination is a critical process that most plants need to set seeds and produce fruit. Pollination is the transfer of pollen from the male part of the plant to the female part of the plant of the same species. Gardeners that optimize pollination conditions ensure maximum seed and fruit quantity and quality.

### **How Pollination Works**

- The anthers, the male part of the flower, produce pollen. The pollen must be transferred to the upper female part of the flower, the stigma.
- In the stigma the pollen germinates and grows down the style (the elongated portion of a pistil that connects the ovary with the stigma of a plant) to where fertilization occurs and the seeds develop in the ovaries. A fruit is a ripened ovary.
- Depending on the plant species, the pollen may need to come from another plant or another variety of the same species to set seed.
- The transfer of pollen from one plant to another plant is called cross-pollination. Cross-pollination helps to increase the fitness and survival of plants by increasing genetic diversity.
- Of the more than 250,000 flowering plant species in the world, most (over 75%) rely on animals for pollination.
- Transfer of pollen occurs with the help of animals (insects, birds, and bats); gravity, wind, and water also transport pollen.
- Bees pollinate the majority of the types of food we eat. Bees are directly or indirectly responsible for a third of our food.

### **Pollinators**

- The most common type of animals that regularly visit flowers include ants, bats, bees, beetles, birds, butterflies, flies, moths, and wasps. Insects are by far the most common flower visitors.
- Of the insects, bees are the most important pollinator. Protecting bees and understanding how human actions can enhance or hinder their well-being is critical.
  - Honey bees are generalists as a colony.
  - Forager bees from one hive can visit many different species of plants.
    - Each bee is a specialist, visiting only one type of flower on each flight.
  - Collectively, bees are by far the best adapted animals for transferring large amounts of compatible pollen to flowers.
  - Bees have hairy bodies; the hairs are very feathery in appearance and are capable of trapping and holding large numbers of pollen grains.

## Reducing Pesticide Hazards for Bees and Other Pollinators

- Bees are insects that are often exposed to pesticides that can have both lethal (dead bees) and sub-lethal (harmful) effects.
- It is critical to be cautious when using pesticides, and only use them when absolutely necessary to control an outbreak of pests.
- Avoid spraying whenever bees are or might be flying.
- Try to spray before bloom or after the flowers are done blooming.
- Look around for other flowering bushes or trees where the pesticide may drift.
- Avoid spraying if there is heavy fog or dew.
- Look for the “Protection of Pollinators” section on the label for information on the toxicity of the product to bees.
  - Always follow label recommendations when applying any product.
- One of the most important things that can help bees is to grow flowering plants. Bees are healthier when they forage upon a diversity of pollen and nectar sources.

## Create a good habitat for pollinators

- Provide a wide range of plants in your garden.
- Provide shallow water dishes.
- Provide some open ground for bees to dig in dirt for minerals.

## Good Plants for Pollinators

- Many plants that are native or eco-appropriate (non-invasive) are good sources of nectar and pollen for bees and do well without the need for pesticides.
- Plants such as lavender, chives, borage, sage, oregano, sunflowers, phacelia, clover, mint, and dandelion are all excellent sources of pollen and nectar, and they grow well without pesticides.

## Resources

Plants for Pollinators. Great Plant Picks for the Pacific Northwest. [Great Plant Picks: Unbeatable Plants for the Maritime Northwest Garden](#)

Grow Smart Grow Safe. [Home Page - Grow Smart, Grow Safe \(growsmartgrowsafe.org\)](http://growsmartgrowsafe.org)

Pollination and Protecting Bees and other Pollinators. WSU Publications.  
<http://pubs.cahnrs.wsu.edu/publications/pubs/fs174e/>

Protecting Bees and Other Pollinators from Pesticides | US EPA. [Protecting Bees and Other Pollinators from Pesticides | US EPA](#)

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