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Pollination of Fruit Trees and Small Fruits

Self- and Cross-Pollination

Depending on the species, plants may be self- or cross-pollinated. The blossoms of self-pollinated plants can be fertilized by pollen from blossoms on the same tree or another tree of the same variety or another cultivar of the same species. Therefore, a self-pollinated plant can provide its own pollen and doesn't necessarily need another source to bear fruit. Even with a self-pollinated plant, bees are still necessary to transfer pollen.

Other species require cross-pollination, and can only set fruit by fertilization from another variety. For example, the pollen from one 'Jonathan' apple tree will not successfully fertilize flowers of another 'Jonathan' tree. In a few species (e.g., kiwifruit and persimmon), male and female flowers are produced on different plants. Only female plants bear fruit, but a male plant must be present nearby to produce compatible pollen.

Pollination Requirements

Remember: To avoid killing bees and other insect pollinators, do not apply insecticides while plants are in bloom!

Small Fruits—Small fruits, including strawberries, raspberries, and blackberries are primarily self-pollinating. Blueberries require cross-pollination, so select at least two cultivars with similar bloom times.

Apple—Apple trees require cross-pollination to produce fruit. It is important to choose compatible cultivars for maximum fruit production. Many crab apple cultivars are excellent sources of pollen, provided the bloom times overlap with other apple trees.

Apricot—Most apricots are self-pollinated or self-fertile. Apricots flower very early in the spring, posing a significant frost risk to flowers and young fruit.

Cherry, Sour—Sour cherries are self-pollinated or self-fertile, so a second cultivar is unnecessary.

Cherry, Sweet—Sweet cherries require cross-pollination to produce fruit. Furthermore, some groups of cultivars are cross-incompatible. Select cultivars from at least two different groups.

Peach—Normally, peaches are self-pollinated; however, a few cultivars such as 'J.H. Hale' need a pollinizer.

Pear—Most pear cultivars need a pollinizer and are compatible with any other cultivar, with some exceptions.

Plum—European plums will not pollinate Japanese plums and vice versa. *European plums* have small fruits with dry, sweet flesh and require a second European type cultivar for pollination, with some exceptions. *Japanese plums* are larger and less hardy than European types, with soft, juicy fruits. They require a second Japanese type for pollination.

Remember: Pollination is an important factor in growing fruits and nuts. If you are unsure about whether your varieties will pollinate each other, check our Pollination Reference Chart at our Information Center, or ask us for assistance. More information on this subject can be found online at Purdue.edu; search for HO-174-W, "Pollination of Fruits and Nuts."