

# Why Fruit Trees Fail To Bear

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## Guide H-308

Esteban Herrera, Extension Horticulturist  
Darrell Sullivan, Professor of Horticulture

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Fruit trees normally begin to bear fruit soon after they are old enough to flower. Nevertheless, the health of the tree, its environment, its fruiting habits, and the cultural practices you use influence its ability to produce fruit. Adequate pollination is essential to fruit yield.

One unfavorable condition may reduce yields or prevent the bearing of any fruit. You can control some of the factors contributing to fruit production.

### Bearing Age

Most fruit trees are propagated by grafting or budding the variety on a root stock. When you purchase nursery-grown trees, their tops will be one to two years old while the roots may be one or two years older. The age (from planting) when trees can be expected to bear fruit depends on the type of fruit you are growing: apple, apricot, and sour cherry (three to five years); peach (two to four); pear and plum (four to six); quince and sweet cherry (five to seven). Dwarf fruit trees may begin to bear one to two years earlier than standard sized trees.

### Tree Health

Trees must be healthy to produce good quality fruit. Weak or diseased trees produce either poor quality fruit or no fruit at all. The first step is to keep trees free from insects and diseases.

### Climate and Weather

Flowers and young fruits of trees in New Mexico frequently are injured by late spring frosts. Injured flowers may appear to be normal,

but if the pistils (center parts of the flower) are killed, no fruit will be produced.

Time of bloom varies with species. The earliest to bloom is the almond, followed by Japanese plums and apricots. Peaches are next, followed by sweet cherries, pears, European plums, sour cherries, and apples. Varieties also vary in time of flowering. Make your selections from varieties that are late blooming and that are recommended for New Mexico.

In some areas, although the tree may grow, fruit may not mature because the frost-free season is not long enough. Most commercial pecan varieties can only be grown in southern New Mexico. Pecan varieties grown in the northern part of the U.S., such as 'Major' and 'Peruque', may be better adapted to northern New Mexico.

### Pollination

Flowers of fruit trees must be pollinated to produce fruit. Without sufficient pollination, they may blossom abundantly but will not bear fruit.

Varieties which bear fruit from pollination among their own flowers are said to be "self fruitful." However, many varieties cannot produce fruit from their own pollen. Those requiring pollen from another variety are called "self unfruitful." Some trees, like pecans, have separate male and female flowers on the same tree. If the male pollen is shed before the female flower is receptive, fruit-set becomes a problem.

Some species of fruit trees do not fit conveniently into either category. Pistachios have male trees that produce pollen and female trees that produce fruit. To grow them successfully, it is necessary to plant at least one male tree for every eight female pistachio trees.

Most apple trees are self unfruitful. Plant at least two varieties near one another. 'Golden Delicious', a self fruitful variety, and 'Jonathan', are the most common pollinators used.

In general, a pollinator should be considered for all pear varieties, even though 'Kieffer' and 'Duchess' set good crops without pollinators. Most pear varieties, especially 'Bartlett', are susceptible to fire blight disease; 'Moon Glow' and 'Kieffer Starking Delicious' are resistant.

Most peach varieties are self fruitful. However, if you are planting 'J. H. Hale', 'Stark Honeydew Hale', or 'Stark Hale Berta Giant', you need to plant another variety to assure adequate pollination.

The lack of fuzz on the fruit is the main difference between a nectarine and a peach. Nectarines are usually smaller and have a distinctive sub-acid flavor. Nectarines do not need pollinators. Nectarine flowers are more susceptible to frost injury than peaches and the fruit is frequently scarred from injury by insects.

Leading varieties of apricot trees are self fruitful. However, a pollinator will increase production. 'Goldrich' and 'Perfection' varieties must be pollinated to bear fruit.

Japanese plums bloom earlier than European plums and for this reason they will not usually pollinate each other. 'Stanley', the number one European type, is self fruitful. 'Bluefre' and 'Stanley' are the most common pollinizers for European plums. 'Redheart' is one of the best pollinators for Japanese plums. 'Santa Rosa', one of the most widely planted Japanese plum, and 'Methley' are self fruitful.

With the exception of 'Stella' and 'Compact Stella' all sweet cherries need a pollinator to bear well. As a general rule of thumb, dark colored varieties will pollinate dark varieties, and light colored varieties are recommended to pollinate other light ones.

Most sour (pie) cherries bear heavily without a pollinator. They are hardier and bloom later than the sweet cherries.

Occasionally, fruit trees bear heavily one year and sparsely the next. This is called "biennial bearing." The spring-flowering buds of most hardy fruit trees formed during the previous spring or summer. Therefore, an especially heavy crop one year may prevent adequate bud formation for the following year, or may seriously weaken the tree.

Biennial bearing of apples is difficult to alter or correct. Sometimes by chemical or hand thinning, when fruit-set is extra heavy, you can induce a return to normal yearly fruit production. Thinning should be done early, soon after fruit-set, before flower buds for next season are initiated. Thin fruits to approximately three to five inches apart.

### **Cultural Practices**

Fruit trees need good cultural practices during the season to maintain an adequate number of good leaves for quality fruit production. About 30 to 40 good-sized, healthy leaves are needed to produce one good-quality apple.

Trees need full sunlight for best production. Inadequate sunlight delays the beginning of fruit bearing and may reduce and amount of fruit. Avoid placing fruit trees where they will be shaded by buildings or by other trees.

Your trees will grow more vigorously and bear better if they have adequate space to develop their root systems. Do not plant them where roots of forest or shade trees will compete with them. To reduce competition from weeds or grass, cultivate, mulch, or apply weed killer.

Prune young trees to train them to systems suitable for the species. Strong branches are needed to support the weight of a heavy crop. Severe pruning may stimulate excessive upright growth, which delays flower production and reduces yields.