

# Persimmons

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## Introduction

Persimmons are small, easy to grow trees which are adapted to most of Texas. The tree, leaves, and fruit are free from serious insect and disease problems which make it an excellent dooryard specimen and choice for Earth-Kind® orchards. It requires no sprays and is a favorite health fruit for those who know the crop as a delicacy of the Orient. However, in Texas they remain virtually unknown as a rec-



recreational fruit. Mature trees can reach a height of 40 feet while some remain shrubs less than 10 feet. They produce prolific crops of very attractive fruit during the fall season when fewer fruit crops are ripe. The fruit is very delicious when properly ripened and is high in Vitamin A.

**The common American persimmon**, *Diospyros virginiana*, grows wild across the south and as far west as the Colorado River in Texas. Small groves of American persimmon are very common in abandoned pastures and along fence rows. This fruit is quite different from the cultivated oriental persimmon, being small and very astringent until completely ripe. These wild persimmons cannot be eaten until after the first frost and all the leaves have

fallen from the tree. Even at this late date some fruit can still be very astringent. Wild animals, such as the opossum and raccoon, feed heavily upon the common American persimmon. Persimmon wood is very hard and is used for manufacturing golf clubs and is prized by woodworkers. The common American per-



Common American persimmon

simmon is an excellent rootstock for the cultivated oriental persimmons in the southern U.S. and Texas. They are respectively graft compatible.

**The Texas persimmon**, *Diospyros texana*, is found in northern Mexico and central and west Texas and especially abundant in the Texas Edwards Plateau area. The tree has a small purple fruit and is best known for its

peeling bark which reveals shades of white, gray and even pink on the trunk underneath, rivaling the beauty of the Texas madrone. Many have attempted to graft this tree to the other persimmons described here without success, as they are not graft compatible.

**The Oriental persimmon**, *Diospyrus kaki*, was introduced into the United States in the late 1800's from China and Japan. It is native to and has been an important fruit crop in each of these countries for hundreds of years. The fruit is eaten both fresh and dried. In northern China, certain valleys are cultivated exclusively with oriental persimmons. On the main island of Japan, groups of trees are found in every village, along the roadsides, or around farmers' cottages.



Oriental persimmon

### Soil Adaption

When the common American persimmon is used as the rootstock for oriental persimmon trees, it is widely adapted in Texas. They thrive in most soils from sands to bottomland as long as the soils do not stand in water for any length of time. Even though the Texas persimmon is thought to be resistant to cotton root rot, the common American persimmon is moderately susceptible and the Oriental persimmon is highly susceptible. Thus, it is critical that all Oriental trees be grafted or budded onto the common persimmon as root rot will be prevalent in the adaptable sites.

### Site preparation and Planting

The orchard site should be prepared for planting well in advance of the planting date. Per-

ennial weeds should be killed with glyphosate, followed by deep ripping to break up any hard pans. Trees should be spaced 15 to 18 feet apart in the row with rows 20 feet apart.

Plants are usually purchased as bare root plants in early winter, though they should be ordered well ahead of the planting date to insure that desired varieties are available. Container plants may also be found in retail nurseries, and these have more flexibility in planting date. Plant the tree at the same depth it grew in the nursery followed by a thorough watering. Even if the soil is wet at planting the tree needs to be watered in to settle the soil around the root system. At least half of the top should be removed at planting when bareroot stock is used. Young plants are trained to a modified central-leader structure by pruning shoots during the first few seasons, forcing growth into framework branches. The aim is to develop a pyramidal shape with from three to five main limbs at about 1-ft intervals on the trunk, beginning at about 3 ft above ground level.

### Cultivation

Pruning mature plants is done during the dormant winter months to remove crossover, diseased, or broken branches. Pruning is also done to remove weak, shaded branches, open the canopy to prevent self-shading, reduce excessively vigorous shoot growth, and regulate crop load. Narrow crotches can cause a limb necrosis problem, and limbs should be selected that have wide angles.

Persimmon fruit is borne on the current season's branch growth. Pruning secondary branches so that bearing shoots are kept close to the main branches may help to avoid a drooping habit. Irrigation to supplement rainfall is desirable during the spring growth flush and during summer, especially if the soils are shallow. If fertilizer is needed, it should be applied in early spring as the new shoots emerge. Base the amount on plant vigor as excessive nitrogen fertilization will force vegetative growth, so moderate fertilizer applications are desirable. A general recommendation is 40 pounds of actual nitrogen per acre per year. If

shoot growth is in excess of three feet, the fertilizer amount should be reduced.

Persimmons typically produce seedless or parthenocarpic fruit. The major problem associated with seedless fruit is that they tend to abort/drop prior to full maturity leading to a reduction in crop potential in some years. Although fruit drop may reduce the overall yield, this fruit thinning can result in an increase in fruit size. Seedless fruit are very finicky and will easily drop from the tree if the tree encounters growth problems or undue stress, such as excessive heat, drought, cold, excessive fertilizer or water. Hence, heavy mulch and good water management practices are essential to reduce fruit drop. While these practices may reduce the loss of fruit, this problem cannot be completely prevented.

### Bacterial and Fungal Pathogens

Persimmons are largely free of serious diseases; however there are instances where crown gall and anthracnose have caused problems. Trees infected with crown gall (*Agrobacterium tumefaciens*) develop tumors, or galls, on their branches and roots, which eventually become hard and rough. The infection spreads to open wounds on trees, so treating existing cuts and bruises on mature trees and being careful to avoid additional damage is the best treatment. Tree losses in Texas from crown gall have been minimal.

Although not deadly to adult trees, leaf spot, caused by a number of different fungal pathogens, does cause black spots to appear on the surface of leaves, and may sometimes affect fruit as well. It can also lead to early defoliation. Only in severe cases is a treatment warranted.

### Insects and Vertebrate Pest

Persimmons likewise do not suffer from many problems with insect pests. In some summers, persimmon trees may suffer defoliation due to caterpillars. Additionally, cases of mealybugs, thrips, mites, ants and fruitflies have been reported.

A more predictable problem is the number of animals that are attracted to the ripe fruit including opossums, raccoons, birds, deer, and rats. Fruit nearing maturity should be watched closely, because these predators may feed on the fruit before it is fully ripe.

### Varieties

Most Oriental persimmons, with the exception of 'Eureka', produce seedless fruit. Seedless fruit tends to have better eye appeal since seeded fruit that result from cross pollination, are often associated with darker flesh. Since 'Eureka' and 'Fuyu' will pollinate other varieties, it would be best not to plant these two with other varieties that you wish to be seedless.

'Eureka' is heavy producing, medium-sized, flat-shaped, red persimmon of extremely high fruit quality. The tree is relatively small and self-fruitful. Fruit typically contain seeds. 'Eureka' has proven to be the best commercial variety in Texas.



'Hachiya' is a productive, very large, cone-shaped, seedless persimmon with bright orange skin. The tree is vigorous and upright. 'Hachiya' has been an outstanding Texas variety and makes an excellent dual purpose fruit and ornamental specimen.



'Tane-nashi' is a moderately productive, cone-shaped, orange-colored persimmon. The tree is vigorous and upright. The fruit store extremely well on the tree and is seedless. 'Tane-nashi' makes an excellent landscape ornamental.



**'Tamopan'** is a moderately productive, very large, orange, flat-shaped persimmon with a distinctive ring constriction near the middle of the fruit. The tree is the most vigorous and upright of the varieties grown in Texas.



**'Fuyu'** is a medium-sized, non-astringent, self-fruitful persimmon. The fruit is rather flattened, orange-colored, and of high quality. It is best planted in the southern, milder areas of the state as it is susceptible to freeze damage.



**'Izu'** bears medium-size fruit, which is also non-astringent. It seems to be more cold hardy than 'Fuyu' and ripens in September.



**'Fankio'** produces large, conical-shaped fruit, with vivid gold coloration. It is one of the prettiest persimmons of all as the leaves turn bright red as the gold fruit ripens in the fall.



### Rootstocks

The best rootstock for Texas is the common American persimmon. The rootstock is easy to bud and produces a vigorous, productive tree. *Diospyros lotus* ("Lotus") is used as a rootstock in California. Trees have been planted in Texas on Lotus rootstock, but their long term performance is presently unknown.

### Harvest

Knowing when to eat persimmons is the key to an enjoyable persimmon-eating experience. Most persimmons, excluding 'Fuyu' and 'Izu', are astringent types and must be fully ripe and soft before eaten; otherwise the astringency will really pucker your mouth. The astringency is due to tannins in the peel. Ripening of the fruit in Texas is usually associated with the

timing of the first fall frost. However, frost is not necessary as an aid, neither in reducing the tannin nor in softening or ripening the persimmon. With time, the tannin will disappear and the fruit will ripen and sweeten naturally. This usually happens when fruit of astringent varieties become soft, but non-astringent fruit can be eaten as soon as they develop a deep rich orange color.

Persimmon fruit will ripen just as well off the tree as on the tree. Persimmons will store on the tree for a considerable period of time into the winter, making the tree and its decorative fruit very attractive in the landscape. The sweet, jelly-like flesh is usually eaten fresh, although, it can be dried. Persimmons actually contain more Vitamin C than citrus, as well as an abundance of other nutrients.

### For More Information

<http://aggie-horticulture.tamu.edu/fruit-nut>