



Texas Fruit and Nut Production

Persimmons

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Persimmon trees are small, easy to grow, and adapted to most of Texas. The tree, its leaves, and its fruit don't have to be sprayed because they have no serious insect or disease problems. In the fall, when few fruit crops are ripe, the persimmon produces fruit that is attractive and delicious.

Persimmons are rich in vitamin A and have more vitamin C than citrus fruit. They are considered a delicacy in the Orient. The wood, which is very hard, is prized by woodworkers and is used to make golf clubs.

Mature trees can reach 40 feet high; some remain as shrubs less than 10 feet tall.

Wild varieties

- The common **American persimmon**, *Diospyros virginiana*, grows wild in the South and reaches as far west as the Colorado River in Texas. American persimmon groves are common in abandoned pastures and along fence rows (Fig. 1).

Unlike the cultivated persimmon, the wild persimmon varieties are small and very astringent until completely ripe. They are usually ripe after the first frost and all the leaves have fallen from the tree, though even then some fruit can still be very astringent.



Figure 1. Common American persimmon growing in the wild; note how livestock has consumed the very low hanging fruit.

The common American persimmon makes excellent rootstock and is graft compatible for cultivated Oriental persimmons in the southern United States and Texas.



Figure 2. One of the Oriental persimmons; note the fruit load and dark green foliage.

- ♦ **Texas persimmon**, *Diospyros texana*, is found in northern Mexico and Central and West Texas; it is especially abundant in the Edwards Plateau area.

The tree has small, purple fruit and is known for its peeling bark, which reveals shades of white, gray, and even pink on the trunk. It is not graft compatible with American or Oriental persimmons.

- ♦ **Oriental persimmon**, *Diospyrus kaki*, was introduced into the United States in the mid-1800s from its native China and Japan (Fig. 2). It is has been an important fruit crop in each of those countries for hundreds of years. The fruit

is eaten fresh, dried or cooked. In northern China, some valleys grow only Oriental persimmons. On the main island of Japan, persimmon trees are found in every village, along the roadsides, and around farmers' cottages.

Soil adaption

The common American persimmon, used as the rootstock for Oriental persimmon trees, is widely adapted in Texas. It thrives in sands to bottomland as long as the soils do not stand in water.

The Texas persimmon resists root rot; the common American persimmon is moderately susceptible, and the Oriental persimmon is highly susceptible. It is critical that all Oriental trees be grafted or budded onto the common persimmon because root rot is prevalent where the tree can grow.

Site preparation and planning

Prepare the orchard site before the planting. Kill perennial weeds with glyphosate, then rip the soil to break up any hard pans.

To ensure that the varieties you want are available, order plants well in advance of the planting season. Persimmon trees are usually purchased in early winter as bare root plants. Retail

nurseries also sell container plants; the planting date on these is more flexible.

Plant the trees every 15 to 18 feet in rows that are 20 feet apart. Plant the tree to the same depth it grew in the nursery and water it thoroughly. Even if the soil is wet at planting, the tree needs to be watered to settle the soil around the root system.

Pruning

If you plant bare-root stock, remove at least half the top. Shape young plants by pruning the shoots during the first few seasons. This pruning forces growth into framework branches off a central leader. The goal is to develop a pyramid shape with three to five main limbs at about 1-foot intervals on the trunk, beginning at about 3 feet above ground level.

Prune mature plants during the winter. Remove crossover, shaded, diseased, and broken branches. Open the canopy to prevent self shading, reduce excessively vigorous shoot growth, and regulate crop load. Remove limbs with narrow crotches because they create dead areas on the limbs; preserve limbs that grow off the leader at wide angles.

Persimmon fruit develops on branches that have grown in the current season. To keep the limbs from drooping, prune secondary branches so that the bearing shoots remain close to the main branches.

Cultivation

Supplement rainfall with irrigation during the spring growth flush and during summer, especially if the soils are shallow.

If needed, apply fertilizer as the new shoots emerge in early spring. A general recommendation is 40 pounds of actual nitrogen per acre per year. If shoots grow more than 3 feet, fertilize less.

Persimmons typically produce seedless fruit, which tend to drop before full maturity, reducing crop yield in some years. Although fruit drop may reduce the overall yield, this fruit thinning can enable fruit to grow bigger. Seedless fruit are very finicky and will drop if the tree experiences growth problems from too much fertilizer, excessive heat, cold, water or drought. Hence, heavy mulch and appropriate water are essential to reduce fruit drop. While these practices may reduce fruit loss, this problem cannot be eliminated.

Diseases



Figure 3. Several fungi cause leaf spot on Persimmons and can also affect the fruit; but only severe cases require treatment.

Persimmons are largely free of serious diseases; however, crown gall and anthracnose have occasionally caused problems. Trees infected with crown gall (*Agrobacterium tumefaciens*) develop tumors or galls on their branches and roots, which eventually become hard and rough.

Because the infection can spread to open wounds on trees, treat existing cuts and bruises on mature trees carefully to stop the disease from spreading. Tree losses in Texas from crown gall have been minimal.

Although not deadly to adult trees, several fungi cause leaf spot and sometimes affect the fruit as well. Leaf spot can lead to early defoliation, but only severe cases warrant treatment.

Insects and vertebrate pest

Few insect pests attack persimmons. In some summers, caterpillars may defoliate persimmon trees, and cases of mealy bugs, thrips, mites, ants, and fruit flies have been reported.

Many wild animals are attracted to the fruit including opossums, raccoons, birds, deer, and rats. Watch fruit nearing maturity closely, because these predators may eat the fruit before it is fully ripe.

Rootstocks

The best rootstock for Texas is the common American persimmon. The rootstock buds easily 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 unknown.

Harvest

The fruit should be allowed to hang on the tree as long as possible unless varmints are an issue; then remove the fruit with a gentle pull when they develop a vibrant orange color. Still, knowing when to eat persimmons is the key to enjoying them. Most persimmons, except 'Fuyu' and 'Izu', are astringent and must be fully ripe and soft or the astringency will really pucker your mouth. The astringency is caused by tannins in the peel. The fruit usually ripens around the first fall frost. However, frost is not necessary for reducing the tannins, softening, or ripening

the persimmon. Eventually the tannins will disappear and the fruit will ripen and sweeten naturally. This usually happens when fruit of astringent varieties become soft; non-astringent fruit can be eaten as soon as they develop a deep rich orange color.

Persimmon fruit ripen equally on or off the tree. Persimmons will store on the tree for a considerable period 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.

Varieties

Most Oriental persimmons, except 'Eureka', produce seedless fruit. Seedless fruit tends to have better eye appeal because seeded fruit that result from cross pollination, often have darker flesh. Since 'Eureka' and 'Fuyu' will pollinate other varieties, do 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 (Fig. 4).
- ♦ **'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 (Fig. 5).
- ♦ **'Tane-nashi'** is a moderately productive, cone-shaped, orange persimmon. The tree is vigorous and upright. The fruit stores extremely well on the tree and is seedless. 'Tane-nashi' makes an excellent landscape ornamental (Fig 6).



Figure 4. 'Eureka' persimmon.



Figure 5. 'Hachiya' persimmon.



Figure 6. 'Tane-nashi' persimmon.



Figure 7. 'Tamopan' persimmon.



Figure 10. 'Fankio' persimmon.



Figure 8. 'Fuyu' persimmon.



Figure 9. 'Izu' persimmon.

- ♦ **'Tamopan'** is a moderately productive, very large, flat, orange, 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 (Fig. 7).
- ♦ **'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 (Fig. 8).
- ♦ **'Izu'** bears medium-sized, non-astringent fruit. It seems to be more cold hardy than 'Fuyu' and ripens in September (Fig. 9).
- ♦ **'Fankio'** produces large, conical, with vivid gold fruit. It is one of the prettiest persimmons; the leaves turn bright red as the gold fruit ripens in the fall (Fig. 10).

For more information

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