

# *Fruit and Nut Review:* **Oriental Persimmons**

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The Oriental or Japanese persimmon (*Diospyrus kaki*) is a small, easy to grow, warm-climate tree. It is not recommended in northern areas of Mississippi where the chilling period could exceed 1,000 hours. Once established, this tree does well on a wide range of soils. Oriental persimmons have few insect, disease, or other problems. Mature trees range in height from 10 to 40 feet, depending upon the variety. They produce large crops of colorful fruit during the fall when few other fruits are ripening. The fruit is delicious when fully ripe and contains high levels of vitamin A. The ripe fruit is not astringent.

## **Adaptation**

The Oriental persimmon does best in areas with moderate winters and mild summers. It tolerates temperatures as low as 0 degrees Fahrenheit when fully dormant, but has a low chilling requirement of only about 100 hours. Trees may break dormancy during early warm spells and may be damaged by late frosts.

## **Varieties**

Oriental persimmons produce flowers that are male, female, and/or perfect (male and female flower parts present in the same flower). Some varieties produce fruit from flowers when pollination has not occurred. These fruit contain no seeds.

Some cultivars produce fruit that is astringent except when fully ripe. Others produce fruit that is not astringent even when unripe or green.

Oriental persimmons often fail to produce full crops because of pollination problems and climatic stress. Most

cultivars will set fruit without pollination and will mature the seedless fruit on the plant if environmental factors are favorable. However, this fruit set is fragile, and environmental stress, such as drought, can cause the plant to release its crop before it matures. Close attention should be paid to maintaining favorable growing conditions. Some cultivars will exhibit dark brown spots or streaking around the seeds if pollinated but will be clear orange when seedless. Other cultivars lack the dark streaking regardless of seed set.

## **Non-astringent Cultivars - Early Season**

### *Izu*

Izu is the earliest ripening non-astringent cultivar. The tree regulates crop loads well, producing large fruit that is generally blemish free. Sugar content is not as high as later maturing cultivars.

## **Non-astringent Cultivars - Mid Season**

### *Gosho*

Unseeded fruit may have good size; seeded fruit has better flavor. Requires a pollinator for seeded fruit.

### *Hana Fuyu*

Hana Fuyu is also known as Giant Fuyu. It regulates its crop load well and is of medium vigor. The fruit are slightly larger than most, generally free of imperfections, and may be slow to lose astringency. The tree is a good homeowner cultivar.

### ***Hanagoshi***

Hanagoshi is a large tree with vigorous upright growth and a strong scaffold system. The tree usually has a few male flowers every year, and crop regulation is good. This cultivar is a good homeowner choice.

### ***Ichikikei Jiro***

Ichikikei is a bud sport from Jiro. The tree is smaller than most and regulates its crop well. It will mature seedless crops and is a good homeowner cultivar. Apical end splitting occurs in a percentage of the fruit. The tree begins growing around 7 days later in the spring than do most cultivars, which helps it escape late frost injury.

### ***Jiro***

Jiro can be erratic in cropping when the tree is young. Older trees have a good, well spreading shape and produce quality crops. Some apical end fruit splitting will occur.

### ***Matsumoto Wase Fuyu***

This cultivar is an early ripening bud sport of Fuyu. The tree sets many flowers and produces heavy clustered crops. The clusters should be thinned to prevent bent limbs with excessive fruit loads. The tree is moderately vigorous and of medium size.

### ***Midia***

Midia is the largest of the non-astringent types with fruit weighing 3/4 of a pound. An indented ring forms around the top half of the fruit. The tree is an inconsistent cropper and seems more susceptible to tree decline than other cultivars.

## **Non-astringent Cultivars - Late Season**

### ***Fuyu***

Also known as Fuyugake, Fuyu is the most popular non-astringent cultivar and is the most widely grown persimmon cultivar in the world. Fruit thinning is usually necessary to ensure large fruit, prevent clustering, and regulate crop loads. Incidence of fruit imperfections are low, yields are good, sugar content is high, and the tree is generally well adapted.

### ***Suruga***

This cultivar is the sweetest of the non-astringent types. Red coloration in mature fruit is strong, and fruit imperfections are infrequent.

## **Astringent Cultivars - Early Season**

### ***Giombo***

Giombo is similar to Siajo in fruit quality, although the fruit are much larger. The fruit are light translucent orange and thin peeled with a sweet, juicy, jelly type

flesh. Giombo fruit are a connoisseur's choice. The tree is early to start growing in the spring and is sometimes injured by freezing temperatures.

### ***Siajo***

Siajo is considered one of the sweetest persimmons although traces of astringency sometimes remain when the fruit is soft. Fruit are relatively small with a long conic shape and a translucent jelly type flesh. The tree is large and upright and can produce heavy crops. It is a good homeowner cultivar.

## **Astringent Cultivars - Mid Season**

### ***Gailey***

This is a standard pollinating cultivar with small to medium sized fruit. Concentric ring cracking is common. Its fruit are very dark fleshed, even with small seed numbers. The primary purpose of this cultivar is as a pollinator.

### ***Great Wall***

This strong growing upright tree has small four-sided fruit. The flesh is dry, similar to Tanenashi, but of excellent quality.

### ***Hachiya***

Hachiya is a common commercial cultivar. Fruit are high quality and jelly fleshed with an attractive red skin. Fruit often have concentric ring cracking at the apical end and will ripen unevenly starting from these points.

### ***Ormond***

This cultivar is sometimes called the Christmas persimmon. Fruit are long, conic, and often harvested in January. The tree begins growing early in the spring, which increases chances for freeze injury.

### ***Sheng***

This well spreading tree has large fruit with lobed sections that look somewhat like a 4- or 6-leaf clover from the top. Fruit have a high jelly content, are bright orange, and when pollinated will set many seed.

### ***Tamopan***

This cultivar yields large fruit with a circular depression around the top 1/3 nearest the stem. The fruit is juicy, watery and stringy, with a thick peel.

### ***Tanenashi***

The most popular astringent cultivar, it matures heavy crops without pollination and will seldom set seed, even if pollinated. It is usually desirable to thin the fruit to encourage vegetative growth. The fruit, often large, can weigh more than 3/4 of a pound. Skin color is deep yellow to orange when mature. The flesh is orange, pasty, comparatively dry, and of acceptable quality. Harvest may extend from September through November. It is a good tree for homeowners.

## Propagating

Most Oriental persimmons are grafted onto the common or wild persimmon rootstock. The whip and tongue graft on a 1/4 to 1/2-inch diameter tree is one of the most successfully and commonly used methods for propagating persimmons. Collect wild persimmon seed as soon as the fruit is ripe in the fall. Clean the seeds and plant them where you want your future Oriental persimmon trees to grow.

An alternative method is to store cleaned seed in a moist environment in the refrigerator until spring and then plant. The following winter, collect grafting wood from a tree of known variety you like. Cut shoots into 6- to 8-inch lengths and dip the cut ends in grafting wax. Wrap the grafting wood in moist newspaper or paper toweling, and place this package in a plastic bag and store it in the refrigerator.

In late winter, remove the grafting wood from the refrigerator and make your graft. Your seedling would have had one full growing season in which to reach the 1/4-inch minimum size. If your seedling fails to reach this size, permit it to grow another season.

## Planting

Oriental persimmons have no special planting requirements. Plant as you would other fruit trees. Bare-rooted plants may be set out in January, February, or March. They begin to bear in 3 to 4 years.

The site should receive full sun and the soil be well drained. The pH should be between 5.0 and 6.5. Oriental persimmons tolerate a wide range of soil types as long as the soil does not have a high soluble salt level.

## Watering

Persimmon trees withstand short periods of drought. With regular, thorough watering, the fruit is larger and of higher quality. Extreme drought causes fruit and leaves to shed. Any remaining fruit may sunburn due to the loss of leaves.

## Fertilizing

Most Oriental persimmon trees do well with a minimum fertilization program. Excess nitrogen fertilizer causes fruit to drop. If leaves are not dark green and growth is less than 10-12 inches a year, fertilizer is needed. Soil testing is the best way to determine the amount and kind of fertilizer needed. In the absence of a soil analysis and in the presence of yellow leaves and reduced growth, apply about 3/4 pounds (1 1/2 cups) of 13-13-13 per inch of trunk diameter when measured at the soil line. This amount of fertilizer should be applied evenly under the tree canopy in late winter or very early spring.

## Pruning

Oriental persimmons require no special pruning practices. Prune as you would an ornamental tree. Prune to develop a strong framework of branches. As the tree begins to bear, the heavy fruit may break limbs. Thinning fruit helps reduce the chances of this type of breakage.

Mature trees require little pruning. Remove any dead, diseased, or injured wood. Also remove any limb that crosses another that may rub and cause injury. If the tree is planted in the yard, prune any limbs that may pose a hazard when mowing. An Oriental persimmon may be pruned heavily to grow as a hedge or screen or to reduce tree size. It may even be grown as an espalier.

## Diseases, Pests, and Problems

Oriental persimmons have very few pests and diseases. They may develop various leaf spots, but these rarely reach levels where spraying is needed.

Fruit drop is a common problem with Oriental persimmons. They may produce fruit without pollination (parthenocarpically). For parthenocarpic fruit to remain on the tree and mature, all growing conditions must be at optimum levels. Any stress (excessive heat, drought, cold, or flooding) can cause these fruit to drop. Fruit developing from pollination and with seed are less subject to drop.

## Harvesting

The time to harvest Oriental persimmons is normally signaled by the first frost. The fruit may be stored on the tree; however, they continue to ripen after they are picked. Picking a little early prevents losing fruit to birds and other wildlife.

Harvest astringent varieties while they are still hard but after the color has fully developed. They ripen after picking if stored at room temperature and are ready to eat when they soften to the texture of pudding.

Non-astringent varieties are ready to harvest when they have reached full color. Flavor is better if they are permitted to soften before eating.

Both types of persimmons should be cut from the tree including the calyx (leaflike collar where it is attached) and a small portion of stem. It is best not to pull the fruit when harvesting it. Even firm fruit bruises easily, so handle with care.

Mature, hard astringent persimmons can be stored in the refrigerator for 4 or 5 weeks. They may be frozen and kept for 6 to 8 months. They soften and are ready to eat when thawed. Non-astringent persimmons lose quality rapidly in the refrigerator. They may be stored for up to a week at room temperature.

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