

CAROLINA GARDENER
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Growing Persimmons

Growing persimmons is a topic that many people inquire about. Persimmons can be divided into two distinct groups: the native persimmon (*Diospyros virginiana*) and the Oriental persimmon (*D. kaki*). The fruit from native varieties tends to be smaller, seedier and more astringent until the fruit is ripe. Many native persimmons are simply seedling trees, and as a result, the quality of the fruit may vary widely.

Oriental persimmons were introduced into the United States about a hundred years ago. As a general rule, their fruit is superior in quality to native persimmons.

The oriental persimmon is an easy-to-grow tree, which is adaptable to much of North Carolina. The tree has a compact spreading growth habit and low maintenance requirements. The ornamental beauty of its orange fruit and bright red foliage in the fall makes it an attractive plant in the home landscape. The tree is winter-hardy in eastern North Carolina, as well as the Lower Piedmont and Coastal Plain areas. In general, mature Oriental persimmon trees do not tolerate temperatures below 10 F, while native varieties may survive temperatures of 20-25 degrees F. below zero. Oriental persimmon trees are relatively free from serious insect and disease problems.

Oriental persimmons are subdivided into two classes: the astringent and the non-astringent. The astringent type should be completely soft before eating. The non-astringent types are firmer and can be eaten prior to softening. Oriental persimmon fruit may reach the size of a peach. The native varieties produce fruit that is closer to the size of a plum. Most native varieties must be completely ripe and soft before they lose enough astringency to be eaten. Persimmons will continue to ripen after they are picked from the tree. It is a misconception that frost is required before persimmons are edible. In fact, frost will ruin immature fruit on the tree.

Native persimmons are usually dioecious, which means they produce either male or female flowers. Rarely are native persimmons self-pollinating. Both male and female trees are required to produce a full crop. Oriental persimmons may produce male, female and/or perfect flowers on the same tree and do not need cross-pollination to set fruit. Native and Oriental persimmons will not cross-pollinate.

A mature native persimmon tree may reach a height of 30 to 40 feet. Oriental varieties will be slightly shorter. Little fertilization is required. Normal lawn fertilization is usually adequate if the tree is growing in the landscape. Following is a brief listing of persimmon varieties suitable for culture in North Carolina:

Table 1. Fruit and tree characteristics of selected oriental persimmon varieties.

Variety	fruit color	fruit size	fruit shape	ripening mos.	astringency
Fuyu	Red	med.-large	Flat	Oct.-Nov.	No
Jiro	Red	med.-large	Flat	Sept.-Oct.	No
Hanagosho	Red	med.-large	Flat/conic	Sept.-Oct.	No
Korean	Orange	Medium	Flat	Sept.-Oct.	yes
Hachiya	Red	med.-large	Oblong/conic	Sept.-Oct.	yes

CULTURAL PRACTICES

SITE SELECTION: Persimmons generally bloom late enough in the spring (mid-April) to avoid spring frosts. The trees grow well on a wide range of soils, although they grow best on loamy, well-drained soils. As with other fruit trees, a soil pH of 6.0 to 6.5 is optimum for tree growth. Persimmon trees will withstand drought, but fruit size and yield are reduced. Also, adequate moisture is required to produce sufficient shoot growth and formation of flower buds for next year's crop. During extended dry periods, irrigation should be provided to the trees on a weekly basis.

PLANTING: Prior to planting, be sure to take a soil sample for pH and nutrient recommendations. If lime is required to raise the pH, apply it in the late fall or early spring and incorporation to a depth of 12 to 18 inches is required.

Oriental persimmons are generally grafted onto seedlings of the American persimmon, *Diospyros virginiana*. The main advantage to using American seedling rootstock is that these seedlings tolerate excessive moisture and drought quite well and are adapted to the climate of North Carolina; however they are prone to suckering which needs to be pruned out annually. There is also a lack of uniformity of tree vigor and size associated with *D. virginiana* rootstocks.

Care must be taken when transplanting a persimmon tree because of its fragile root system. In general, trees should be planted at the same depth (or no more than 1 inch below) they grew in the nursery. The root system must never be subjected to freezing or drying conditions. To ensure good root growth after planting, water the trees immediately after setting them out and on a weekly basis thereafter if they receive no rainfall. Like all fruit trees, persimmons require full sun to assure good tree and fruit growth, as well as fruit bud development. Trees should be spaced 15 to 16 feet apart.

FERTILIZER RECOMMENDATIONS: Persimmon trees respond to nitrogen applications, especially in years of a heavy crop load. A rule of thumb is that 1 oz of actual nitrogen per year of tree age should be applied, although this should be adjusted according to the native fertility of the soil and the tree's general vigor. For example, a tree grown in a clay loam will require less applied nitrogen than a tree grown in a sandy soil. As a note of caution, excessive nitrogen can cause high amounts of premature fruit drop. Occasionally, other nutrients such as phosphorus, potassium or zinc may need to be supplied. A soil test will be necessary to determine exact recommendations.

PRUNING: Persimmon trees are generally trained to a modified central leader system. Develop 3 to 5 well-spaced branches (approximately 8 to 12 inches apart) along the trunk. The first limb should be 3 to 4 ft from the ground. Then leave an area of approximately 2 ft on the leader without branches and allow 3 to 4 more branches and then cut off the leader above the highest branch.

Pruning mature trees should be kept at a minimum. Remove crowded or weak branches, diseased or broken limbs, or excessively vigorous growth such as watersprouts or root suckers. Pruning is required to renew fruiting wood since flowers are borne on current season's wood. New growth can be stimulated with moderate pruning cuts every 1 to 2 years. Pruning will also give a strong framework for the tree to bear a heavy crop load. This is important because persimmon wood is brittle and breaks easily with heavy crops.

HARVESTING, STORING AND RIPENING: Fruit should not be picked until full color has been attained. The fruit bruises easily, so care should be taken when picking them. After harvest the fruit may be stored for several weeks in a refrigerator. Fruit can also be frozen and stored for longer periods. Prior to freezing, the fruit can be peeled, pureed, and put into tightly sealed plastic bags or containers. They can also be frozen whole, then thawed and processed as needed. The freezing process does remove some astringency, so the fruit do not need to be fully softened prior to freezing for the astringent varieties. Simply freeze the fruit until solid and remove fruit when desired. The softening and ripening process can also be accelerated by placing firm, ripe (fully colored) persimmons in a loosely closed plastic bag with an apple or banana. Apples and bananas produce ethylene gas, which promotes fruit softening and ripening.

UTILIZATION: Persimmon fruit are delicious "as is" fresh, or they can be used in a variety of baked goods such as puddings, breads, and cookies. The non-astringent types, such as 'Fuyu' and 'Jiro', may be consumed when the fruit have fully colored. The non-astringent fruit can be eaten while still firm. The flavor and texture are quite pleasant. However, astringent varieties such as 'Hachiya' must be softened completely before use and are preferable for use in baked goods.