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## Persimmon



Nearly everyone loves fruits. It would be very difficult to name one fruit

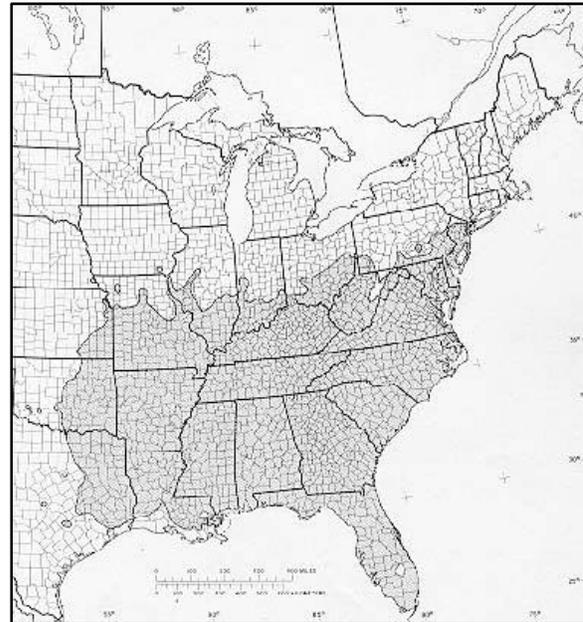
that could be designated the best one. Persimmon is the common name for some trees of a genus of the Ebony family (Ebenaceae). The tree boasts of a dense, hard, heavy wood one expects of the family. There are about 200 species of persimmon. They are deciduous or evergreen trees and shrubs and are mostly tropical and subtropical. Persimmons species important for their fruit are *Diospyros virginiana*, *Diospyros kaki* and *Diospyros lotus*. The genus name *Diospyros* is derived from the Greek meaning 'the grain of Jove' and refers to the edible fruit.

Oriental or Japanese persimmon, *D. kaki*, was introduced into Japan from China and was introduced into the United States by Commodore Perry's expedition that opened world commerce to Japan in 1852. The US Department of Agriculture introduced it as grafted trees of better cultivars in 1870.



### Natural habitat

American persimmon, *D. virginiana*, is a native from Texas to Florida, north to latitude 38° or as far as 40°. This includes south Connecticut, extreme south east New York, New Jersey, west to central Ohio, central Illinois, extreme southeast Iowa, north Montana, east Kansas, south to



**Native range of common persimmon**

Electronic Source: Hall. 1990

central Oklahoma, central Texas, and east to south Florida. Within this range they are found in wide variety of soils, in forests and woodlots, and grow wild over the countryside. The trees are found all the way from the southeastern coast to elevations of about 2,500 feet in the mountains.

American persimmon grow in USDA Zones 5-9. (Please refer to the USDA Plant Hardiness Zone Map for in electronic resources for details).

Oriental or Japanese persimmon, *D. kaki*, is the commercially important persimmon in the US. Almost the entire crop comes from California. The other states producing Oriental persimmon are Texas, Florida, Hawaii, Louisiana, Mississippi, Alabama, and Missouri and to a lesser extent, Arizona, Georgia, Indiana, Kansas, Oklahoma, Pennsylvania, North Carolina, and Utah. Oriental persimmon produce in USDA Zones 7-10.



## Cultivation

Persimmons perform best on well-drained soils. They grow well in loam with a pH range of 5.8 to 6.5, but are tolerant of sand and clay. They require full sun. They require only nitrogen application, though excessive nitrogen application causes fruit drop. They are more drought-resistant than most trees, but yield larger and better fruits when deep-watered at minimum intervals of ten days. Again, they would drop fruits if case of excessive or less water.

American persimmon can be grown easily from seed or from hardwood cuttings. It is recommended that the seeds or the cutting be taken in autumn, kept refrigerated through the winter, and planted after the last frost of spring. The tree requires a second tree for pollination to occur and bears fruits at four to five years. The tree has a life span of 60 years.

American persimmon cultivars of importance are Craggs, Early Golden, Florence, Garretson, John Rick, Meader, Morris Burton, Wabash, Reich, and Ruby. The ripe fruits are one to one and half inches in diameter, seedy, sweet and mushy. They are very astringent when unripe. The astringency is due to the presence of tannin. Ripening leads to the reduction in astringency and the fruit sweetens naturally, but not until they are too soft for marketing.

Oriental persimmon is propagated by grafting the scion onto the rootstock of American persimmon. Usually the whip-and-tongue graft for small ( $\frac{1}{4}$  to  $\frac{1}{2}$ inch diameter) stocks and the cleft- or inlay-graft for larger stocks are performed. This rootstock have a large tap root and are, therefore, difficult to transplant, and the trees tend to be short lived and dwarfed. Though these trees have a life span of only about ten years, they bear fruits earlier, about two to three years after grafting. The tree can bear fruits without pollination, but will produce more and tastier fruit with pollination.

The ripe fruits are two to three inches in diameter, nearly always seedless, and pasty.

Most of the varieties are astringent when firm. However, they can be treated with ethylene and other chemicals to remove the astringency while the fruit is still firm. The leading commercial cultivars in California are Hachiya and Fuyu; that in Florida is Tanenashi. Other minor cultivars are Chocolate, Costata, Eureka, Hyakume, Izu, Jumbu, Okame, Ormond, Saijo, Suruga, Taber No. 23, Tamopan, Triumph, Tsaru, Yemon, and Zengi. Some cultivars like Fuyu, Jiro, and Ichi Ki Kei Jiro are non-astringent.



## Harvest and storage

It is recommended that the fruits be harvested from late autumn into winter when they attain a dark orange but are still firm. This saves a lot of bruised fruit. They should be cut from the tree together with part of the stem and the leathery green collar.

Persimmon fruits will ripen on the tree if left long enough. A sharp rise in respiration marks the beginning of ripening. For better quality and storage life, the fruits should be harvested before they begin to ripen. Even during and after storage, the fruits continue to ripen. They should be, therefore, consumed or processed before they become overripe.

Temperature affects the respiration rate and, therefore, the storage life of the fruits. The fruits can be stored at  $-1^{\circ}\text{C}$  for up to 4 months. It is recommended that the relative humidity be maintained at 90 %. The

temperature should not go below  $-2.17^{\circ}\text{C}$  and the water content 78.2 %. Fruits could be wrapped individually in paper and packed in single-layer polystyrene crates to avoid bruising.



## Marketing

Persimmons are generally eaten from Halloween through the Christmas season to New Year's Day. Saleable fruits should be well-shaped, plump, smooth, highly colored with unbroken skin and with the stem cap attached. They should be displayed on a sales counter in a single layer and should be kept in wrapping paper to prevent bruising.

The general public is not so well informed on how to ripen the fruit before eating. First time customers have at times found the fruit hard and astringent. It might be a good idea to attach instructions on ways to avoid astringency.

Persimmons are marketed as frozen whole fruits and sorbets. They are also marketed in the dried form under an alternate name, date-plum. Over the years, more and more recipes for fudges, cakelike puddings and ice creams are being tried, though the earliest one is eating the fresh fruits with a scoop of yogurt.

The wood of persimmon has been used for making golf club heads. In the past, it has been exported to Japan.



## References and information resources

*(You may be able to find some of these or other publications in your local library. Another valuable resource is your local cooperative extension office.)*

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## Electronic resources

*(The following web sites can be viewed for more information on persimmon)*

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*This is part of a series of fact sheets on non-timber forest products. The full set of fact sheets is available at the Non-timber Forest Products website: <http://www.sfp.forprod.vt.edu/>*

*Please give us your comments on this fact sheet and suggestions for future fact sheets. Direct your comments to Tom Hammett, Department of Wood Science and Forest Products, 210 Cheatham Hall (0323), Virginia Tech, Blacksburg VA 24061. Phone: (540)-231-2716. E-mail: [himal@vt.edu](mailto:himal@vt.edu).*

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