**Species description**

Asian or Japanese persimmons (*Diospyros kaki*), the most commonly cultivated are generally upright, deciduous trees; they may be open or rounded in form, erect or semi-erect, or weeping. The alternate leaves are rounded to elliptic, wide, leathery, glossy on the upper surface, and covered in fine hairs beneath. The leaves are bluish-green in color, turning to bright flame colors in autumn. Trees have three types of flowering expression: female flowers, female and male flowers, and perfect flowers. The fruit shape may be spherical, flattened or conical with glossy, smooth skin. The fruit ranges in color from light yellow-orange to dark red-orange. Inside, the flesh is yellow, orange, or dark-brown, juicy and gelatinous, and either seedless or containing up to 8 flattened brown seeds. The flesh is bitter and astringent until fully ripe and almost rotten, when it becomes soft and sweet. Some dark-fleshed types are sweet, crisp, and non-astringent before fully ripe.

American persimmons (*D. virginiana*) are native to the eastern and southern U.S.; trees are generally low and shrub-like, though they may reach heights of 100 feet in good soil conditions. Tree form is usually rounded with pendulous branches. Leaves are alternate, simple and glossy green. White, dioecious flowers (male and female flowers occur on separate trees) appear in June. The rounded, plum-sized, fleshy fruits are harshly astringent until fully mature, usually after frost in October to November.

Texas persimmons (*D. texana*), native to southern Texas and northern Mexico are small trees or shrubs that may reach ten feet in height. The leaves are rounded, glossy on the upper surface and covered with fine hairs underneath; these are deciduous in the northern part of the range and evergreen farther south in subtropical regions. The white, five-petaled, urn-shaped flowers of this species are dioecious (male and female flowers occur on separate trees). Fruit are fleshy, round berries, up to one inch in diameter, black and sweet when fully ripe.

**Natural and cultural history**

Most of the approximately 400 *Diospyros* species are native to tropical regions in Africa, Asia and the Americas. Some are valued for their fruit, including black sapote (*Diospyros digyna*), a native of Central and South America, and mabalo (*D. decandra*), a native of the Philippines. Others species are valued for their wood, such as African ebony (*D. mespiliformis*).
temperate species are referred to as persimmons, Asian persimmon (D. kaki), American persimmon (D. virginiana), and Texas persimmon (D. texana).

Asian persimmons are native to Japan, China, Burma and the mountainous regions of northern India. In China, they grow wild at altitudes up to 6,000-8,000 feet. Seeds first reached the United States in 1856, and grafted trees were imported in 1870 by the U.S. Department of Agriculture. Of the 2,000 cultivars known in China, cuttings of 52 from the provinces of Honan, Shensi and Shansi were brought into the United States in 1914. Seeds, cuttings, budwood and live trees of numerous types were brought into the United States at various times from 1911 to 1923 by both government plant explorers and private interests and spread across California and the southwestern and southern states.

American persimmons grow naturally in dry woods, old fields and clearings. They grow throughout eastern North America, from New England to Florida, and west to Texas and Kansas. Texas persimmons are found on brushy uplands and rocky hillsides across central and southern Texas, south to Nuevo Leon in northeastern Mexico.

**Planting considerations and propagation techniques**

Asian and American persimmons are slow to moderate growing trees that may reach up to 100 feet in height, though 40 to 50 feet is more common. Canopy diameter ranges from 15 to 25 feet. The trees can live for 50-75 years. Persimmon needs a subtropical to mild-temperate climate with 100 to 400 chill hours. Asian persimmons are hardy to 10°F; American persimmons are hardy to -20°F; and Texas persimmons are hardy to 0°F; however at these low temperatures, the trees will not produce fruit. Hardiness depends on species, variety and rootstock. In general, persimmons bloom late, usually escaping spring frosts in mild climates. Persimmons can tolerate some shade though Asian varieties need a sunny location to ripen the fruit. Persimmons are adapted to a wide variety of soil types; they are tolerant of wet soils and also do well on light sandy soils.

Asian persimmons are usually grafted or budded onto seedling rootstock of the same species. They also may be propagated using root suckers. American persimmon may be used as a rootstock for Asian persimmons. The trees do not root or layer well. All species of persimmons can be propagated by seed, which should be sown as soon as the fruit ripens. Stored seed should be cold stratified and sown early in spring. Cuttings of half-ripe wood of American persimmons can be rooted in July and August, and branches can be rooted through layering in spring.

Asian persimmons produce seedless fruit without pollination, though this is not a dependable technique, and at least two different, compatible cultivars should be planted for effective pollination. American persimmons need pollination except for the cultivar called “Meader,” which is self-fertile. The flowers can be both wind and insect pollinated—bees are considered important for fruit set. They may also be artificially pollinated.

**Water needs**

Texas persimmons are highly drought tolerant; the other two species have moderate water requirements.
Care

Persimmon trees are relatively disease free. Trees can be affected by anthracnose, black spot, leaf spot and powdery mildew. Common pests of the fruit include persimmon fruit moth, Japanese mealy bug, and fruit-piercing stinkbugs.

Persimmons are typically pruned to a central or modified central leader. Young trees are pruned back to three feet tall at planting, and later the new shoots are thinned to form a well-shaped tree. Some cultivars develop a willowy habit and require careful pruning to avoid weak branches, which may break under the weight of the fruit.

Harvesting and processing

Fruit from astringent varieties should be picked when fully ripe and allowed to soften and become "mushy' inside before eaten. The fruit can be harvested after frost and “bletted,” a process where the fruit is kept in a cool place and eaten after it becomes soft, almost rotten. American and some Asian cultivars are astringent until soft and ripe. There are several traditional curing methods; in China, fruits are left outside in cold fall temperature and covered with bamboo mats until soft. In Japan, the fruits may be stored for one to two weeks in kegs that previously contained sake. A method discovered in California involves piercing fresh fruits at the apex with a needle dipped in alcohol, then layering the fruits with straw in a tightly closed box for 10 days. Fruits may also be kept at room temperature in a closed vessel or plastic bag for 2-4 days with bananas, pears, tomatoes, apples, or other fruits that give produce ethylene gas. In India, persimmons are paper-wrapped and placed in alternate rows with “Kieffer” pears in a closed container for three days. Non-astringent cultivars are eaten while the fruit is ripe but firm. Fruits may be eaten raw, cooked, or dried and used in breads, cakes, pies, and pudding. Japanese persimmons are usually eaten fresh when fully ripe or chilled, cut in half, and served with a spoon. Fruits may also be dried—persimmons are picked when mature but firm, peeled and hung up by their stems for one to two months to dry in the sun. Fruits are kneaded once or twice a week to give uniform texture and improve flavor. Then they are piled under mats to “sweat” for ten days. Sugar crystals form on the surface. Lastly, they are hung up again to dry in the wind.

References and resources


