Diospyros virginiana L.

Ebenaceae

LOCAL NAMES
English (Florida persimmon,eastern persimmon,possumwood,simmon,persimmon,common persimmon)

BOTANIC DESCRIPTION
Diospyros viginiana is a slow-growing deciduous tree; rarely exceeding 15 m in height but in optimum habitats may reach a height of 21-24 m and a diameter of 51-61 cm. It is usually upright or drooping with a rounded or conical crown. In forest stands the stem may be straight, tall, and slender. Stems may be clumped, either because seedlings develop in close proximity to one another or because they arise from suckers after a tree has been cut down.

Leaves alternate, simple, oblong to oval, 10-15 cm long, pinnately-veined, margin entire, lustrous green above and paler or whitened and pubescent below.

Flowers dioecious, greenish-white and inconspicuous, each tree having only staminate or pistillate flowers borne on shoots of the current year. The female flowers solitary, sessile and urn-shaped with a fragrant corolla with 4 or 5 thick recurved lobes, about 1.9 cm long. Male flowers in two or three-flowered cymes, tubular, 8-13 mm long.

Fruit plum-like (spherical) berry, green before ripening, turning orange to black or dark red when ripe, up to 5 cm in diameter with leafy bracts on top, only on female trees. The fruit is very astringent and mouth numbing when green, but deliciously sweet and edible when fully ripe. Each berry usually contains one to eight flat, brown seeds about 13 mm long but is sometimes seedless.

Twig slender, light brown to gray, maybe scabrous or pubescent; no true terminal bud and twig scar often very prominent, buds are dark red to black with 2 bud scales, triangular in shape, appressed; leaf scar has one, oval vascular bundle trace.

Bark gray-brown when young with orange in fissures, later becomes much darker, breaking up into square scaly thick plates; similar to charcoal briquettes. The bark on older trunks is black and broken up into distinctive, regular square blocks.

BIOLOGY
Flowers appear in late spring and early summer, from March to June within its botanical range and from April through May in areas where it grows best. It is cross-pollinated by insects and wind. Fruit matures in mid to late fall (September to November) or occasionally a little earlier.

Fruit bearing tends to be biennal with the optimum fruit-bearing age being 25-50 years, but 10-year-old trees sometimes bear fruit. Good crops are borne about every 2 years under normal conditions.

The seed is disseminated by birds and animals that feed on the fruits, and, to some extent, by overflow water in low bottom lands. The seeds remain dormant during winter and germinate in April or May, after about a month of soil temperatures above 15° C.

Leaf (Robert H. Mohlenbrock. USDA NRCS. 1995. Northeast wetland flora: Field office guide to plant species)

Fruits/seeds (Mike Clayton)

Tree (Mike Clayton)

ECOLOGY
Occurs in rocky or dry open woods, limestone glades, prairies, thickets, abandoned fields, and along roadsides and fences and on most soil types from sands to shales and mud bottomlands. It is well adapted to an environment of high insolation and low water supply. It is often the first tree species to start growth on abandoned and denuded cropland but grows best on terraces of large streams and river bottoms, bottomland swamps and upland forests.

Common associates are elms (Ulmus spp.), eastern redcedar (Juniperus virginiana), hickories (Carya spp.), sugar maple (Acer saccharum), yellow-poplar (Liriodendron tulipifera), oaks Quercus spp.), boxelder (Acer negundo), red maple (A. rubrum), sycamore (Platanus occidentalis), and cedar elm (Ulmus crassifolia). Common shrub and noncommercial tree associates include swamp-privet (Forestiera acuminata), roughleaf dogwood (Cornus drummondii), hawthorns (Crataegus spp.), water-elm (Planera aquatica), shining sumac (Rhus copallina), and smooth sumac (R. glabra).

BIOPHYSICAL LIMITS
Altitude: up to 1200 m

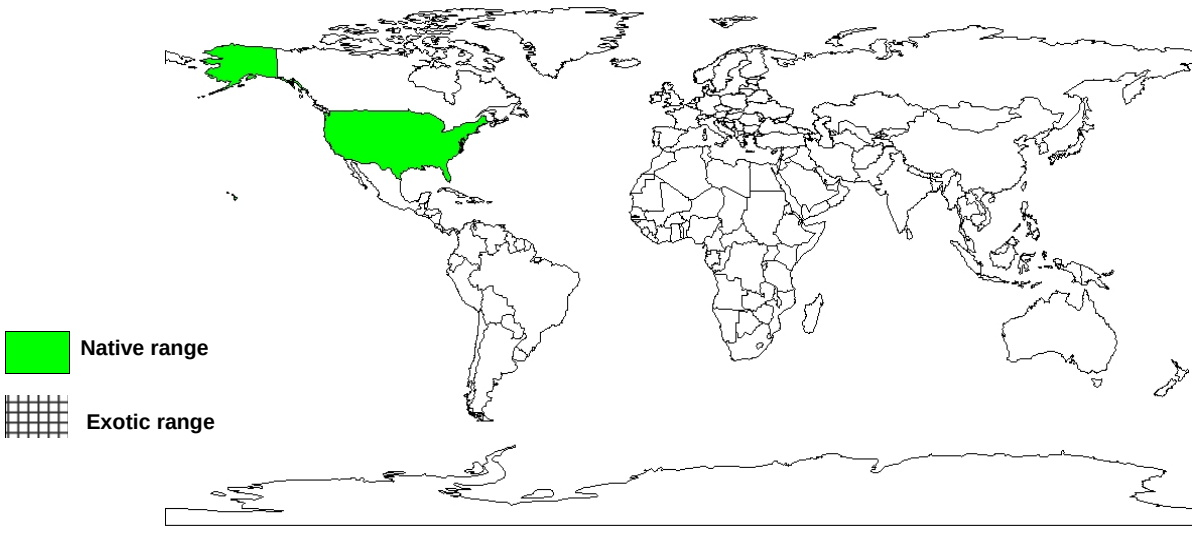
Temperature: average maximum temperatures are 35° C in the summer and -12° C in the winter. Prefers full sun, but also does well in partial sun (shade tolerant).

Rainfall: an average of 1220 mm, about 460 mm of which occurs during the growing season. Highly adaptable, tolerates drought and even brief flooding.

Soil type: thrives on almost any type of soil but grows best on alluvial soils such as clays and heavy loams, well-drained with neutral pH. Most frequent on soils of the orders alfisols, ultisols, entisols, and inceptisols.

DOCUMENTED SPECIES DISTRIBUTION

Native: US
Exotic:



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Food: Persimmon fruit is edible raw, cooked or dried and used in breads, cakes, pies, puddings and is sometimes used in making wine. The dried, roasted, ground seeds have been used as a substitute for coffee. A tea made from dried leaves is high in vitamin C and has a pleasant flavour somewhat like sassafras. An oil obtained from the seeds is said to taste like peanut oil. Molasses can be made from the fruit pulp. Persimmon flowers are useful in the production of honey.

Fodder: In Indiana and Ohio, the leaves and twigs of persimmon are an important supplementary fall and winter food for white-tailed deer. The fruit is an important food for squirrel, fox, coyote, raccoon, opossum, and quail, wild turkeys, bobwhite, crows, rabbits, hogs and cattle.

Timber: The heavy, hard, strong, smooth and very close grained wood is particularly desirable for turnery, plane stocks, veneer, shoe lasts, shuttles for textile weaving, and golf club heads and occasionally low-grade lumber.

Medicine: The inner bark and unripe fruit are sometimes used in treatment of fevers, diarrhea, and hemorrhage and as a mouth rinse in the treatment of thrush and sore throats and as a wash for warts or cancers. A decoction of the boiled unripe fruit is used to treat bloody stools. The leaves are rich in vitamin C and are used as an antiscorbutic.

Tannin or dyestuff : an indelible ink is made from fruit.

SERVICES
Ornamental: Persimmon is valued for landscaping because of its hardiness, adaptability to a wide range of soils and climates, its lustrous leathery leaves, interesting bark, its abundant crop of fruits, and its immunity from disease and insects

Erosion control: The tree is suitable for erosion control on deeper soils because of its deep root system, but this same characteristic makes it difficult to plant.

Shade or shelter: when allowed to become shrub-like, the multiple stemmed plants can be used for a large border shrub or as an accent plant.

TREE MANAGEMENT
For best growth, trees should be spaced at about 6 x 6 m. Persimmon can be pruned to an open center or modified central leader. Fruits can be thinned during the heavy years, to stimulate production in the lean years, by removing half or more of the developing fruit within a month after bloom.

In home garden situations, the trees can be grown as multiple stem plants and are quite attractive, especially where unusual bark patterns are desired.

GERMPLASM MANAGEMENT
Seeds should be kept for 2-3 months at 10º C under moist conditions then soaked for 2-3 days before planting in shallow drills in light soils with plenty of humus and covered to a depth of about 13 mm; or may be planted in the fall and permitted to stratify naturally in the ground over winter. Germination should be in 1-6 months. The seed bed should be mulched. Seedlings should be planted out in early summer and given some protection from winter cold for their first winter or two outdoors.

PESTS AND DISEASES
A number of insects attack persimmon but normally do no serious harm.

Borers: Agrilus fuscipennis (bark and phloem); Sannina uroceriformis (stems and taproots) of young trees and nursery stock.

Defoliators: Principal defoliators are webworm (Seiarctica echo) and the hickory horned devil (Citheronia regalis) may defoliate the trees in early summer and into mid summer.

Girdlers: The twig girdler (Oncideres cingulata) retards growth by cutting off smaller branches. The wood of dying and dead trees is often riddled by the false powderpost beetle (Xylobiops basilaris).

The fungus Cephalosporium diospyri causes persimmon wilt, a disease that kills many trees in central Tennessee and the Southeastern States. The disease is characterized by a sudden wilting of the leaves, followed by defoliation and death of the branches from the top down. An infected tree often lives 1 or 2 years after this symptom appears. Diseased trees should be burned, and cuts and bruises on other trees should be painted to prevent entry by wind-borne spores.

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