

Juglans nigra: Black Walnut¹

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Introduction

Black Walnut grows with a rounded crown to about 70 feet (can reach 100 to 150 feet in the woods) and spreads 60 to 80 feet when open grown. Best growth occurs in a sunny open location and a moist rich soil, common along stream banks in its native habitat. The tree grows rapidly when young but slows down with age and develops with a number of massive branches well spaced along the trunk forming a very strong, durable tree. While valued as a lumber tree it may not make the best yard tree. The nuts are edible but are a nuisance to clean up and leaves often fall prematurely from some type of leaf disease.

General Information

Scientific name: *Juglans nigra*

Pronunciation: JOO-glanz NYE-gruh

Common name(s): Black Walnut

Family: *Juglandaceae*

USDA hardiness zones: 5A through 9A (Fig. 2)

Origin: native to North America

Invasive potential: little invasive potential

Uses: specimen

Availability: somewhat available, may have to go out of the region to find the tree

Description

Height: 60 to 70 feet

Spread: 50 to 70 feet

Crown uniformity: irregular

Crown shape: round



Figure 1. Middle-aged *Juglans nigra*: Black Walnut

Crown density: moderate

Growth rate: moderate

Texture: coarse

Foliage

Leaf arrangement: alternate (Fig. 3)

Leaf type: odd-pinnately compound

Leaf margin: serrate

Leaf shape: ovate, lanceolate

Leaf venation: pinnate

Leaf type and persistence: deciduous

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Figure 2. Range

Leaf blade length: 2 to 4 inches

Leaf color: green

Fall color: no color change

Fall characteristic: not showy

Flower

Flower color: unknown

Flower characteristics: not showy

Fruit

Fruit shape: round

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: green, black

Fruit characteristics: attracts squirrels/mammals; showy; fruit/leaves a litter problem

Trunk and Branches

Trunk/bark/branches: branches don't droop; not showy; typically one trunk; thorns

Pruning requirement: little required

Breakage: resistant

Current year twig color: gray, brown

Current year twig thickness: thick

Wood specific gravity: 0.55

Culture

Light requirement: full sun

Soil tolerances: clay; sand; loam; alkaline; acidic; occasionally wet; well-drained

Drought tolerance: high

Aerosol salt tolerance: high

Other

Roots: can form large surface roots

Winter interest: yes

Outstanding tree: no

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: resistant

Pest resistance: sensitive to pests/diseases

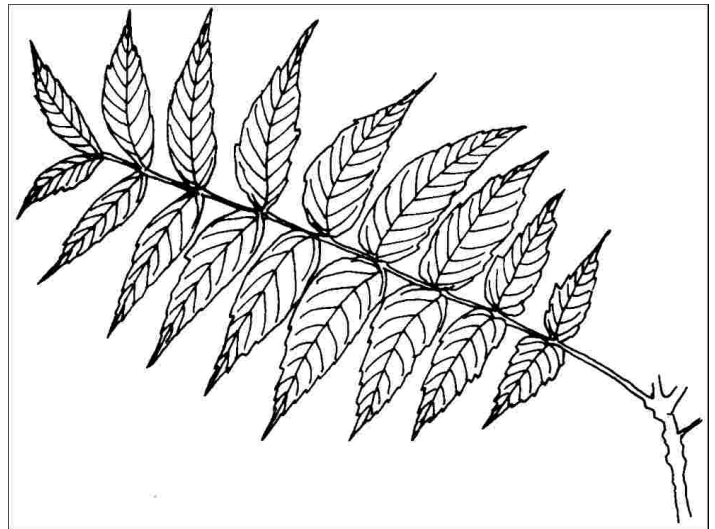


Figure 3. Foliage

Use and Management

Black Walnut roots contain juglone which inhibits growth of some plants beneath the tree. Plants such as tomato and evergreens are quite sensitive to juglone. Trees produce a strong tap root on well-drained loose soils and recover poorly after transplanting. Trees with trunks to five feet in diameter can be found in the eastern part of the country. A yellow dye is made from the fruit husks. The seed is used in candy-making, cleaning abrasives and explosives.

The tree is probably best used in a park, campus or other open space area. However, the fruit is very hard and can dull a lawn mower blade quickly and a mower can 'shoot' the fruit across a lawn at a high rate of speed, possibly injuring people in the area.

Place the tree so it will receive an adequate supply of water. It is not drought tolerant, often dropping leaves in dry spells and is poorly adapted for urban soils. It is really most happy in the loose gravelly soil of stream banks and other undisturbed areas but tolerates alkaline and wet soil.

One cultivar is listed: 'Laciniata' - a beautiful tree with cut leaflets. Other cultivars exist for nut quality. *Juglans microcarpa* is recommended for the central part of the country and western parts of Oklahoma and Texas. *Juglans regia* is the tree that brings us the edible walnut.

Pests

Fall webworm larvae web over branches then feed on leaves inside the nest. Nests can be pruned out of small trees or use sprays of *Bacillus thuringiensis*. Tent caterpillars also eat foliage in the spring.

Scales of various types attack walnuts. Most scales can usually be controlled with horticultural oil applied.

The leaves may be eaten by any one of several caterpillars. These can be controlled with sprays once identified.

Mites cause speckling and yellowing of the leaves.

Diseases

Brown leaf spot or anthracnose symptoms are irregular dark brown spots occurring in early summer. Severely infected trees may be defoliated. Rake up and destroy infected, fallen leaves.

Canker diseases cause dieback or death of trees. Infected bark may be discolored, sunken, or have a different appearance than surrounding healthy bark. Prune out infected branches and keep trees healthy. If the canker girdles the trunk the tree dies.

Bacterial blight causes small, irregularly-shaped spots on the leaves and leaf stems. Black spots occur on young nuts and shoots. Nearly ripe nuts have large black spots on the husks. Infected nuts fall prematurely or may have husks, shells, and kernels blackened and ruined.

Powdery mildew causes a white coating on the leaves.

During periods of high temperature and drying winds, walnuts may scorch. Make sure plants have adequate soil moisture.