

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 (Fig. 1). 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: 5 through 9A (Fig. 2)

Origin: native to North America

Uses: specimen; no proven urban tolerance

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 outline or silhouette

Crown shape: round

Crown density: moderate

Growth rate: medium

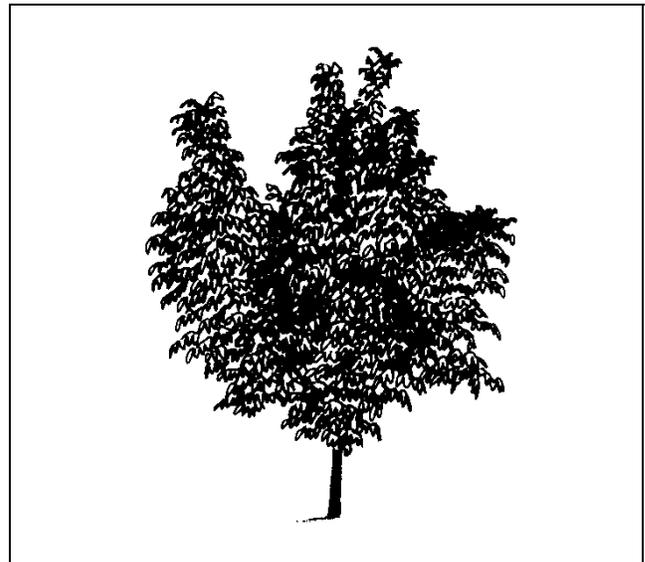


Figure 1. Middle-aged Black Walnut.

Texture: coarse

Foliage

Leaf arrangement: alternate (Fig. 3)

Leaf type: odd pinnately compound

Leaflet margin: serrate

Leaflet shape: lanceolate; ovate

Leaflet venation: pinnate

Leaf type and persistence: deciduous

Leaflet blade length: 2 to 4 inches

Leaf color: green

Fall color: no fall color change

Fall characteristic: not showy

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Figure 2. Shaded area represents potential planting range.

Flower

Flower characteristics: inconspicuous and not showy; spring flowering

Fruit

Fruit shape: round

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: black; green

Fruit characteristics: attracts squirrels and other mammals; fruit, twigs, or foliage cause significant litter; showy

Trunk and Branches

Trunk/bark/branches: grow mostly upright and will not droop; not particularly showy; should be grown with a single leader; no thorns

Pruning requirement: needs little pruning to develop a strong structure

Breakage: resistant

Current year twig color: brown; gray

Current year twig thickness: thick

Wood specific gravity: 0.55

Culture

Light requirement: tree grows in full sun

Soil tolerances: clay; loam; sand; acidic; alkaline; extended flooding; well-drained

Drought tolerance: high

Aerosol salt tolerance: high

Soil salt tolerance: moderate

Other

Roots: surface roots can lift sidewalks or interfere with mowing

Winter interest: tree has winter interest due to unusual form, nice persistent fruits, showy winter trunk, or winter flowers

Outstanding tree: not particularly outstanding

Invasive potential: little, if any, potential at this time

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: not known to be susceptible

Pest resistance: very sensitive to one or more pests or diseases which can affect tree health or aesthetics

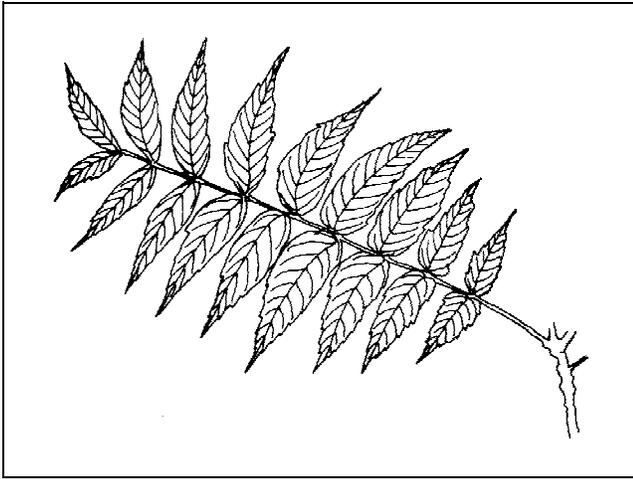


Figure 3. Foliage of Black Walnut.

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.