GWV Wood Facts Volume 1 * Issue 6

Data For: Juglans nigra (Walnut)

Common Names

American black walnut
American walnut
Black walnut
Eastern black walnut
Nogal
Nogal blanco
Nogal silvestre
Nuez meca
Tocte
Tropical walnut
Walnut

Common Uses

Bedroom suites
Cabinetmaking
Caskets
Decorative veneer
Desks
Fixtures
Furniture
Gunstocks
Living-room suites
Paneling
Specialty items
Tables
Turnery
Bobbins
Building materials
Chairs
Chests
Concealed parts (Furniture)
Dining-room furniture
Dowell pins
Dowells
Drawer sides
Figured veneer
Fine furniture
Floor lamps
Furniture components

Furniture squares or stock
Hatracks
Interior construction
Kitchen cabinets
Office furniture
Picker sticks
Radio, stereo, TV cabinets
Rifle stock
Rustic furniture
Shade rollers
Shuttles
Spindles
Spools
Sporting Goods
Stencil & chisel blocks
Stools
Sucker rods
Umbrella handles
Utility furniture
Veneer
Wainscotting
Wardrobes

Species Distribution

REGIONS:
North America

COUNTRIES:
Canada
United States

Physical and Environmental Profile

Environmental Profile
The species is reported to be demonstrably widespread, abundant, and secure globally, though it may be quite rare in parts of its range, especially at the periphery (Source - The Nature Conservancy - Rank of relative endangerment based primarily on the number of occurrences of the species globally).

Distribution
Black walnut is reported to be distributed in Ontario and Quebec in Canada. Its growth range in the United States is reported to include Alabama, Arkansas, Delaware, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Maine, Michigan, Minnesota, Missouri, Mississippi, North Carolina, North Dakota, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island,

South Carolina, South Dakota, Great Smoky Mountain National Park, Connecticut, Iowa, Illinois, Tennessee, Texas, Virginia, Vermont, Wisconsin, West Virginia, and Wyoming. The tree prefers moist, well-drained soils, particularly along streams, and is usually found scattered in mixed forests.

Product Sources
Some material from this species is reported to be available from environmentally responsible or sustainably managed sources.

Although Black walnut lumber is reported to be available, supplies are not as abundant as they once were, and its use is reported to be down because of high prices. American black walnut, which is reported to produce the greatest variety of figure types than any other tree, demands a high price because it is so well respected that buyers are not deterred by the price.

The following species in the database is reported to be similar in density to Black walnut:
Crabwood (Carapa guianensis)

The following species in the database is reported to be comparable in properties to Black walnut:

Koa (Acacia koa)
Aningre (Aningeria altissima Aningeria robusta)
Ekop (Tetraberlinia tubmaniana) (moulding props.)

The following species in the database is reported to be equal with Walnut in most strength properties, and has superior strengths in bending and resistance to shock:
Mansonia (Mansonia altissima)

The following species in the database has been suggested as a potential substitute for Walnut as sliced veneer:
Mutenye (Guibourtia arnoldiana G. ehie)
Tchitola (Oxystigma oxyphyllum) Imbuia (Phoebe porosa)

Tree Data
The mature tree is described as rather large. It is reported to attain a height of 70 to 90 feet (21 to 27 m), with a trunk diameter of 24 to 48 inches (60 to 120 cm). Boles are reported to be often clear of branches to 50 to 60 feet (15 to 18 m).

Sapwood Color
The sapwood is described as whitish to yellowish brown. It is a common practice to steam or stain the sapwood to match its color with that of the heartwood.

Heartwood Color
The color of the heartwood varies from light grayish brown to deep chocolate brown to

an almost black purplish brown. The appearance of the wood is usually described as warm and inviting.

Grain
The grain is slightly open and usually straight, but may be wavy or irregular. Pore arrangement is reported to be similar to that in the Hickories (Carya) and Persimmon (Diospyros virginiana), but the pores are smaller. The wood is famous for its wavy, curly and mottled figures which are obtained from burls, crotches and stumpwood.

Texture
Texture is usually coarse, but uniform.

Luster
Wood surfaces are generally dull, but the wood is reported to develop a lustrous patina after many years in use.

Odor
The wood is tasteless but it is characterized by a mild odor when worked.

Ease of Drying
The timber is reported to be somewhat difficult to dry, and seasons at a slow rate.

Drying Defects
Defects that may occur include checking due to severe drying, iron stains due to extractives, honeycomb, collapse, and ring failure due to wetwood.

Kiln Schedules
T6 - D4 (4/4); T3 - D3 (8/4) US
(Air-dry as thoroughly as possible before kiln drying.)

Movement in Service
Wanut is dimensionally stable after seasoning. It is reported to absorb and give off moisture more slowly than most woods, and tends to stay in place with very little movement in use.

T/R Ratio
1.60
This indicator is more meaningful if it is used together with other drying information and actual shrinkage data in the tangential and radial directions. (Refer to the Numerical Values window).

Natural Durability
Resistance to insect and fungal attack is reported to be very good.

Veneering Qualities
American black walnut is reported to be popular for decorative veneer. The wood

produces a great variety of of very unusual figures which are reported to be highly desirable in veneers. The figures include crotches, swirls, stumpwood, stripe or ribbon, mottle, snail and occasional burls.

Cutting Resistance
The timber is reported to be very easy to cut.

Blunting Effect
The wood exerts a moderate blunting effect on cutters.

Planing
Material containing irregular grain may be difficult to plane, but the wood is generally easy to work. (Average number of planed pieces out of one hundred reported to yield perfect results = 62).

Turning
The wood is characteristically very easy to turn. (Percent of pieces reported to produce fair to excellent results in turning = 91).

Boring
Boring qualities are reported to be very good. (Percent of bored pieces reported to produce good to excellent results = 100).

Moulding
Moulding properties are reported to be rather poor. (Expected number of moulded pieces out of one hundred producing good to excellent results = 34).

Mortising
The wood has exceptional mortising properties. (Percent of mortised pieces reported to yield fair to excellent results = 98).

Gluing
The gluing properties of the wood have been reported as fair to satisfactory.

Nailing
The wood is reported to have good nail-holding qualities. (Percent of pieces reported to be free from complete splits in nailing operations = 50).

Screwing
Screw-holding qualities are reported to be good. (Average number of pieces out of one hundred reported to screw without complete splits = 59).

Sanding
The material responds very well to sanding operations, and the wood is reported to leave the sander with a clean and smooth surface.

Polishing
The wood has excellent finishing characteristics.

Staining
Staining properties are reported to be very good, but filling is required because of the open grain.

Varnishing
The wood of black walnut can be varnished easily, after filling.

Painting
The wood takes paint well.

Steam Bending
Steam bending characteristics are reported to be good. (Percent of unbroken pieces after steam bending = 78).

Response to Hand Tools
Black walnut is reported to work well with hand tools.

Comments
Walnut is rated as the primary American wood for cabinetry, and is superior to all other woods for gunstock because it keeps its shape, it is relatively light in weight, and can absorb shocks rather well. The wood is strong and can withstand extra weight with little deflection or bending. Its strength properties are reported to be more than enough for the uses which it is employed, and is stronger than White oak. Color and figure are reported to vary considerably within species, and color variation between boards is also significant, particularly in lower grade materials and boards that are poorly steamed before kiln-drying.

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