

GWV Wood Facts Volume 1 * Issue 5

Data For: *Frazinus americana* (White Ash)

Common Names

American ash
Ash
Biltmore ash
Biltmore white ash
Fresno
White ash

Common Uses

Baseball bats
Baskets
Bent Parts
Cabinetmaking
Chairs
Decorative plywood
Decorative veneer
Food containers
Furniture
Joinery
Paddles
Railroad cars
Tool handles
Bedroom suites
Chests
Concealed parts (Furniture)
Desks
Dining-room furniture
Dowell pins
Dowells
Drawer sides
Excelsior
Figured veneer
Fine furniture
Floor lamps
Furniture components
Furniture squares or stock
Handles
Hatracks
Kitchen cabinets
Living-room suites

Office furniture
Plywood
Radio, stereo, TV cabinets
Rustic furniture
Shafts/Handles
Sporting Goods
Stools
Tables
Utility furniture
Veneer
Wardrobes

Species Distribution

REGIONS:

North America

COUNTRIES:

Canada
United States

Physical and Environmental Profile

Environmental Profile

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

Distribution

The North American range of White ash is reported to include New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Quebec, Alabama, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Maine, Michigan, Minnesota, Missouri, Mississippi, North Carolina, Great Smoky Mountain National Park, Iowa, Illinois, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, Vermont, Wisconsin, and West Virginia. The tree prefers moist soils of valleys and slopes, particularly deep, well-drained loams. It is usually found growing with many other hardwoods.

Product Sources

Some material from this species is reported to be available from sustainably managed, salvaged, recycled, or other environmentally responsible sources.

Supplies of Ash are reported to be plentiful on the US market. The cost of Ash, which was once moderate, is reported to be steadily rising.

The following species in the database have been suggested as potential substitutes for ash:

- African celtis (*Celtis mildbraedii*)
- Axlewood (*Anogeissus latifolia*)
- White tabebuia (*Tabebuia insignis*)

The following species in the database is also reported to have similar properties to ash: Santa maria (*Calophyllum brasiliense*) Indicated strength properties of the following species in the database are reported to be similar to those of White ash:

- Silver birch (*Betula pendula*) Toughness
- Brown sterculia (*Sterculia rhinopetala*) Toughness
- Australian blackwood (*Acacia melanoxylon*) Impact

Tree Data

White ash is reported to be the largest and most important of the 18 Ash species that are native to the United States. Trees often attain heights of 70 to 80 feet (21 to 24 m), with trunk diameters of 24 to 36 inches (60 to 90 cm). Boles are reported to be often straight and clear of branches to 30 to 50 feet (9 to 15 m).

Sapwood Color

The narrow sapwood is nearly white in color.

Heartwood Color

The heartwood is pale brown, grayish brown, light brown, or pale yellow streaked with brown. The color may also be cream to very light brown, occasionally with a reddish tinge.

Grain

The grain is described as bold, straight, moderately open with an occasional wavy pattern. Plainsawn boards usually have strong contrast in grain.

Texture

The material is normally coarse-textured.

Luster

The wood is reported to be lustrous.

Odor

Ash is reported to be typically free from taste and odor.

Ease of Drying

Air-seasoning is reported to occur at a faster rate than average, with very little shrinkage. Kiln-drying yields satisfactory results, but low initial temperatures are required.

Drying Defects

Drying defects common in this species include gray-brown sapwood stains (sticker marks, stains), and surface checks (in 6/4 and thicker stock). These are attributable to trees from wet sites, drying too slowly. Distortion and end-splitting may also occur, and existing shakes may open up.

Kiln Schedules

T8-B4 (4/4), T5-B3 (8/4) US

Movement in Service

White ash is reported to have good dimensional stability, and is superior to Red oak in this property.

T/R Ratio

1.63

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

The heartwood is reported to have little or no natural resistance to attack by decay causing organisms and insects. The sapwood is also susceptible to attack by powder post beetle and fungi.

Resistance to Impregnation

The wood is reported to respond well to preservative treatment.

Veneering Qualities

Ash is used to manufacture plywood and some logs are sliced into decorative veneers for paneling and furniture uses.

Cutting Resistance

There is very little cutting resistance.

Blunting Effect

There is moderate blunting effect on cutting tools.

Planing

The wood is fairly easy to plane.

Turning

Turning properties are reported to be rather poor.

Boring

The wood is characteristically very easy to bore.

Mortising

Mortising properties are reported to be poor.

Gluing

Under controlled conditions, Ash is reported to glue with satisfactory results.

Nailing

White ash is reported to possess good resistance to splitting, and has good nail-holding properties.

Screwing

The timber has fairly good screwing properties.

Sanding

The wood is reported to have satisfactory sanding characteristics.

Polishing

Polishing qualities are reported to be good.

Staining

The wood has good staining characteristics and is often finished in black.

Varnishing

The wood has satisfactory varnishing qualities.

Painting

Painting properties are reported to be satisfactory.

Steam Bending

The wood has satisfactory or fairly good steam bending characteristics.

Response to Hand Tools

The wood works well with hand tools.

Reference Sources**Numerical Data Source**

USDA. 1987. Wood Handbook: Wood as an Engineering Material. Agriculture Handbook No. 72. United States Department of Agriculture, Forest Service, Madison, Wisconsin.

Descriptive Data Source

Panshin, A.J. and C. deZeeuw. Textbook of Wood Technology. McGraw-Hill Series in Forest Resources. McGraw-Hill Book Company, New York.

Canadian Forestry Service. 1981. Canadian Woods -Their Properties and Uses. Third Edition. E.J. Mullins and T.S. McKnight, Editors. Published by University of Toronto Press, Toronto, Canada.

Jackson, A. and D. Day. 1991. Good Wood Handbook -The Woodworker's Guide to Identifying, Selecting and Using the Right Wood. Betterway Publications, Cincinnati, Ohio.

HMSO, 1981. Handbook of Hardwoods, 2nd Edition. Revised by R.H. Farmer. Department of the Environment, Building Research Establishment, Princes Risborough Laboratory, Princes Risborough, Aylesbury, Buckinghamshire.

Boone, R.S., C.J. Kozlik, P.J. Bois, E.M. Wengert. 1988. Dry Kiln Schedules for Commercial Hardwoods -Temperate and Tropical. USDA, Forest Service, General Technical Report FPL-GTR-57, Forest Products Laboratory, Madison, Wisconsin.

USDA. 1988. Dry Kiln Operators Manual, Preliminary Copy. Forest Service, Forest Products Laboratory, Madison, Wisconsin.

Little, E.L. 1980. The Audubon Society Field Guide to North American Trees -Eastern Region. Published by Arthur A. Knopf, New York.

Kaiser, J. Wood of the Month: Ash -A Big Leaguer's Choice. Wood and Wood Products, September, 1987. Page 40.

NWFA. 1994. Wood Species Used in Wood Flooring. Technical Publication No. A200, National Wood Flooring Association, Manchester, MO.

Kline, M. 1983. *Fraxinus americana* -White ash. In A Guide to Useful Woods of the World, Flynn Jr., J.H., Editor. King Philip Publishing Co., Portland, Maine. Page 162.