PURDUE UNIVERSITY

PURDUE EXTENSION

FNR-270

EXPERT REVIEWED

Wood from Midwestern Trees

Daniel L. Cassens
Professor, Wood Products

Eva Haviarova
Assistant Professor, Wood Science

Sally Weeks
Dendrology Laboratory Manager

Department of Forestry and Natural Resources
Purdue University

Purdue Extension
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Indiana and the Midwestern states are home to a diverse array of tree species. In total there are approximately 100 native tree species and 150 shrub species. Indiana is a long state, and because of that, species composition changes significantly from north to south.

A number of species such as bald cypress (*Taxodium distichum*), cherry bark, and overcup oak (*Quercus pagoda* and Q. *lyrata*) respectively are native only to the Ohio Valley region and areas further south; whereas, northern Indiana has several species such as tamarack (*Larix laricina*), quaking aspen (*Populus tremuloides*), and jack pine (*Pinus banksiana*) that are more commonly associated with the upper Great Lake states.

In urban environments, native species provide shade and diversity to the environment. In rural settings, trees are an integral part of the landscape providing natural beauty, wildlife habitat and food, recreation, and lumber.

Since the arrival of the first settlers to Indiana, trees have been harvested for the lumber and other wood products that they produce. At the turn of the 20th century, Indiana was the leading lumber producing state in the nation and continued in that role for several years. With the exception of a few protected areas, essentially all of the timber in the state was cut. Much of the area became farm land, but the remaining areas soon reforested themselves with young stands of trees, many of which have been harvested and replaced by yet another generation of trees. This continuous process testifies to the renewability of the wood resource and the ecosystem associated with it.

Today, the wood manufacturing sector ranks first among all agricultural commodities in terms of economic impact. Indiana forests provide jobs to nearly 50,000 individuals and add about $2.75 billion dollars to the state's economy.

There are not as many lumber categories as there are species of trees. Once trees from the same genus, or taxon, such as ash, white oak, or red oak are processed into lumber, there is no way to separate the woods of individual species. For example, there are ten species of red oak trees in Indiana, but only one lumber group simply referred to as red oak.

For the Pfendler Hall display, we assembled rather large panels of wood to provide a more representative portion of what each lumber group is like. The industry's very best and clearest material is on the left. On the right of each panel is the lowest-quality material, most of which is used for pallets, blocking, or railroad ties.

In this booklet, each tree species is illustrated with a panel showing the tree, usually in an urban

environment. There is information about the tree itself, including its uses.

Complete information on lumber characteristics is available in a CD titled *Hardwood Lumber of the Central Midwest* available for $25 plus shipping from the Media Distribution Center, Purdue University, www.ces.purdue.edu/new<.> Complete information on tree characteristics is available in the 325-page book *Native Trees of the Midwest* available for $50 from Purdue University Press.

Footnote: Wood prices change frequently. The prices listed here are for wholesale, semi-load, and highest quality wood (FAS green) for southern Indiana (*Hardwood Review Weekly*, October 2006).

Maximum size is from the National Registry of Big Trees. Many of these trees are open grown. Forest grown trees would be taller.

Wood Density is established at 12% Moisture Content.

CD-FNR-5 • CD-ROM • $25.00 + shipping

The *Hardwood Lumber of the Central Midwest* CD provides technical and practical information about the 24 hardwood species commonly found and used in the Midwest lumber industry. It discusses strength, mechanical properties, species location, uses, abundance, unique characteristics, values, color, and lumber grades.

You'll find information about commercial species such as ash, basswood, beech, black cherry, black walnut, cottonwood, hackberry, hard or sugar maple, hickory, red oak, sassafras, soft maple, sycamore, white oak, and yellow poplar. There is information about other species such as black gum, black locust, buckeye, butternut, coffeetree, elm, honey locust, sweet gum, and willow.

Order Online at www.ces.purdue.edu/new

American Chestnut

Scientific name: *Castanea dentata* (Marsh.) Borkh.

Maximum size: 6.6 feet DBH by 106 feet high

Shape: open-grown form has spreading crown from low, thick trunk

Leaves: thick dark green, many curved teeth on margin

Flowers: males slender, long white clusters; females nearby – tiny white clusters from prickly ocales

Fruit/Seeds: 2-3 dark brown seeds per prickly bur

Site: prefers sandy loam soils; moderately shade tolerant, but prefers full sun

Price per board foot: not listed in wholesale market report

Percent saw timber in Indiana: 0%

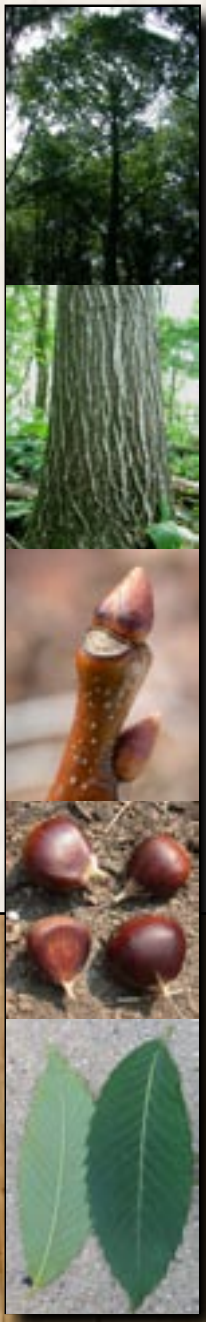
Density: 30.1 lbs/ft^3

Machinability: good

Uses: previously for lumber; natural durable products such as poles, fence posts, and railroad ties; millwork, tannin, and others

Wildlife uses: seeds highly preferred by deer, squirrels, turkeys, and woodpeckers

Note: This species continues to hang on by root suckering within its natural range. Most trees were killed by chestnut blight. Wood panel provided by the Indiana Chapter of the American Chestnut Foundation.



White Ash

Scientific name: *Fraxinus americana* Linnaeus and other species

Maximum size: 8 feet DBH by 125 feet high

Shape: broadly rounded or pyramid-shaped crown

Leaves: feather-shaped (pinnate) with seven leaflets

Flowers: inconspicuous, petal-less, mostly greenish

Fruit/Seeds: hanging clusters of light brown, winged seeds

Site: prefers deep, moist, fertile upland soil; shade intolerant

Price per board foot: $0.75

Percent saw timber in Indiana: 6.5% (all ash species)

Density: 38.9 lbs/ft^3

Machinability: average to good

Uses: long tool handles, baseball bats, oars, furniture, planing mill products, woodenware, and toys; previously used for sporting goods and vehicle parts

Wildlife uses: seeds taken sparingly by birds and rodents

Note: All ash species are seriously threatened by the Emerald Ash Borer. The entire state of Indiana is quarantined.

American Basswood

Scientific name: *Tilia americana* Linnaeus

Maximum size: 7.8 feet DBH by 78 feet high

Shape: narrow and symmetrical crown with many slender branches

Leaves: broadly heart-shaped, with finely serrate margins and pointed tip

Flowers: whitish yellow, suspended from a leafy bract on a long stalk, strongly scented

Fruit/Seeds: hangs from a long stalk in clusters from a leafy bract

Site: prefers rich, moist, well-drained soil, shade tolerant when young

Price per board foot: $0.75

Percent saw timber in Indiana: 1%

Density: 25.9 lbs/ft^3

Machinability: below average

Uses: venetian blinds, toys, carvings, key stock in pianos, picture frame mouldings, apiary supplies, concealed furniture parts, basket veneers; some millwork such as sash and doors; core stock in some plywood

Wildlife uses: seeds taken sparingly by squirrels and rodents

American Beech

Scientific name: *Fagus grandifolia* Ehrhart

Maximum size: 7.4 feet DBH by 115 feet high

Shape: tall, broad, with low, wide-spreading crown

Leaves: ovate with an elongated tip and prominent veins, papery but tough, dark green and lustrous; the underside is slightly hairy

Flowers: male and female on the same tree; males are in clusters of dangling rounded heads; females are small terminal spikes

Fruit/Seeds: spiny case of husk opens when ripe into 4 parts and releasing nuts

Site: tolerates a wide range of well-drained soils; shade tolerant

Price per board foot: $0.52

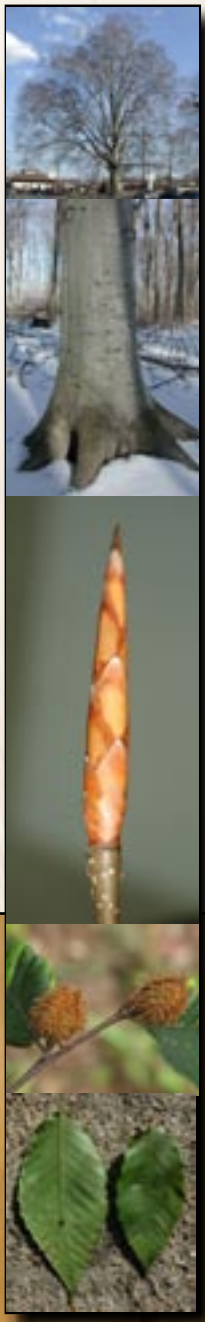
Percent saw timber in Indiana: 2.8%

Density: 44.7 lbs/ft^3

Machinability: good

Uses: furniture, especially bent parts in chairs; paper, railroad crossties, charcoal; many turned items such as spindles and novelties; pallets, blocking, nuts as wildlife food; previously used for wooden clothes pins, brush backs, and handles

Wildlife uses: seeds highly preferred by many birds and mammals; hollow old trees used as dens



Ohio Buckeye

Scientific name: *Aesculus glabra* Willdenow

Maximum size: 4 feet DBH by 148 feet high

Shape: upward-arching branches; oblong, rounded crown

Leaves: palmately compound with mostly 5 coarsely pointed leaves

Flowers: large, pale-yellow upright clusters with red markings, odd smelling

Fruit/Seeds: spiny leathery capsules that split in autumn and release brown shiny "buck's eye" seeds

Site: mixed hardwood forest with moist rich (limestone) soils; shade tolerant

Price per board foot: not listed in wholesale market reports

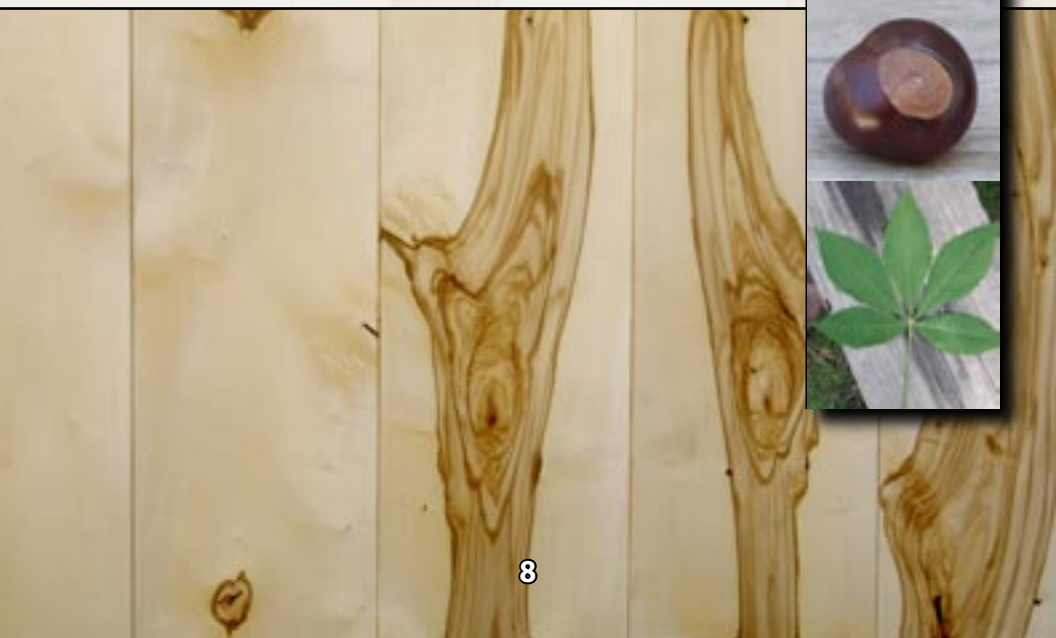
Percent saw timber in Indiana: <1%

Density: low

Machinability: wood is soft and tends to fuzz

Uses: concealed or low-cost furniture parts, paint grade moulding, excellent carving wood; previously used for artificial limbs

Wildlife uses: very little, all parts of tree considered toxic



Butternut

Scientific name: *Juglans cinerea* Linnaeus

Maximum size: 7 feet DBH by 78 feet high

Shape: open-grown trees with short trunks and a few ascending limbs that form a broad open crown

Leaves: 11 to 17 leaflets, leaf stalk is finely hairy and leaflet margins are serrate, sticky to the touch, and aromatic

Flowers: male has drooping aments; females are in terminal spikes; both are on the same tree

Fruit/Seeds: oblong nut enclosed in glandular husk; inside nut, sweet and edible; has sharp, deeply corrugated ridges

Site: moist, rich, well-drained soils along streams and wooded ravines, shade intolerant

Price per board foot: not listed in wholesale market reports

Percent saw timber in Indiana: <1%

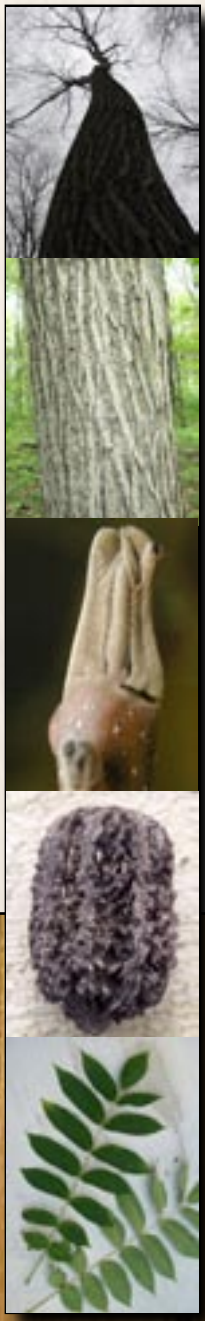
Density: 26.6 lbs/ft^3

Machinability: not reported

Uses: furniture, cabinets, paneling, fancy face veneers, bowls; previously used as a substitute for walnut and called white walnut

Wildlife uses: fruit taken by squirrels

Note: lumber and veneer production of the species has declined seriously due to butternut canker



Black Cherry

Scientific name: *Prunus serotina* Ehrhart

Maximum size: 5.5 feet DBH by 134 feet high

Shape: oval canopy

Leaves: elliptical, lustrous, dark green

Flowers: white in drooping racemes

Fruit/Seeds: dark red fruit

Site: deep, rich soils with uniform moisture; shade intolerant with shallow root system

Price per board foot: $2.40

Percent saw timber in Indiana: 1.5%

Density: 34.9 lbs/ft^3

Machinability: excellent

Uses: high-end face veneer, furniture, moulding, architectural millwork, wood paneling, toys, printer's blocks, scientific instrument cases, pattern stock, and blocks for mounting electrotypes

Wildlife uses: fruit is taken by many birds and mammals; twigs are important winter browse for deer

Kentucky Coffeetree

Scientific name: *Gymnocladus dioicus* (L.) K. Koch

Maximum size: 5.4 feet DBH by 92 feet high

Shape: irregular rounded open crown, often forks close to the ground

Leaves: bipinnately compound, dark green above, pale yellow-green beneath

Flowers: large upright clusters of whitish green, single-sexed flowers, male and female are on separate trees

Fruit/Seeds: purplish brown pods enclosing yellowish green pulp and 4 to 7 hard seeds

Site: rich, moist woods; intolerant of shade

Price per board foot: not listed in wholesale market report

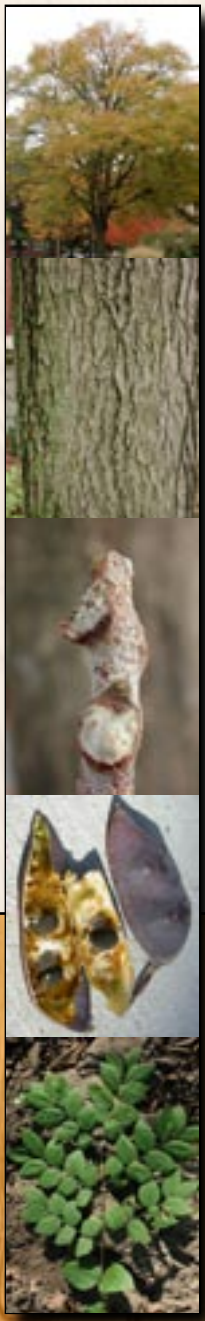
Percentage saw timber in Indiana: not available

Density: 41.9 lbs/ft^3

Machinability: relatively hard, porous wood, probably comparable to oak

Uses: specialty wood for home woodworkers and custom shops; railroad ties, fence posts and rails, pallets

Wildlife uses: limited use of pods and seeds



Eastern Cottonwood

Scientific name: *Populus deltoides* Bentr.ex Marsh.

Maximum size: 12 feet DBH by 85 feet high

Shape: tall clear often massive trunks with irregular oblong open crowns

Leaves: triangular in outline, tip is elongate and margins are coarsely round-toothed

Flowers: short-stalked, long, thick dangling catkins, male (reddish) and female (yellowish) on separate trees

Fruit/Seeds: dangling clusters of small capsules, split open to release numerous seeds attached to fluffy white hairs

Site: prefers moist, river bottoms and flood plains; shade intolerant

Price per board foot: $0.60 in southern United States

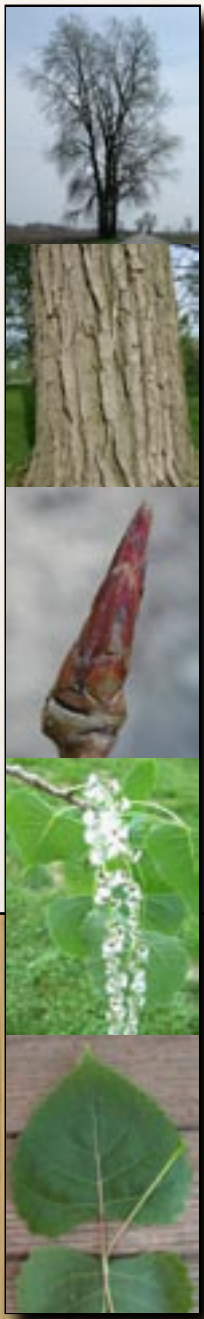
Percent saw timber in Indiana: 4.4%

Density: 28 lbs/ft^3

Machinability: poor

Uses: boxes, crates, low strength pallets, caskets, concealed furniture parts, core stock, general construction where allowed by code

Wildlife uses: occasional use; nesting by Baltimore orioles; woodpeckers use old snags; Indiana bat maternity colonies under loose bark of dead tree



American Elm

Scientific name: *Ulmus americana* Linnaeus and other species

Maximum size: 7.35 feet DBH by 122 feet high

Shape: open spreading crown, drooping limbs that form a vase shape, trunk often buttressed at base

Leaves: egg-shaped, lopsided base and pointed tip with doubly serrate margins

Flowers: clusters of small green blossoms with red stamens

Fruit/Seeds: greenish, disk-like, paper-thin, half-inch samaras with hairs on the margins

Site: floodplains, low fertile hills; intermediate shade tolerance

Price per board foot: not listed in wholesale market reports

Percent saw timber in Indiana: 1.3% (all elm species)

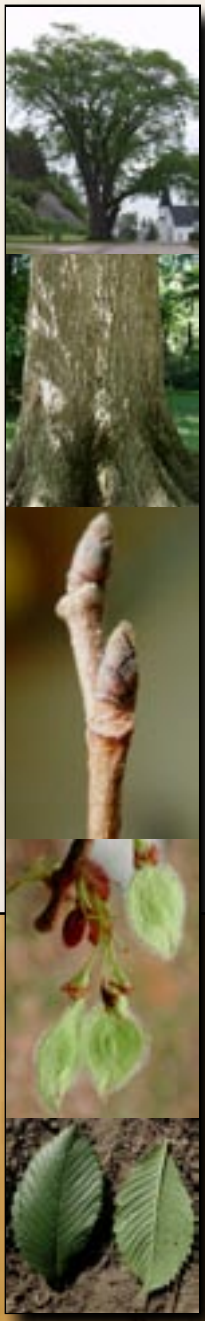
Density: 38.6 lbs/ft^3

Machinability: relatively poor due to interlocked grain

Uses: staves, boxes, crates, pallets, veneer, fruit and vegetable containers, children's wagons and sleds, bent parts for rockers, arms, upholstery frames, cabinets, flooring, paneling, interior trim, barrel staves and hoops, vehicle trim, agricultural implements, bent wood on old time steamer trunks

Wildlife uses: budding in late winter by squirrels; cover/nesting of birds in small, open grown trees

Note: Dutch elm disease has killed most of the large trees throughout its range.



Blackgum

Scientific name: *Nyssa sylvatica* Linnaeus

Maximum size: 6.1 feet DBH by 110 feet high

Shape: small recurved branches in a narrow oblong crown

Leaves: oblong, dark green, smooth and shiny above, paler beneath, entire margins

Flowers: single sex on separate tree; both male and female are grouped in greenish, long-stalked inconspicuous clusters

Fruit/Seeds: small and dark, blue to nearly black when ripe

Site: moist alluvial soils but also grows on uplands; shade tolerance

Price per board foot: not listed in wholesale market reports

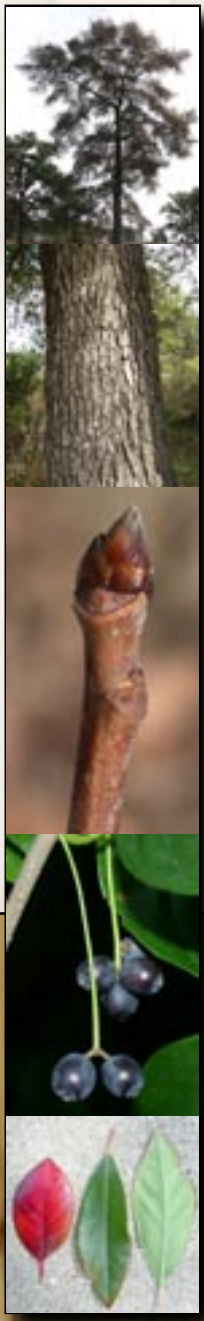
Percent saw timber in Indiana: 0.5%

Density: 35.9 lbs/ft^3

Machinability: average; has interlocked grain

Uses: boxes, crates, pallets, concealed furniture parts, container veneer, railroad ties

Wildlife uses: fruit taken by many birds and mammals



Sweetgum

Scientific name: *Liquidambar styraciflua* Linnaeus

Maximum size: 7.5 feet DBH by 136 feet high

Shape: pyramidal when young; straight trunk, branches often with irregular wings

Leaves: glossy; resembles a star, aromatic when crushed; margins are finely toothed

Flowers: males reddish green and sit upright; females hang down in drooping long-stalked round heads

Fruit/Seeds: star-shaped head of beaked capsules that hang from a long stalk, turns brown in fall

Site: grows best on rich, moist alluvial sites; intolerant of shade

Price per board foot: $0.38 in southern United States

Percent saw timber in Indiana: 1%

Density: 35.9 lbs/ft^3

Machinability: average, has interlocked grain

Uses: available lumber called sap gum is used for furniture, interior woodwork, frame stock, pallets, crates, railroad ties, pulpwood and plywood; previously the species was used extensively for low-end furniture and television, radio, and phonograph cabinets; often stained dark like walnut

Wildlife uses: seeds taken by finches, siskins, wood ducks

Hackberry

Scientific name: *Celtis occidentalis* Linnaeus

Maximum size: 6.6 feet DBH by 84 feet high

Shape: irregularly sized branches extending horizontally from the trunk, spreading crown

Leaves: ovate-lanceolate, with single-toothed margins and pointed tips slightly curved to one side

Flowers: inconspicuous, greenish

Fruit/Seeds: round deep red to purple berries

Site: prefers rich moist, well-drained bottomlands, but will grow on a wide range of soil types; shade tolerance is intermediate

Price per board foot: $0.47 in southern United States

Percent saw timber in Indiana: <1%

Density: 37 lbs/ft^3

Machinability: average

Uses: furniture, upholstery frames, millwork, container veneer, pallets, wildlife food and habitat

Wildlife uses: fruit used commonly by many birds and mammals

Sugar Maple

Scientific name: *Acer saccharum* Marsh.

Maximum size: 7.25 feet DBH by 65 feet high

Shape: open-grown trees with very dense and broad crowns

Leaves: 5 lobed and smooth, no serration on margins, pale underside, long leaf stalk

Flowers: dangling clusters of yellow flowers

Fruit/Seeds: greenish, paired fruit, each winged seed sits close to the other

Site: prefers a moist, deep, well-drained soil; extremely shade tolerant

Price per board foot: $1.54 for mixed heartwood and sapwood; $1.80 for selected sapwood

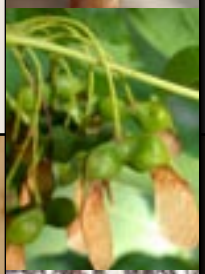
Percent saw timber in Indiana: 8.2%

Density: 44 lbs/ft^3

Machinability: average to above average

Uses: high-end cabinets, furniture, architectural millwork, paneling, flooring, bowling alleys, athletic equipment, piano frames, violins, wooden ware and novelties, turned items, butcher blocks, dowels, and even toothpicks

Wildlife uses: seeds utilized by some birds and mammals; leaves and twigs highly preferred by deer and rabbits



Soft Maple

Scientific name: Silver Maple - *Acer saccharinum* Linnaeus
Red Maple – *Acer rubrum* Linnaeus

Maximum size: 7.8 feet DBH by 115 feet high

Shape: upward-arching branches with uniform, oval crown

Leaves: deeply 5-lobed

Flowers: reddish colored in small clusters

Fruit/Seeds: paired, reddish wings in clusters holding seeds at the base

Site: bottomland and flood plain species, but also grows well in uplands; moderately intolerant to shade

Price per board foot: $1.42 for mixed heartwood and sapwood

Percent saw timber in Indiana: 4.3%

Density: 32.9 lbs/ft^3

Machinability: average to somewhat below average

Uses: used as a substitute for hard maple where strength and hardness is not of concern; it is also used for pallets, crates, and basket veneer

Wildlife uses: cavities provide cover and nest sites for owls, raccoons, and wildlife

Shagbark Hickory

Scientific name: *Carya ovata* (Mill.) K. Koch and other species

Maximum size: 6 feet DBH by 153 feet high

Shape: deep oblong, ascending upper branches and descending lower branches

Leaves: pinnately compound, with 5 (sometime 7) smooth wide, ovate leaflets

Flowers: male, yellow-green catkin clusters; female, in small terminal spikes

Fruit/Seeds: brown husk splits to 4 parts when ripe, nut is 4-angled and compressed; seed is sweet

Site: uplands to wet alluvial bottoms to sandy sites depending on species; moderately shade tolerant

Price per board foot: $0.78

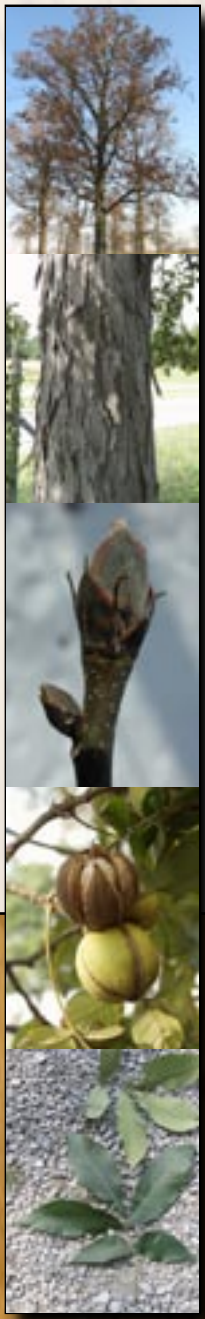
Percent saw timber in Indiana: 9.3%

Density: 51.0 lbs/ft^3

Machinability: average to better

Uses: kitchen cabinets, furniture, flooring, striking tool handles, ladder rungs, drum sticks, sports equipment, pallets; used for smoking meats; previously used for skis, golf club shafts, agricultural implement, car bodies, and wheel spokes

Wildlife uses: nuts heavily utilized by squirrels; the shaggy bark plates provide cover for bats and frogs



Black Locust

Scientific name: *Robinia pseudoacacia* Linnaeus

Maximum size: 8 feet DBH by 94 feet high

Shape: plume-like crown, fern-like foliage

Leaves: pinnately compound leaves, 7 to 19 ovate leaflets per leaf

Flowers: clusters of perfect white fragrant flowers

Fruit/Seeds: dark brown, flattened, beanlike pods with orange seeds

Site: deep, well-drained fertile soil, but very adaptable to many sites; intolerant of shade

Price per board foot: not listed in wholesale market reports

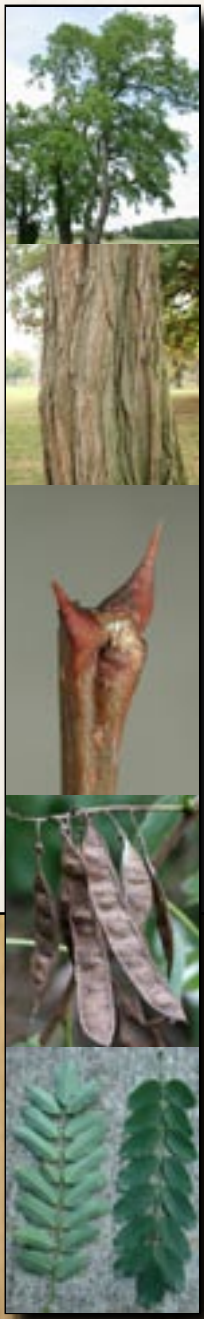
Percent saw timber in Indiana: <1%

Density: 48.2 lbs/ft^3

Machinability: not reported but probably good due to high density

Uses: decay resistant and stable species so it has been used for insulator pines, tree rails, fence posts, mine timber, and railroad ties; it is also used for pallets, blocking, and even xylophone keys

Wildlife uses: only occasional use of seeds by birds and small rodents



Honey Locust

Scientific name: *Gleditsia triacanthos* Linnaeus

Maximum size: 6 feet DBH by 100 feet high

Shape: open-grown tree, short frequently divided trunks, with slender spreading branches that create a pendulous feathery form

Leaves: singly and doubly compound, with 9 to 14 tiny leaflets

Flowers: singly-sexed on the same tree, pale green, densely packed flowers hang in drooping clusters, fragrant

Fruit/Seeds: dark brown, flat, twisted pod with flat seeds inside

Site: rich, moist bottomlands and soils of limestone origin; can persist on droughty sites; shade intolerant

Price per board foot: not listed in wholesale market reports

Percent saw timber in Indiana: <1%

Density: 46.8 lbs/ft^3

Machinability: not ranked but probably similar to oak

Uses: home wood-working projects, fence posts and rails, upholstery frame stock, pallets, and blocking

Wildlife uses: some use of pods by deer; seeds eaten by squirrels and smaller rodents

White Oak

Scientific name: *Quercus alba* Linnaeus and other species

Maximum size: 10.1 feet DBH by 96 feet high

Shape: straight trunk, wide-spreading crown

Leaves: glossy, bright green with rounded lobes

Flowers: in clusters of drooping, tail-like catkins and spikes of small blooms

Fruit/Seeds: small, shiny, oblong acorns

Habitat: deep, moist, well-drained soils; not tolerant

Price per board foot: $1.25

Percentage of Indiana's trees: 15.7%

Density: 47.2 lbs/ft^3

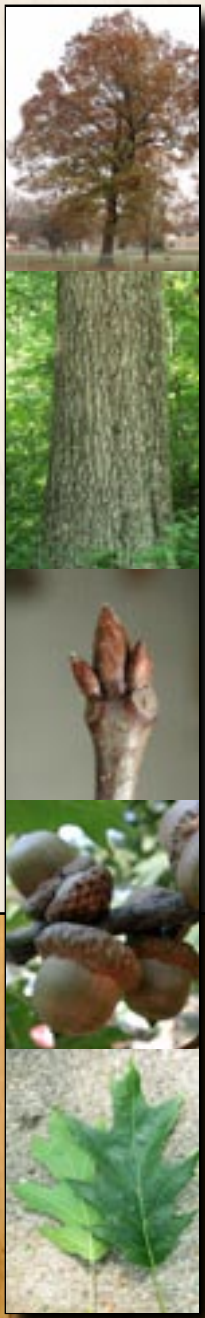
Machinability: excellent

Uses: furniture, residential, industrial and agricultural flooring, caskets, millwork, tight cooperage, crossties, bridge timbers, shipbuilding, mine timbers, poles, posts, piling, pallets, sill plates, trailer beds, fuel; previously for wagon wheels and bottom logs on cabins

Wildlife uses: seeds taken by many large birds and mammals

Red Oak

Scientific name: *Quercus rubra*. Linnaeus and other species
Maximum size: 11 feet DBH by 80 feet high
Shape: wide branches spread into rounded crowns
Leaves: matte green with toothed lobes
Flowers: clusters of drooping, tail-like catkins and small, greenish blooms or spikes
Fruit/Seeds: reddish brown, egg-shaped acorns
Habitat: deep, fertile, well-drained soils; intermediate in tolerance
Price per board foot: $1.10
Percentage of Indiana's trees: 18.4%
Density: 44.4 lbs/ft^3
Machinability: excellent
Uses: furniture, flooring, cabinets, caskets, crossties, bridge timbers, millwork, mine timbers, poles, posts, piling, pallets, and fuel
Wildlife uses: fruits taken by deer



Osage-Orange

Scientific name: *Maclura pomifera* (Raf.) C.K. Schneid

Maximum size: 8.5 feet DBH by 60 feet high

Shape: short trunk with irregular, rounded crown

Leaves: shiny, green ovate leaves with entire margins; milky sap

Flowers: globose heads; male and female on separate trees

Fruit/Seeds: large peculiar green, solid, ball-shaped aggregated of drupes

Site: in bottomlands within its natural range; very adaptable

Price per board foot: not listed in wholesale market report

Percent saw timber in Indiana: not commercial

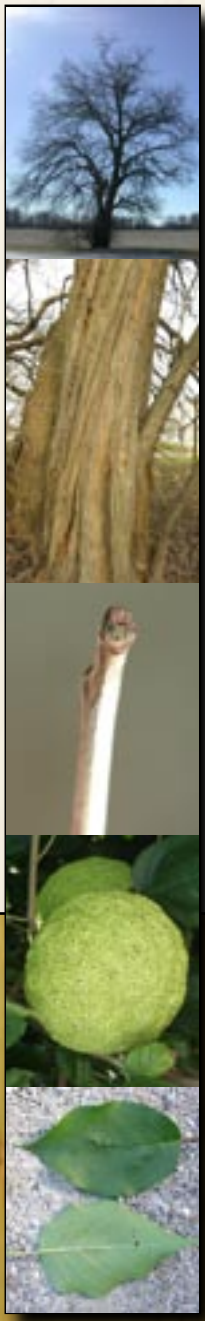
Density: 56.3 lbs/ft^3

Machinability: difficult

Uses: bows, fence posts, wooden wagon wheels, shear pins, dye for WWI army uniforms

Wildlife uses: very little, squirrels and possum feed on seeds to some extent

Note: originally restricted to southern Arkansas, southern Oklahoma, and northeastern Texas; widely planted throughout the Midwest for fences before the development of barbwire



Sassafras

Scientific name: *Sassafras albidum* (nutt.) Nees.

Maximum size: 7 feet DBH by 78 feet high

Shape: unsymmetrical crown and twisted, upwards-reaching branches

Leaves: 3 distinct shapes: unlobed, 2- and 3-lobed,

Flowers: inconspicuous greenish yellow flowers in upright spikes

Fruit/Seeds: ovoid dark blue berry-like, held upright in bright red cups on red stems

Site: pioneer species on disturbed sites, but grow best in deep, fertile woodland soil; shade intolerant

Price per board foot: not listed in wholesale market report

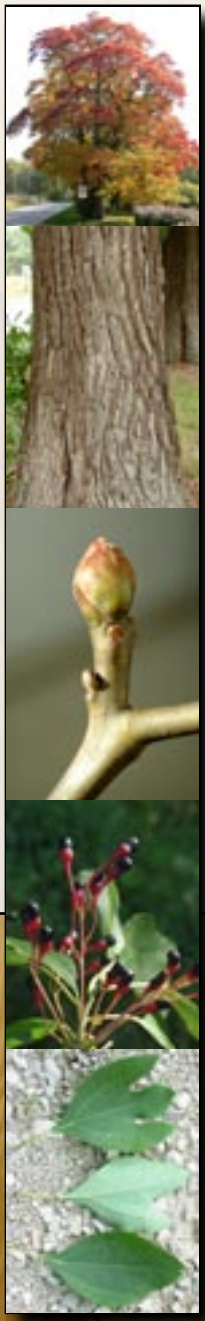
Percent saw timber in Indiana: not available

Density: 32.2 lbs/ft^3

Machinability: not ranked but probably intermediate

Uses: posts, rails, small woodworking projects, paneling, pallets, and oil for perfumes and scents

Wildlife uses: fruit readily taken by birds and mammals; leaves taken by deer in summer



American Sycamore

Scientific name: *Platanus occidentalis* Linnaeus

Maximum size: 11.5 feet DBH by 85 feet high

Shape: wide-spreading crown, long lateral branches

Leaves: 3-5 lobed, large leathery

Flowers: male (green) and female (bright burgundy) are separate on the same tree, hang in drooping, ball-like heads

Fruit/Seeds: globose head on a long stalk with many hairy seeds

Site: prefers rich soils along river banks and bottomlands, but does well in most soils; shade intolerant

Price per board foot: $0.41 in the southern United States

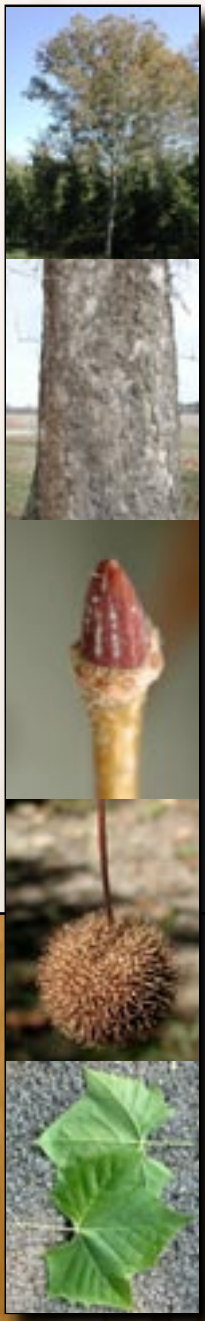
Percent saw timber in Indiana: 5.9%

Density: 34.2 lbs/ft^3

Machinability: average to below average

Uses: drawer sides, concealed furniture parts, inexpensive furniture, millwork, paneling, crates, boxes, pallets, basket veneer; previously for butcher blocks

Wildlife uses: seeds important late winter food of finches and siskins; used for nest sites by waxwings, orioles, and king birds



Black Walnut

Scientific name: *Juglans nigra* Linnaeus

Maximum size: 7.9 feet DBH by 130 feet high

Shape: rounded, open crown

Leaves: highly aromatic, feather-shaped (pinnate) with multiple leaflets

Flowers: males in clusters on drooping, tail-like catkins; females in yellow-green spikes tinged with red

Fruit/Seeds: leathery, spherical, fleshy, woody nutshell; fruit with sweet, oily nuts

Site: deep, rich, moist soils and fertile hillsides; shade intolerant

Price per board foot: $2.15

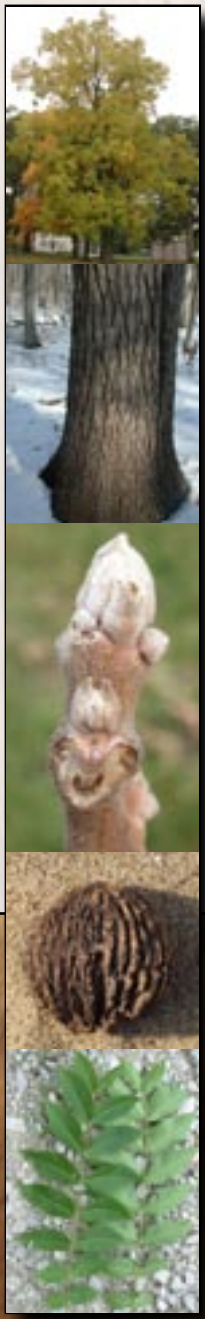
Percentage of Indiana's trees: 2.2%

Density: 38.4 lbs/ft^3

Machinability: excellent

Uses: face veneer, cabinets, furniture, flooring, gun stocks, millwork, caskets, novelties, woodenware; previously for scientific instruments, cases, and military gun stocks

Wildlife uses: nuts highly preferred by squirrels



Black Willow

Scientific name: *Salix nigra* Marsh.

Maximum size: 9 feet DBH by 140 feet high

Shape: often poorly formed along stream beds, but tall straight trees in southern flood plains

Leaves: narrow with an elongate curved tip

Flowers: slender, upright, male and female on the separate trees

Fruit/Seeds: cluster of capsules, each with numerous tiny seeds attached to cottony hairs

Site: moist, wet soils along streams and flood plains; shade intolerant

Price per board foot: $0.45 in southern United States

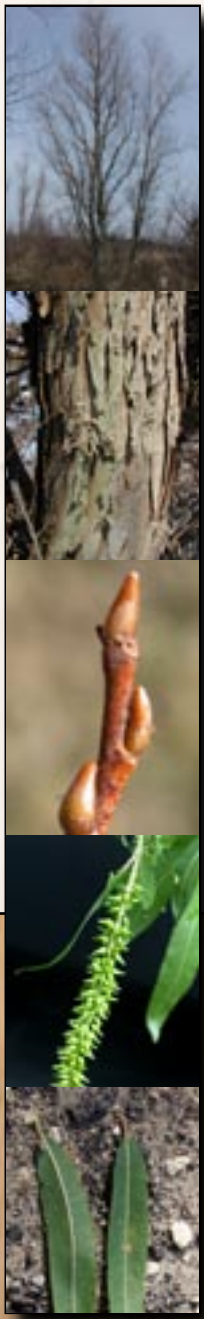
Percent saw timber in Indiana: <1%

Density: 27.2 lbs/ft^3

Machinability: below average

Uses: boxes, crates, caskets, and pallets

Wildlife uses: nest sites for birds in young saplings



Yellow Poplar

Scientific name: *Liriodendron tulipifera* Linnaeus

Maximum size: 11 feet DBH by 175 feet high

Shape: long, straight trunk with pyramid-shaped crown

Leaves: tulip-shaped

Flowers: large, yellow, and orange

Fruit/Seeds: winged seeds in upright "cone"

Site: moist, well drained, loose textured soils of moderate depth

Price per board foot: $0.75

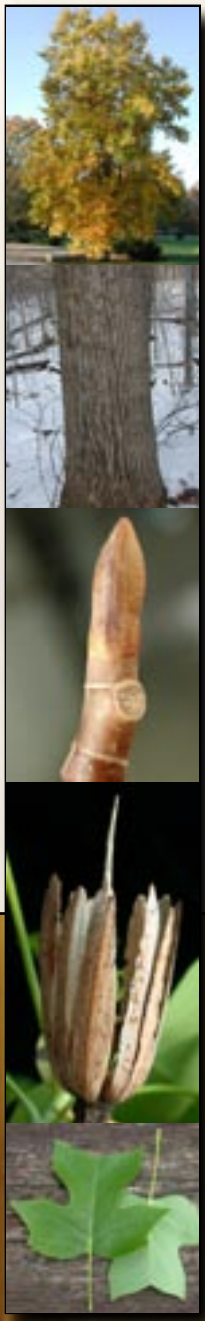
Saw Timber of Indiana's trees: 13.6%

Density: 29.4 lbs/ft^3

Machinability: average

Uses: millwork, moulding and interior doors, inexpensive furniture or hidden parts, crates, pallets, plywood, building construction where codes permit; previously for upper logs on cabins, core stock in veneered panels and numerous functional uses

Wildlife uses: seeds utilized by wintering purple finches, and small rodents



Persimmon

Scientific name: *Diospyros virginiana* Linnaeus

Maximum size: 4 feet DBH by 132 feet high

Shape: open-grown trees with short trunk, rounded crown with numerous crooked branches

Leaves: ovate, dark green, thick, and lightly hairy, with entire margins

Flowers: greenish yellow, hanging down like tiny bells; trees separately sexed

Fruit/Seeds: orange brown when ripe, fleshy, about 10 flat seeds per fruit

Site: tolerates wide range of soils and moisture regimes, but prefers moist soils

Price per board foot: not reported in wholesale market reports

Percent saw timber in Indiana: not available

Density: 50.2 lbs/ft^3

Machinability: not rated but probably good due to high density and small pores

Uses: limited use such as shuttles, spools, bobbins, billiard cues, parquet floors, turnery, and golf club heads

Wildlife uses: fruit highly preferred by mammals, turkeys, and wood peckers

Acknowledgements

The following companies are recognized for their contribution of lumber for the wood panels that are shown in the CD. These panels are on permanent display in Pfendler Hall, Purdue University, West Lafayette, Indiana.

- The American Chestnut Foundation – Indiana Chapter
- Cassens Trees
- Cole Hardwood Inc.
- Crone Lumber Company Inc.
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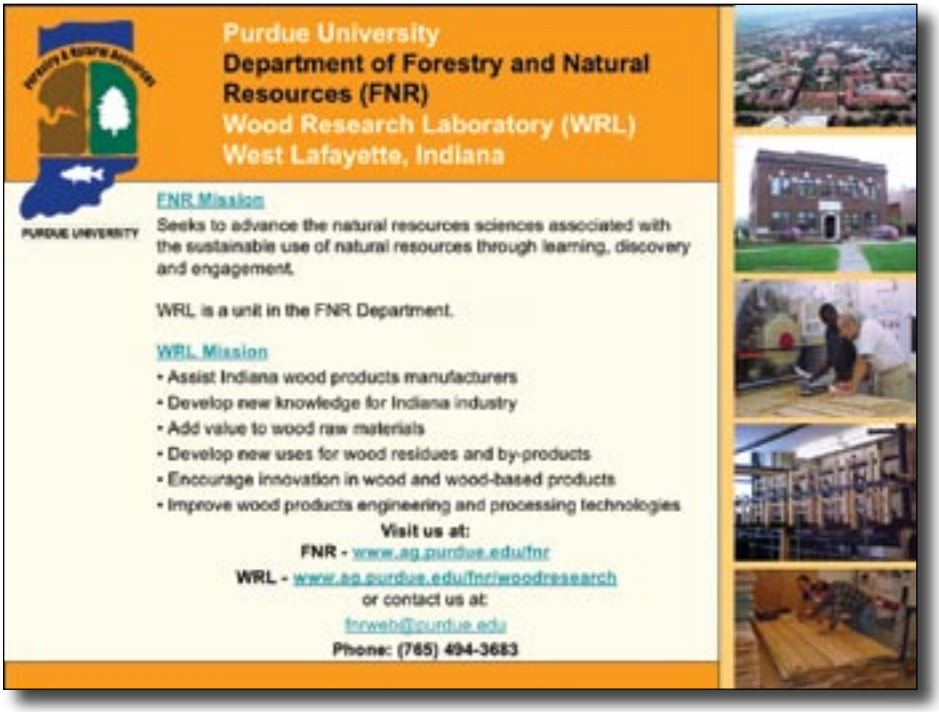
- Indiana Hardwood Specialist
- Koetter Woodworking Inc.
- Landmark Wood Products Inc.
- Pike Lumber Company Inc.
- Wide and Long Lumber Company
- John M. Wooley Lumber Company Inc.

The Wood Research Lab technician Daniel Warner is recognized for assembly of wood panels.

Wood Research Laboratory



Jane Wolf Brown, project editor, Ag Communication
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