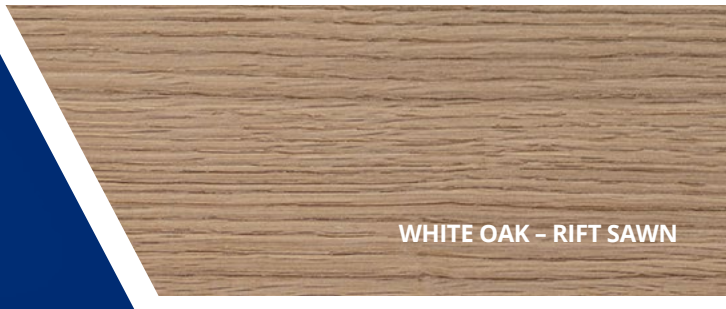
TN Department of Agriculture

Top Tennessee Hardwood Export Species

WOOD TENNESSEE PRODUCTS

- **American White Oak**
- **American Red Oak**
- **American Poplar / Yellow-Poplar**
- **American Ash**
- **American Hickory**
- **American Walnut or Black Walnut**
- **American Soft Maple**
- **American Hard Maple**
- **American Cherry or Black Cherry**

Tennessee's forests produce high quality Appalachian and Southern hardwood. This guide shares our top species' wood characteristics and color. Contact the Business Development team for information on forest resources and market connections.



WHITE OAK – RIFT SAWN

WHITE OAK – QUARTER SAWN

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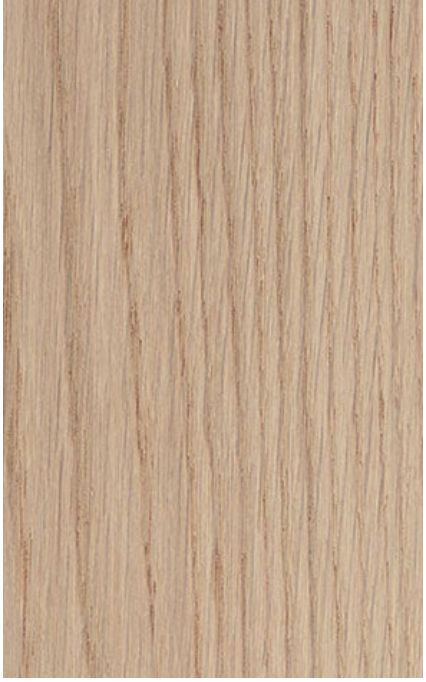


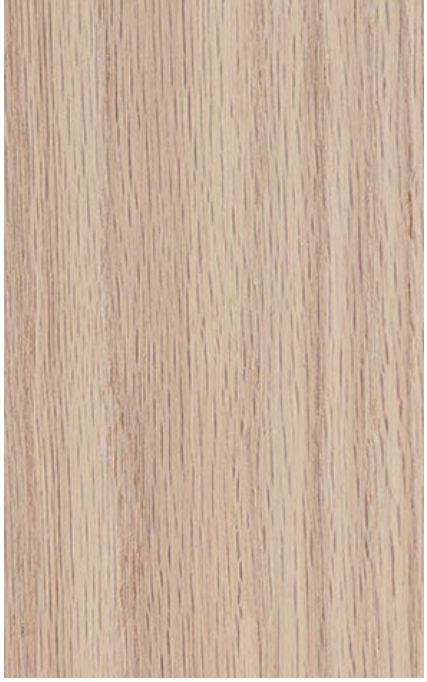
American White Oak

Quercus alba

White oak is plentiful in Tennessee and is very popular for use in high quality furniture, paneling, flooring, moulding, and millwork. True white oak (Quercus alba) is also used for whiskey and wine barrels and other cooperage. The wood is hard, heavy, and strong – it has good bending and compression strength but is lower in stiffness. It has excellent steam bending capability and is easy to stain and finish.

Specific gravity: 0.68
Average weight: 769 kg/m3
Average volume shrinkage: 12.6%
Workability: Good
Gluing: Good
Nailing/Screwing: Good
Finishing: Good

Color and grain patterns: White oak has an attractive grain pattern, usually straight-grained and medium to coarse textured. Color ranges from whitish to light brown in sapwood, and light, medium or dark brown in heartwood, but the color difference between sapwood and heartwood is less pronounced than in American red oak. White oak's rays produce a striking, characteristic figure when quarter sawn. Rift sawn white oak is also popular.



American Red Oak

Quercus rubra

Red oak is Tennessee's second most common commercial hardwood species and draws its name from its characteristic fall leaf color. Tennessee produces high quality Appalachian and Southern red oak, with a pinkish to red hue to its heartwood. Red oak is popular for use in high quality furniture, paneling, flooring, moulding, and millwork. The wood is hard, with medium bending strength and stiffness, and high compression strength. It has excellent steam bending capability and is easy to stain and finish. Red oak is slightly resistant to decay and suitable for thermal modification.

Specific gravity: 0.63
Average weight: 705 kg/m3
Average volume shrinkage: 10.8%
Workability: Good to Excellent
Gluing: Good
Nailing/Screwing: Good
Finishing: Good

Color and grain patterns: Red oak has an attractive grain pattern, usually straight-grained and coarse textured. Color ranges from light brown in sapwood, and pinkish- to reddish-brown in heartwood. The color difference between sapwood and heartwood is distinct. Quarter sawn and rift sawn red oak are occasionally produced.

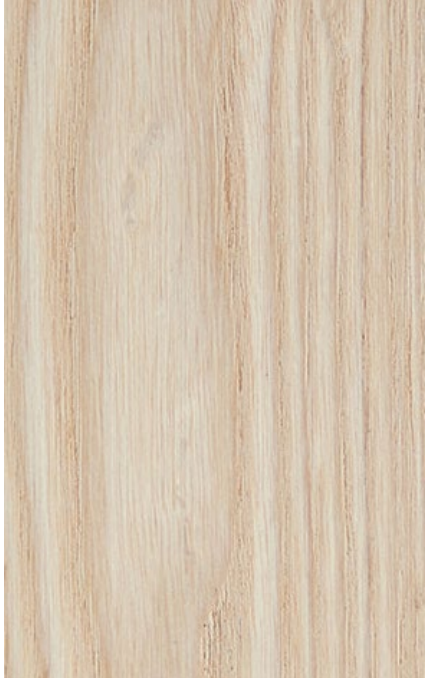
American Poplar / Yellow-Poplar

Lirodendron tulipifera

Yellow-poplar, also known as tulipwood, is Tennessee's third most common commercial hardwood species and draws its name from the wood's greenish yellow hue. Yellow-poplar is used for painted doors, furniture, paneling, moulding, and millwork. The wood has low relative density, with high bending strength, shock resistance and stiffness, but has low compression strength and hardness. It has medium steam bending capability and is easy to stain and finish. It is not used in humid conditions and is not resistant to decay. Due to its high strength relative to weight, it is highly suitable for structural applications including use in glue-laminated beams and cross laminated timber (CLT). It is well-suited for thermal modification.

Specific gravity: 0.42
Average weight: 449 kg/m3
Average volume shrinkage: 9.8%
Workability: Good to Excellent
Gluing: Good
Nailing/Screwing: Good
Finishing: Excellent

Color and grain patterns: The wood is straight-grained and medium- to fine-textured. Color ranges from creamy white in sapwood to pale yellow or brown, or greenish in heartwood. The color difference between sapwood and heartwood is distinct. Exposed wood will darken when exposed to UV light, turning from green to brown.



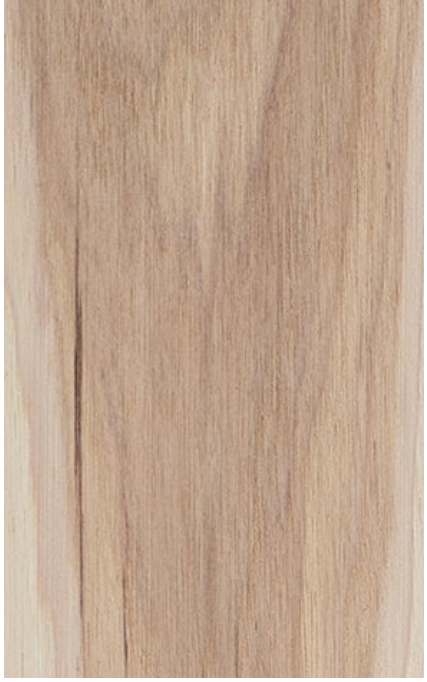
American Ash

Fraxinus species,
mainly Fraxinus americana

American ash is a popular and economical Tennessee hardwood species and is ideally suited for bending and turning applications. Ash is popular for use in high quality furniture, doors, paneling, flooring, moulding, millwork, and sports equipment such as baseball bats and hockey sticks. The wood is hard, with medium bending strength and stiffness, and high compression strength. It has excellent shock resistance, excellent steam bending capability, and is easy to stain and finish. Ash is not resistant to decay and is well suited for thermal modification.

Specific gravity: 0.63
Average weight: 705 kg/m3
Average volume shrinkage: 10.8%
Workability: Good
Gluing: Good
Nailing/Screwing: Good
Finishing: Good

Color and grain patterns: Ash is a light-colored wood, usually straight-grained and coarse textured. Color ranges from white to yellow in sapwood, and light-to dark-brown in heartwood. The color difference between sapwood and heartwood is distinct.



American Hickory

Carya species / Carya glabra

Hickory is readily available in Tennessee and produced in FAS, 1 & 2 Common grades in 4/4 and 5/4 thickness for use as tool handles, drumsticks and dowel stock, furniture, flooring, cabinets, and sporting goods. The wood is hard, strong, and has high compression strength. It is considered hard to work with hand tools and tends to split unless pre-drilled for nails or screws. It planes and sands well and is easy to stain and finish. Hickory is not resistant to decay.

Specific gravity: 0.75
Average weight: 833 kg/m3
Average volume shrinkage: 14.3%
Workability: Fair to Good
Gluing: Fair
Nailing/Screwing: Good
Finishing: Excellent

Color and grain patterns: Hickory wood color varies greatly and is commonly sold unselected for color within each grade. National Hardwood Lumber Association (NHLA) grades 1 & 2 Common can have an attractive, rustic appearance. Hickory grain is usually straight and fine-textured but can be wavy or irregular. Color ranges from white with brownish tinges in sapwood, and pale to yellow-brown in heartwood. Purple mineral streaks and bird peck marks are common and are not considered a defect by NHLA grading rules.

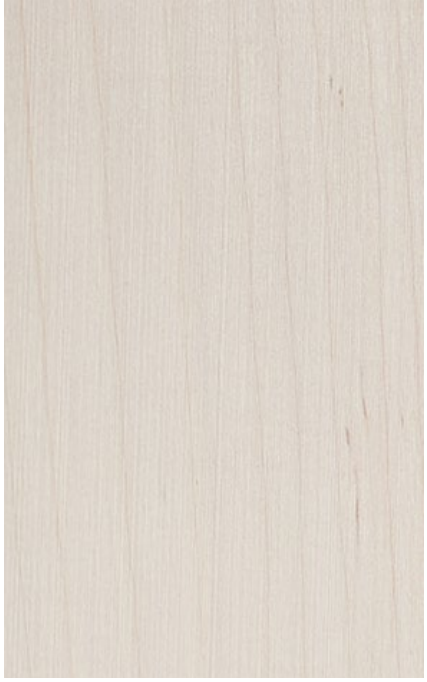
American Walnut or Black Walnut

Juglans nigra

Tennessee's forests produce high quality American walnut lumber and sawlogs. Walnut is popular for use in high quality furniture, doors, paneling, flooring, and cabinets. The wood is hard, with medium bending strength and low stiffness, and medium compression strength. It has good steam bending capability and is easy to stain and finish. Walnut is moderately resistant to decay.

Specific gravity: 0.55
Average weight: 609 kg/m3
Average volume shrinkage: 10.2%
Workability: Good to Excellent
Gluing: Good
Nailing/Screwing: Good
Finishing: Good

Color and grain patterns: American walnut is usually straight-grained and medium to fine textured, although occasionally with wavy or curly grain. The heartwood is light brown to dark chocolate brown, and the sapwood is a creamy white. Walnut can be steamed to produce an even, chocolate brown color throughout. The color difference between sapwood and heartwood is distinct. American walnut is usually darker than European walnut.



American Soft Maple

Acer rubrum

Soft maple is a commonly available commercial hardwood species in North America and has similar characteristics as hard maple but is not as hard. Soft maple is often used for furniture in painted applications, doors, cabinets, and moulding. Despite its name, the wood has medium hardness, medium compression strength, and good steam bending capability. It is easy to work, and stains and finishes easily. It is not resistant to decay and has been used as a substitute for cherry when stained and for beech due to its mechanical properties.

Specific gravity: 0.54
Average weight: 609 kg/m3
Average volume shrinkage: 10.5%
Workability: Good to Excellent
Gluing: Good
Nailing/Screwing: Good
Finishing: Excellent

Color and grain patterns: Soft maple is variable in color, usually straight-grained and fine-textured. Color is often greyish white in sapwood, and light to reddish brown in heartwood. The color difference between sapwood and heartwood is greater than in hard maple. It is commonly sold unselected for color, and as 'wormy' soft maple – a variant with brown streaks and stain caused by insect activity that creates a distinctive rustic appearance.

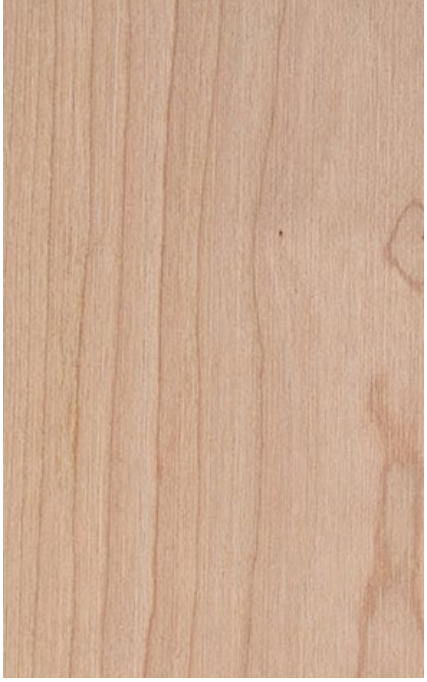
American Hard Maple

Acer saccharum

American hard maple is available in Tennessee as a commercial hardwood species and is also called sugar maple. Hard maple is known for its light color, hardness, straight fine grain, and finishing qualities. It is less commonly available in curly and birdseye grain pattern. It is popular for use in high quality flooring, furniture, cabinets, moulding, and millwork. Sap from hard maple trees is used to make maple syrup. The wood is hard, with high bending strength and stiffness and high compression strength. It is not as easy to screw or nail due to its hardness, but has good steam bending capabilities and is easy to stain and finish. It is not resistant to decay.

Specific gravity: 0.63
Average weight: 705 kg/m3
Average volume shrinkage: 11.9%
Workability: Good to Excellent
Gluing: Good
Nailing/Screwing: Fair
Finishing: Excellent

Color and grain patterns: Hard maple sapwood is usually white but can have a reddish/brownish tinge and can be sold selected for the white color. Heartwood ranges from light to dark reddish-brown, and the color difference between sapwood and heartwood can be slight. The wood darkens with exposure to light over time.



American Cherry or Black Cherry

Prunus serotina

American cherry or black cherry is known for its rich red hue. Tennessee produces high quality Appalachian cherry, and is often produced in 4/4 and 5/4 thickness, although it can be available in 8/4. Cherry is used for musical instruments, high-quality furniture, paneling, cabinets, moulding, and millwork. The wood has moderate to low hardness, medium bending strength and compression strength, and low stiffness. It has moderate steam bending capability, and is easy to work, stain and finish. Cherry is resistant to decay.

Specific gravity: 0.50
Average weight: 561 kg/m3
Average volume shrinkage: 9.2%
Workability: Excellent to Good
Gluing: Good
Nailing/Screwing: Good
Finishing: Excellent

Color and grain patterns: Cherry has a uniform, fine straight grain, although pith flecks, pin knots, and gum pockets or streaks naturally occur in the wood. Sapwood is typically creamy white, and heartwood rich red to reddish brown, and the color difference between sapwood and heartwood is distinct but can be reduced with steaming. Cherry can be sold selected for color based on the amount of sap-free wood.

For more information, see "A Guide to Sustainable American Hardwoods," by the American Hardwood Export Council, page 101.