

Hardwood Lumber and Veneer Series



Sweetgum

FNR-300-W

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EXPERT
REVIEWED

Sweetgum (*Liquidambar styraciflua* L.) is normally thought of as a southern tree. In the north, it is noted for a brilliant red color in the fall, peculiar star-shaped leaf and numerous “gum balls” that contain the seeds but need to be raked up in ornamental settings. The twigs can also have corky out growths.

The species ranges from coastal New York to central Florida through east Texas and north to southern Illinois, Indiana, and Ohio, with the exception of the Appalachian Mountains. The tree is adaptable to a wide range of sites, but it grows best on rich, moist alluvial bottomland soils. The tree is capable of rapid growth in dense stands producing large volumes of wood. The largest tree reported is nearly 7½ feet in diameter at 4½ feet above the ground.

Wood Color and Texture

Old trees and even some younger trees have relatively large heartwood, called red gum in the trade. This wood has various shades of reddish brown and can be variegated. The variegated material with darker streaks is called “figured red gum.” The wood has interlocked grain, and when quartersawn, produces a ribbon stripe.

Most of the sweetgum lumber produced today is sapwood with some heartwood mixed in it. It is called sapgum in the lumber trade. This sapwood lumber normally has a pinkish or flesh color, and it can also be discolored by blue stain fungi.

Sweetgum is a very fine, uniform textured wood with the pores and growth rings inconspicuous to the naked eye. The wood rays are also indistinct.



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Sweetgum tree

Workability

Sweetgum is an intermediate weight wood with a uniform texture, it averages intermediate in planning, shaping, boring, and turning. However, considering planning only, it is rated relatively low, probably due to interlocked grain.

Strength

At 12 percent moisture content, sweetgum weighs 36 pounds per cubic foot, and it is an intermediate weight wood. Its strength properties are likewise intermediate.

Steam Bending

The wood is rated intermediate as an acceptable wood for bending when steamed.

Drying

The sapwood of sweetgum has a high initial moisture content; the heartwood is considerably lower. The wood can be dried with relatively severe kiln schedules. However, with its interlocked grain, it tends to warp severely. Therefore, it is extremely important that stickers be placed on one foot centers, and the tops of the piles be heavy weighted with concrete or steel.

Shrinkage

Sweetgum is an intermediate weight wood, but it has a high shrinkage coefficient equivalent to red oak. This high shrinkage along with the interlocked grain probably contributes to the excessive warping during drying that is attributed to this species.

Decay Resistance

The wood has no resistance to decay, and the sapwood is easily discolored by blue stain fungi.

Commercial Use, Grading, and Value

Sweetgum has a very uniform grain pattern and is moderately heavy. It would appear much like soft maple but without the white wood. Red gum can appear to look like cherry but without the luster. The sapwood takes dark stain well. The wood is also easily painted.

Interestingly, sweetgum in one form or another has been used for a large variety of applications. Old-growth red gum was prized and used for furniture, electronic cabinetry, millwork, doors, and paneling where a decorative effect was desired. Before the advent of reconstituted wood products, the wood was frequently used as core stock, and the flat surfaces were veneered. Any profile and turnings were made from solid lumber. The entire assembly could then be stained to look like a number of more expensive woods. The wood is easily rotary cut into veneer and used in baskets and plywood core. Frame stock, pallets, boxes, crates, railroad ties, and plup are all uses for lower grade stock.

Red gum was prized as a valuable resource. It was exported to Europe and sold as satin walnut. Red gum supplies eventually dwindled and have been replaced by sapgum. As many of the lower valued



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Sweetgum logs showing the white sapwood which tends to turn pinkish and a much darker redish-brown heartwood. The dark heartwood, especially in old trees, is called red gum.

uses for sapgum, such as cabinetry for electronics and other lower-end furniture items, were replaced with substitute, nonwood material, interest in sapgum decreased. Today, it is the lowest valued hardwood lumber species available in large quantities.

Sapgum is graded standard and prices are reported only for the northern region. Stain is admitted in the grades of 2B Common and better unless specified otherwise. In No. 3A Common, the cuttings are only required to be sound and not clear. There is also a separate grade for quartered sapgum. Sapgum is defined by the National Hardwood Lumber Association as lumber produced from the sweetgum tree as containing sapwood in excess of the quantity admitted in the grades of red gum lumber.

Red gum lumber is considered a specialty product and not quoted in the market reports. Some red gum lumber is still produced and even sold on the export market. There are a number of different NHLA grade designation for red gum. These are as follows:

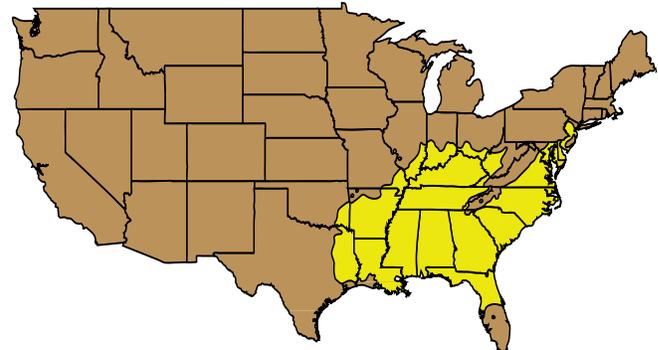
- Plain red gum
- Plain sawn red gum, figured wood
- Quartered red gum
- Ribbon stripe
- Quartered red gum, figured wood

Hardwood Lumber – Sweetgum

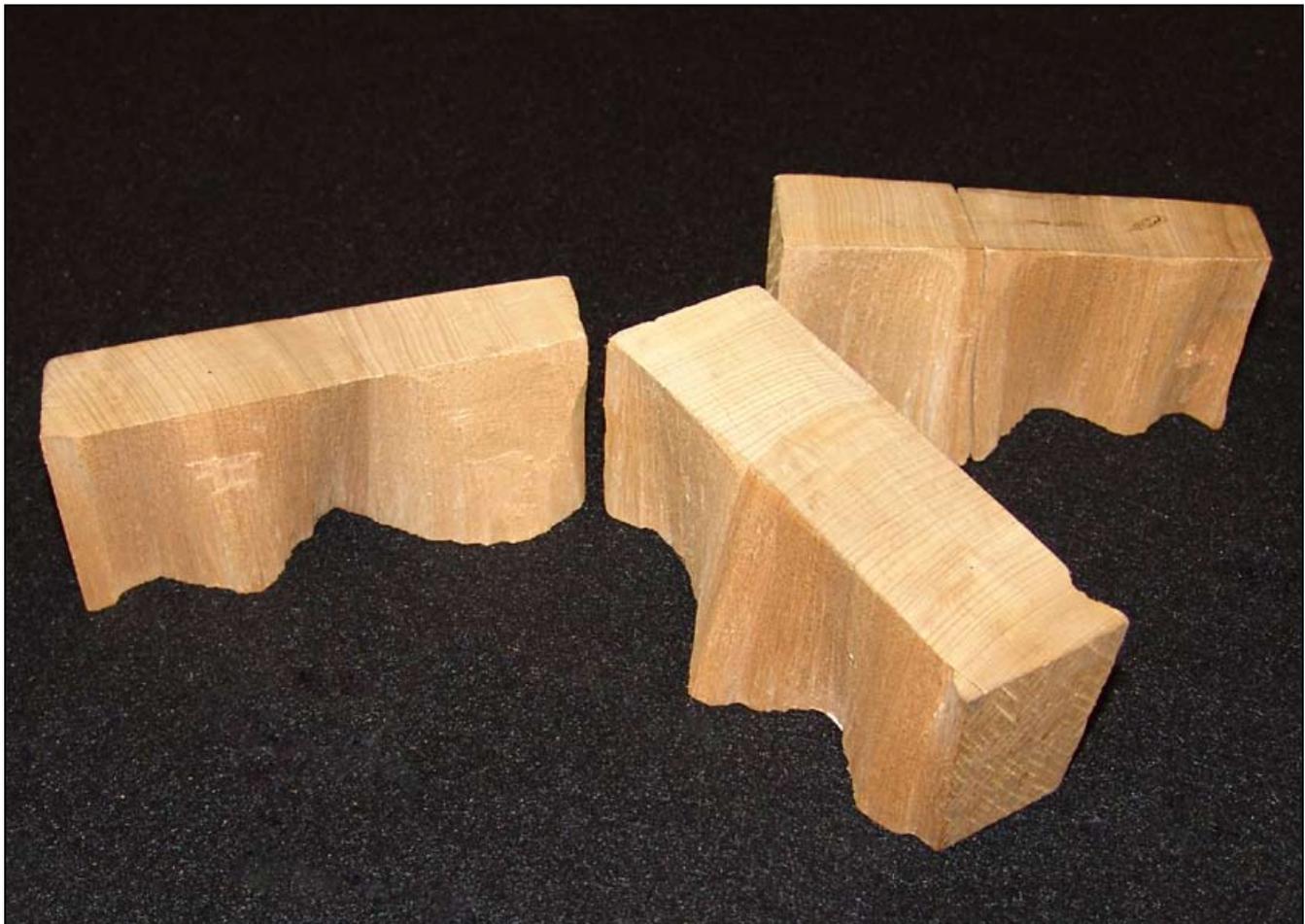
These grade separations normally have to do with the amount of sapwood allowed and or the amount of figure required. For specific details, consult the NHLA Rules for the Measurement and Inspection of Hardwood and Cypress.

Other Considerations

Because of high shrinkage and interlocked grain, gum requires special attention during drying. As a result, it does not have the best reputation in the lumber industry. However, once dried and kept in relatively controlled conditions, the wood like any other is stable. Due to the shifting markets, sapgum is a very inexpensive wood. It deserves more consideration. Although a specialty item, red gum would provide something nearly unique in today's market. Some red gum in older houses and furniture is mistaken for cherry.

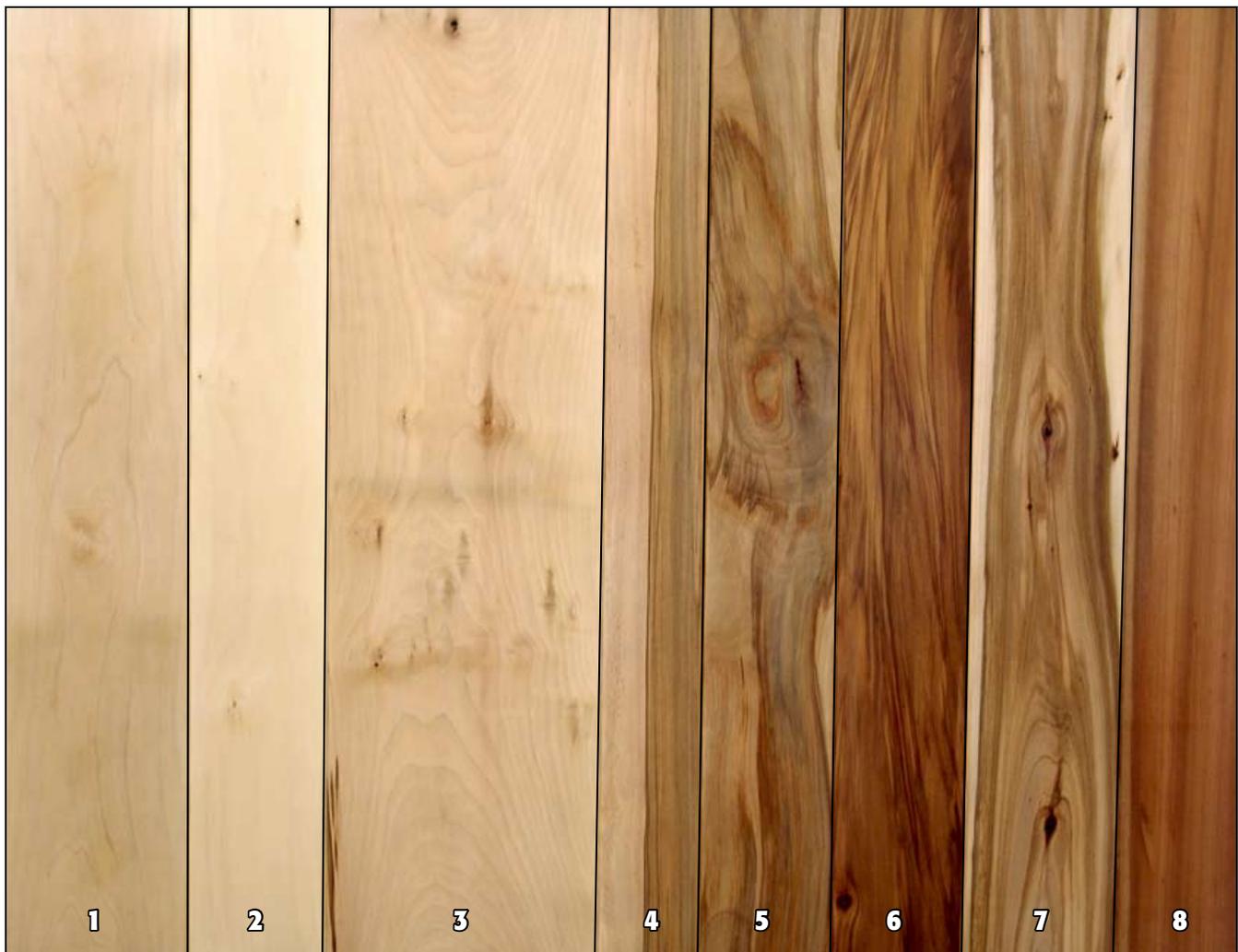


Range of the sweetgum



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Interlocked grain pattern as shown on these split surfaces in sweetgum can result in severe twist unless the lumber is properly sticked during air or kiln drying and top weighted.



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Sweetgum is a relatively hard, uniform grained wood previously used for furniture and plywood. It tends to warp and stain easily. It is low valued and currently rarely used, except for industrial blocking and pallets. Today, the species usually has a wide sapwood, but some trees and particularly old trees, have a large dark heartwood.

Board 2 is all white sapwood with a few small pin knots. Boards 1 and 3 are also all sapwood, but they are probably darker or flesh colored due to oxidation stain. The center of Board 3 shows two light cross grain stick marks due to stain associated with drying stickers. These two boards are probably more typical of today's lumber.

Boards 4, 5, and 7 are narrower boards from younger trees and show characteristic reddish, brown often streaked heartwood.

Boards 6 and 8 are from old growth mature trees. Board 6 is all heartwood with a variegated pattern.

Board 8 is nearly quartered sawn, has a uniform grain pattern and a light reddish color. Old growth sweet gum stock was sorted by several different color and sawing patterns. It was commonly used in the early- to mid-1900s as moulding and doors in houses. Pieces such as the last one are sometimes mistaken for cherry.

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