

# Hardwood Lumber and Veneer Series



## Hackberry/Sugarberry

FNR-284-W

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**EXPERT**  
REVIEWED

This lumber group is composed of two species that cannot be separated once they are processed into lumber or veneer. Hackberry (*Celtis occidentalis* L.) ranges from the Great Plains to the east coast and from the Great Lakes states to central Tennessee and Arkansas. It is easily recognized by its very warty bark. Hackberry prefers moist, well-drained soil but will grow on limestone outcrops and other droughty areas. It is usually a scattered tree in the forest or more concentrated in old fence rows and at the edge of woods. Sugarberry (*Celtis laevigata* Willd.) is the southern counterpart to hackberry. It ranges from Virginia to southern Florida and west to the Rio Grande and north to southern Illinois and Indiana. Sugarberry is a southern bottomland species, and the bark is less warty.

Both species are medium sized trees 60 to 80 feet tall and 18 inches to 4 feet in diameter. The largest hackberry reported is 6.6 feet in diameter and the largest sugarberry is 8.5 feet in diameter at 4½ feet above the ground.

### Wood Color and Texture

The sapwood is usually a very light yellowish green and wide in healthy trees. A variegated brown wood can develop in the heart and around dead branch stubs. Dark streaks of mineral are common. As a white sapwood species, the wood develops both fungal and oxidation stains very quickly in warm weather.

The wood is ring porous, and the earlywood pores are easily seen with the naked eye. Like elm, on flat sawn surfaced boards and between each growth ring, there will be two to three or more wavy



Chip Morrison

Hackberry tree

concentric bands. These bands are sometimes referred to as feather-like and result in a very wild grain pattern for this species. The wood can have an interlocked grain.

The wood is without a characteristic odor or taste.

### Workability

Hackberry or sugarberry planes and bores well but is intermediate in shaping and turning.

### Strength

The wood weighs 37 pounds per cubic foot making it intermediate in weight. The wood is very low in bending strength while the breaking strength is about typical for its weight. So the wood tends to bend under load relatively easily before it reaches its breaking point. The shear strength and side hardness are about typical for the wood's weight.

### Steam Bending

In a study of 25 different North American hardwoods, hackberry gave the best results in steam bending.

### Drying

A moderate kiln schedule can be used for drying.

### Shrinkage

The total volumetric shrinkage is 13.8 percent, which is intermediate when compared to the other woods.

### Decay Resistance

The wood has no resistance to decay and in the author's experience, it is readily attacked by powder post beetles.

### Commercial Use, Grading, and Value

The wood has been used for furniture, upholstered frames, and millwork. It can be used for container veneer. Where only limited quantities are available, it is often used by the wood pallet and blocking industry. For some applications, hackberry is mixed with elm. It is also similar in appearance to oak but not as heavy and strong. The white sapwood is easily stained dark.

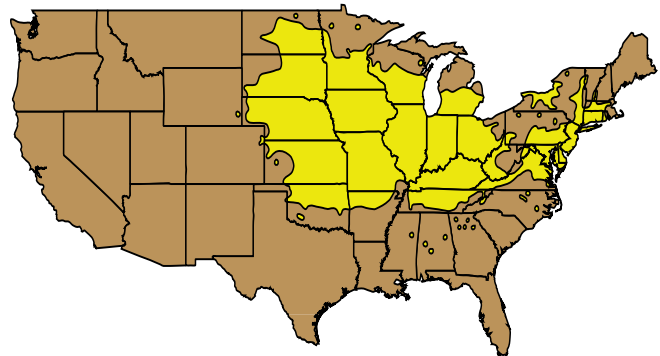
The lumber is graded standard by NHLA rules.

Values for the lumber are only reported for the southern region. As the least expensive grainy hardwood available, the species deserves more consideration. The lack of demand for the species is probably due to problems with both fungal and oxidation stain. However, many of these issues could be avoided with careful planing and handling.

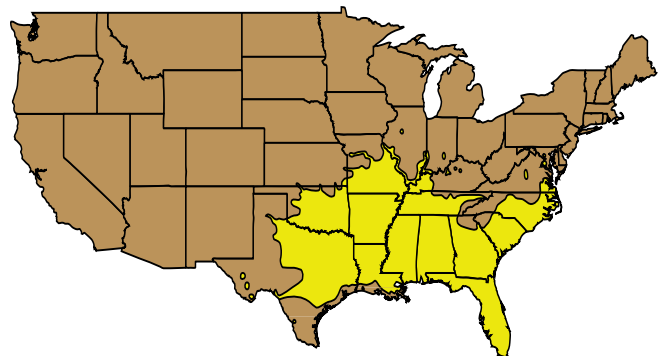


Chip Morrison

Hackberry log showing white to yellowish sapwood and small heartwood with typical warty surface. The white sapwood stains or discolors quickly in warm weather.



Range of the hackberry



Range of the sugarberry



Chip Morrison

Hackberry is a grainy hardwood, like elm. The tree when first cut shows a wide, white sapwood and a dark heartwood. The dark heartwood is probably wound induced, and the amount will vary greatly depending on the tree. The sapwood stains easily, and as such, the color is normally a grey to yellowish color. This panel shows a range of color common in this species.

Board 1 shows the growth ring pattern characteristic of the species and a light, non-stained color very similar to ash. A few small scattered mineral streaks are present. Board 2 is also clear, but shows a grey color developing.

Board 3 shows a darker streaked area on the left characteristic of the heartwood with the balance being grey with a rift grain pattern. Note the jagged feather like pattern between the growth rings at the bottom left of this piece. This pattern is characteristic of hackberry and the elms.

Boards 4 and 5 show a mixture of knots, sapwood, and heartwood.

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