PURDUE UNIVERSITY

PURDUE EXTENSION

Hardwood Lumber and Veneer Series

Basswood

FNR-274-W

EXPERT REVIEWED

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Basswood *(Tilia americana* L.*)*, also called linden, is an important species due to certain unique properties and uses. The tree ranges from the Great Plains east and from southern Canada through northern Arkansas, Kentucky, and the mountains of North Carolina and Tennessee. Two other varieties exist that extend the species range south to central Florida and west to central Texas. The tree prefers moist, deep, loamy soils, and it is found growing with many other species. The species is shade tolerant. Honey from basswood trees is prized in certain areas.

The trees are 70 to 80 feet tall and 2 to 3 feet in diameter. The largest tree reported is about 7.8 feet in diameter at 4½ feet high.

Wood Color and Texture

The sapwood is white to creamy white or pale brown with a somewhat darker heartwood that may have a reddish tinge. Small black, brown to olive green mineral streaks can occur. The wood is easily discolored by oxidation and fungal stain if not properly handled in the log and green lumber stage. The pores are evenly distributed and indistinct without a hand lens. The wood is considered fine textured. The rings are delineated by a change in pore size. The rays are plainly visible on the quartered surface, especially on dark-colored specimens. The wood has a faint musty odor, especially when wetted, but it has no taste.

Workability

In planning and boring, the wood is rated intermediate when compared to the other commercial woods. In shaping and turning, however, it is rated toward the bottom of the list.

Dan Cassens

Basswood clump with stump sprouts

Strength

At 12 percent moisture content, the wood weighs only about 26 pounds per cubic foot making it the lightest of the central states' commercial hardwoods. Because of its light weight, the mechanical properties are relatively low with the exception of bending properties or stiffness.

Steam Bending

The wood receives a very poor rating for steam bending.

Drying

The wood is easily and quickly dried, and a severe drying schedule can be used.

Shrinkage

Heavier woods normally shrink more than lighter woods. Basswood is one of our lightest woods, but its shrinkage from the green condition is high and comparable to red oak. However, once the wood is dry, it tends to be stable.

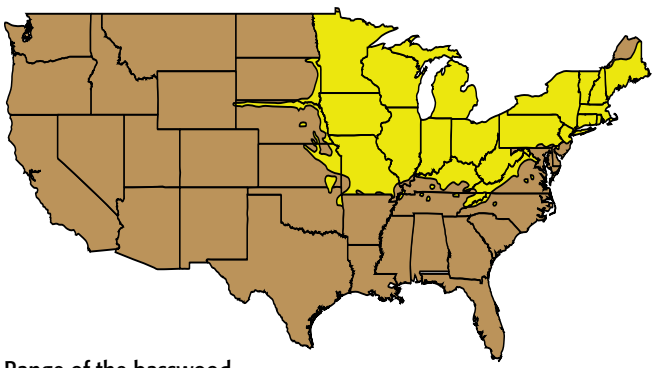
Decay Resistance

Basswood has no resistance to decay.

Commercial Use, Grading, and Value

Basswood is rather plain looking, and since it is light weight, it is not particularly strong. It is easily nailed and tends to be stable in use. Because of its light weight and stability, it is used for Venetian blind slats and key stock in pianos. It is used for concealed parts in furniture, some millwork such as sash and doors, picture frame molding, and for apiary supplies. It is also rotary peeled for core stock in plywood and for basket veneer. It is one of the most preferred species for carving. The wood is a poor choice where strength and hardness are needed.

The better grades of lumber are graded standard using the NHLA rules with the exception that limited black to brown spots and streaks are admitted in the cuttings. Also, No. 2A Common lumber will admit stain in the cuttings. A special grade exists for basswood key stock. For key stock, the wood is to be nearly all sapwood and free from discoloration and irregular grain. Standard basswood lumber is relatively inexpensive.



Range of the basswood

Chip Morrison

Basswood is similar to the maples and ash in that it is the light-colored sapwood, which is usually preferred. The color of the sapwood can vary from a very white color to a very light brown or flesh color.

The wide, nearly clear piece on the left, Board 1, represents the best material the species has to offer. There is very little grain pattern, and the wood can be easily dented with the fingernail. Basswood, is one of our softest woods. Small brown pin knots are evident.

Board 2 is lighter in color, but it contains what the industry calls mineral streaks or irregular light-brown streaks. These streaks are probably caused by an insect that bores in the cambium of the tree. The streaks are actually composed of pith cells that are very soft and formed by the tree as a response to injury.

Board 3 is quarter sawn. Basswood is not commonly quarter sawn, but it will show a small ray fleck particularly if the inclusions in the rays turn brown. This makes the ray tissue stand out. These ray cells are very clear and thus difficult to see. A section of the pith, or very center of the tree, is seen in the top two thirds of the board.

Board 4 shows the brown heartwood of basswood and typical small knots and mineral streaks. Basswood is a wide sapwood species and the amount of heartwood varies, often depending on the vigor and age of the tree. Older slow-growth trees will have more heartwood.

Board 5 shows a very heavy brown discoloration also referred to as mineral. It is probably the result of damage to the tree or root system.