



## *Juglans cinerea*

### Family: Juglandaceae

### Butternut

The walnut/butternut group (*Juglans* spp.) contains 15 species which grow in South America [6], Eurasia [4] and North America [5]. Of the butternuts, one species grows in the United States, American butternut (*J. cinerea*), and three in Asia (*J. ailantifolia*, *J. cathayensis* and *J. mandshurica*). The word *juglans* is the classic Latin name of walnut, meaning nut of Jupiter.

*Juglans cinerea*-American white walnut, gray walnut, lemon walnut, oil-bean-nut, oilnut, walnut, white walnut.

### Distribution

Butternut is native to the eastern United States from Tennessee and western North Carolina north to southern Ontario and Quebec. Its distribution is scattered, never growing in pure stands, at the edges of forests or in the open. It is found in association with cherry, basswood, oak, walnut, ash, maple, elm and hemlock.

### The Tree

Butternut trees reach heights of 100 ft (30 m), with a 3 ft (1 m) diameter.

### The Wood

#### General

The narrow sapwood of butternut is white to light brown, while the heartwood is chestnut brown with red tinges. The growth rings are distinct, with a marked difference between the size of the earlywood and latewood pores. Butternut is similar to black walnut, but lighter in color and weight. It has no characteristic odor or taste.

#### Mechanical Properties (2-inch standard)

	Specific gravity	MOE x10 <sup>6</sup> lbf/in <sup>2</sup>	MOR lbf/in <sup>2</sup>	Compression		WML <sup>a</sup> in-lbf/in <sup>3</sup>	Hardness lbf	Shear lbf/in <sup>2</sup>
				Parallel lbf/in <sup>2</sup>	Perpendicular lbf/in <sup>2</sup>			
Green	0.36	0.97	5,400	2,420	220	8.2	390	760
Dry	0.38	1.18	8,100	5,110	460	8.2	490	1,170

<sup>a</sup>WML = Work to maximum load.  
Reference (98).

#### Drying and Shrinkage

Type of shrinkage	Percentage of shrinkage (green to final moisture content)		
	0% MC	6% MC	20% MC
Tangential	8.1	5.1	2.1
Radial	3.6	2.7	1.1
Volumetric	12.5	8.5	3.5

References: 0% MC (98),  
6% and 20% MC (90).

## Kiln Drying Schedules<sup>a</sup>

Condition	Stock				
	4/4, 5/4, 6/4	8/4	10/4	12/4	16/4
Standard	T10-E4	T8-E3	–	–	–
<sup>a</sup> References (6, 86).					

**Working Properties:** Butternut generally has a straight grain, works easily with tools, and takes a rich, lustrous finish.

**Durability:** Rated as slightly or nonresistant to heartwood decay.

**Preservation:** No information available at this time.

**Uses:** Lumber, furniture, boxes, crates, mill work, veneer.

**Toxicity:** No information available at this time.

### Additional Reading and References Cited (in parentheses)

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