



## ***Aesculus octandra***

**Family: Hippocastanaceae**

### **Yellow Buckeye**

The genus *Aesculus* contains 13 species, which grow in the United States [6], Mexico [1] and Eurasia [6]. Species cannot be separated based on microanatomy. The name *aesculus* is a Latin name of a European oak or other mast-bearing tree.

*Aesculus californica*-**California buckeye**, horsechestnut

*Aesculus glabra*\*-American horsechestnut, buckeye, fetid buckeye, **Ohio buckeye**, sevenleaf buckeye, smooth buckeye, sticking buckeye, stinking buckeye, Texas buckeye, white buckeye

*Aesculus glabra* var. *glabra*-**Ohio buckeye** (typical)

*Aesculus glabra* var. *arguta*-**Texas buckeye**, white buckeye

*Aesculus hippocastanum*-buckeye, common horsechestnut, conker-tree, European horsechestnut, **horse chestnut** (Europe)

*Aesculus octandra*\*-big buckeye, buckeye, large buckeye, Ohio buckeye, sweet buckeye, **yellow buckeye**

*Aesculus parviflora*-**bottlebrush buckeye**, shrubby buckeye

*Aesculus pavia*-buckeye, firecracker plant, **red buckeye**, red-flowered buckeye, red pavia, scarlet buckeye, woolly, woolly buckeye

*Aesculus sylvatica*-dwarf buckeye, Georgia buckeye, **painted buckeye**

\*commercial species

### **Distribution**

In the United States, buckeye ranges from the Appalachians of Pennsylvania, Virginia, and North Carolina westward to Kansas, Oklahoma, and Texas. Buckeye is not customarily separated from other species when manufactured into lumber and can be utilized for the same purposes as aspen, basswood, and sap yellow-poplar. The following description is for yellow buckeye (*Aesculus octandra*).

### **The Tree**

Buckeye is a tree 30 to 70 ft (9 to 21 m) high and 2 ft (0.6 m) in diameter. It grows best in rich moist soil along the banks of streams and in river bottoms. Buckeye matures in 60 to 80 years. It is one of the initial trees to leaf-out in the spring. The twigs have a foul odor when broken.

### **The Wood**

#### **General**

The white sapwood of buckeye merges gradually into the creamy or yellowish white heartwood. The wood is uniform in texture, generally straight-grained, light in weight, weak when used as a beam, soft, and low

in shock resistance. It is rated low on machinability such as shaping, mortising, boring, and turning. The centers of logs can be discolored to grayish brown, due to a sapstain fungus.

**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	0.33	0.98	4,800	2,050	210	5.4	290	660
Dry	0.36	1.17	7,500	4,170	440	5.9	350	960

<sup>a</sup>WML = Work to maximum load.  
Reference (59).

**Drying and Shrinkage**

Type of shrinkage	Percentage of shrinkage (green to final moisture content)		
	0% MC	6% MC	20% MC
Tangential	8.1	6.5	2.7
Radial	3.6	2.9	1.2
Volumetric	12.5	10.0	4.2

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-F4	T8-F3	-	-	-

<sup>a</sup>References (6, 86).

**Working Properties:** No information available at this time.

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

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

**Uses:** Furniture, artificial limbs, splints, boxes and crates, caskets and coffins, paper pulp, signs, trunks, valises, scientific instruments, wooden ware, novelties, food containers, strips woven into summer hats, and planing mill products.

**Toxicity:** The nuts and twigs are poisonous, containing aescin, a cytotoxin (54).

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

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