

## *Aesculus flava* (Yellow Buckeye) Horse Chestnut Family (Hippocastanaceae)

### Introduction

This beautiful Kentucky native tree is known for its large panicles of yellow flowers, its palm-shaped leaves and, particularly, its distinctive nut-like fruit. Well suited to wet soils, the adaptable yellow buckeye will grow in all conditions, except very dry ones. This species' light-weight wood is used in making artificial limbs before the introduction of light-weight, space-age materials.

### Culture:

Although tolerant to partial shade, flowering is best in full sun. Yellow buckeye grows along stream banks or in moist, well-drained, rich soils, but will adapt to all but extremely dry soils.

This tree can be messy and needs a large yard or park to thrive. In the appropriate location, it makes a nice shade tree.

Yellow buckeye is not tolerant of urban stress. Like other buckeyes, yellow buckeye is susceptible to leaf blotch, powdery mildew and wood-decaying fungi. It is best used in naturalized areas.

### Additional comments:

Yellow buckeye is one of two genera in the family Hippocastanaceae. Old World species of this family are called "horse chestnuts" while New World species are "buckeyes." The leathery husk of the buckeye fruit splits in fall and the seed is said to resemble the eye of a deer, to which the common name refers. *Aesculus* is the Latin name given to an oak species by Roman naturalist Pliny; *flava* (yellow) refers to the buckeye's flowers. The nut-like fruit of the buckeye is poisonous to humans if eaten raw.

Native Americans detoxified the nuts with a roasting procedure using hot rocks. The cooked nuts were mashed, leached with water and made into a nutritious meal.

Bookbinders, however, have benefitted from the toxic properties of buckeye. A paste is made from the nut and used in bookbinding to deter insect damage.

This native species has a limited native range that includes Kentucky, where it can still be found in the wild.



### Botanical Characteristics:

**Native habitat:** Eastern U.S. on mountains and in bottom lands.

**Growth habit:** This straight-trunked tree has a broadly conical habit, gradually maturing into a slightly spreading crown. Pendulous branches are turned up at the ends.

**Tree size:** A fast-growing tree, this species can be 100 feet at maturity (60 to 80 years) in its native habitat. Cultivated, it can attain a height of 60 to 75 feet.

**Flower and fruit:** Yellow flowers appear in May on upright panicles 6 inches long and 3 inches wide. Pear-shaped 2 ½-inch fruit has a thick husk over 1 to 2 shiny seeds.

**Leaf:** Five 6-inch-long, toothed leaflets are arranged palm-like on short stalks. The dark green deciduous leaves become burnt orange in fall.

**Hardiness:** Winter hardy to USDA zone 4.

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George Washington collected seed from a particularly beautiful yellow buckeye growing in West Virginia and made this species popular when the seedlings were grown at Mt. Vernon. The species was introduced into cultivation in 1764.

The largest known yellow buckeye (145 feet) is in the Great Smoky Mountain National Park in Tennessee. The second largest (140 feet) is in Bowers Creek, Kentucky.

Yellow buckeye wood is soft, weak and doesn't resist decay. It also has a bad odor when green. The seasoned wood is odorless, white and lightweight. Yellow buckeye wood is used for crates, boxes and inexpensive furniture. The bark of yellow buckeye is interesting with smooth plates on young trunks leading to flaking strips on older specimens.

Yellow buckeye usually has five leaflets per leaf. One feature that distinguishes it from Ohio buckeye is the small teeth along the margin of the leaflet. Its pumpkin color fall foliage is quite attractive. Yellow buckeye also has prominent buds that add winter interest and beauty.

Yellow buckeye has been hybridized with *A. pavia* and *A. glabra* to yield interesting hybrids with a range of flower color.



Buckeye fruit with seeds inside



Leaf in autumn