Black walnut (Juglans nigra) is a large, deciduous tree with a capacious canopy and a height of around 80 feet, sometimes attaining heights up to 150 feet. Its round, low branching, open crown spreads nearly as wide as the tree is tall. Black walnut branches, twigs, and leaves grow in an alternate pattern; however, it’s alternate compound leaves have leaflets that may be alternate or opposite. One can typically find this tree in small groups or as scattered individuals throughout the central and eastern parts of the United States.

Black walnuts prefer moist, organically rich, well-drained soils in riparian zones—the lands that occur along the edges of rivers, streams, lakes, and other water bodies. Black walnuts often associate with yellow poplar, white ash, black cherry, American beech, basswood, sugar maple, oaks, and hickories.

Black walnut leaves are alternately branched and measure 12 to 24 inches in length. Its pinnately compound leaf has 11-23 leaflets, with the terminal leaflet poorly formed or missing entirely. Leaflets are ovate-oblong to ovate-lanceolate, asymmetrical, finely serrated, and 3 to 5½ inches long. Each leaflet is nearly stalkless, has an acuminate tip, rounded base, and is very fragrant when crushed. The rachis of the leaf is stout and somewhat pubescent.

On young trees, the bark is dark and scaly, but mature trees become a darker gray-black with intersecting ridges and furrows that form a diamond pattern. Twigs are stout and often slightly pubescent. The leaf scar is shield-shaped with three lobes, resembling a “monkey-face.” The twig has a buff-colored chambered pith, which means there are numerous disk-like segments separated by discrete, short cavities in the center of the twig. Not many twigs have this feature; the pith of most twigs are solid and not divided into chambers. The buds of the black walnut twig are a grayish-tan and fairly long with a few fuzzy, velvate scales.

Black walnuts are monoecious, meaning that they have both male and female flowers on the same plant. They bloom in May – June when the leaves are beginning to develop. Male flowers bloom on single-stemmed rachises that are 2½ to 3½ inches long and hanging from the leaf scars of the prior season. Female flowers appear as short spikes, in groups of 2 to 5, near the twig end of the season’s new growth. Pollination occurs by the wind or self-pollination of the female flowers.

Perhaps the most distinct and well-known characteristic of the black walnut is its fruit—the walnut. These large, green, globes will hang from trees as they mature in late summer to fall. They have a thick, inedible husk that measures 1½ to 2½ inches in diameter. The husk contains an irregularly furrowed, hard nut that is oily and edible. The fruit of black walnuts provides food to many rodents, and their leaves host numerous species of caterpillars and moths, which are an important food source for birds.

Black walnut’s species epithet, nigra, refers to the tree’s dark bark and nuts. The genus name, Juglans, comes from the Latin names jovis, meaning “of Jupiter,” and planus, which literally means acorn. The black walnut is often confused with butternut, tree of heaven, and staghorn sumac.

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February 2022
Black Walnut

Twig

Bud

Buds are large with a few pubescent scales

Leaf scars are 3-lobed, resembling a "monkey face"

Twig is stout & has a chambered pith

Habitat

rich mesic woodlands; moist bottomland woodlands in valleys; along rivers; and bases & lower slopes of bluffs

Bark

dark brown with flattened, furrowed ridges that have a diamond pattern

Leaf

Alternate; pinnately compound

11-23 leaflets, finely serrate, 3-3 1/2 in. long

Poorly formed or missing terminal leaflet

Rachis is stout, somewhat pubescent

Flower

Species is monoecious;

males are single-stemmed catkins;

females are short spikes near twig end

Fruit

Round, thick indehiscent husk that contains irregularly furrowed nut; matures late summer to fall

1 1/2 - 2 1/2 inches

Diameter 1-1 1/4 inch