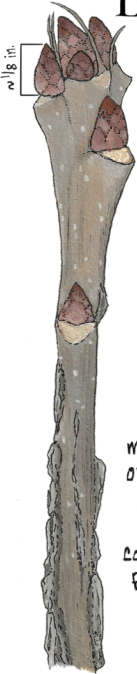


Bur Oak

Quercus macrocarpa

Twig & Bud



multiple terminal buds, usually with persistent, thread-like stipules

Bark

Bark is gray & forms thin, narrow, vertical strips on young trees; mature trees develop deep furrows w/ thick, flattened ridges in long, irregularly shaped blocks that look scaly

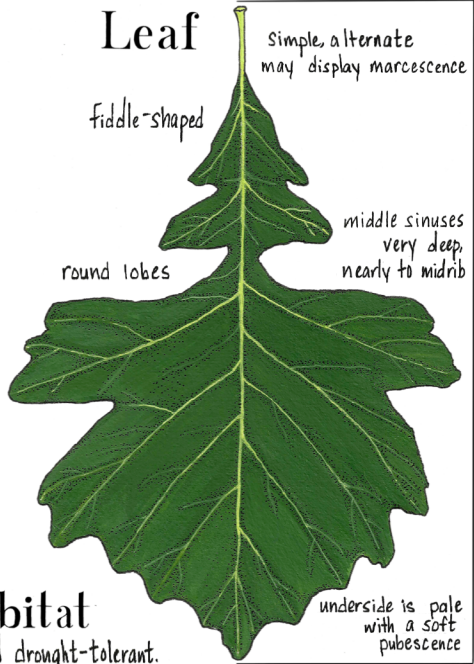
minute, white hairs on outer bud scales

corky, wing-like projections on older sections of twigs

Leaf

Simple, alternate may display marcescence

fiddle-shaped



round lobes

middle sinuses very deep, nearly to midrib

5 1/2 - 12 inches

underside is pale with a soft pubescence

Habitat

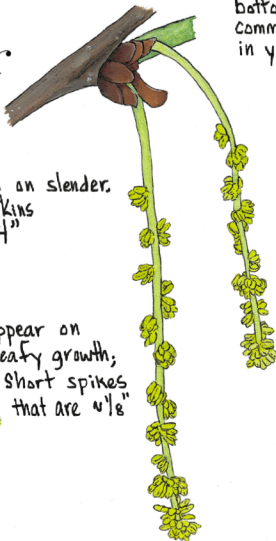
cold- and drought-tolerant, can withstand a range of growing conditions from dry prairies & sandy ridges to wet bottomlands & moist woodlands; commonly cultivated - planted in yards & roadsides

Flower

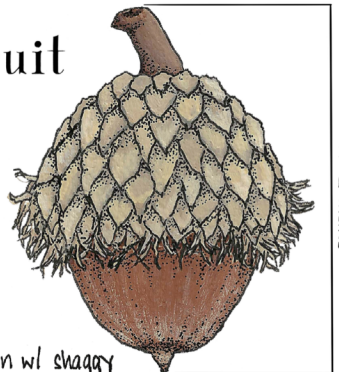
monoecious

male flowers on slender, drooping catkins that are 2-4"

Female flowers appear on new leafy growth; short spikes that are 1/8"



Fruit



large acorn w/ shaggy -fringed cup that covers at least 1/3 of the nut (sometimes entirely)

3 1/4 - 2 inches



TREE OF THE MONTH

Bur Oak • *Quercus macrocarpa*

ALSO KNOWN AS: MOSSYCUP OAK, BURR OAK

Bur oak (*Quercus macrocarpa*) is a medium to large deciduous tree of the white oak group (subgenus *Leucobalanus*) in the Fagaceae, or Beech, family. It often grows 70–80 feet tall and can reach well over 100 feet in some regions and growing conditions. In the western part of its range, bur oak is more often seen as a shrub or small tree, typically under 40 feet. Like other trees in the *Quercus* genus, this species grows tall with a clear, straight trunk but will develop a wide, spreading crown with thick, horizontal branches if grown in the open without any competition for sunlight. The branches, twigs, and leaves grow in an alternate pattern.

Bur oak can withstand many growing conditions, ranging from prairies and dry, sandy ridges to wet bottomlands and moist woodlands. Commonly cultivated and often planted along roads and in yards, it's one of the most cold-tolerant oak species in North America and remarkably tolerant of drought. It's an uncommon species in the Northeastern US and even less common in Massachusetts, but it tends to be in wet locations when it is found.

Bur oak leaves are simple and alternately arranged with an **obovate** outline and many **lobes**. The middle **sinuses** are very deep, nearly reaching the **midrib**. This combination of shape and deep midleaf sinuses gives bur oak leaves a distinct fiddle-like shape. The lobes do not have bristles and are round compared to those of the red oak group (*Erythrobalanus*). The underside of the leaf is pale and pubescent, with soft, short hair. Like most oaks, the shape and size of the leaves vary greatly, even on a single tree. Bur oak may retain its dead leaves during the winter, a trait known as marcescence – a common characteristic of species in the Fagaceae family.

On young trees, the bark is gray and has thin, narrow, vertical strips. As the tree ages, it becomes deeply furrowed with thick, flattened ridges in long, irregularly shaped blocks that may look scaly but are not flaky.

The twigs of bur oak are somewhat stout, gray to red-brown, have corky wing-like projections on many of their branchlets, and multiple **terminal buds** that are accompanied at the base by thread-like **stipules**. The buds are blunt and have appressed bud scales that are covered in white hairs.

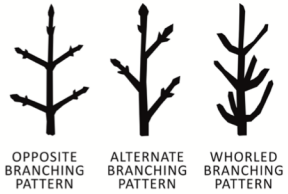
Bur oaks are monoecious, meaning an individual tree produces both male and female flowers; both appear shortly after the leaves in spring. Male flowers are produced on slender, drooping **catkins** that are yellow-green and 2 to 4 inches long. Female flowers appear on new leafy growth as short spikes that are about 1/2 inch in length. Pollination occurs by wind.

Like all oaks, the bur oak produces acorns that mature during autumn. The acorns have a deep, shaggy-fringed cup that covers at least 1/3 of the nut and may even cover the entire nut. The size, cup coverage, and shaginess vary by location. In general, acorn size decreases with increasing latitude. The bur oak's acorn can get very large (about 2 inches) – the largest of any oaks – and they appear to grow larger in a closed-canopy floodplain forest compared to those in an open prairie.

Bur oak acorns are enjoyed by a variety of wildlife and are an important fall food for many; black bears, deer, cottontails, squirrels, and other small rodents eat them. The stems of bur oak are browsed by deer, moose, and rabbits. Various bird species also use bur oak as habitat and to forage for insects.

obovate: oval in shape with a narrower end at the base
lobe (of a leaf): having rounded or pointed parts that stick out from the midrib
sinus: a space or indentation between two lobes or teeth on a leaf's margin

midrib: the central vein or ridge of a leaf
terminal bud: a leaf bud that is located at the top (or end) of a twig
stipules: small leaflike appendages to a leaf
catkin: a slim, cylindrical flower cluster with unnoticeable or no petals
hybridize: breed with an individual of a separate species



Bur oak's species epithet, *macrocarpa*, comes from the Greek words *makros*, meaning "long, large" and *karpos*, meaning "fruit." The genus name *Quercus* comes from the classical Latin name for oak trees.

Bur oak is sometimes confused with other members of the white oak group, like *Quercus alba* (white oak), *Quercus bicolor* (swamp white oak), *Quercus lyrata* (overcup oak), and *Quercus stellata* (common post oak). Bur oak also hybridizes with other oaks, which can cause the leaf shape to be misleading.

All acorns are technically edible, although they usually have some bitterness due to the presence of tannic acid, which needs to be leached out before the nut is palatable. Bur oak is considered to produce one of the best acorns for eating. One reason for this is that as a member of the white oak group, it produces fewer tannins than acorns from the red oak group. Secondly, the enormous size of bur oak acorns means there's much more to eat!



Tree of the Month is sponsored by Berkshire Environmental Action Team, a 501(c)(3) nonprofit organization located in Pittsfield, MA. Find more Trees of the Month at www.thebeatnews.org.