

Bur Oak



# Bur Oak

(*Quercus macrocarpa*)

## General Description

A large long-lived tree on good sites, with stout limbs forming a broad crown at maturity. Scrubby forms can be found on very dry sites. Native throughout all but the northwest corner of the state. Difficult to transplant because of a deep taproot. Bur Oak is also called Mossycup Oak. Once established trees grow one to two feet per year on favorable sites. The largest tree in North Dakota is 85 feet tall with a canopy spread of 61 feet.

Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Pale pubescence covering entire bud, grayish-brown.

Bud Size - Imbricate, conical to broadly-ovate, 1/8 to 1/4 inch.

Leaf Type and Shape - Simple, deeply and irregularly lobed, center lobes cut nearly to the midrib.

Leaf Margins - Cuneate or rarely rounded at the base. Lower portion of leaf with 2 or 3 pairs of lobes.

Leaf Surface - Semi-glossy above, variably pubescent below.

Leaf Length - 4 to 10 inches.

Leaf Width - 2 to 4½ inches.

Leaf Color - Dark green and lustrous above, grayish to whitish-green below; yellow to tannish-brown fall color.

Flowers and Fruits

Flower Type - Catkins.

Flower Color - Male is yellow-green, female is reddish.

Fruit Type - Acorn, oblong, enclosed 1/2 to 3/4 by a fringed cup.

Fruit Color - Brown, downy at the apex.

Form

Growth Habit - Very stout branches, informal spreading to rounded with age.

Texture - Medium-coarse, summer; coarse, winter.

Crown Height - 40 to 70 feet.

Crown Width - 35 to 60 feet.

Bark Color - Dark gray, with rough, deep ridges and furrows.

Root System - Deep taproot, spread is usually twice tree height.

Sensitive to construction and transplanting injury.

## Environmental Requirements

Soils

Soil Texture - Grows best in fertile loam, but will do well in a wide variety of soils.

Soil pH - 5.5 to 8.0.

Windbreak Suitability Group - 1, 1K, 3, 4, 4C, 5.

**Cold Hardiness**

USDA Zone 2.

**Water**

Drought tolerant, but prefers moist well-drained soils.

Light

Full sun preferred, but is moderately shade tolerant.

## Uses

Conservation/Windbreaks

Medium to tall tree for farmstead and field windbreaks. Slow growing particularly if under stress.

Wildlife

Excellent tree for wildlife food and cover.

Agroforestry Products

Wood - Used for dimension lumber, veneer, firewood and fence posts.

Food - Native Americans used acorns for food after leaching away tannins and astringent properties with wood ashes.

Medicinal - Used to treat dysentery and as an antiseptic and an astringent by Native Americans.

Urban/Recreational

Excellent for landscaping, yards, and parks. Sensitive to root compaction. Used on boulevards but acorns may be messy.

## Cultivated Varieties

None.

## Related Species

English Oak (*Quercus robur*) - Lacks sufficient winter hardiness in North Dakota, but NDSU has hardy hybrid selections under consideration for introduction.

Mongolian Oak (*Quercus mongolica*)

## Pests

Common diseases include leaf and twig anthracnose, leaf curl, and stem decay. Commonly damaged by rodents, rabbits, and deer. Leaf and twig galls are commonly found, but rarely damage the tree.