

Kick Off Your Week by Learning Something New:

Oaks & Acorns



The red oak group leaves have bristle-tipped leaves with V-shaped sinuses.



The white oak group leaves have U-shaped sinuses with rounded lobes.

There are approximately 400-600 **species of oak world-wide**. In the United States there are 60-90 species of oak. Oaks are found in most states except the central western states. In Wisconsin, we have nine native species of oak – northern red, northern pin, pin, black, scarlet, white, swamp white, bur, and chinkapin.

An estimated 500 to 2,300 species **rely upon the oak tree**, such as turkeys, woodpeckers, wood ducks, blue jays and thrushes; black bear, white-tailed deer, squirrels, opossums, rabbits, voles and mice; and hundreds of species of butterflies and moths. In addition, there are many fungi, bacteria and other microorganisms which create a symbiotic home with the oak. Of these species, 320 are found only on oak trees, and a further 229 species are rarely found on species other than oak.

In the United States, oaks are divided into the **red oak group and white oak group**. Each group has its own distinct characteristics such as leaf shape, bark texture, size and longevity of the tree, mature tree shape, color of the wood, and yes, even the acorns.

Oak trees are **monoecious**. Most species of oaks begin producing acorns at about 20 years old. Peak production occurs from about 50 to 80 years. Healthy trees with dominant crowns often will produce more acorns than unhealthy, suppressed trees. The genetics of the tree and the weather at pollination time also play a large role in the quantity of acorns produced.

White oak acorns sprout in fall right after the acorns drop. White oak produce acorns in one growing season. Because of this, they have less tannins making them sweeter thus a preferred food for wildlife.

Red oak acorns spend the winter dormant and sprout in spring. Red oaks produce acorns in two growing seasons. Red oaks need three months of temperatures below 40 degrees Fahrenheit to break seed dormancy and germinate in the spring. This means a late frost in the spring may result in poor acorn production in white oaks in the fall of the same year, but will not influence red oak acorn production the same fall.

A good way to identify viable acorns is to place them in a bucket of water – those that float are empty and will not produce a seedling.



Chestnuts, hazelnuts, and acorns are examples of true nuts. The botanical definition of a nut is a dry fruit with only one seed. The seed of a true nut does not split open at maturity. The fruits of oak (acorns), hickory and walnut trees (nuts) are commonly referred to as hard mast.

In Wisconsin, the white oak seem to be having a “mast year,” which occurs every 2-5 years, with smaller acorn crops in between. Boom and bust cycles of acorn production do have an evolutionary benefit for oak trees through “predator satiation.” In a mast year, animals can’t eat all the acorns, so they leave some nuts to grow into future oak trees. Years of lean acorn production keep predator populations low, so there are fewer animals to eat all the seeds in a mast year. A year of heavy acorn production may use up much of a tree’s

stored nitrogen, and few acorns may be produced the following year while the tree's nutrient stores are replenished. Learn how to **identify your mast trees**.

The importance of acorns as a food source for wildlife is primarily related to their widespread occurrence, palatability, nutritional value, and availability during the fall and winter months, when they provide an excellent source of needed energy. Historically they were a source of food for humans also, however care must be taken to remove the tannins prior to consuming them.

Oak trees take decades to mature and one oak produces more than 2,000 acorns every year, but only one in 10,000 acorns will manage to develop into oak tree.



white

The white oak acorn is about 3/8" to 1 1/4" long in an oblong shape with a cup that is thick, lumpy, warty and bowl-shaped; cup scales slightly fused together.



red

The red oak acorn is oval and about 1" long, 3/4" diameter. The cup or top is somewhat hairy and flat, with a shallow and saucer-shaped with tight, overlapping scales.

**Identify Oak Trees by Acorns
Are Acorns Safe to Eat?
Wisconsin's White Oak Initiative**

Click the **green text** to learn more information

Questions? Contact the office at 715-346-4798 or wwoa@uwsp.edu

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