

Live Oak

Quercus virginiana

The Southern Live Oak, or simply Live Oak, is an evergreen, or nearly so, tree native to the southeastern United States. Leaves persist until the time new growth begins in spring, although the oak's defoliation may occur sooner in dry or cold winters.

While the largest trees in the U.S. in terms of wood volume are a few conifer tree species like the Giant Sequoia and the Coast Redwood on the western side of the Rocky Mountains, the Southern Live Oak, with the Bald Cypress, is the biggest tree species on the eastern side of the Rockies.

The Live Oak is not a very tall species, but it has a widespread canopy with heavy branches. Most of the wood is situated in these branches, as opposed to the conifer trees, where most of the wood is in the tall trunk.

The branches frequently support epiphytic plant species such as Resurrection Fern, orchids and air plants.

Live Oak is the heaviest native hardwood, weighing 55 pounds per cubic foot when air dry. This mass density also made Live Oak the preferred wood to burn as fuel through the years.

Depending on the growing conditions, Live Oaks vary in size: typical open-grown trees reach 60 feet in height, with a limb spread of nearly 80 feet. Lower limbs often sweep down towards the ground before curving up again. They can grow at severe angles, and Native Americans used to bend saplings over to force extreme angles to serve as trail markers.

The bark is dark, thick, and furrowed longitudinally. The alternate leaves are stiff and leathery, with the tops shiny dark green and the bottoms pale gray, simple and typically flattish.

Male flowers are green hanging catkins with lengths of 3 - 4 inches. The acorns are small, .4 - 1 inch, oblong in shape, shiny and tan-brown to nearly black, often black at the tips, and borne singly or in clusters

The Southern Live Oak has a deep taproot that anchors it when young and eventually develops into an extensive and widespread root system. This, along with its low center of gravity and other factors, makes it extremely resistant to strong sustained winds such as those seen in hurricanes.

Southern Live Oaks grows in a wide variety of sites but have low fire-resistance and occur most any place free from fire that is not too wet. They tend to survive fire, because often a fire will not reach their crowns.

Even if a tree is burned, its crowns and roots usually survive the fire and sprout vigorously. Live Oak forests discourage entry of fire from adjacent communities because they provide such dense cover that the growth of a flammable under story is minimized. They can withstand occasional floods.

Live Oak wood is hard, heavy, and difficult to work with, but very strong. In the days of wooden ships, Live Oaks were the preferred source of the framework timbers of the ship, using the natural trunk and branch angles for their strength.

The frame of *USS Constitution* was constructed from Southern Live Oak wood harvested from St. Simons Island, Georgia, and the density of the wood grain allowed it to survive cannonade, thus earning it the nickname "Old Ironsides."

Today, primary uses for Southern Live Oak are providing food and shelter for wildlife. Live Oak acorns are an important food source are Bobwhite Quail, Florida Scrub Jay, Wood Duck, Yellow-bellied Sapsucker, Wild Turkey, Black Bear, various species of squir-



rel, and White-tailed Deer. The tree crown is very dense, making it valuable for shade, and the species provides nest sites for many mammal species.

Native Americans extracted a cooking oil from the acorns, used all parts of live oak for medicinal purposes, leaves for making rugs, and bark for dyes.

It is long-lived; trees in excess of 500 years were once common.

Flowers of the Southern Live Oak aren't bright and showy like those of some other trees. They are small, brown, and pollinated by wind in spring.

Oak trees begin to produce acorns at about 20 years of age, but 50 years is not an unusual period for the first crop. Oak trees produce acorns once per year during the fall.

An individual tree's acorn production varies year to year, with the strongest production normally alternating every other year. Acorn production typically increases over the long run, in proportion to the size of an individual tree's canopy. An average 100-year old Oak will produce around 2,200 acorns per year.

Laurel Oak

Quercus laurifolia

Laurel Oak is a rapid-growing tree of the moist woods of the Southeast. The best formed and largest number of Laurel Oaks are found in north Florida and in Georgia. It becomes a common component in pine forests when fire is excluded from those systems. It grows rapidly and usually matures in about 50 years which has led to its wide use as an ornamental. It has no value as lumber but makes good fuel wood. Its large crops of acorns are important food for wildlife.

Flowering occurs in February and March, about the time the last of the previous year's leaves are shed (15). Pollen is wind disseminated. Flower crops are abundant almost every year.

The acorns, borne in a shallow cup, are hemispherical to a half inch long, green maturing to blackish-brown about 18 months after pollination. Acorn production is often heavy, enhancing the species' value for wildlife.

Acorn production begins when the trees are 15 to 20 years old; they soon become prolific bearers. Acorns require two years to mature and fall to the ground during late September and October. Some of the acorn caps remain attached to the tree.



Dwarf Live Oak

Quercus minima

Dwarf live oak is a frequent but somewhat uncommon understory shrub in pines, mesic flatwoods, scrubby flatwoods, and dry prairies. It is a small woody ground cover with branches usually to three feet or less and numerous underground stems.

It is one of the most strongly rhizomatous species (definition: a rootlike subterranean stem, commonly horizontal in position, that usually sends roots down and shoots up progressively from the upper surface), and it flowers and fruits as early as three years from seed on vertical stems as small as seven or eight inches.

Flowering is in the spring. Male flowers are slender yellow-green catkins two to three inches long; females are very small, singly or in pairs at the bases of the leaf stems. Acorns are less than an inch long, rounded at the base, and reddish brown. A tapering cap covers one third of the acorn which matures in one season.

It provides food and cover for wildlife and is the larval host plant for red-banded hairstreak butterfly and possible larval host for Horace's duskywing, Juvenal's duskywing and oak hairstreak butterflies.

Acorns are utilized by squirrels.



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OAK TRIVIA: • Only 1 acorn in 10,000 will grow up to be an Oak tree. • The name Live Oak came from the fact that they remain green and "alive" throughout the winter when other oak trees are dormant and leafless. • A mature Live Oak tree can draw up to 50 gallons of water per day. • Oak trees are members of the Beech family.