***Swamp white oak***, along streams in eastern, central and south central Iowa, tolerates the moist low-lying sites, has leaves with more shallow lobes, and bark that exfoliates like a birch on small limbs. Swamp white oak is used frequently as a shade tree, but should not be planted on non-acidic soils because it may suffer from iron chlorosis.

***Chinkapin***, southeastern Iowa, is an oak that does not look like an oak; its leaves are not lobed, but have very coarse teeth without bristle tips. Chinkapin means chestnut, and its leaves resemble the leaves of a chestnut. Chinkapin makes an excellent shade tree. It is very tolerant of dry, high pH soils. It grows naturally on ridges, hill tops, and rocky southern exposures.

***Post oak***, found in Lee, Henry, Van Buren, and Appanoose counties, is the least common of the oaks. It is a dry species, often growing on ridges or hot dry exposures. Its leaf shape resembles a cross, with two smaller lobes at the base.

***Dwarf chinkapin oak***, eastern Iowa, has smaller leaves than chinkapin oak and seldom reaches small tree size; it is considered a shrub. It is native to upland sites, often growing on the same sites as chinkapin oak.

For more information on selection, planting, cultural practices, and environmental quality, contact your local Iowa State University Extension office. If you want to learn more about horticulture through training and volunteer work, ask for information about the ISU Extension Master Gardener program. Horticultural information also is available from these Web sites.

ISU Extension Publications—
http://extension.iastate.edu/pubs/

ISU Forestry Extension—
http://www.forestry.iastate.edu/ext/ext.html

ISU Horticulture—
http://www.hort.iastate.edu/

Reiman Gardens—
http://www.reimangardens.iastate.edu

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REIMAN GARDENS
IOWA STATE UNIVERSITY

# Iowa's Oaks

IOWA STATE UNIVERSITY
University Extension

In 1961, the Iowa General Assembly designated the "oak" as Iowa's official state tree. Certainly, prior to that designation and since, discussion has centered around whether a single species of oak should have been Iowa's state tree. Most woodlands and all communities have one or more species of oak as a component. It can be argued that no other group of trees is more important to both rural and urban forests in Iowa. Twelve different species of oak are native to Iowa, although only a single species, bur oak, is found throughout the state.

Many species of oak may be incorporated into urban and landscape planting. Pay attention to the natural habitat of the oaks when selecting them for landscape use. Matching the tree to the site will result in greater success in the landscape. Remember that many of the oak species become very large trees, and need room to develop and grow in the landscape. Avoid large plantings of single species to avoid potential problems with oak wilt. Many of the oaks are difficult to move because of their non-fibrous root habit. Moving smaller stock may improve success because less of the root system is lost.

Iowa oaks are separated into either of two groups — red oaks or white oaks. The white oaks (white, bur, chinkapin, swamp white, post, and dwarf chinkapin) have lobed leaves with rounded lobes, acorns that mature in a single growing season and germinate in the fall sending down a root system, and plugs (tyloses) in the water-conducting tissue of the wood or vessels (making oak containers, such as whisky barrels, waterproof). The red oaks (red, pin, black, Northern pin, blackjack and shingle) have mostly lobed leaves with bristle tips at the ends of the lobes, acorns that require two growing seasons to mature and do not germinate until the following spring, and vessels without plugs.

## Red Oaks

***Pin oak***, native to the southeastern one-fourth of Iowa, is probably used more as a shade tree than any other oak. It is a bottomland species, and tolerates wet and poorly drained soils that are acidic. Pin oak is fast growing, easy to transplant, and should be used only on soils that are acidic. On basic (high pH) soils, pin oak often exhibit iron deficiency chlorosis in which the leaves turn yellow and the veins remain green.

***Red oak***, native except in the far northwestern counties, is slower growing, but may be a better choice on non-acidic soils. It is fairly easy to transplant, grows faster than most oaks, and is adapted to a wide range of sites. Red oak is the most valuable of the red oaks for lumber production.

***Shingle oak***, southern one-third of Iowa, has a leaf without lobes, has a bristle tip, prefers acidic soils, and will tolerate tough, dry sites. Shingle oak is relatively easy to transplant and has become more common in the urban landscape.

***Northern pin oak***, found in the northern one-half of Iowa, looks like pin oak, but has more oval acorns, and may be more difficult to transplant.

***Black oak***, found in all but the far northwestern corner of Iowa, will grow on a variety of sites from very dry upland ridges to deep rich cove sites to dry sandy bottomlands. Black oaks vary greatly in their appearance because of genetic diversity and because they hybridize with other species of red oaks.

***Blackjack oak***, far southeastern Iowa, has leaves with three distinct lobes. It is a small tree rarely exceeding a foot in diameter and it tolerates dry upland soils.

## White Oaks

***White oak***, eastern two-thirds of Iowa, is the most valuable "white" oak for lumber production. It will grow on a variety of sites, from moist cove sites with deep soil, to the drier ridges and southern exposures. Iowa white oak may live to 400 years.

***Bur oak***, located in all of Iowa, is the oak of the Midwest, very slow growing and long-lived. It adapts to a wide range of sites and soils, from very dry exposures to good soils that are fertile and moist.