

Quercus falcata: Southern Red Oak¹

Edward F. Gilman, Dennis G. Watson, Ryan W. Klein, Andrew K. Koeser, Deborah R. Hilbert, and Drew C. McLean²

Introduction

Southern red oak is an excellent large, durable shade tree which reaches 60 to 80 feet in height with a large, rounded canopy when it is open-grown. The deciduous, shiny green leaves are 5- to 9-inches-long by 4- to 5-inches-wide, with the terminal lobe much longer and narrower than the others. Leaves fall brown over an extended period of time in fall and winter. Some defoliation is noted during the summer in droughty years, but this is probably a drought-avoidance mechanism. No permanent damage appears to come from this. The dark gray to black bark is ridged and furrowed and resembles cherry bark, to some extent. The half-inch-diameter acorns are popular with wildlife. The trunk normally grows straight with major branches well-spaced and strongly attached to the tree.

General Information

Scientific name: *Quercus falcata*

Pronunciation: KWERK-us fal-KAY-tuh

Common name(s): Southern red oak, spanish oak

Family: *Fagaceae*

USDA hardiness zones: 7A through 9B (Figure 2)

Origin: native to the southeastern United States, in addition to eastern Texas and Oklahoma, and as far north as New York

UF/IFAS Invasive Assessment Status: native

Uses: specimen; shade; reclamation; street without sidewalk



Figure 1. Full Form—*Quercus falcata*: southern red oak

1. This document is ENH-704, one of a series of the Environmental Horticulture Department, UF/IFAS Extension. Original publication date November 1993. Revised December 2006 and December 2018. Visit the EDIS website at <https://edis.ifas.ufl.edu> for the currently supported version of this publication.
2. Edward F. Gilman, professor emeritus, Environmental Horticulture Department; Dennis G. Watson, former associate professor, Agricultural Engineering Department; Ryan W. Klein, graduate assistant, Environmental Horticulture Department; Andrew K. Koeser, assistant professor, Environmental Horticulture Department, UF/IFAS Gulf Coast Research and Education Center; Deborah R. Hilbert, graduate assistant, Environmental Horticulture Department, GCREC; and Drew C. McLean, biological scientist, Environmental Horticulture Department, GCREC; UF/IFAS Extension, Gainesville, FL 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.



Figure 2. Range

Description

Height: 60 to 80 feet

Spread: 60 to 70 feet

Crown uniformity: irregular

Crown shape: round, oval

Crown density: moderate

Growth rate: moderate

Texture: coarse

Foliage

Leaf arrangement: alternate

Leaf type: simple

Leaf margin: parted, lobed

Leaf shape: elliptic (oval), obovate, ovate

Leaf venation: pinnate

Leaf type and persistence: deciduous

Leaf blade length: 5 to 9 inches

Leaf color: dark green and shiny on top, paler green with a rusty pubescence underneath

Fall color: copper

Fall characteristic: not showy

Flower

Flower color: male—yellow-green; female—reddish

Flower characteristics: not showy; male—3”–5” long catkin; female—tiny spike that emerges from leaf axils

Flowering: spring, with the leaves

Fruit

Fruit shape: ovoid to oblong

Fruit length: 1 inch

Fruit covering: dry or hard acorn; cap is bowl-shaped, warty, and covers the top ⅓ of the nut

Fruit color: brown

Fruit characteristics: attracts squirrels/mammals; not showy; fruit/leaves a litter problem

Fruiting: fall

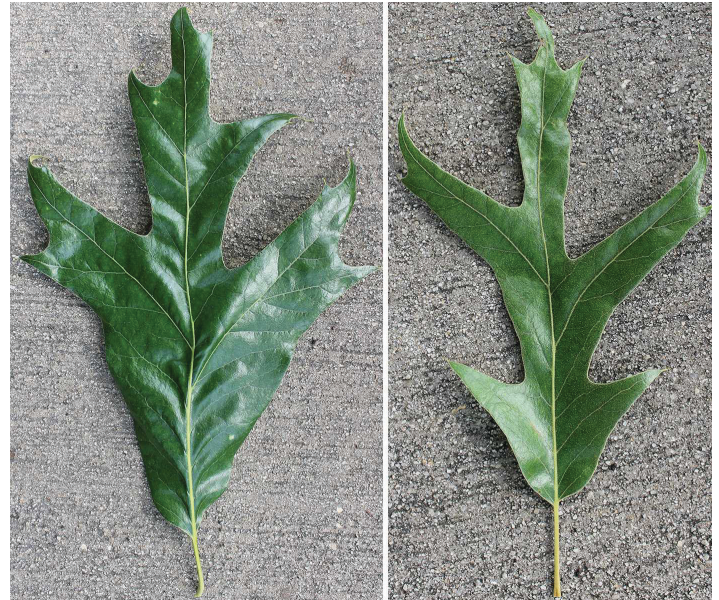


Figure 3. Leaf variation—*Quercus falcata*: southern red oak



Figure 4. Bark—*Quercus falcata*: southern red oak
Credits: Gitta Hasing

Trunk and Branches

Trunk/branches: branches don't droop; not showy; typically one trunk; no thorns

Bark: dark gray to black and smooth, becoming deeply furrowed with blocky ridges with age

Pruning requirement: needed for strong structure

Breakage: resistant

Current year twig color: brown, reddish

Current year twig thickness: medium

Wood specific gravity: 0.59

Culture

Light requirement: full sun

Soil tolerances: clay; sand; loam; acidic; well-drained to occasionally wet

Drought tolerance: high

Aerosol salt tolerance: moderate

Other

Roots: not a problem

Winter interest: no

Outstanding tree: yes

Ozone sensitivity: unknown

Verticillium wilt susceptibility: resistant

Pest resistance: resistant to pests/diseases

Use and Management

Naturally found on poor upland soils, southern red oak should be grown in full sun on well-drained soil, acid, sandy, or loam (not clay). It is common on poor-quality, sandy ridges. It is well suited for planting in areas such as along roadsides where there is little maintenance after planting. The wood is used for furniture but does not have the quality of *Quercus rubra*.

Variety *pagodifolia*, cherrybark oak, is adaptable, growing along stream banks and ridge tops throughout its range. It may be more commonly available than the species and may be referred to as *Quercus pagodifolia* in some nurseries. This plant may also be referred to as *Quercus pagoda*.

Propagation is by seed.

Pests and Diseases

There is a large number of potential problems. Except for oak wilt though, usually no pests or diseases of major concern. Caterpillars can defoliate trees. Fall cankerworm has been a problem in some years.

Reference

Koeser, A. K., Hasing, G., Friedman, M. H., and Irving, R. B. 2015. Trees: North & Central Florida. Gainesville: University of Florida Institute of Food and Agricultural Sciences.