

Quercus bicolor Swamp White Oak¹

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INTRODUCTION

This deciduous native tree reaches 50 to 70 feet in height with an equal spread, forming a broad, open, rounded canopy and casting dense shade below (Fig. 1). The shiny, dark green, five to six-inch-long by two to four-inch-wide leaves have fine white hairs on their underside, and irregular margins. In fall, the leaves turn a showy yellow/brown to red before dropping. The oval, one-inch acorns are usually found in pairs on one to four-inch-long stems, and are quite attractive to a variety of mammals and birds. Swamp White Oak has deeply ridged and furrowed, dark brown bark, and forms an impressive shade tree.

GENERAL INFORMATION

Scientific name: *Quercus bicolor*

Pronunciation: KWERK-us BYE-kull-er

Common name(s): Swamp White Oak

Family: *Fagaceae*

USDA hardiness zones: 4 through 8 (Fig. 2)

Origin: native to North America

Uses: large parking lot islands (> 200 square feet in size); wide tree lawns (>6 feet wide); shade tree; specimen; residential street tree; no proven urban tolerance

Availability: grown in small quantities by a small number of nurseries

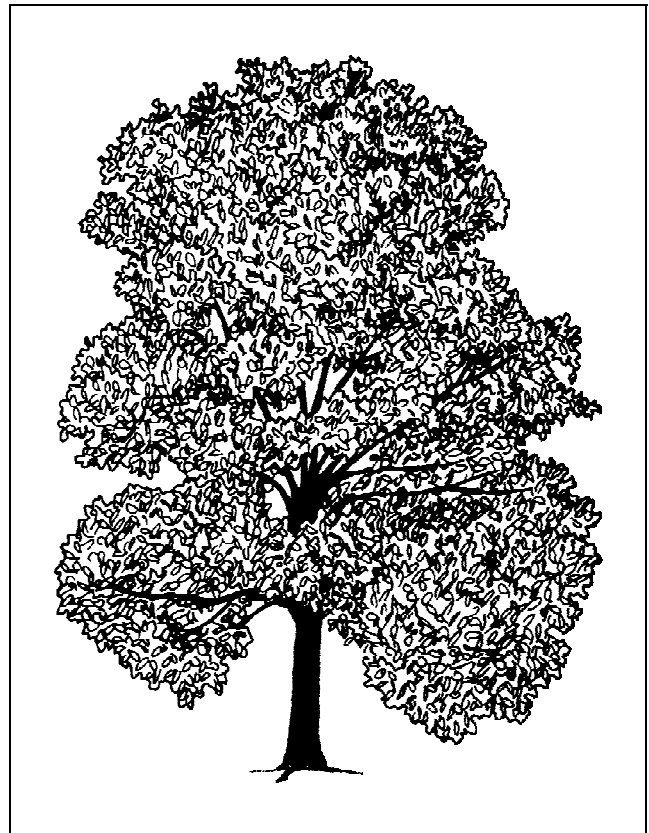


Figure 1. Mature Swamp White Oak.

DESCRIPTION

Height: 50 to 70 feet

Spread: 50 to 70 feet

Crown uniformity: irregular outline or silhouette

Crown shape: oval; round

Crown density: moderate

Growth rate: medium

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Figure 2. Shaded area represents potential planting range.

Texture: coarse

Foliage

Leaf arrangement: alternate (Fig. 3)

Leaf type: simple

Leaf margin: lobed; dentate; sinuate

Leaf shape: oblong; obovate

Leaf venation: pinnate

Leaf type and persistence: deciduous

Leaf blade length: 4 to 8 inches

Leaf color: green

Fall color: copper; red; yellow

Fall characteristic: showy

Flower

Flower color: brown

Flower characteristics: inconspicuous and not showy; spring flowering

Fruit

Fruit shape: oval; round

Fruit length: .5 to 1 inch

Fruit covering: dry or hard

Fruit color: brown

Fruit characteristics: attracts squirrels and other mammals; inconspicuous and not showy; fruit, twigs, or foliage cause significant litter

Trunk and Branches

Trunk/bark/branches: droop as the tree grows, and will require pruning for vehicular or pedestrian clearance beneath the canopy; showy trunk; should be grown with a single leader; no thorns

Pruning requirement: requires pruning to develop strong structure

Breakage: resistant

Current year twig color: brown

Current year twig thickness: medium; thick

Wood specific gravity: 0.72

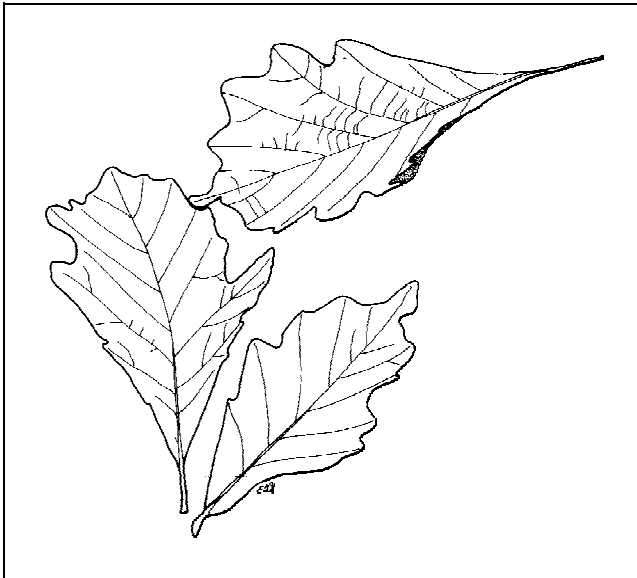


Figure 3. Foliage of Swamp White Oak.

Propagation is by seed.

Pests

Borers, variable Oak caterpillar, Oak slug caterpillar and other caterpillars are pests although natural enemies usually keep infestations under control. Gypsy moth can cause significant damage. There are many other potential pests on Oak.

Diseases

Some diseases of this oak are anthracnose, canker, powdery mildew, shoestring root rot and oak wilt. Leaf spot diseases are usually harmless. Leaf blister can cause moderate to severe defoliation. A dormant spray may reduce symptoms.

Culture

Light requirement: tree grows in part shade/part sun;
tree grows in full sun

Soil tolerances: clay; loam; sand; slightly alkaline;
acidic; extended flooding; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: moderate

Soil salt tolerance: poor

Other

Roots: surface roots are usually not a problem

Winter interest: no special winter interest

Outstanding tree: tree has outstanding ornamental features and could be planted more

Invasive potential: little, if any, potential at this time

Verticillium wilt susceptibility: not known to be susceptible

Pest resistance: long-term health usually not affected by pests

USE AND MANAGEMENT

Found in the wild along streams and in swampy soils, Swamp White Oak should be grown in full sun to partial shade on acid soils, showing severe chlorosis on alkaline soils. These trees are very long-lived, surviving for more than 300 years. They tolerate soil compaction, drought and some salt exposure. They should be tried more often in urban areas. Transplanting is best done in springtime. Container-grown material can be planted anytime.