

## Swamp White Oak: Promising Urban Tree

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Thirty years ago, a newly hired village forester came to the Arboretum seeking advice on what tree species would be the most appropriate for his village tree planting program. In response to questions concerning oaks, we suggested swamp white oak (*Quercus bicolor*), chinquapin oak (*Q. muhlenbergii*) and bur oak (*Q. macrocarpa*). The village planted 200 swamp white oaks. For the first two years, the foliage color ranged from pale green to slightly yellowish, evoking concern about tolerance to street-side soil. The third year the leaves emerged a glorious deep green. These trees have displayed glossy luxuriance for many years. This community now has hundreds of additional handsome swamp white oaks along its streets and in its parks.

Ecological origins and toughness of swamp white oak seem to fit it well for use in difficult urban soil. It occurs naturally in low areas, pond borders, swamps, floodplains, and flatwoods depressions. In some flatwoods situations bur oak-swamp white oak hybrids are quite common. These hybrids also grow well in urban situations. The leaves of the hybrid oaks are generally intermediate in shape. Acorns are also intermediate with prominent fringes on acorn cups suggesting bur oak parentage. The best diagnostic feature is the acorn stalk (peduncle). Swamp white oaks have peduncles two to four inches long; bur oak acorns have very short peduncles. Whitish undersides of leaves are also a distinctive feature of swamp white oak.

In autumn, swamp white oak leaves produce large accumulations of whitish patches of leaves on the ground. Looking down rather than up permits convenient locating of swamp white oaks in the woods. Also, the bark is distinctive with loose vertical scales. Bur oaks have vertically coarse fissured bark.

The geographic range of swamp white oak is quite extensive: from Arkansas to Minnesota and North Carolina to New England. Swamp white oaks may attain huge size, 15 feet or more in circumference. They may also reach more than 300 years in age. Swamp white oaks produce acorns nearly every year with an occasional marked abundance of acorns. The acorns germinate readily but the seedlings do not overwinter well. They may succumb to low winter temperatures or be consumed by small mammals and birds. Storing acorns in a plastic bag placed in a refrigerator, works well if the bag has numerous pin holes. The bag should be inspected every few weeks to avoid mold occurrence. Washing is sufficient. Limited appearance of roots in storage bags does not interfere with normal development of seedlings.

The tolerance of periodic soil wetness in nature indicates tolerance of low-oxygen urban soil. Swamp white oak combines ecological suitability and great aesthetic qualities. The growing popularity of swamp white oak in the Chicago region appears to presage this oak as a major component of the re-oaking trend. Other oak species such as bur oak and chinquapin oak are being planted increasingly in the Chicago region.

For decades pin oak (*Q. palustris*) was perhaps the most planted oak in urban situations. It was widely obtainable and was transplanted quite successfully. In most cases, leaf yellowing (chlorosis) developed in a few years, associated with slow decline. Pin oak is at home on acidic soil of swamps and floodplains and not at home on the widely prevalent alkaline soil of Chicago urban areas.