

## Landowners Guide to Identification and Characteristics: **SOUTHERN RED OAK (*Quercus falcata*)**

Laurie Thomas and Darren Morris,  
University of Kentucky Department of Forestry and Natural Resources

FOR-142

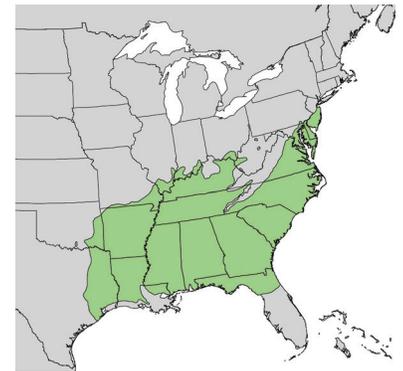
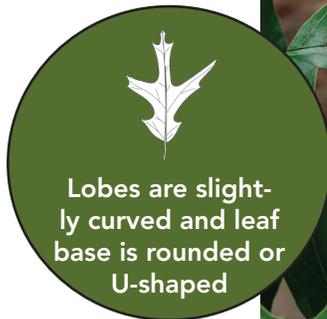
### **Southern Red Oak (*Quercus falcata*)**

Southern red oak is one of the more common upland oaks found in the southeastern United States. It is a medium-sized tree typically 50 to 70 feet in height. Like many red oaks it is suitable for timber products and its fruit, the acorn is a valuable wildlife food. Southern red oak also has value as an urban landscape tree.

### **Identification**

The leaves of southern red oak can be found in two forms. On younger trees you might find leaves with three bristle tipped lobes with the middle lobe much longer than the others and resembling a turkey foot. On more mature trees the leaves typically have five to seven bristle tipped lobes with the middle lobe appearing longer than the others. However, leaves that are growing in the shade, especially seedlings, often have a much shorter leaf tip (Figure 6). In summer the leaves are a dark shiny green on top and paler and fuzzy on the underside. Autumn color is somewhat coppery and not very showy.

*Figure 2: Southern red oak leaves often have an elongated tip. Photo courtesy: Chris Evans, University of Illinois, Bugwood.org*



*Figure 1: Southern red oak range map. Photo courtesy: Atlas of United States Trees*

This publication is part of the White Oak Initiative's ([www.whiteoakinitiative.org](http://www.whiteoakinitiative.org)) **Landowners for Oaks Series** designed to provide foundational information necessary for sustainable management of white oak and upland oak forests.

The **Landowners for Oaks Series** is produced by the Cooperative Extension Service, University of Kentucky, Department of Forestry and Natural Resources (<http://ukforestry.org>) in support of the White Oak Initiative.

Authors: Laurie Thomas and Darren Morris, UK Forestry and Natural Resources. Published as University of Kentucky's Cooperative Extension publication FOR-142.

Funding for the **Landowners for Oaks Series** was provided by the Kentucky Division of Forestry through the Upland Oak Sustainability and Management Project sponsored by USDA Forest Service, State and Private Forestry, Landscape Scale Restoration Program.

## Bark

The bark is a dark to very dark brown-grey in color. It is thick and has rough ridges that separate into deep narrow fissures. It can be confused with black oak bark but the inner bark of southern red oak is not bright yellow like black oak.

## Acorns

The acorns are about a half inch long and orange-brown in color with a light fuzz on the surface. The cap covers at least 1/3 of the acorn. The scales on the acorn cap are also orange-brown with a light fuzz. Southern red oak acorns are noticeably small, much smaller than black oak acorns.



Acorns are noticeably small, much smaller than black oak acorns

*Figure 3: Notice the very small acorns of southern red oak. Photo courtesy: Franklin Bonner, USFS, Bugwood.org*

Using the twig and buds to identify oaks can be difficult and tricky. However oaks can be distinguished from non-oaks by the characteristic grouping of buds clustered near the tip of the twig. The twig is reddish brown and sometimes has a light gray fuzz. It has multiple small buds at the tip (1/8 to 1/4 inch long) that are pointed, reddish brown, and have a light fuzz on the surface.



*Figure 4: Southern red oak twig and buds: Photo courtesy: Chris Evans, University of Illinois, Bugwood.org*



*Figure 5: Southern red oak bark: Photo courtesy: Vern Wilkins, Indiana University, Bugwood.org*



Dark to very dark brown-grey and easily confused with black oak

## General Information

### Reproduction and Regeneration:

Most hardwood trees use seed and vegetative (root and stump sprouting) regeneration to reproduce.

- Seed regeneration via acorn: Southern red oak typically begins acorn production around 25 years, but abundant production may not be until 50 to 75 years of age. Acorns require two growing seasons to mature. Germination takes place the following spring. The acorns are scattered and dispersed primarily by squirrels and blue jays.
- Regeneration via sprouting: Southern red oak can sprout vigorously following damage to the crown or damage from fire. Southern red oak is vulnerable to fire damage due to the relatively thin bark.

### Site Location and Competition:

- Southern red oak is found on dry upland sites, often on south and west facing slopes.
- It can be found on dry sandy or clay soils and occasionally in seasonally wet soils or even riparian corridors.
- Southern red oak can be found growing with scarlet and post oak as well as sweetgum, hickory and pitch pine.

### Sunlight Requirement:

- Southern red oak is considered intermediate to intolerant of shade from other trees.

Other Oaks that Look Similar:

- Southern red oak can be confused with black oak, northern red oak and cherrybark oak.
- Southern red oak typically has a straight trunk with large upward reaching branches that create a high rounded crown.

Uses:

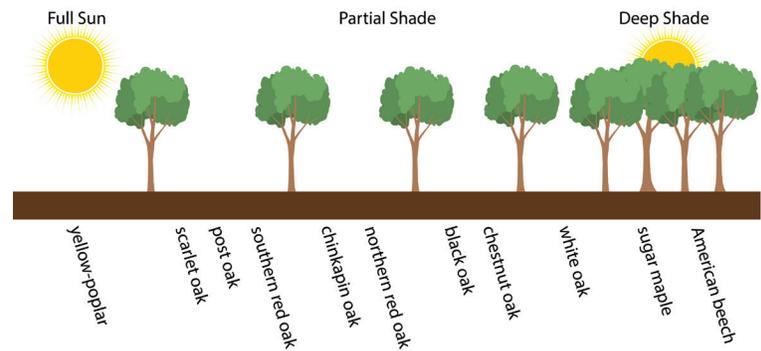
- The wood is strong and heavy but has a coarse rough grain. It is mainly used for factory lumber and railroad ties.
- In landscape plantings, it can be a valuable tree because it is hardy and can tolerate droughty conditions. However, fall foliage is not very colorful.
- The tree provides good wildlife cover and nesting sites for both birds and mammals. The acorns are eaten by waterfowl, wild turkey, blue jays, woodpeckers, nuthatches, white-tailed deer and squirrels. Acorns from all red oaks are a valuable food source for wildlife throughout winter, since they do not germinate until the following spring.

Other Facts:

- The young seedlings often look like a different species as compared to a more mature tree because the twigs are very fuzzy and leaves have three very shallow lobes, without the turkey foot resemblance.
- The scientific species name for southern red oak is *falcata* which means sickle-shaped, referring to the curved lobes of the leaves.
- The National Champion southern red oak as of 2020 is in Sussex, Virginia; it is 92 feet tall and has a 321 inch trunk circumference.



**Figure 6:** Southern red oak seedlings often have leaves without the elongated tip as shown. **Photo courtesy:** Steve Patton, University of Kentucky

An approximation of **Shade Tolerance** of upland oaks from least to most tolerant

**Figure 7:** Shade tolerance of upland oaks.

**The photos at the top of page one represent a few of the many benefits and uses of white oak, making it one of the most important tree species in the Eastern United States. Photos and images courtesy of the authors or the University of Kentucky Department of Forestry and Natural Resources unless otherwise noted.**

Thomas, L., and Morris, D. 2022. Landowners Guide to Identification and Characteristics: Southern Red Oak. Cooperative Extension Service, University of Kentucky, Department of Forestry and Natural Resources, FOR-142. 3pp.

**Sources**

1. USDA US Forest Service Fire Effects Information System. <https://www.fs.fed.us/database/feis/plants/tree/querub/all.html>
2. Silvics of North America Volume 2 Hardwoods. United States Department of Agriculture (USDA), Forest Service, Agriculture Handbook 654.
3. Harlow, W., E. Harrar, F. White. 1979. Textbook of Dendrology: Covering the Important Forest Trees of the United States and Canada.
4. USDA NRCS Plant Guide. [https://plants.usda.gov/plantguide/pdf/cs\\_quru.pdf](https://plants.usda.gov/plantguide/pdf/cs_quru.pdf)
5. Native Trees of Kentucky. University of Kentucky, Department of Horticulture. <https://www.uky.edu/hort/Native-Trees-of-Kentucky>
6. American Forests Champion Tree Registry. <https://www.americanforests.org/get-involved/americas-biggest-trees/champion-trees-national-registry/>
7. Virginia Tech Dendrology. <https://dendro.cnre.vt.edu/dendrology/factsheets.cfm>
8. Forestry Images. <https://www.forestryimages.org/Bugwood.org>