

# *Pinus echinata* shortleaf pine

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One of the most widespread pines of the Eastern United States is *Pinus echinata*, shortleaf pine. Shortleaf pine was identified and named in 1768. The scientific name means a prickly pine cone tree. Other common names for shortleaf pine include shortstraw pine, yellow pine, southern yellow pine, shortleaf yellow pine, yellow pine, Arkansas soft pine, Arkansas pine, and old field pine. Among all the Southern yellow pines it has the greatest range and is most tolerant of a variety of sites. Shortleaf pine grows southeast of a line between New York and Texas. It is widespread in Georgia except for the coastal counties.

*Pinus echinata* is found growing in many mixtures with other pines and hardwoods. It tends to grow on more medium to dry, well drained, infertile sites, as compared with loblolly pine (*Pinus taeda*). It quickly grows in deep, well-drained areas of floodplains but cannot tolerate high pH and high calcium concentrations. Compared with the other Southern yellow pines, shortleaf is less demanding of soil oxygen content and essential element availability. The growth Hardiness Zone is 6a - 8b and the Heat Zone is 6-9. The lowest number of the Hardiness Zone tends to estimate the northern range limit of the tree and the largest Heat Zone number tends to estimate the southern end of the range. Coder Tree Grow Zone A-D.

Shortleaf pine is a large tree usually with a tall straight trunk. It can reach 120 feet in height and 4 feet in diameter, but is usually seen around 85 feet tall and 30 inches in diameter. Shortleaf has a life span of approximately 140 years. Young shortleaf pine, unlike many pines, can sprout from the stem base if damaged.

Shortleaf pine needles occur in bundles of 2 and 3, on the same tree and on the same branch. The needles stay on the twig for 2-4 years. The needles are 2.5 - 5 inches long, straight, and greyish to yellowish green in color. The needles are slender and flexible. Needles can be found growing from the stem.

Shortleaf pine becomes sexually mature by 15 years of age with large seed crops every 4-5 years. The female cones are narrowly egg-shaped and 1.5 - 2.5 inches long. The cones are reddish-brown in color aging to a dull grey-brown. The scales have a short, sharp, small prickle. Shortleaf pine has contrasting border colors on the cone scale tips. The cones are open at maturity but stay attached to the twigs and branches for 2-3 years, leaving the crown full of cones of various ages.

Shortleaf pine has flaky and scaly black-purplish bark which turns to a reddish brown in color with time. The bark grows in large thin plates with resin holes or pockets visible on the plate surfaces. A cross-section of older bark plates show thin cream colored layers. Young twigs in shortleaf pine have a white colored coating or bloom over the dark purple bark. With age, young branch bark loses the purplish coloration and change to a reddish brown and then finally a rough grey brown color. A key identifier is the bark on older twigs which is rough & flaky, while the other species of southern region pines (i.e. *glabra*, *virginiana*, and *clausa*) which could be mistaken for shortleaf pine have rough not flaky twig bark

Shortleaf pine has a great deal of racial differences across its large range. It hybridizes with *Pinus elliottii*, *Pinus glabra*, *Pinus palustris*, *Pinus pungens*, *Pinus rigida*, *Pinus serotina*, *Pinus x sodergergeri*, and *Pinus taeda*. Shortleaf pine genes have been used in breeding programs to develop more fusiform rust resistance into other pine species. Shortleaf pine can be separated from *Pinus pungens*, *Pinus rigida*, and *Pinus virginiana* in the northern areas of species overlap because shortleaf has flexible needles and no twist in its needles. In the southern end of its range where it overlaps with *Pinus glabra*, shortleaf pine does not have the dark brown, narrow, scaly bark ridges (like spruce bark).

Shortleaf pine is valuable for timber, plywood and pulp. It is also used for Christmas trees and naval stores (resin products). Medicinally shortleaf pine has been historically used to treat worms, induce vomiting, sooth back pain and swelling, and to build canoes.



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