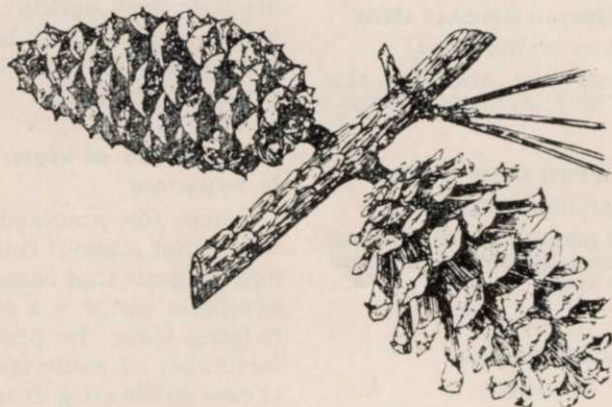


SHORTLEAF PINE

(*Pinus echinata*)



Drawing from: Manual of the Trees of North America, by Charles S. Sargent, Dover Publications, Inc. Reprinted through permission of the publisher.

Prepared by J. H. Kirch, forester and horticulturist serving as Marketing Manager, Industrial Chemicals, for Amchem Products, Inc.

Shortleaf pine, a member of the southern yellow pine group, is a medium-sized to large tree 80 to 100 feet in height and 2 to 3 feet in diameter. It is found on many sites, but mostly in pure or mixed stands on dry upland soils. Shortleaf pine is found in the Southeastern United States from Eastern Texas and Oklahoma to the Coast and north as far as Southern Pennsylvania. It does not grow in the Mississippi Valley region or in the peninsula of Florida.

Shortleaf pine, because of its remarkable ability to sprout after the main stem is destroyed, makes it the most difficult of all pines to control on eastern rights-of-way. In most instances the sprouts emerge from dormant buds located in the vicinity of the root collar, but when the aerial portion of the plant is totally destroyed, buds can arise on the short horizontal portion of the doubly curved tap root.

This pine may be distinguished from other southern yellow pines by its 3 to 6 inch long needles which generally appear two to a fascicle with occasionally three. Loblolly pine (*Pinus taeda*) generally has three needles per fascicle, occasionally two, and the needles are nearly twice as long as those of shortleaf pine. Pitch pine (*Pinus rigida*) needles are arranged in clusters of three. They are usually somewhat twisted and stand out at right angles to the twig. The angle of loblolly and shortleaf pine needles is more acute. Pitch pine often has tufts of needles produced in water sprouts along the trunk.

Shortleaf pine differs from Virginia pine (*Pinus*

virginiana) which has short, twisted needles arranged two to a fascicle.

Whether a plant species is desirable or undesirable often depends on the situation in which it occurs. This is true of all the trees to be discussed in this series of articles on identification. For example, maple (*Acer rubrum*) is a useful ornamental in landscape plantings because of its early red flowers, pleasing growth habit, and spectacular autumn foliage coloring. It is a nuisance on the right-of-way because of its resistance to chemical treatment. Similar comments could be made about the other species to be described. They have ornamental, and economic value, but not on a utility right-of-way which must be kept clear of tall vegetation. Strong resistance to treatment makes it especially important that a few "problem" species be clearly recognized when they are encountered in clearance work. Otherwise there may be needless disappointment, and waste of time and material through inappropriate treatment. J. H. Kirch.

virginiana) which has short, twisted needles arranged two to a fascicle.

The twigs of shortleaf pine are reddish brown, stout, and very brittle as compared to other pines. The cones are 1 1/2 to 2 1/2 inches long and mature in two seasons. Mature cones are short stalked or sessile. Cone scales have slightly enlarged ends terminated by weak or deciduous prickles.

Shortleaf pine may be controlled by foliar sprays of 2,4-D/2,4,5-T providing at least 15 gallons of oil per 100 gallons water is added to the spray solution and thorough wetting is obtained. TCA (trichloroacetic acid) has been used, but the percent root kill is less than 50% unless a minimum of one hundred pounds per acre is sprayed.

Picloram at rates of one pound per 100 gallons of water has been very effective. Dicamba and 2,3,6-TBA at two pounds per 100 gallons water have also given good control.

The problem encountered with shortleaf pine is that in a right-of-way situation it is nearly always present with other conifer or hardwood species. Recently mixtures of picloram plus 2,4-D, and 2,3,6-TBA or dicamba with 2,4-D plus 2,4,5-T have given excellent root kill.

Aerial applications of 2,4-D and/or 2,4,5-T in mixture with picloram, dicamba or 2,3,6-TBA have been less effective than ground applications, largely due to the difficulty of obtaining good coverage with the low volumes normally applied by air. Thorough wetting with any material is necessary for good control of this species.