

## Longleaf Pine Tree Planting

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Longleaf pine offers landowners the greatest opportunity to practice multiple use management. Longleaf pines provide valuable forest products, pine straw production, scenic beauty, good wildlife habitat, and harbor many threatened and endangered species. Longleaf pine is also the best tree species to use in a silvopasture system.

Longleaf pine forest also contain some of the most diverse plant communities in the south, if not the world.

Longleaf pine yields a higher percentage of high value utility poles and bridge piling materials than other southern pine species.

Because the longleaf pine canopy is slower to develop compared to other southern pines, and the limb density of longleaf pine is less than other southern pines, early successional conditions can be maintained longer in the understory, benefitting many wildlife species such as bobwhite quail.

Longleaf pine is more resistant to insect and disease pests such as southern pine beetles and fusiform rust than other southern pines. Longleaf pine is also more resistant to fire than other southern pines and can be burned at an early age maintaining early successional habitat.

Due to the smaller crown density and deep root system, longleaf pine is not as susceptible to wind damage as other southern pines.

Compared to other longleaf pine producing states, Mississippi has the greatest percentage of longleaf pine sites classified as “Superior Quality” (capable of producing 85 cubic feet per year when fully stocked.)

**Seedling Sources** – Managers and landowners should make sure they are planting high quality seedlings and the seed sources come from the same geographic area in which the seedlings will be planted. Government and commercial nurseries will certify that the seed sources were within a 150 mile North-South zone of the planting site. Nursery seedlings must be dormant if they are to be stored.

**Transportation, Handling, and Storage** – Care should be taken in transporting and handling seedlings. Seedlings must be protected from extreme heat and freezing temperatures. Seedlings should either be planted or placed in cold storage as soon as possible after being lifted from the nursery bed. NOTE: Containerized longleaf seedlings have a very short storage life. Plant containerized longleaf seedlings as quickly as possible. Containerized longleaf seedlings should be planted within 3 days of pickup from the nursery. Cold storage can be used, but not longer than 2 weeks. The longer containerized longleaf seedlings are stored, the poorer their survival. Survival depends upon good seedling quality. Keep stored seedlings moist, but not wet. Seedlings must be protected from drying out (either in the field before planting or in the bed of a pickup truck). Seedlings must also be protected from sun and wind. Take only as many seedlings to the field as you can plant that day. Tree planters should not hold more than one seedling at a time in their hand prior to planting. Seedlings in the field must be stored in planting bags in the shade or under a tarp until they are planted.

Containerized longleaf seedlings must be planted under all federal cost share programs in Mississippi.

The key to good initial growth of containerized longleaf seedlings is to achieve a one inch root collar diameter as quickly as possible. This one inch root collar diameter is essential to early height growth. Good containerized longleaf seedlings generally begin height growth during the second or third growing season. Root collar diameter on bare root longleaf seedlings should be a minimum of ¼ inches. Bare root longleaf pine seedlings should have a tap root length of 5-8 inches, and 4-8 lateral roots. Pine tree roots will not be pruned. Containerized longleaf pine seedlings should have the same root specifications which will be restricted to the container.

Planting tools – Always use tree planting crews that have experience planting containerized longleaf pine seedlings. The type of planting tool (dibble bars or plug tool planter) is not as important as the experience of the planter. If a plug tool planter is used, it must be the same size as the seedling plug that is being planted. The blade on the dibble bars will be 10 inches long and 3 inches wide. The planting hole must be free of trash and large enough that the roots are not bound. Roots should be inserted in the planting opening straight. Make sure the roots are not twisted, balled, or J rooted. Soil should be packed firmly around the planted seedlings with no air pockets left in the planting hole. Containerized longleaf pine seedlings will be hand planted.

Planting depth is also critical in containerized longleaf pine survival. The terminal bud sits on top of the root plug and it must be planted so it will remain above the ground line. Tree planters must plant the containerized longleaf seedlings with ½ inch to 1½ inches of the top of the plug above ground (depending on soil type and slope). Planting should be done under good weather conditions when the soil is not too wet or dry, and the ground is not frozen. Tree planting will be delayed if the soil is too wet, too dry, or frozen. Area Foresters will make this determination in the field. Seedlings must be planted in moist soil to begin root development. To survive, a newly planted seedling must begin taking up water and nutrients immediately.

Planting dates – December 1 to March 31 for tree planting in Mississippi. The air temperature should be between 33 degrees and 70 degrees Fahrenheit. The Area Forester will make the decision on any tree planting outside these dates and temperatures. Containerized longleaf pine seedlings can be planted in November and April in south Mississippi with approval of Area Forester. The requirement for planting is adequate soil moisture.

If the soil has been ripped, do not plant the seedling in the rip. The containerized longleaf seedling should be planted 2 -3 inches to the side of the rip.

DO NOT plant containerized longleaf pine seedlings in pasture grasses. The plant competition is too severe for good seedling survival. The site must be scalped or sprayed to remove the grass competition before planting.

Containerized longleaf pine spacing – Recommended spacing are:

9 ft x 10 ft – 484 trees per acre

8 x 11 – 495

8 x 10 – 544

9 x 12 – 403

8 x 12 – 454

10 x 10 – 435

Bare root longleaf seedling spacings:

- 8 x 8 – 681
- 7 x 9 – 691
- 6 x 10 - 726
- 7 x 8 – 778
- 6 x 9 – 807
- 7 x 7 - 889

The following soils are suitable for growing longleaf pine in Mississippi:

Lucy	Freest	Bama	Boykin
Ruston	Harleston	Latonia	Malbis
Smithdale	Suffolk	Vancleave	Maubila(Cuthbert)
Okeelala	Eustis	Ocilla	Alaga
Petal	Olla	Prentiss	Beauregard
Poarch	Ora	Savannah	Saffell(Guin)
Troup	Mclaurin	Lucedale	Saucier
Cahaba	Escambia	Baxterville	Annemaine
Lakeland	Sweatman	Boswell	Suffolk
Irvington	Columbus	Shubuta	Bassfield
Wadley	Providence	Heidel	Rumford
Luverne	Lexington	Paden	Susquehanna
Benndale	Stough	Pheba	Izagora
Bigbee	Quitman	Brantley	Rattlesnake Fork

Nugent – Occasionally or Rarely Flooded

Jena – Occasionally or Rarely Flooded

Kirkville – Occasionally or Rarely Flooded in Coastal Flatwoods – Not Picture Plant Bogs

Oaklimeter – Occasionally or Rarely Flooded

Atmore

Bayou

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