

KNOW YOUR SEED SOURCE

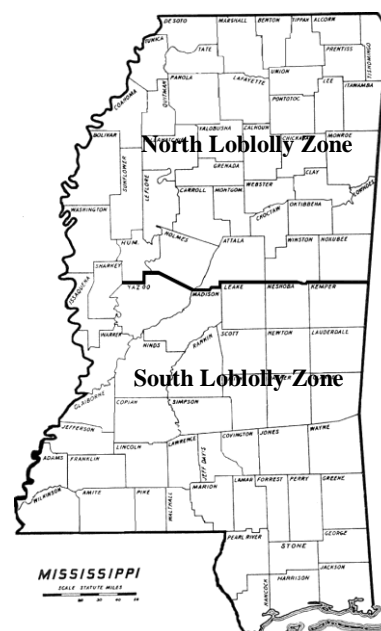
THE FUTURE OF YOUR TIMBER CROP DEPENDS ON IT!

When buying tree seed or seedlings, it is extremely important to know the geographic location of the seed source. Although the four principal southern pine species - loblolly, shortleaf, longleaf, and slash - are found in abundance throughout the South, each species has developed significant growth variations within specific geographic regions. Planting seedlings or seed from a seed source outside these regions can lead to growth loss and, in some cases, mortality. The following recommendations are offered as guidelines for selecting seed or seedlings from geographic locations appropriate for your planting area. The movement of plant materials beyond these geographic limits may contribute to planting failures and unexplained mortality 15 to 20 years into timber rotation. Make sure the seed or seedlings you purchase are geographically suited to your property.

Loblolly Pine

Loblolly pine is the most important southern pine species due to its wide range and abundance. Growing from Maryland to east Texas, loblolly has tremendous geographic variation within its range. Relocating variations of loblolly pine outside localized geographic areas can heavily affect growth, survival, and susceptibility to fusiform rust. Tree mortality has shown up at mid-rotation ages (15 to 20 years) in some tests.

Caution should be used if a seed source is moved more than 125 miles north of its origin. As a rule, a southern seed source moved north will yield better growth; however, there are still limits on movement. In addition, the eastward movement of western seed sources can be advantageous. Studies have shown that resistance to fusiform rust is increased, along with increases in specific gravity and drought resistance.



Mississippi has been divided into two (2) zones for the purpose of proper seed source elections for loblolly pine. Seed used to grow trees to be planted in north Mississippi should be from north Mississippi, south Arkansas, north Louisiana, northeast Texas, north Alabama, north Georgia, or Piedmont South Carolina.

Seed to be used to grow trees to be planted in south Mississippi should be from south Mississippi, south Louisiana, southeast Texas, south Alabama, South Georgia, north Florida, or coastal South Carolina up to Georgetown, South Carolina.

Slash Pine

Any seed source north of Tampa, Florida, that has been screened for fusiform rust susceptibility is acceptable.

Longleaf Pine

Based on present data, the best sources for Mississippi are those from south Mississippi and south Alabama. Other sources have shown good survival characteristics, but long-term growth data is still a few years away.

Hardwoods

Long-term test data concerning the effects of hardwood seed source movement is not conclusive at this time. Until more test data is available, local sources should be used.

GENETIC DIVERSITY

Another important issue to consider when planting seedlings of any species is the amount of genetic diversity within the seed or seedling lot. If all the seedlings are derived from one or two parents, the genetic base (diversity) will be very narrow. The Mississippi Forestry Commission typically recommends a composite mix of several families, providing a broad genetic base. This diversity gives the landowner a valuable buffering agent against environmental effects and changes in site quality. This diversity also makes the future option of natural regeneration more viable.



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