

Guidelines for Producing Quality Longleaf Pine Seeds

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High-quality longleaf pine seeds are essential for producing nursery seedlings that perform well in the field, but producing them is not as easy as it might seem. Longleaf pine seeds are unusually sensitive to damage during collection, processing, treatment, and storage.

In 2002, Jim Barnett, then project leader for the U.S. Forest Service Southern Research Station (SRS) longleaf pine unit in Pineville, Louisiana, and John McGilvray, retired biological technician from the same unit, published a general technical report that provides comprehensive and specific guidelines intended to help seed dealers, orchard managers, and nursery

operators produce high-quality longleaf pine seeds and improve the efficiency of nursery production.

The seeds of loblolly and slash pines are relatively easy to collect, process, and maintain. Why would longleaf pine be different? The authors offer three reasons:

- First, seed production in longleaf pine is extremely variable from year to year and from place to place.
- Second, longleaf seeds do not germinate well until the cones are mature enough to be opened easily.
- Third, unlike slash and loblolly pine, longleaf pine seeds have an extremely short period of seed dormancy, often germinating immediately after separating from the cone. This makes proper handling before storage critical.

“Longleaf pine seeds are large and fragile with permanently attached wings, have thin, easily cracked seed coats, and are unusually moist when extracted from cones,” state the authors. “They are the most difficult of southern pines to successfully collect, process, store, and treat without adversely affecting quality.”

The guidelines are drawn from decades of research by SRS scientists and provide information on selecting seed lots, collecting and processing cones, processing and handling seeds, sowing seeds, and caring for seedlings. Each section includes references to research as well as illustrations, figures, and graphs. For the full publication, visit <http://www.srs.fs.usda.gov/pubs/4538>.¹



Longleaf pine seed

Photo by David J. Moorhead, Univ of Georgia, Bugwood.org

