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LARGE LONGLEAF SEEDLINGS SURVIVE WELL

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Planters who are planting longleaf pine by machine want large stock. They say that with large stock it is much easier to separate an individual seedling from the handful held during planting, and to place the seedling in the furrow.

Since the first-year survival of large longleaf seedlings tends to be lower than that of smaller stock, a test was initiated in 1949 to determine how survival of machine-planted longleaf is affected by seedling size.

Longleaf pine seedlings were separated into three diameter classes after they came off the grading table. The seedlings in the large size class had

an average root collar diameter of 0.41 inch, the medium class 0.25 inch, and the small class 0.16 inch.

The seedlings were planted by an experienced crew using a Lowther machine on the Leaf River Ranger District, Mississippi National Forests.

#### Planting Quality

On the average, 59 percent of the seedlings were planted right, 33 percent were planted with their root collars over 1/2 inch above the ground line, and 8 percent had their buds buried. There was little difference between the three size classes in the number of seedlings planted right. The large class had more seedlings planted high (41 percent) and the small class had more planted deep (14 percent). The medium size class had the same percentage of misplants as the average of all sizes.

#### Field Survival and Growth

Both planting quality and stock size influenced first-year survival.

The large seedlings had 81 percent survival medium seedlings 88 percent, and the small seedlings 89 percent. The small seedlings planted correctly survived the best (94 percent) and the large seedlings planted deep survived the worst (60 percent). The medium seedlings seemed to stand incorrect planting better than either large or small seedlings.

After 3 years in the field, 28 percent of the large seedlings were over 3 inches in height, as compared to 18 percent of the medium seedlings and 9 percent of the small.

On the basis of this test it appears that the old legend about large stock and poor survival going hand-in-hand is not very important. In fact, the faster growth of the large stock may far outweigh the slightly better survival of the small stock.