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SURVIVAL OF MACHINE-PLANTED VS. BAR PLANTED LONGLEAF SEEDLINGS

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In tests installed in 1947 and 1948 on the Chickasawhay Ranger District, Mississippi National Forests, machine-planted longleaf seedlings have survived nearly as well as bar-planted seedlings. In both years the machineplanted rows were spaced about 12 feet apart; between these rows seedlings were planted with Council bars.

Machine vs. Bar Planting

There was no great difference in survival between machine and barplanted seedlings. Two years after planting, the average survival of seedlings in the 1947 test was 64 percent for machine planting and 71 percent for bar planting. In the 1948 test, the average second-year survival was 44 percent for machine planting and 52 percent for bar planting. The differences were not statistically significant in either test, although considerably larger samples might have shown differences of 7 or 8 percent to be significant.

On the basis of these tests it appears that if hand-planted longleaf survive any better than machine-planted longleaf the difference is so slight that it is easily offset by the lower costs of machine planting.

Planting Quality and Survival

In 1947, 43 percent of the machine-planted seedlings had their root collars over 1/2 inch above the ground line. Twenty-three percent had their buds buried and 34 percent were planted correctly.

Eighty-four percent of the bar-planted seedlings were planted correctly; most of the incorrectly planted seedlings were set too high. Planting depth was not checked in the 1948 test.

In July of the first growing season the average survival was 82 percent for all correctly planted seedlings, 72 percent for those planted high, and 65 percent for those planted deep.

After four years in the field, the average survival was 55 percent for correctly planted seedlings, 44 percent for those planted high, and 51 percent for seedlings planted too deep.