Loblolly Pine Growth Topped!

By O. Gordon Langdon, Glyndon E. Hatchell, and William P. LeGrande

The 1968 Christmas Issue of the Southern Lumberman carried our article—"Can You Top This Loblolly Pine Growth?"—in which we challenged our readers to find an example of pine growth better than that on our "wonder" plot. This 1/100-acre plot averaged 47 feet tall at 10 years and had merchantable volume estimated at 39.75 cubic feet. We received many comments about this phenomenal growth, and our challenge was answered in September 1970 by Henry B. Fishburne, Consulting Forester of Charleston, South Carolina. He reported on his one-acre plot with dominant and co-dominant trees averaging 54 feet at 11 years (really only 10 ½ years). This is seven feet taller than trees on our small "wonder" plot were at 10 years and at least two feet taller than ours at 11 years.

Fishburne's one-acre plot is in a 30-acre loblolly pine plantation established in January 1960 for a client on Wadmalaw Island, South Carolina. The seedlings came from the Westvaco forest tree nursery, and the seed was of local origin from the company's seed production areas. The plantation is in an old field which had been farmed the year prior to planting. During the first year after planting, the area was cultivated to reduce competition from weeds, and beds were formed eight to 10 inches high and eight feet wide.

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petition. Also, differences in growth are observable within the plantation. For example, height measurements of dominant trees in three other parts of the plantation showed average heights of 35, 39, and 45 feet. Obviously, these differences are largely soil-related, if we assume that past cultural practices have been equal over the whole field. If this assumption is correct, the soil and its chemical and physical properties and water relations are important factors contributing to this outstanding growth. The soil on the one-acre plot was classified as Seabrook loamy fine sand developed from sandy sediments of the First Marine (Pamlico) Terrace. The inherent fertility of Seabrook soils for agricultural crops is moderately low; however, those occurring on the Sea Islands (such as Wadmalaw) contain more calcium and available phosphorus and have a thicker topsoil (12 inches) than somewhat similar soils on higher marine terraces. Also, the water table ranges from two to six feet and is commonly about four feet from the soil surface.

In summary, we think a growth record has been set for young loblolly pine. Eleven years after planting, dominant trees on Fishburne's one-acre plot averaged 54 feet in height, 130 trees on the acre were nine inches or larger and two were 11 inches in size, and estimated merchantable volume growth was 3,165 cubic feet, or about 48 cords.