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Constants for Determining Stocking Levels When Assessing Poorly Stocked Loblolly Pine Stands

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Sixty-percent stocking is generally considered the lower limit of well-stocked southern pine stands. Unfortunately, due to a variety of reasons, a sizable acreage of the southern forest fall into the low to medium stocking levels (McWilliams 1990).

Helping a poorly stocked stand "grow itself to acceptable stocking levels often has advantages over using expensive reforestation measures to achieve the same results. Research has shown that loblolly pine stands, with 15 to 25 percent stocking and basal areas of at least 5 ft² per acre when freed from competing hardwoods, can reach 60 percent stocking in about 15 years (Baker 1989).

Determining actual stocking levels before making reforestation treatment decisions is critical.

Rehabilitating loblolly pine stands with stocking below the threshold (15 to 25 percent stocking and 5 ft' BA/ac) may require more recovery time than is feasible. Conversely, liquidating stands with stocking above the threshold may deny landowners the best economic opportunity available.

Average stand stocking and basal-area levels may be calculated by using the constants on the worksheet format shown on page 2. Users should be aware that assessments of poorly-stocked stands is often complicated by their heterogeneous characteristics. To maximize overall assessment accuracy, an adequate number of sample plots and/or possible stratification of the stand into homogeneous parts should be included in the sample design.

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