

Plantation Management Research Cooperative

Daniel B. Warnell School of Forestry and Natural Resources

The University of Georgia

Athens, Georgia 31204-2152

SPACING AND THINNING STUDY

The objective of this study was to develop a generalized growth and thinning response model for pine plantations so that growth and yield can be estimated. The study consists of designed installations at 31 locations in the coastal plain of Georgia and north Florida. Unthinned plots were established with 100, 200, 300, 450, 700 and 900 stems per acre from the age of two. Selective thinning from below was imposed on the thinned series of plots at ages 11 to 17. Unthinned plots of all density levels were retained for analysis. Thinned plots were thinned back to the BA all levels of lower SPA unthinned plots. Remeasurement of all plots was conducted on a two-year cycle.

Status

- **This study has been released to the companies for harvest.**
- **The measurements and results were summarized in PMRC Technical Reports 1985-1, 1985-6, 1989-4, 1992-1, 1994-4, 1995-3, 1998-1, .**

Key Research Results

- **Per-acre basal area prediction and projection equations based on thinned and unthinned plots that account for the effect of age and the thinning intensity were developed.**
- **A projection equation for average dominant/codominant height based on both unthinned and thinned plot data was developed.**
- **A single survival prediction equation based on both unthinned and thinned plot data was developed.**
- **Per-acre total stem volume prediction and projection equations for both unthinned and thinned plantations were developed.**
- **A per-acre merchantable volume prediction equation that can be used to apportion the total per-acre stem volume into specified product categories based on minimum dbh and merchantable diameter limits was developed.**