Genetic Variation in Growth and Survival Through 40 Years in a Southern Mississippi Longleaf Trial

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In a long-term, 13-parent diallel of longleaf pine (*Pinus palustris* Mill.) tested in southern Mississippi, there was significant variation among full-sib families for growth traits at ages 3, 7, 17, 30, and 40 years and for survival at later ages. The variation was under genetic control, with a trend of increasing importance of dominance variance with age. Genetic values for height and volume were most strongly correlated between ages 17 and age 40. Survival was more strongly heritable than either height or volume, and full-sib genetic values for survival were also correlated across ages. Conservation efforts for partial recovery of the longleaf forest cover type continue through government cost-share programs. Establishment of new longleaf pine forests should ideally be with tested seed sources, to ensure that the performance of longleaf plantations meets conservation and forest management goals.