

## ASSOCIATION GENETICS AND MARKER EFFECTS FOR GROWTH AND STEM QUALITY IN LOBLOLLY PINE

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An association genetics approach was taken to identify single nucleotide polymorphisms (SNPs) associated with variation in growth and stem form traits in loblolly pine (*Pinus taeda* L.). Associations were tested between 4,200 SNPs and breeding values in a population of 200 largely unrelated selections of loblolly pine. We report SNP-phenotype associations for sawtimber, volume, and stem straightness. Significant SNPs will be used to estimate genetic values for an independent population of clonally replicated trees. We will report correlations between marker-based and phenotypic-based genetic values and potential applications.