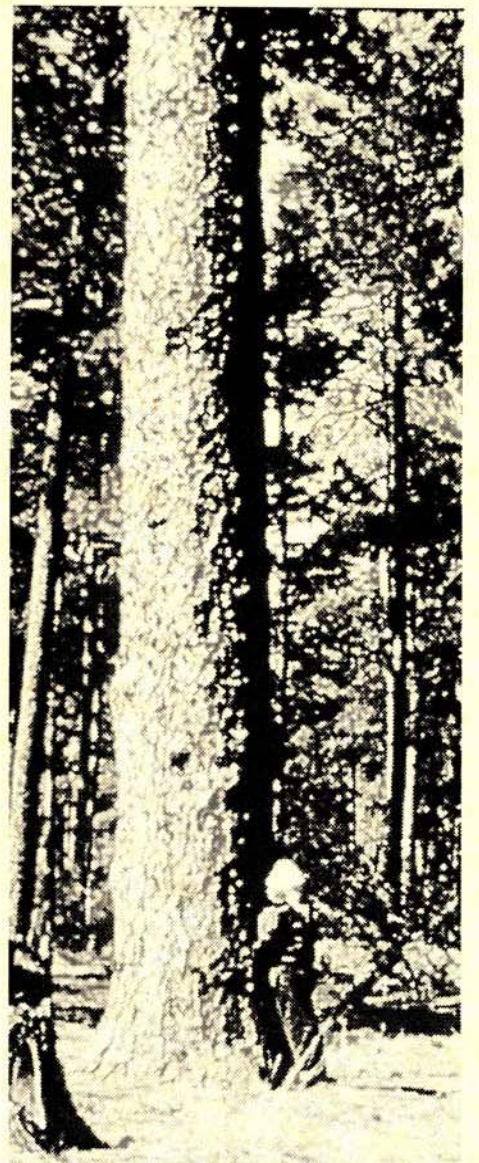


# PROCEEDINGS

## First Longleaf Alliance Conference

LONGLEAF PINE:  
A REGIONAL  
PERSPECTIVE OF  
CHALLENGES AND  
OPPORTUNITIES  
MOBILE, ALABAMA  
SEPTEMBER 17-19, 1996



## **Comparing Competitive Success of Three Southern Pine Species**

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**ABSTRACT** - Three duplicate studies are located in the Middle Coastal Plain of south Alabama. The study sites included a dry site typical of droughty, coarse textured, nutrient poor upland conditions, an upland site richer in nutrients and having greater water holding capacity, and a wet site common to the lower slopes. Three tree species (*P. elliotii*, *P. palustris*, and *P. taeda*) and four plant community neighborhoods were included in the study. Plant communities were: 1) pine+hardwood+herbaceous, 2) pine+herbaceous, 3) pine+hardwood, and 4) pine. Survival varied among the three species but was not affected by plant competition or site conditions. Under all plant competition and site conditions, longleaf pine survival was 50% while both loblolly and slash pine were near 85%. The dry site had the least herbaceous cover and senescence of those species occurred much earlier than the other sites. Woody biomass was greatest on the wet site primarily due to the abundance of non-arborescent species. Greatest volume growth for loblolly and slash occurred on the dry site likely because summer rainfall was above average for both the first and second growing seasons. Approximately 50% of longleaf seedlings were out of the grass stage on treatments where herbaceous and woody non-arborescent plants were not present. The greatest hindrance to growth for all species during the first two years was competition from herbaceous and woody non-arborescent plants.