# WIDE CROSSING IN LOBLOLLY PINE: CROSSING LIVINGSTON PARISH WITH ATLANTIC COAST AND CENTRAL FLORIDA POPULATIONS

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ABSTRACT

Pollen from five North and South Carolina coastal plain orchard trees, and pollen from five central Florida orchard trees was applied to five Livingston Parish, Louisiana loblolly (LPL) in the Crown Zellerbach orchard near Bogalusa, Louisiana. Also included in the test were open pollinated half-sib progenies from each of the above orchard clones, "wild" LPL trees, and 10 crosses among the LPL orchard clones.

Plantings were established in south Mississippi, central Georgia, and central Florida in January 1977. Seven or eight blocks of each of the 76 treatments were planted in 4-trees plots. Measurements of height at 10 years were analyzed and Fusiform rust at 5 years.

The LPL trees were the most resistant to fusiform rust the Florida trees the most susceptible. The Carolina costal plain trees were slightly less susceptible than the Florida trees. Crosses among the seed sources were intermediate in susceptibility to the parent sources used in the cross. These trends were consistent over all 3 plantings (right figure).

Although the seed source by location interaction was not important, the individual cross (within seed source) by planting interaction was. There was considerable change in rank of individual crosses over the three plantings.

In contrast to the rust infection, seed source and seed source crosses did not perform consistently over all 3 locations in 10th year height (left figure). The main component of this interaction was due to the Florida and Florida X LPL crosses. These did poorly relative to the other seed sources and crosses in south Mississippi and central Georgia, but were the tallest in the central Florida planting. Individual cross (within seed source) by planting interaction was also significant for 10th year height growth.