YELLOW-POPLAR HEIGHT GROWTH AFFECTED BY SEED SOURCE

Thomas Lotti

Leader, Charleston Research Center
Southeastern Forest Experiment Station, U.S. F. S.

According to observations at the Santee Experimental Forest, near Charleston, South Carolina, seed source has a striking influence on early height growth of yellow-poplar (Liriodendron tulipifera L.). A small experimental planting in this flatwoods location showed the trees from a mountain seed source (western North Carolina) had an average height of 4.4 feet early in the third growing season. In contrast, those from Coastal Plain seed (eastern North Carolina) averaged 7.9 feet in height, or almost twice as tall (fig. 1).

Only 18 trees from mountain seed are available for measurement. They are compared with the same number of similar trees from Coastal Plain seed in adjacent rows on the same plot. No site differences are suspected, as all trees are contained in an area having the dimensions of 6 feet by 20 feet, the trees having been planted on a 2 x 2 foot spacing. Future growth of the mountain seedlings will probably be influenced by shade from the much taller Coastal Plain seedlings, which was not a serious factor earlier.

All trees were planted as 1-0 seedlings obtained from the State Nursery at Clayton, North Carolina. The yellow-poplars are part of a large experiment now in progress which compares various hardwoods and conifers on bottomland hardwood sites. The seed-source aspect of this study will be verified by more ample tests later, but the current results are striking enough to be of interest at this time.

Fig. 1. -- Yellow-poplar planted in South Carolina flatwoods shows marked difference in height growth due to seed source by early in third growing season. Trees on left are from mountain seed; those on right from Coastal Plain seed.