

GEOGRAPHIC VARIATION IN LOBLOLLY PINE

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Incorporating geographic variation in loblolly pine into existing tree improvement programs is gaining more attention as the older provenance tests mature and instances where gain can be made by choice of non-local seed sources are demonstrated.

Twenty-five year results in a test of 36 seed sources in southern AR showed that early height differences between eastern and western sources, evident since the fifth year, continued to diverge, with consequent volume differences of about 30 percent near rotation age. The rangewide sources proved to be well adapted in southern Arkansas except for those from near the Gulf Coast and Florida. Source latitude was very important to adaptation, source longitude was not. Eastern loblolly has been planted on an operational basis in Arkansas and Oklahoma for several years.

Use of Livingston Parish and East Texas loblolly 600 to 800 miles east of its origin in high rust hazard areas is another application of geographic variation that is becoming standard procedure in southern forestry.

The challenge for people applying these geographic variations commercially is to integrate them with existing tree improvement programs so that they add to genetic gain based on individual tree variation in local populations.