

**EARLY SURVIVAL AND TOTAL HEIGHT, AND FOLIAR
ANALYSES OF ELEVEN TREE SPECIES GROWN ON
STRIP-MINE SPOILS IN FREESTONE COUNTY, TEXAS**

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First-season survival and total height growth were recorded for eleven tree species planted on strip-mine spoil and undisturbed soil in Freestone County, Texas. These species were also grown in potted sub-soil in a greenhouse. Foliage samples from all trees were analyzed for concentrations of N, P, K, Mg, Ca, and Na.

Survival and total height growth results indicated the spoils were as acceptable for the establishment of forest tree species as the undisturbed soil. Influencing factors included: 1) precipitation, 2) planting stock condition, 3) exposure, 4) ground cover, 5) compaction from grading, and 6) spoil texture and pH.

Foliar analyses indicated that the spoil and adjacent soil varied little in nutrient concentrations, except for a much lower N-content in the spoil. The exchangeable cations were in adequate supply. Concentrations of available P were low. The spoil fertility reflected sub-soil nutrient concentrations.

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