



Growth and Physiology of Pinus taeda Trees affected by Root Genotype

By James Grissom

SPS Dez 2013, 2013. Taschenbuch. Book Condition: Neu. 220x150x7 mm. This item is printed on demand - Print on Demand Neuware - Effects of root and shoot genotypes on productivity and physiology of loblolly pine (*Pinus taeda* L.) seedlings were evaluated in contrasting nutrient regimes. Twelve-week-old seedlings from contrasting provenances were grafted reciprocally to facilitate distinction of rootstock and scion effects. Five families each from mesic and xeric regions were planted in a split-plot design on a nutrient-poor site. Half of the plots were fertilized annually. Total biomass production among families was positively related to proportional biomass allocation to roots. Rootstock did affect stem growth efficiency. Different root genotypes were associated with subtle changes in biomass allocation. Provenances differed in leaf stomatal conductance but not in net photosynthesis. Rootstock affected stomatal conductance, but not WUE of scions. Rootstocks also affected leaf carbon isotope content (C13), in that xeric rootstocks were associated with lower C13. The findings may have utility in genotype selection for environments where soil water limits growth. Results should be informative and useful for tree biology scientists, plant breeders, and plant physiologists. 116 pp. Englisch.



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