

Genetic Variation and Correlations between Growth and Wood Density of *Calycophyllum spruceanum* at an Early Age in the Peruvian Amazon

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Abstract

Calycophyllum spruceanum (Benth.) Hook. f. ex K. Shum. is an important timber-tree species in the Peruvian Amazon Basin. As farmers and industry often use wood from young trees, it is important to investigate variation in juvenile wood properties in this species. A provenance/progeny test was established to evaluate genetic variation in growth and wood properties of young trees, the strength of their genetic control as well as their interrelationships both at the genetic and the phenotypic level in different planting zones. In this paper, results are presented for tree height and stem diameter (near ground level) at 16, 28 and 39 months; and stem diameter and basic density of the wood at breast height at 39 months. Significant variation due to provenances and especially due to families within provenances was found in growth and wood density. Phenotypic and genetic correlations indicated that larger trees tended to have denser wood. Wood density had higher heritability than height and diameter; and genetic control over height, diameter and density was generally highest in the planting zone where trees grew most rapidly.

Key words: provenance, family, environment, heritability, phenotypic and genetic correlations, juvenile wood.