

STAND STRUCTURE DEVELOPMENT EFFECTS ON WOOD QUALITY OF  
MELINA (*Gmelina arborea* Roxb.)

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ABSTRACT

A stem analysis was performed to examine the effects of thinning treatments on Melina (*Gmelina arborea*) wood quality and tree architecture in the North Coast of Colombia. 27 plots under forest management regimes and age classes were evaluated. Split-plot experimental design, stepwise regression and ANOVA were developed to analyze the data.

The results reveal that high precipitation regions have the higher values in most of the physics and mechanical properties of the wood and dry regions have the lower values. No management regime improves wood properties rather than other regimes; but the log grade analysis was the lowest. Intermediate thinning regime was the best treatment applied to increase wood properties, wood quality and log grade in Melina trees. Estimation of log grade through the harvest cycle shows the highest increments at Cordoba region. Dendrometric variables such as heartwood, sapwood, and diameter and crown height are good estimators of tree volume, taper and branch modeling.