

## **DIMENSIONAL VARIATION IN FIBRES OF *GMELINA ARBOREA* ROXB (VERBANACEAE) ALONG AND ACROSS THE STEM**

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### **ABSTRACT**

Investigations were carried out on the nature of variations in fibre dimensions on both vertical and horizontal axis of a thirty year old *Gmelina arborea* Roxb tree. Mean values of fibre length (L), fibre diameter (D), fibre lumen diameter (l) and cell wall thickness (C), were determined. Values obtained for fibre length ranged from 0.616 mm to 0.828 mm, fibre diameter from 0.019 mm to 0.022 mm, fibre lumen diameter from 0.014 mm to 0.016 mm, and cell wall thickness ranges from 0.0028 mm to 0.0029 mm. There were no significant differences ( $P = 0.05$ ) in fibre diameter, fibre lumen diameter, and cell wall thickness along the horizontal and vertical axis of the tree. Fibre length progressively increased significantly ( $P = 0.05$ ) with increase in the vertical axis, but there was no significant difference in fibre length across the horizontal axis (from pith to the periphery).

**KEYWORDS:** *Gmelina arborea*, Horizontal and Vertical Variations, Wood Fibre Dimensions