

Identification of Mahogany (*Swietenia macrophylla*) and Khaya (*Khaya senegalensis*) Timber Species using Anatomical Features

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Abstract

Timber is considered to be an ecologically friendly building material with less construction energy requirements. The Mahogany and Khaya species are economically valuable timber species belong to family Meliaceae. External appearance of both sawn wood is similar. Therefore, consumers and buyers tend to get mislead easily. Wood anatomy is considered to be a precise and rapid method for wood identification. Present practice of timber identification is mainly based on personnel skills as there is no proper systematic mechanism to identify them. In this research, both species were employed in identification of variations in wood anatomical features and distinguishing the species. Authentic timber samples were collected from the research division of the state timber corporation for this study. Mean fiber length of Mahogany is varying between 900 - 1600 μm and Mean fiber length of Khaya is $\geq 1600 \mu\text{m}$ and Mahogany shows heterogeneous cells in rays and Khaya mostly shows homogenous cells in rays. Up right cell shape of Mahogany is oval and Up right cell shape of Khaya is not oval. Mahogany and Khaya timber species could precisely be identified and distinguished using anatomical features.

Keywords: Anatomical features, Identification, Khaya, Mahogany

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