

**The International Research Group on Wood Preservation**

**Section 2**

**Test Methodology and Assessment**

**COMPARISON OF THREE METHODS OF QUANTITATIVE EVALUATION OF  
SAPSTAIN IN RUBBERWOOD.**

**by**

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**ABSTRACT**

Assessing the extent of fungal stain on wood during laboratory trials is a subjective process and is subjected to considerable variation between individual evaluators and specimen. The purpose of this paper was to explore the potential of three quantitative methods of wood surface measurement of rubberwood specimens degraded by sapstain and mould fungi (*Botrydiplodia theobromae*, *Aureobasidium pullulans* and *Aspergillus niger*) and to identify the best possible method for quantitative assessment of sapstain on wood surface. The three methods evaluated were Spectrophotometry (Spectroflash 500), colorimetry (Minolta Croma Meter CR200) and Densitometry. Test samples, 40x20x5mm from three rubberwood clones (GT1, PB217 and RRIM600) were inoculated with the test fungi and incubated in a humidified petri dish assembly under aseptic conditions. After four weeks, the stained test samples were air dried and sanded (approximately 0.5mm). The quantitative ratings generated by the colorimeter were the most closely correlated ( $R^2 = 0.836$ ) with the subjective visual evaluation.

**KEY WORDS:** clone – quantitative - blue-stain – sapstain – rubberwood – clone – spectrophotometry – densitometry - colorimetry