

# **A Novel Silica-Doped Natural Dye of *Caesalpinia Sappan* L on Cotton Fabrics**

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## **ABSTRACT**

*Sappana (Caesalpinia sappan, L) has been known as one of the natural dyes in textiles and food. Textile products with reddish sappana dyes, vary to orange, pink and purple depend on the fabric processes. Sappana wood extract dyes can be a source of natural dyes with renewable natural resources. The use of natural dyes needs to be researched and developed to provide stable, high-quality dyes and available for crafters / industrial. This research aimed to develop sappana-based natural dyes for fabric dyeing by Silica doping.. The sappana dye and its color was measured by colorimetric methods on Uv-Vis spectrophotometry. The testing of the material includes a standard color detection test on the solution and washing resistance on cotton fabrics. The target is the prototype of a stable natural dye product of Silica doped sappana (Caesalpinia sappan, L) which will adsorbed consistently on cotton fabrics. The result showed that Silica doped sappana dye had a higher absorbance in Uv-Vis Spectrometer. The perform of coloring product was also better than the standard sappana dye. Variation of coloring products affected by the mordanting agents.*

*Kata Kunci: Caesalpinia sappan, L, colorimetry, natural dye, nanosilica , Uv-Visible spectrometry*