

Textile Dyeing with Natural Dye from Sappan Tree (*Caesalpinia sappan* Linn.) Extract

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Abstract : Natural dye extracted from *Caesalpinia sappan* Linn. was applied to a cotton fabric and silk yarn by dyeing process. The dyestuff component of *Caesalpinia sappan* Linn. was extracted using water and ethanol. Analytical studies such as UV-VIS spectrophotometry and gravimetric analysis were performed on the extracts. Brazilein, the major dyestuff component of *Caesalpinia sappan* Linn. was confirmed in both aqueous and ethanolic extracts by UV-VIS spectrum. The color of each dyed material was investigated in terms of the CIELAB (L*, a* and b*) and K/S values. Cotton fabric dyed without mordant had a shade of reddish-brown, while those post-mordanted with aluminum potassium sulfate, ferrous sulfate and copper sulfate produced a variety of wine red to dark purple color shades. Cotton fabric and silk yarn dyeing was studied using aluminum potassium sulfate as a mordant. The observed color strength was enhanced with increase in mordant concentration.

Keywords : natural dyes, plant materials, dyeing, mordant

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