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Couroupita guianensis: A source of natural indigo dye

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Natural dyes are seen as more eco-friendly, unlike their synthetic counterparts, as they are all derived from nature. The use of vegetable materials in textile colouration is a well known way of utilizing regenerating raw materials according to the technical, economical, and ecological requirements of the 21st Century. Couroupita guianensis fruit and flowers are known to contain indigo and indirubin. In this study, attempt is made to optimise the conditions for effective extraction of indigo from the cannon ball fruit and application of the crude extract obtained on the cotton fabric. Major components from Couroupita guianensis crude extract were separated by Thin Layer Chromatography using suitable solvent system giving three major pigments, violet, blue and pink/red. The Rf values, the wavelength of maximum absorption from UV-visible spectroscopy and (FTIR) fourier transfer infrared spectrum of blue pigment matched with that of synthetic indigo standard. Dyeing of cotton fabric carried out with the crude extract powder gave comparable fastness properties vis-a-vis synthetic Indigo.