

ECO FRIENDLY MORDANT
FROM MUSA PARADISIACA
IN NATURAL DYEING PROCESS
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The use of synthetic dye in the dyeing and printing industries has been criticized due to introducing contaminants into the environment. Most of the countries used natural dyes on textiles and non-textiles because they are eco-friendly and harmless to human health. However, the sources of natural dyes were not labelled as eco-friendly due to the embedded chemical substance used in the process. This research explores the usage of waste materials produced from fruit industries or plantation that introduced the classes of dyeing and the mechanism of natural dyes. The alternative method of using *Musa paradisiaca* in natural dyeing process is applied. Basically, in pre-mordant and mordant of natural dyes, a lot of heavy metals additive being used in enhancing the natural pigments such as copper, iron, aluminium ammonium sulphate and others. As far as environmental issue

is concerned, this product utilizes a combination formula of *Musa paradisiaca* waste used as an additive in dyeing fabrics. Developments include the study of extracting natural dyes from waste of plant sources, dyeing additives and its application on natural fibres. Natural dyes have good prospects for usage in high-quality natural fabrics, home textiles and decorative products. A novel and eco-friendly mordanting technique has been devised for creating *Musa paradisiaca* biochar on cotton and silk matrix. The dyeing of the mordanted fabric has been carried out under acidic and alkaline conditions at different temperatures. The overall results indicate that all natural dyes with *Musa paradisiaca* bio char can be effective and economically used for dyeing of cotton and silk fabrics. The entire chain of collection, extraction and dyeing methodology is environmentally and ecologically compatible.



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