



Waste from Eucalyptus Wood Steaming as a Natural Dye Source for Dyeing Cotton

ROSSI, T. S.^{a*}, ARAÚJO, M. C.^a, DE MOURA, L. F.^b, BRITO, J.O.^c, FREEMAN, H.S.^d

a. Universidade de São Paulo, Escola de Artes Ciências e Humanidades, São Paulo

b. Plant Environmental Intelligence

c. Universidade de São Paulo, Escola Superior de Agricultura "Luiz de Queiroz", Piracicaba, São Paulo

d. North Carolina State University, College of Textiles, Raleigh, North Carolina

*Corresponding author, ticiane@usp.br

Abstract

Textile Industry is increasingly researching for cleaner production improvements, such as new processes and materials. Natural dyes are gaining interest due their expected low risk to human health and the environment. In this study, the potential for using colored liquid waste produced in the steam treatment of eucalyptus wood as a natural coloring matter for textile cotton was investigated. Specifically, eucalyptus wood extract from waste eucalyptus wood steaming was used to dye cotton in an exhaust dyeing process without the addition of traditional mordanting agents. The resulting dyed fabrics were evaluated for color fastness. It was found that wash fastness of waste dyed fabrics was very good, while light fastness was typical of natural dyes. It ws also found excellent rubbing fastness ratings. In this regard, the waste from eucalyptus wood steaming is accepted as a new material on Cleaner Production strategies in Textile Industry applications in cotton dyeing.

Keywords: textile industry, natural dyes, cotton, waste, eucalyptus.