Accepted Manuscript

Ultrasound-assisted pre-treatment and dyeing of jute fabrics with reactive and basic dyes

Mohammad Mahbubul Hassan, Khaled saifullah

PII: S1350-4177(17)30341-3
DOI: http://dx.doi.org/10.1016/j.ultsonch.2017.07.037
Reference: ULTSON 3792

To appear in: *Ultrasonics Sonochemistry*

Received Date: 26 May 2017
Revised Date: 24 July 2017
Accepted Date: 24 July 2017

Please cite this article as: M.M. Hassan, K. saifullah, Ultrasound-assisted pre-treatment and dyeing of jute fabrics with reactive and basic dyes, *Ultrasonics Sonochemistry* (2017), doi: http://dx.doi.org/10.1016/j.ultsonch.2017.07.037

Ultrasound-assisted pre-treatment and dyeing of jute fabrics with reactive and basic dyes

Mohammad Mahbubul Hassan[1,*], Khaled saifullah[2]

[1] *Textile Science & Engineering Team, Food & Biobased Products Group, AgResearch Limited, Private Bag 4749, Christchurch 8140, New Zealand.*

[2] *Department of Mechanical Processing, Bangladesh Jute Research Institute, Manik Miah Avenue, Sher-E-Bangla Nagar, Dhaka 1207, Bangladesh.*

Abstract

Ultrasonic dyeing has been investigated as a means to increase the diffusion of the dye molecules into the fiber for the dyeing of various fibers. However, for scouring, bleaching, and dyeing of jute fabrics, the beneficial effect of sonication was never realized. In this work, we report the effect of sonicated scouring and bleaching of jute fabrics on their physicomechanical properties and the dyeability in the conventional dyeing with reactive and basic dyes. The sonicated scoured and bleached fabric showed higher whiteness index and weight loss but the tensile strength and yellowness index decreased compared to the conventionally scoured and bleached jute fabric. The

[*] Corresponding author: Tel.: +64-3-321-8755; fax: +64-3-321-8811

E-mail: Mahbubul.hassan@agresearch.co.nz (M M Hassan)