



TEXTILES & FASHION

Research * Reviews

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Laser Park Publishing House

No.5, M.G. Colony, Vadavalli,
Coimbatore - 641 041.

Email: lpphouse@gmail.com

Mobile : 98422 32545

Price : ₹ 800/-

ISBN : 978-93-84234-09-6



9 789384 234096

Title : Textiles & Fashion - Research & Reviews

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Editors : Dr. T.C. Mini
D. Gopalakrishnan

First Edition : 2015



ISBN : 978-93-84234-09-6

Published by



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No.5, M.G. Colony,
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Price : ₹ 800/-

S. No.	Title/Author(s)	Page No.
01	Development and Characterization of Natural Herbal Extracts for Needle Punched Nonwoven Facemask <i>K. Rafiq and D. Gopalakrishnan</i>	01-09
02	Eco-Friendly Finishing of Fabric with Michelia x Alba Leaves <i>J. Banupriya and Dr.V. Maheshwari</i>	10-16
03	Chameleonfabric Application in Fashion with Thermochromic Leuco Based Dyes <i>K.R. Kavitha and J. Banupriya</i>	17-23
04	Colour and Fashion Trends relating to Dressing Style among Rural College Students: A Case Study <i>Dr. Janetius, Shenbagam and S. Shilpa</i>	24-30
05	Bamboo Nonwoven Fabric Finished with Tuber Herbal Extracts <i>Dr. S. Grace Annapoorani, S. Yamunadevi and C.R. Amrutha</i>	31-35
06	Effective Reutilization of Textile Effluent Sludge <i>Dr.T. Karthik, Dr.P. Ganesan and S. Rajesh Kumar</i>	36-45
07	"Application of Enzymes in Processing of Hemp Cotton Fabrics" <i>R. Umamaheswari and Dr. S. Amsamani</i>	46-50
08	A Study on Properties of Curtain Fabric Developed Out of Regenerated Fiber Blended with Natural and Man Made Fiber <i>C. Sheeba</i>	51-57
09	Development of Non-Woven Fabric Using Areca Husk for Textile Application <i>Divya Sundarraj</i>	58-62
10	Development of Nonwoven Medical Textile with Wrightia Tinctoria Fiber <i>B. Mothila, G. Ramakrishnan and J. Srinivasan</i>	63-68
11	"Efficiency of Non Toxic Dye on Cotton Banana Mixed Fabric" <i>C. Catherine Mary Sharmila and Dr.N. Vasugi Raaja</i>	69-74
12	A Comparative Study of Natural Dyes and Its Properties on Modal /Cotton Blended Fabric <i>R. Thenmozhi and C. Catherine Mary Sharmila</i>	75-80
13	Effluent Treatment System in Textiles <i>P. Ramya</i>	81-86
14	Fashion Trends in Cinema Industry <i>K. Rajesh Kumar and Dr.S. Karpagam Chinnammal</i>	87-96
15	Green Activities in Textile <i>V.K. Sangeetha Priya</i>	97-99
16	Costume Designing for Bollywood and Hollywood Movies <i>Malihah Mistry and Suman Mundkur</i>	100-106
17	Evaluation of Antimicrobial Activity of Siriyanangai Finished Cotton Fabric <i>P. Benitta Christy and S. Kavitha</i>	107-109
18	Development of Value Added Product from Areca Fiber <i>N. Jeyapraakash</i>	110-118

“Application of Enzymes in Processing of Hemp Cotton Fabrics”

R. Umamaheswari and Dr.S. Amsamani

Abstract— Environmental considerations are now becoming important factors during the selection of consumer goods including textiles all over the world. The acute ecological crisis has caused the environmentalists to 'go back to nature'. In the recent years considerable attention is being given to the development and utilization of natural fibres. Cotton and cotton blended fabrics are subjected to various wet processing treatments to enhance its value. Textile wet processing involves the maximum possibilities of polluting chemicals, and dyestuffs which enhance the quality contain toxic and hazardous substances. Reduction in use of the energy, water and other raw materials along with waste minimization and elimination wherever possible, should be highest priority. Application of biotechnology in textile wet processing opens up new horizon towards environmentally friendly benign technology. The use of enzymes in the chemical processing of textiles is gaining wider recognition because of their non-toxic; eco-friendly and biodegradable characteristics. They are the best alternative of hazardous and corrosive chemicals.

Hence a study was carried out with the following objectives:

- Obtain suitable blending composition of hemp cotton yarns.
- Convert the yarn into suitable fabric through weaving.
- Extract the enzymes from suitable microbial source for desizing.
- Subjecting the woven fabric to suitable processing namely desizing.
- Evaluate the original and processed samples

I. INTRODUCTION

Global trends towards sustainable development have brought natural, renewable, bio degradable raw material into focus .There is a strong public perception of anything "Natural" being more eco-friendly than something synthetic or manmade and this certainly extends to the fibers and yarns employed in clothing (Wilson - 2009).Hemp fibers are very versatile, as they provide superior durability. Hemp textiles are extremely versatile – they are used in the production of clothing, shoes, apparel, canvas, rugs and upholstery.

The main environmental impacts of the textile chain derive from so called ' Wet processing' mainly implemented by the textile finishing industry. These phases in wet processing fabrics with chemical of liquor both often requires several washing , rinsing and dry steps , generating significant waste water (Patel 2008).

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