

Bio –physical characterization of Tasar sericin and its application in textile.

Ruchi Kumari, Deepti Gupta * S.Wazed Ali**

Department of Textile technology, Indian Institute of Technology Delhi, New Delhi

*Communicating Author, E-Mail: deeptibgupta@gmail.com, wazed@textile.iitd.ac.in

Abstract

Tasar sericin is a glycoprotein produced by silkworm, *Antheraea mylitta*. It contains 18 types of amino acids. It has ROS scavenging, anti-tyrosinase, anti-elastase and anti-cancerous properties etc. These properties allow indications to use it as a therapeutic agent for wound healing, protection against ultraviolet radiation, and formulation in creams and shampoos. Various biological properties of this glycoprotein may be attributed to the presence of various amino acid and flavonoids. However, extraction methods have great influences on the properties. In this study Bio-physical characterization of Tasar sericin were investigated by various methods such as TGA (Thermal stability), XRD (Crystallinity), MALDI (Mol. Weight), CD spectra (Secondary structure), UV spectra, anti-microbial and Moisture content. Further it was applied on Fabric using crosslinker and catalyst in a pad-dry-cure process. Treated fabric samples were tested for surface smoothness, moisture retention, wicking, anti-microbial and antioxidant properties. The modified Fabric from this investigation may be useful for the development of anti -microbial textile.

Keywords:- Tasar ,Sericin, Crosslinker.