

## **Substantiate the Effects of Reactive Dyes and Aloe Vera on the Ultra Violet Protective Properties on Cotton Woven and Knitted Fabrics**

**Authors :** Neha Singh

**Abstract :** The incidence of skin cancer has been rising worldwide due to excessive exposure to sun light. Climatic changes and depletion of ozone layer allow the easy entry of UV rays on earth, resulting skin damages such as sunburn, premature skin ageing, allergies and skin cancer. Researches have suggested many modes for protection of human skin against ultraviolet radiation; avoidance to outdoor activities, using textiles for covering the skin, sunscreen and sun glasses. However, this paper gives an insight about how textile material specially woven and knitted cotton can be efficiently utilized for protecting human skin from the harmful ultraviolet radiations by combining reactive dyes with Aloe Vera. Selection of the fabric was based on their utility and suitability as per the climate condition of the country for the upper and lower garment. A standard dyeing process was used, and Aloe Vera molecules were applied by in-micro encapsulation technique. After combining vat dyes with Aloe Vera excellent UPF (Ultra violet Protective Factor) was observed. There is a significant change in the UPF of vat dyed cotton fabric after treatment with Aloe Vera.

**Keywords :** UV protection, aloe vera, protective clothing, reactive dyes, cotton, woven and knits

**Conference Title :** ICTF 2018 : International Conference on Textiles and Fashion

**Conference Location :** Sydney, Australia

**Conference Dates :** January 29-30, 2018