

UTILISATION OF FRUITPEELS TO IMPROVE UV PROTECTIVE PROPERTIES OF KHADI COTTON FABRIC

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ABSTRACT

Skin cancer, tanning of the skin, early sign of skin ageing and suppression of the immune system are being diagnosed as a harmful effect of UV radiation, hence the need for UV protection measures are on rise, to avoid harmful incidences of UV radiation. Fabric generally covers most of the part of the skin, so that it can provide protection against UV radiation, but there are several factors which affect the ability of a fabric to protect the skin from UV radiation. The majority of the fabric present in the market for clothing purpose, does not have sufficient ability to provide protection against the UV radiation. Hence there is a need to add UV protective properties to the fabric. Various synthetic, UV absorbers are available in the market, which are being used to increase the UV protective properties of the fabric, but the environmental pollution and toxicity of the water resources are becoming a major problem while using these synthetic absorbers. Therefore, the present study was aimed to find out an eco-friendly way, to make a fabric UV protective. In the present study, peels of different fruits were utilized to incorporate UV protection properties of the fabric. The extracts of fruit peels were applied to the cotton fabric, using the exhaust method. As a result, Good to very good UV protection properties were achieved. Hence, it can be concluded that, fruit peels have potential to be used as an UV protective finish, for the cotton fabric, which would not only protect the skin against harmful UV rays, but also help in utilizing the waste of fruits in a productive term.

KEYWORDS: Exhaust Method, UV Absorbers, UV Index, UV Protective Finish, UV Radiation, UPF