

**A SKIN FRIENDLY FABRIC WITH *BIOPHYTUM REINWARDTII* AND
THESPESIA POPULNEA PLANTS**

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Wearing body hugging garments for a long time can cause itching, irritations reddish patches and reddish blisters on the skin. Millions of people suffer from this disorder worldwide and it made them fearful to wear certain fabrications. This discomfort can be caused easily by under garments such as bras, panties, briefs and socks. Formaldehyde, Nickel, Chromium, dyes and resins which are used in fabric manufacturing process are the main causative agents of this issue. Different fiber types can have an effect on the symptoms.

This study is a systematic approach to find solutions to this problem by creating a skin friendly fabric finishing method in which great eastern medicinal plants are applied in to the fabrications in an innovative manner. Eastern medicine (Ayurveda) describes skin diseases as “Kshudrakushta” which has similar symptoms mentioned above. Herbal plants such as *Biophytum reinwardtii* and *Thespesia populnea* are used in Ayurveda to cure “Kshudrakushta”.

A mixture of the two herbs with fixing agents was applied to cotton and polyester fabrications through a novel dyeing process to develop this fabric finishing method. Copper Sulphate and Aluminum Sulphate were applied separately with different amounts as fixing agents to determine the best recipe. The herbal mixture has a slightly yellowish colour. The herbal applied fabrics were tested with colour fastness to wash test ISO – 165-CO1:1987 to study the durability of the application. Cotton fabrications showed acceptable durability and polyester had poor durability. Wash durability is also dependent on the amount of fixing agents. Twenty (20) different garments which cause symptoms were treated with the herbal mixture and wear trials were carried out. All tested garments showed positive results up to 5 domestic washes.

The present study indicates that *Biophytum reinwardtii* and *Thespesia populnea* have the potential to be used in the commercially viable fabric finishing process and it is open for further studies leading to herbal treated textile and apparel developments.