

Zero Toxic Approach of Cotton Fabric Coloration with Botanical Waste Resource via *Psidium guajava* (Guava Leaves) as Natural Dyes and *Citrus Lemon* (Lemon Leaves) as Natural Mordanting Agent

Md. Anowar Hossain

Department of Textile Engineering, City University, Savar, Dhaka-1340, Bangladesh

Department of Chemistry, Jahangirnagar University, Savar, Dhaka-1342, Bangladesh

Corresponding Author: Md. Anowar Hossain, engr.anowar@yahoo.com

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Abstract

Zero toxic approach of cotton fabric coloration with botanical waste resource *Psidium guajava* (Guava leaves) was used as natural dyes and *Citrus Lemon* (Lemon leaves) was used as natural mordanting agent for nature friendly dyeing of cotton fabric. A color combination of orange and bluish color tone was experimented for dyeing of cotton fabric both dyeing process of guava leaves (bluish tone) and guava + lemon leaves (orange tone). An improvement of color combination was remarked for dyeing of guava leaves with lemon leaves comparing with only guava leaves under considering the color parameters studied with color measurement spectrophotometer. Fourier Transformed Infrared Spectroscopy analysis proved the presence of chromophore and auxochrome group in the dyed fabric with guava leaves and lemon leaves. UV-Vis spectral scan of guava leaves extracted solution of natural dyes showed highest and broaden absorption peak at wavelength 200-300 nm due to having chromophore group.

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