

## THE EFFECT OF CATIONIC SURFACTANT TREATMENT ON THE DYEABILITY OF COTTON AND SILK FABRICS WITH NATURAL DYE FROM BROWN SEaweEDS *SARGASSUM SP*

MUHAMMAD ISMAIL AB KADIR<sup>1</sup>, MOHD ROZI AHMAD<sup>2</sup> & ASMIDA ISMAIL<sup>3</sup>

<sup>1,2</sup>Textile Research Group, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia

<sup>3</sup>School of Biology, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia

### ABSTRACT

This study focuses on the surface modification of cotton and silk fabrics which might improve their dyeability to *Sargassum* sp. extracts. The extraction was performed by macerating the *Sargassum* sp. powder in methanol solution at 60°C for 48 hours in dark room. The extracted colourant was measured with UV-vis Spectrophotometer to analyse the peak absorbance ( $\lambda_{max}$ ) as well as to estimate the pigments content in *Sargassum* sp. Exhaustion dyeing with simultaneous mordanting procedure were then performed at 85°C for 60 minutes on treated and untreated cotton and silk fabrics with Cetyl Trimethyl Ammonium Bromide (CTAB) at different concentrations. The dyed samples were then analysed their colourimetrics and fastness properties in accordance to MS ISO standard. The results showed that the application of CTAB gave higher colour differences and colour strength values which indicate that the dyeability of those fabrics was increased significantly with out diminishing their fastness properties.

**KEYWORDS:** Colour Differences, Colour Strength, Dyeability, Natural Dyes, *Sargassum* Sp