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Utilization of Chrysanthemum Flowers in Textile Dyeing: Chemical and Phenolic Analysis of Dyes and Fabrics

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Abstract : In this research, Chrysanthemum (morifolium) flowers are used as a natural dye to reduce synthetic dyes and take a step toward sustainability in the fashion industry. The aqueous extraction method is utilized for natural dye extraction and then applied to silk and cotton fabric samples. The color of the dye extracted from dried chrysanthemum flowers is originally a shade of rich green, but after being washed with detergent, it turns to a shade of yellow. Traditional salt and vinegar are used as a natural mordant to fix the dye color. This study also includes a phenolic and chemical analysis of the natural dye (Chrysanthemum flowers) and the textiles (cotton and silk). Compared to cotton fabric, silk fabric has far superior chemical qualities to use in natural dyeing. The results of this study show that the Chrysanthemum flower offers a variety of colors when treated with detergent, without detergent, and with mordants. Chrysanthemum flowers have long been used in other fields, such as medicine; therefore, it is time to start using them in the fashion industry as a natural dye to lessen the harm that synthetic dyes cause.

Keywords : natural dyes, Chrysanthemum flower, sustainability, textile fabrics, chemical and phenolic analysis
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