

UNIVERSITI TEKNOLOGI MARA

**THE INVESTIGATION OF SELECTED
DISTINCTIVE VEGETATIONS AS
NATURAL DYES SOURCES**

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of the requirements for the degree of
Master of Science

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledge as reference work. This thesis has not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

The colouring of textile with natural dyes from vegetation sources is receiving increasing attention. This study was carried out to investigate potential vegetations. *Gluta aptera*, *Bixa orellana* and *Michelia champaca* were selected as natural dye sources. Natural dyes from these sources were extracted via boiling with water and solvent extraction method using methanol. Liquid extracts were then converted into paste form using rotary evaporator and the dried pastes were then encapsulated with *beta*-cyclodextrin to form powder. The powder form is an ideal form of dyes since it is easy to handle with longer shelf life. The natural dyes were then used to dye 100% satin silk, 100% plain weave cotton and 100% plain weave polyester fabrics simultaneously with and without mordant. The absorbance of the natural dyes were measured using UV-Vis spectrophotometer at wavelength range of 200 to 700 nm. All dyed fabrics were then compared in term of colour shades and colourfastness to washing, perspiration, rubbing and light. The dyed fabrics show moderate to good results for washing, perspiration and rubbing but poor light fastness. This finding would give added values to the uniqueness of natural dyed products.

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