

**PRELIMINARY STUDY ON SPECIFIC GRAVITY AND FIBER
MORPHOLOGY OF ROTAN TAI LANDAK (*DAEMONOROPS HYSTRIX*)**

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	Page
APPROVAL SHEET	iii
DEDICATION	iv
ACKNOWLEDGEMENT	v
ABSTRACT	vi
ABSTRAK	vii
LIST OF ABREVIATION	viii
LIST OF FIGURE	ix
LIST OF PLATE	x
 CHAPTER	
1.0 INTRODUCTION	1
1.1 General	1
1.2 Problem Statement.....	2
1.3 Objective	3
 2.0 LITERATURE REVIEW	 4
2.1 Characteristic.....	4
2.1.1 Distribution.....	4
2.1.2 Physiognomy.....	5
2.1.3 Uses.....	5
2.1.4 Anatomical properties.....	6
2.2 Fiber length.....	6
2.2.1 Cell wall thickness.....	7
 3.0 MATERIALS AND METHODS	 8
3.1 Raw Material Preparation.....	8
3.2 Chemical preparation.....	10
3.3 Specific gravity.....	10
3.4 Fiber manceration.....	12
3.5 Slide preparation.....	15
 4.0 RESULTS AND DISCUSSIONS	 18
4.1 Fiber length.....	18
4.2 Cell wall thickness.....	19
4.3 Specific gravity.....	20
 5.0 CONCLUSIONS AND RECOMENDATION	 21
 6.0 REFERENCES	 22
 7.0 APPENDICES	 23
 VITA	 27

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ABSTRACT

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This project was conducted by final semester students of Diploma in Wood Industry. In this study, Rotan tai landak was chosen to explore its potential as a raw material as well as one of the non woody plants that should be used in fiber based industry. Besides that, this study is for determining the fiber morphology according to three different portions of this *rattan spp.*

CHAPTER 1

INTRODUCTION

1.1 General

Nowadays, Malaysian fiber based industry mostly depends on the woody plants as the raw material to make furniture products. However depends on just the woody plants to produce such products in wood industry are not the proper step as the woody plants will face the shortage of supply. In this situation, we need to take the alternative of raw material should be used in fiber based industry. In this study, Rotan Tai Landak was chosen to explore its potential as a raw material as well as one of the non woody plant that should be used in fiber based industry.

Rotan Tai Landak (*Daemonorops hystrix*) from Arecaceae family. This type of rattan can be found on the Peninsular such as Perak, Kelantan, Pahang, Selangor, Negeri Sembilan, Malacca, Johore and Singapore. This is very distinctive rattan, immediately recognisable by the huge brittle papery spines around the mouth of the leaf sheath. *Daemonorops hystrix* is possibly a distinct species but until the complex of *Daemonorops hystrix* and its relatives elsewhere in Malaysia are monographed, it seems best to retain the old name.

The properties of fiber can be as well understood if we consider their physical properties, specifically their length, diameter and wall thickness. We refer to these properties as the morphological properties of the fibers. The dictionary defines morphology as “the science of form”. Cellulose fibers, are the main components of the raw material “pulp”. The individual fibers are present in a network of fibers. Each cellulose fiber is bonded to its neighbouring fibers by