

MECHANICAL PULP FROM LUDAI

Noraziawati Binti Yunus

**Final Project Submitted in Partial Fulfillment for the
Diploma in Wood Industries, Faculty of Applied Science,
Universiti Teknologi MARA**

August 2002

ACKNOWLEDGEMENTS

I would like to express my deepest appreciation sincere gratitude to my advisor, En. Amran Bin Shafei for his encouragement and guidance in designing and implementing this project.

Sincere thanks are also due to Assoc. Prof. Dr. Jamaludin Kassim, Program Head of Diploma Industry Perkayuan, UiTM Pahang, for kindly extending all facilities and cooperation given during the course of study.

Last but not least, thanks are also due to my beloved parents and my lover for their moral and financial support throughout the years study.

TABLE OF CONTENTS

	Page
APPROVAL SHEET	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF PLATES	ix
ABSTRACT	x
ABSTRAK	xi
CHAPTER	
I INTRODUCTION	1
1.1 Problem statement.....	2
1.2 Objective.....	3
II LITERATURE REVIEW	4
2.1 General.....	4
2.2 Fibrous raw material.....	5
2.3 Pulping process.....	7
2.4 Mechanical pulping process.....	8
2.4.1 Stone groundwood pulping.....	9
2.4.2 Refiner mechanical pulping.....	10
2.4.3 Thermomechanical pulping.....	11
2.5 Beating and refining.....	13
2.5.1 Effect of beating on fibre structure.....	13
2.5.2 Effect of beating on paper properties.....	15
III MATERIAL AND METHODS	16
3.1 Raw material.....	16
3.2 Pre steaming process.....	17
3.3 Beating and refining.....	18
3.4 Trial paper.....	20
3.5 Pulp dilute.....	21
3.6 Freeness testing.....	21
3.7 Hand sheet preparation.....	22
3.8 Paper testing.....	24
3.8.1 Cutting the lap paper for testing.....	24
3.8.2 Tearing testing.....	24

	3.8.3 Tensile testing.....	24
IV	RESULTS AND DISCUSSION.....	26
	4.1 Yield.....	26
	4.2 Beating pulp.....	27
	4.3 Freeness.....	28
	4.4 Bulk.....	30
	4.5 Tearing index.....	31
V	CONCLUSION.....	34
	BIBLIOGRAPHY.....	35
	APPENDICES.....	37
	VITA.....	38

ABSTRACT

MECHANICAL PULPING FROM LUDAI

BY

NORAZIAWATI BINTI YUNUS

AUGUST 2002

The study of this thesis is on species of Ludai (*Sepium Baccatum*) from *Euphorbiacea*, which is for finding the paper properties and its suitability by using mechanical pulping process (Thermo-mechanical Pulping Process). Pulps are being through the process using PFL Mill. Beating level is 0, 5000, 10000, 15000 and 20000. From the research the result decrease for freeness 1%, bulk 9% and tearing index 12%.