

**GROWTH AND YIELD OF *ACACIA MANGIUM* (AKASIA), *PINUS CARIBAEA*
(PINE), AND *PARASERIANTHES FALCATARIA* (BATAI) IN KEMASUL
FOREST PLANTATION**

By

**MOHD FAIRUZ BIN JAMALUDIN
MOHD FAIZULNIZAM BIN ABU BAKAR
RAFIZAH BINTI MINHAT**

**Final Project Paper Submitted in Fulfillment for the Diploma in Wood Industry
Faculty of Applied Science, Universiti Teknologi MARA, Pahang**

MAY 2006

ACKNOWLEDGEMENT

Thank you and Alhamdullillah praise to Allah S.W.T for blessing us and giving strength to complete this project report with the title “Growth and Yield of *Acacia mangium* (Akasia), *Pinus caribaea* (Pine), and *Paraserianthes falcataria* (Batai) in Kemasul Forest Plantation”.

Firstly, special thanks to my supervisor, Miss Mazlin Binti Kusin for her guideness, comment and suggestion throughout of this study. We would also like to address our gratitude and special appreciation to Prof Madya Dr. Jamaludin Bin Kasim for his kindness because giving information and spirit support to us. In this page, we are also would like to coming our special thanks and appreciation to the Mr. Mohd Syahrir Azrin Bin Haji Salleh, Assistant Director at Kemasul Forest Plantation for their cooperation in the collection of data for this study.

Thanks are also dedicated to those who were in solved directly or indirectly in the completion of this study.

TABLE OF CONTENT

	PAGE
APPROVAL SHEET.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENT.....	v
LIST OF TABLE.....	vii
LIST OF PLATE.....	viii
LIST OF FIGURE.....	ix
LIST OF ABBREVIATION.....	x
ABSTRACT.....	xi
ABSTRAK.....	xii
CHAPTER	
I INTRODUCTION	
1.1 History of Forest Plantation.....	1
1.2 Objectives.....	4
II LITERATURE REVIEW	
2.1 Definition of Forest Plantation.....	5
2.2 Forest Plantation in Malaysia.....	7
2.3 Forest Plantation Development in Malaysia.....	9
2.4 Kemasul Forest Plantation.....	14
2.5 Species Description	
2.5.1 Acacia (<i>Acacia mangium</i>).....	17
2.5.2 Batai (<i>Paraserianthes falcataria</i>).....	20
2.5.3 Pine (<i>Pinus caribaea</i>).....	23
2.6 Type of Product and Market.....	27
III TREE ENLARGEMENT	
3.1 Timber Stand Improvement (TSI).....	29
3.2 General Silviculture for Trees Plantation.....	31
3.3 Tree Harvesting.....	35
3.4 Tree Growth.....	37
3.5 Growth Comparison between Three Species.....	43

	3.6 Tree Yield.....	45
	3.7 Yield Comparison between Three Species.....	48
IV	PLANTATION PROBLEM	
	4.1 Acacia (<i>Acacia mangium</i>).....	50
	4.2 Batai (<i>Paraserianthes falcataria</i>).....	57
	4.3 Pine (<i>Pinus caribaea</i>).....	61
V	CONCLUSION.....	65
	APPENDIX.....	66
	REFERENCES.....	71
	VITA.....	73

Abstract of final project presented to the Universiti Teknologi MARA fulfillment of the requirements for the Diploma in Wood Industry

GROWTH AND YIELD OF *ACACIA MANGIUM* (ACACIA), *PINUS CARIBAEA* (PINE), AND *PARASERIANTHES FALCATARIA* (BATAI) IN KEMASUL FOREST PLANTATION.

By

MOHD FAIRUZ BIN JAMALUDIN

MOHD FAIZULNIZAM BIN ABU BAKAR

RAFIZAH BINTI MINHAT

Advisor : Miss Mazlin Bt Kusin

Faculty : Applied Science

Forest is the one of important natural sources and demand for the yield especially sawn timber increase year by year. For the develop country, forest is easy and faster sources to generate the economic. For the effect, the forest will be cut for the development, but if this forest not using the right managed properly this natural sourced will disappeared. Forest plantation is the one ways to fulfill the demand for sawn timber. The objective of the study the research is to study and want to know how far the important of forest plantation to support the sawn timber and act for natural forest. This research will focus on the interesting species like *Acacia mangium* (Acacia), *Paraserianthes falcataria* (Batai) dan *Pinus caribaea* (Pine) that grows in Kemasul Forest Plantation.