

**ASH AND LIGNIN CONTENT OF
KENAF (*Hibiscus cannabinus*)**

By

Rosnizam bin Ramli

**Final Project Submitted in Partial Fulfilment for the Diploma in Wood Industry
Faculty of Applied Science
Universiti Teknologi MARA Pahang**

March 2005

ACKNOWLEDGMENT



First of all, I would like to express my gratefulness to Almighty ALLAH S.W.T for the permission given and lastly I had successfully to finish my project paper about chemical analysis 'Ash and Lignin Content of Kenaf (*Hibiscus cannabinus*)'.

I want to express my special appreciation to my lecturer and advisor, Professor Dr. Suhaimi bin Muhammed for his encouragement, guidance and assisting in other to finish my study about this research as one of the compulsory thing to finish our Diploma in Wood Industry.

I also would like to wish thanks to special person Fazila that always gives me support and spirit of excellence to finish this project. To my friend, my classmate, my project member and my roommates, thanks for your support and commitment given for me to finish this project paper. To all my juniors in Diploma in Wood Industry all the best, never ever give up and improve your excellence for your future life.

Without their help, I would not able to complete this project, only ALLAH S.W.T can repay their kindness.

TABLE OF CONTENTS

	Page
APPROVAL SHEET.....	i
ACKNOWLEDGEMENT.....	ii
LIST OF PLATE.....	v
LIST OF FIGURE.....	vi
LIST OF TABLE.....	vii
ABSTRACT.....	x
ABSTRAK	xi
CHAPTER	
1.0 INTRODUCTION.....	1
2.0 LITERATURE REVIEW.....	4
2.1 Common name.....	4
2.2 Taxonomy.....	5
2.3 Physical Properties.....	5
2.4 Uses.....	6

3.0 MATERIAL AND METHODS.....	8
3.1 Material preparation.....	8
3.2 Determination of Moisture Content.....	9
3.2.1 Background.....	9
3.2.2 Procedure.....	9
3.3.3 Formulae.....	10
3.3 Determination of Alcohol-benzene Solubility.....	11
3.3.1 Background.....	11
3.3.2 Reagent.....	11
3.3.3 Procedure.....	11
3.4 Determination of Lignin.....	13
3.4.1 Background.....	13
3.4.2 Reagent.....	12
3.4.3 Procedure.....	14
3.4.4 Formulae.....	15
3.5 Determination of Ash.....	16
3.5.1 Background.....	16
3.5.2 Procedure.....	16
3.5.3 Formulae.....	17

ASH AND LIGNIN CONTENT OF KENAF (*Hibiscus cannabinus*)

By

ROSNIZAM BIN RAMLI

MARCH 2005

ABSTRACT

The percentage of lignin content and ash content in Kenaf (*Hibiscus cannabinus*) was determined from segment stem and branch in accordance to TAPPI standard. In both cases, the segment of stem exhibited higher value for ash and lignin content when compared to those segments at the branch. Lignin content ranged from 20% to 24% and the ash content ranged from 1.0% to 3.0%. These values of high lignin and low ash content could serve as good indication for better utilization especially when machining and chemical pulping. On the other hand, wood with high lignin content would influence bleaching during pulping process.