

**THE PRODUCTION OF OIL FROM KARAS**  
**(*AQUILARIA MALACCENSIS*)**

**BY**

**DAYANG NORFAIZAH BT ABANG MOHD SALLEH**

**NORSUHAIDA BT ABDUL RAZAK**

**NORZALINA BT ZALIN**

**NURUL HANIM BT HASHIM**

**Final Project Paper Submitted In partial Fulfillment for the Diploma in Wood Industry,  
Faculty of Applied Sciences,  
University Teknologi MARA, Pahang**

**November 2008**

## **ACKNOWLEDGEMENTS**

We would like to take this opportunity to express our special thanks to Allah S.W.T, the most gracious and the most merciful, for His blessing that give me healthy physical and mental to finish this thesis and also this report in subject WTE 375 (Project).

Sincere thanks to our advisor, Prof Madya Dr Jamaluddin Bin Kasim who willing to contribute his knowledge, time, and assist us until we have completed my thesis. Thanks for your guidance in helping us to finish this thesis successfully.

Not forgotten to the staff in DIP workshop En Sardey and En. Shahril, who has helping us in completed this project. Thanks for your support and ideas.

We would like to raise our gratitude, especially to our beloved family, who had always support us in our study even just from far. Thanks you very much.

Finally, for our beloved friends, thank you for your support. And also helping to contributing idea and comments during finished this thesis.

## TABLE OF CONTENT

CONTENT	PAGE
APPROVAL SHEET.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS.....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	vii
LIST OF PLATES.....	ix
LIST OF FIGURES.....	x
LIST ABBREVIATIONS.....	xi
ABSTRACT.....	xii
ABSTRAK.....	xiii

### CHAPTER

<b>I</b>	<b>INTRODUCTION</b>	
	1.1 General.....	1-2
	1.2 Problem statement.....	3
	1.3 Justification.....	3
	1.3 Objective.....	4

## **II LITERATURE REVIEW**

2.1 Karas( <i>Aquilaria malaccensis</i> ).....	5
2.1.1 Karas ( <i>Aquilaria malaccensis</i> ) distribution.....	5
2.1.2 Distribution.....	6
2.1.3 Physical Properties.....	7
2.2 Uses.....	8
2.3 Moisture Content.....	11
2.4 The uses of Karas ( <i>Aquilaria malaccensis</i> ) oil.....	12
2.4.1 Functions and Clinical Uses.....	13
2.4.2 Fragrance.....	14
2.4.3 Natural Carving.....	14
2.4.4 Decoration.....	15
2.4.5 Preservative.....	15
2.4.6 Other.....	15
2.5 Extraction Process.....	16
2.6 Differentiated Between Water Extraction and Solvent Extraction.....	17

## **III MATERIAL AND METHOD**

3.1 Field Procedure.....	18
3.2 Material Preparation.....	18
3.2.1 Samples Preparation.....	19
3.3 Determination of Moisture Content.....	20
3.4 Oil Production.....	21

## **IV RESULT AND DISCUSSION**

4.1 Percentage and Change of Colour of Solvent.....	23
4.2 Graph.....	24

# **THE PRODUCTION OF OIL FROM KARAS (*AQUILARIA MALACCESIS*)**

**BY**

**DAYANG NORFAIZAH BT ABANG MOHD SALLEH**

**NORSUHAIDA BT ABDUL RAZAK**

**NORZALINA BT ZALIN**

**NURUL HANIM BT HASHIM**

**NOVEMBER 2008**

## **ABSTRACT**

A research was done to study the production of oil from Karas (*Aquilaria malaccensis*). This research is done by two methods. The method are water extraction and solvent extraction. From water extraction there are two elements namely hot water and cold water. While solvent extraction is used chemical such as alcohol, methanol, acetone, pet- ether, toluene, benzene and alcohol mix with toluene. The objective from this research, we want know which method are suitable for production of oil from Karas wood. And the most suitable production oil from karas wood is solvent extraction. It is because it produces high oil and saved times. In fact the karas oil have many uses such as perfume. This karas oil has high value in market.