

LIST OF CONTENTS

	Page
ACKNOWLEDGMENT	i
LIST OF CONTENTS	iii
LIST OF TABLES	v
LIST OF FIGURES	vii
NOMENCLATURE	x
INTRODUCTION	1
REVIEW OF LITERATURE	4
<i>A-Jatropha curcas</i>	4
<i>B-Moringa oleifera</i>	13
<i>C-Phytolacca dioica</i>	28
MATERIALS AND METHODS	32
A-Raw materials	32
B-Determination of specific gravity	32
C-Chemical properties	34
C-1-Determination of the main chemical components	35
C-1-1-Determination of cellulose	35
C-1-2-Determination of hemicelluloses	35
C-1-3-Determination of lignin	35
C-2-Determination of wood extraneous contents	37
C-2-1-Determination of benzene- ethanol extractives	37
C-2-2-Determination of hot water extractives	38
C-2-3-Determination of extractives soluble in 1% NaOH (soda) solution.	38
C-2-4-Determination of total extractives	39
C-2-5-Determination of ash content	40
C-3-Determination of bark extractives	40
D-Fiber morphology	41

D-1-Fiber length measurements	41
D-2-Fiber dimensions measurements	42
E-Anatomical structure of stem wood	42
F-Statistical analysis	42
RESULTS	44
1-Specific gravity	44
2-Chemical properties	47
3-Fiber morphology	51
4-Anatomical features	54
4-1- <i>J. curcas</i>	54
4-2- <i>M. oleifera</i>	58
4-3- <i>P. dioica</i>	61
DISCUSSION	64
1-Specific gravity	64
2-Chemical properties	65
3-Fiber morphology	67
4-Anatomical features	68
CONCLUSION	71
SUMMARY	75
LITERATURE CITED	79
ARABIC SUMMARY	