

**EFFECTS OF SURFACE MODIFICATION ON THE PROPERTIES OF
PINEAPPLE LEAF FIBER (PALF) REINFORCED WITH POLY(LACTIC
ACID) (PLA) BIOCOMPOSITE**

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ABSTRACT

Pineapple leaf fibre (PALF) is a natural fibre with significant promise in the industry. Reinforced polymer composites are now primarily relying on natural fibres as an alternative source. The aim of this study is to examine how the mechanical properties of PLA biocomposites reinforced with pineapple leaf fibre are affected by chemical treatments with Sodium Hydroxide (NaOH) solution. The biocomposite was successfully prepared by the solvent casting method. The characterization of biocomposite includes Fourier Transform Infrared Spectroscopy (FTIR) and tensile tests. The variation in loadings of pineapple leaf fibres (PALF) used in this study are 0%, 1%, 3%, 5% and 7%. The analysis of the study has shown that increasing the PALF loading decreases the tensile strength of the biocomposite. In the water immersion test, increasing the PALF loading also increased the amount of water absorption as the biocomposite became more porous.

TABLE OF CONTENTS

	Page
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT	iii
ABSTRAK	iv
ACKNOWLEDGEMENT	v
CHAPTER 1 INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	5
1.3 Significance of Study	6
1.4 Objectives of Study	7
CHAPTER 2 LITERATURE REVIEW	
2.1 Pineapple Leaf Fiber (PALF)	9
2.2 Surface Modification on PALF	10
2.3 Fabrication of PALF	11
CHAPTER 3 METHODOLOGY	
3.1 Materials and Chemicals	16
3.2 Instruments	16
3.3 Preparation of PALF	16
3.3.1 Preparation of raw materials	16
3.3.2 Cleaning of PALF	16
3.3.3 Alkaline treatment	17

3.3.4 Acid Hydrolysis	17
3.3 Preparation of PALF/PLA Biocomposite	18
3.4 Characterization of PALF/PLA Biocomposite	19
3.4.1 FTIR	19
3.4.2 Tensile Test	19
3.4.3 Water Immersion Test	20
CHAPTER 4 RESULTS AND DISCUSSION	
4.1 Formation of Pure PLA, Treated PALF/PLA and Untreated PALF/PLA	21
4.2 FTIR	23
4.3 Tensile test	24
4.4 Water Immersion Test	27
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS	28
CITED REFERENCES	31
CURRICULUM VITAE	34