

**EFFECTS OF NATURAL AND ARTIFICIAL
RIPENING AGENT ON *Musa paradisiaca***

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TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1: INTRODUCTION	
1.1 Background Study	1
1.2 Problem Statement	2
1.3 Significance of the Study	3
1.4 Objectives of the Study	3
CHAPTER 2: LITERATURE REVIEW	
2.1 Fruit Ripening	4
2.2 Ripening agents	5
2.2.1 Ethylene	5
2.2.2 Calcium Carbide	6
2.2.3 Natural Ripening Agent	7
2.3 <i>Musa paradisiaca</i>	8
2.3.1 Ripening Properties of Banana	9
2.3.1.1 Total Sugar Content	9
2.3.1.2 Textural and Peel Colour Development	9
CHAPTER 3: METHODOLOGY	
3.1 Materials	11
3.1.1 Raw materials	11
3.1.2 Chemicals	11
3.1.3 Apparatus	11
3.2 Methods	12
3.2.1 Samples Collection	12
3.2.2 Storage Procedure	12
3.2.3 DNS Assay	13
3.2.3.1 Sugar Extraction	13
3.2.3.2 DNS Reagent Preparation	13

3.2.3.3 Sugar Determination using UV-Vis Spectroscopy	14
3.2.4 Peel Colour Evaluation	14
3.2.5 Firmness Evaluation	14
3.3 Data Analysis	15
CHAPTER 4: RESULTS AND DISCUSSION	
4.1 Glucose Concentration Determination	17
4.2 Firmness Evaluation	21
4.3 Peel Colour Development	22
CHAPTER 5: CONCLUSION AND RECOMMENDATIONS	26
CITED REFERENCES	27
APPENDICES	30
CURRICULUM VITAE	36

ABSTRACT

EFFECTS OF NATURAL AND ARTIFICIAL RIPENING AGENT ON *Musa paradisiaca*

Fruit ripening is the last stage of fruit development. During the ripening process, plant hormone called ethylene will be released. The hormone ethylene initiates the ripening response such as conversion of starch to sugar, degradation of pectin and degradation of chlorophyll. However, there are an alternative sources of ethylene. The reaction of calcium carbide with water will produce acetylene gas where this gas can substitute ethylene for ripening. Calcium carbide is commonly used as artificial ripening agent but it is detrimental to health. Moreover, ripe fruits that release large amount of ethylene has the potential to become the natural ripening agent which is another alternative source of ethylene. This study aims to study the potential of pear as natural ripening agent and to compare the effects of both natural and artificial ripening agents on *Musa paradisiaca* (banana). DNS assay method was used to determine the glucose concentration that corresponding with ripening process. As for the peel colour development, the L*, a* and b* values were measured. In order to evaluate the firmness, force needed to penetrate the banana was measured. In this study, there is no significant difference in the rate of ripening between all three treatment groups which are control group, natural ripening agent treatment group and artificial ripening agent treatment group. This result may be due to the species of banana used where it is from the plantain group that took longer time to fully ripen therefore it did not exhibit the ripening characteristics since the experiment was only conducted up to 5 days. The type of fruit used as natural ripening agent may not release a sufficient amount of ethylene to help ripen the banana.