## THE EFFECTS OF INORGANIC FERTILIZER (NEXER®) ON GROWTH PERFORMANCE OF HARUMANIS (MA 128) FOR FIVE WEEKS

SHAFIKA BINTI RAZALI

## FINAL YEAR PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGROTECHNOLOGY (HONS.) HORTICULTURE TECHNOLOGY IN THE FACULTY OF PLANTATION AND AGROTECHNOLOGY UNIVERSITI TEKNOLOGI MARA

AUGUST 2020

### DECLARATION

This Final Year Project is a partial fulfilment of the requirements for a Degree of Bachelor of Science in Agrotechnology (Hons.) Horticulture Technology in the Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

It is entirely my own work and has not been submitted to any other University or higher. education institution, or for any other academic award in this University. Where use has been made of the work of other people it has been fully acknowledged and fully referenced.

I hereby assign all and every right in the copyright to this Work to the Universiti Teknologi MARA ("UiTM"), which henceforth shall be the owner of copyright in this work and that, any reproduction or use in any form or by any means whatsoever is prohibited without a written consent of UiTM.

Candidate's signature : .Shafika RazaliDate: 16 August 2020Name: Shafika Binti RazaliStudent I.D.: 2017663076

#### ABSTRACT

# THE EFFECTS OF INORGANIC FERTILIZER (NEXER®) ON GROWTH PERFORMANCE OF HARUMANIS (MA 128) FOR FIVE WEEKS

Mango (*Mangifera indica*, L) needs to be supplied with fertilizer to enhance the growth performance. The growth performance of mango trees can be affected by several factors, for example, the correct amount of fertilizer gives high impact to the panicles, flowering and fruits produced. Lacking this may be the reason for nutrient deficiency where trees did not get the right quantity of fertilizer needed. The use of inorganic fertilizer (Nexer<sup>®</sup>) was yet to be known for its effective use on Harumanis. Hence, this research aimed to study on the performance of inorganic fertilizer (Nexer<sup>®</sup>) to the growth of Harumanis (MA 128). The fertilizer then was applied by pocket placement, where four holes were dug around the tree under the canopy. The number of fruits and flowers, SPAD values, leaf area index, and number of panicles were evaluated throughout the research. It was expected that the effects of inorganic fertilizer influenced the growth performance of Harumanis. Three levels of treatment, 0.5kg, and 1kg of inorganic fertilizer (Nexer<sup>®</sup>) and 1kg standard fertilizer (control) were observed during the experimental period. However, further study is needed to determine the different level of fertilizers or other types of fertilizers for a better growth performance.

**Keywords:** Harumanis (*Mangifera indica*, L); inorganic fertilizer; growth performance; panicles; Leaf Area Index (LAI)

## **TABLE OF CONTENTS**

DECLARATION		i
ABSTRACT		iii
ABSTRAK		iv
ACKNOWLEDGEMENT		v
TABLE OF CONTENTSLIST OF FIGURESLIST OF TABLESLIST OF SYMBOLSLIST OF ABBREVIATIONS		vi
		viii
		ix
		Х
		xi
LIST OF NOMENCLATURE		xii
CHAF	TER ONE: INTRODUCTION	1
1.1	Research Background	1
1.2	Problem Statement	2
1.3	Objectives of Study	2
1.4	Scope of Study	2
1.5	Significant of Study	2
CHAPTER TWO: LITERATURE REVIEW		3
2.1	Introduction	3
2.1	.1 Morphology of mango	3
2.2	Fertilizer	5
2.2.	1 Fertilizer in Agriculture	5
2.2.2	2 Type of fertilizers	6
2.2.2	3 Effect of inorganic fertilizer on growth	6
2.2.4	4 Fertilizer requirement for mango tree	8

CHA	CHAPTER THREE: MATERIAL AND METHODS	
3.1	Experimental site	9
3.2	Material	11
3.3	Assessment parameter	14
3.4	Experimental Design	15
3.5	Statistical Analysis	15
СНА	PTER FOUR: RESULT AND DISCUSSION	17
4.1	Chlorophyll analysis	17
4.2	Leaf area Index	18
4.3	No of panicles on Harumanis mango tree (MA 128)	19
4.4	No of flowers on Harumanis mango trees (MA 128)	21
4.5	No of fruit sets on Harumanis mango trees (MA 128)	22
СНА	PTER FIVE: CONCLUSION	24
5.1	Summary	24
5.2	Recommendations	25
REF	ERENCES	26
APPENDICES		30
AUT	HOR'S PROFILE	37