

**THE EFFECT OF EARTHWORM AND ORGANIC
FERTILIZER USED ON GROWTH OF *Ipomoea reptans* L.
*poir***

NUR KHAIRIAH ZAINAL ABIDIN

**Final Year Project Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Biology
In the Faculty of Applied Science
Universiti Teknologi MARA**

JULY 2016

This Final Year Project Report entitled “**The effect of earthworm and organic fertilizer used on growth of *Ipomoea reptans L.poir***“ was submitted by Nur Khairiah binti Zainal Abidin, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

Siti Norazura binti Jamal
Supervisor
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah Negeri Sembilan

Ilyanie binti Hj. Yaacob
Project Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

Dr. Nor'aishah binti Abu Shah
Head of Programme
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

Date: _____

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	vii
ABSTRACT	viii
ABSTRAK	ix
CHAPTER 1: INTRODUCTION	
1.1 Background Study	1
1.2 Problem Statement	3
1.3 Significance of the Study	3
1.4 Objectives of the Study	4
CHAPTER 2: LITERATURE REVIEW	
2.1 <i>Ipomoea reptans L. poir</i>	5
2.2 Fertilizer	7
2.2.1 Organic fertilizer	7
2.2.2 Bio fertilizer	9
2.3 Compost	9
2.3.1 Vermicompost	10
CHAPTER 3: METHODOLOGY	
3.1 Materials	11
3.1.1 Raw materials	11
3.1.2 Apparatus	11
3.2 Methods	12
3.2.1 Planting	12
3.2.2 Fertilizing	13
3.2.3 Observation of Growth Rate	14
3.3 Statistical Analysis	14

CHAPTER 4: RESULTS AND DISCUSSION	
4.1 Height of plants	15
4.2 Number of leaves	18
4.3 Dry mass	20
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	22
CITED REFERENCES	23
APPENDICES	27
CURRICULUM VITAE	38

ABSTRACT

THE EFFECT OF EARTHWORM AND ORGANIC FERTILIZER USED ON GROWTH OF *Ipomoea reptans L. poir*

The increases of vegetable crop productivity and limitation of chemical fertilizer uses can be done in several ways, one of them is by organic fertilizer application. The trial was conducted in Kuala Pilah, Negeri Sembilan starting from March until May 2016. The aims were to study the growth of *Ipomoea reptans l. poir* by using different sources of organic fertilizers, compare the size of *Ipomoea reptans l.poir* in the presence and absence of earthworm and observe the difference in dry mass of *Ipomoea reptans l. poir* by using different treatments. The treatments of organic fertilizer were given in 3 levels (40, 80,120 gram). Chicken manure, cow manure, and sheep manure were used in the experiment based on 3 replications. Plant with no fertilizer group served as control. The parameters observed were plant height, leaf number, and dry mass. The results showed that the height of plant, dry mass and the number of leaves were increasing in all the treatments over control. As a conclusion, use of sheep manure as fertilizer obtained the highest growth and the presence of earthworm promoting the growth and size of the land spinach.