

**EFFECT OF ARBUSCULAR MYCORRHIZAL ON GROWTH AND YIELD
PERFORMANCE OF AEROBIC RICE – A REVIEW**

TUSNAR BIN TUSMAN

**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Plantation Technology and Management
in the Faculty of Plantation and Agrotechnology
Universiti Teknologi MARA**

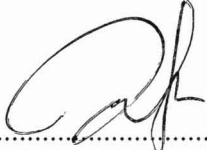
JULY 2016

DECLARATION

This Final Year Project is a partial fulfilment of the requirements for a degree of Bachelor of Science (Hons.) Plantation Technology and Management, 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 rights 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 : 

Date: 21.07.2016..

Name: TUSNAR BIN TUSMAN

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

Signature: 

Name of Supervisor: NORAIDA MOHD RADZI

Position: LECTURER

Date: 21/07/2016

ACKNOWLEDGEMENT

Bismillahirrahmanirrahim,

Assalamualaikum, Alhamdulillah, thanks to Allah S.W.T with his blessing for the health, time, patience and motivations I have completed my final year project. I would like to express my sincere appreciation to my supervisor, Miss Noraida Binti Radzi for all her support in term of knowledge, time spent to discuss the progress, guidance, cooperation and patience with me while completing this final year project report.

I want to give a special thanks to my family and friends for prayers, support and motivation and also to the UiTM library portals for the online database that provide free access to the journal related to my project. Nevertheless, I also want to thanks those who either directly or indirectly involves with helping me completing this final year project.

TUSNAR TUSMAN

TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	v
LIST OF ABBREVIATIONS	vi
ABSTRACT	vii
ABSTRAK	viii
<u>CHAPTER</u>	
1.0 INTRODUCTION	1
1.1 AEROBIC RICE	1
1.2 ARBUSCULAR MYCORRHIZAL FUNGI	2
1.3 OBJECTIVES OF STUDY	4
1.4 PROBLEM STATEMENT	4
2.0 RESULT AND DISCUSSION	5
2.1 EFFECT OF ARBUSCULAR MYCORRHIZAL ON GROWTH AND YIELD OF AEROBIC RICE	5
2.1.1 PLANT GROWTH PARAMETERS	8
2.1.2 PLANT BIOMASS AND YIELD	9
2.1.3 FUNGAL ROOT COLONIZATION	10
2.1.4 NUTRIENT UPTAKE OF RICE PLANTS	12
2.1.5 PLANT GROWTH PROMOTING FUNGI	13
2.2 ARBUSCULAR MYCORRHIZAL AS BIOPROTECTION AND BIO CONTROL	16
2.2.1 BROWN SPOT	18
2.2.2 RICE BLAST	19
2.2.3 DIRTY PANICLE	20
2.2.4 SHEATH ROT	21
3.0 CONCLUSIONS AND RECOMMENDATION	23
4.0 CITED REFERENCES	24
CURRICULUM VITAE	31

ABSTRACT

Arbuscular mycorrhizae fungi (AMF) are the mainly common in crops that grow in soil mineral, and very important for growing plants in nutrient-deficient substrates such as soil and sand dunes surrounding the volcano. Arbuscular mycorrhizae (AM) fungi are the largest population in plant community with high diversity such as tropical rainforests and temperate grasslands where they have a lot of potential host plants and can take advantage of their ability to colonize a wide variety of hosts. Also mycorrhizae plays an important role in the field of sustainable development agriculture and has been help of symbiosis associations with plant roots. There are several types of arbuscular mycorrhizal (AM) and many types of arbuscular mycorrhizal well recognized to colonize more than a few vegetables, fruits, grains, cereal and industrial crops in Malaysia such as Rice, Oil palm, Rubber and Cocoa. This paper highlighted the arbuscular mycorrhizae fungus (AMF) symbiosis with aerobic rice has excellent impression. Function mycorrhizae increased uptake of nutrients, the performance on growth and yield of arbuscular mycorrhizal symbiosis with aerobic rice and perform as a bio-protection and bio control against pathogens. In order to further enhance the benefits of arbuscular mycorrhiza, it requires proper application fertilizers that need for plants, especially phosphorus fertilizer and low tillage management practices.

Keywords: **arbuscularmycorrhizal; aerobic rice**