

**POTENTIAL ENDOPHYTIC BACTERIA FOR INCREASING PADDY (MR220)
GROWTH PERFORMANCES**

ARIF MUZAMIR BIN PAUZI

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

JULY 2015

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 :

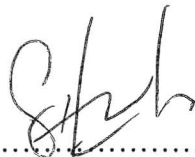


Date: 10/8/2015

Name: ARIF MUZAMIR BIN PAUZI

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: MISS HAMIZAH BT OTHMAN

Position:

Date:

ACKNOWLEDGEMENT

My greatest gratitude to ALLAH S.W.T for HIS blessing I am finally is able to complete my AGR 640 – Research Project 1 proposal report at the time given period. Alhamdulillah, the overall process for me to complete this proposal report field run smoothly.

Then, I would like to give my deepest thanks to my supervisor in – charge for my Final Year Project who is Miss Hamizah Bt Othman. She always gives her moral support to me and also guides me on how to complete the Research Project 1 proposal report.

After that, I would like to thank to my co – supervisor who is Madam Siti Sarah Bt Jumali for helping me to do my research proposal procedure. She always shared her knowledge and giving me guidance and moral support as well to help me finished my proposal report on time. She also helps me to find the right journal for me to do my research.

I also would like to thank to my entire Final Year Project (FYP) group for their excellent corporation and teamwork during finishing the proposal report. We together shared our knowledge and learned about the process to complete the proposal report including literature review, research methodology and journal findings.

Finally, I would like to thank to anyone who involves directly or indirectly with me during the process for me to complete my proposal report. Without their help, I might not be able to complete my proposal report successfully. I am really honored with all the assistance that I got from them.

ARIF MUZAMIR BIN PAUZI

TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	v
LIST OF FIGURES	vi
ABSTRACT	vii
ABSTRAK	vii
CHAPTER	
1 INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	2
1.3 Objectives	3
1.4 Hypothesis	3
1.5 Significance of Study	3-4
2 LITERATURE REVIEW	5
2.1 Background of Paddy	5-7
2.2 Background of Endophytic Bacteria	7-8
2.3 Advantages of Endophytic Bacteria	8-9
2.4 Characteristics of Endophytic Bacteria	9
2.5 Method used to increase paddy production in Malaysia	9-10
2.6 Previous study	10-11
3 RESEARCH METHODOLOGY	
3.1 Research location	12
3.2 Isolation of Endophytic Bacteria	13
3.3 Application of isolated endophytic bacteria to paddy crops	13
3.4 Data collection	13
3.5 Statistical analysis	13
3.6 Experimental layout	13
3.7 Planning schedule	14
4 RESULTS AND DISCUSSION	15-21
5 CONCLUSION AND RECOMMENDATION	22-24
CITED REFERENCES	25-26
APPENDICES	27-31
CURRICULUM VITAE	32

ABSTRACT

Endophytic bacteria have the ability for promoting the growth performance of paddy crops. Endophytic bacteria can be used as a substitute for chemical fertilizer that could cause harmful effects towards humans, animals and environments. The use of chemical can disrupt the ecosystem balancing. Endophytic bacteria also do not have negative effects on the host plant it colonizing. It helps the growth of plants by producing the growth hormones for plant health. This study was carried out to investigate the potential of endophytic bacteria towards the growth performance of paddy crops. Further research on endophytic bacteria is needed to ensure its potential to paddy crops.