

STUDY OF GROWTH AND YIELD IN DIFFERENT MEDIA FOR CHILLI

MUHAMMAD ADI AZFAR BIN ANWAR

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

JULY 2019

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation and gratefulness to those who had helped me, directly or indirectly, in completing this project. Without the help and support from other people, the completion of this project would be impossible.

First and foremost, to my mother Zamzanariah Mohamed Ali and my father Anwar Abd Malek who had given me endless support and encouragement to complete this project, thank you very much.

Next, my special appreciation goes to my supervisor, Madam WanNatasya Bt Wan Ahmed for sharing knowledge and expertise, and for her commitment and patience in guiding me. Her guidance had helped me a lot in doing this study.

I would also like to express my heartfelt gratitude to Mr. Khairul, and Mr Aminol, staff at the FPA for their dedication, expertise sharing and help in managing the crops for this study. In a whole, I want to thank the almighty Allah for keeping all circumstances in favour to me and let me complete this thesis successfully

Sincerely,

MUHAMMAD ADI AZFAR BIN ANWAR

TABLE OF CONTENTS

	Page
DECLARATION	i
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	ii
LIST OF TABLES	v
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	viii
ABSTRACT	viii
ABSTRAK	ix
CHAPTER 1: INTRODUCTION	ix
1.1 Background	1
1.2 Planting Medium	3
1.3 Problem Statement	3
1.4 Objective of Study	4
1.5 Research Question	4
1.6 Hypothesis	4
1.7 Scope of Study	4
1.8 Significant of Study	5
CHAPTER 2: LITERATURE REVIEW	6
2.1 Chili (<i>Capsicum annum</i>)	6
2.1.1 Taxonomy.....	6
2.1.2 Botanical description of <i>Capsicum annum</i>	7
2.1.3 Uses and Importance.....	7
2.2 Cocopeat	9
2.3 Burnt Rice Husk	11

CHAPTER 3: RESEARCH METHODOLOGY	13
3.1 Study Area	13
3.2 Planting material	14
3.2.1 Sowing time	14
3.3 Size of Plot to Study	16
3.4 Experimental Design	16
3.5 Data Recording	18
3.5.1 Plant Height	18
3.5.2 Number of Leaf	19
3.5.3 Number of Branches	19
3.5.4 Yield Component	20
3.6 Insecticide sprayed	21
3.7 Harvesting	22
3.8 Statistical Analysis	22
CHAPTER 4: RESULTS AND DISCUSSION	23
4.1 Effect of different medium on Growth Performance	23
4.1.1 Plant Height	23
4.1.2 Statistical Analysis	25
4.2 Effect of different medium on Yield Performance	27
4.2.1 Number of Fruit	27
4.2.2 Weight of Fruit	29
CHAPTER 5: CONCLUSIONS AND RECOMMENDATION	31
REFERENCES	33
APPENDICES	37

ABSTRACT

STUDY OF GROWTH AND YIELD IN DIFFERENT MEDIA FOR CHILLI

Chilli (*Capsicum annum*) is widely cultivated in Malaysia. However, selection of medium will affect rate of growth performance, yield and costing. In this study, three different medium was used; 100% cocopeat, 100% burnt rice husk and mixture (50% cocopeat with 50% burnt rice husk). The aim was used to investigate the growth performance and yield of chilli on different medium and to determine the best medium for chilli fertigation. This experiment was conducted at Share Farm, UiTM Jasin Campus, Melaka and 15 seeds of Sakata 461 F1 Hybrids variety were used. The experiment was conducted in a Complete Randomized Design (CRD) with five replications and three treatments. Each experimental unit consisted of 15 polybags, which made up a total of five plants per treatment. The plots were triangle spaced at three feet between treatments and the distance between plants of the same treatment was 1.5 feet. The medium were filled into polybag size 16 x 16. The data were collected and recorded every week for every stage (vegetative stage, flowering stage and fruiting stage). The parameter were plant height, number of leaves, number of fruits and weight of fruit per plant of the crops were measured and recorded to see the effect of the treatments towards the chilli. Based on the study, it was found that the number of leaves has significant value which was 0.00 at the flowering stage and 0.23 at the fruiting stage. The best medium at the flowering stage for number of leaves was T1 with 23 leaves and T3 with 200 leaves at the fruiting stage. The plant height value has significant value which was 0.00 at the vegetative stage, 0.02 at the flowering stage and 0.00 at the fruiting stage. The best medium at the vegetative stage for plant height is T1 22.00cm, T1 37.00cm at the flowering stage and T1 (62.4cm) at the fruiting stage. However, there was a no significant difference between the treatments ($P>0.05$) for number of fruits and weight of fruit. It is because medium material such as cocopeat and burnt rice husk that naturally possesses a 5-6 pH range, it will provide a relatively optimal availability of nutrients with minimal intervention to help in yield performance. As conclusion, cocopeat has higher impact on the growth and yield performance.

Keywords : Capsicum annum, Cocopeat, Burnt rice husk, Fertigation, Medium