# ANTIFUNGAL ACTIVITY FROM SILK, HUSK AND CORNCOB OF Zea mays (CORN)

NUR LIYANA BINTI ABDUL KHALID

Final Year Project Report Submitted in Partial Fulfillment of the Requirements for the Degree Of Bachelor Of Science (Hons.) Biology In The Faculty Of Applied Sciences Universiti Teknologi Mara

**JULY 2019** 

This Final Year Project Reported entitled "Antifungal Activity From Silk, Husk and Corncob of *Zea mays* (CORN)" was submitted by Nur Liyana binti Abdul Khalid, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Biology in the Faculty of Applied Sciences, and was approved by

Dr. Rosli Bin Noormi Supervisor Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan

Siti Norazura binti Jamal Project Coordinator Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan Dr. Aslizah binti Mohd Aris Head School of Biology Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan

Date:\_\_\_\_\_

### TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS	ii
LIST OF TABLES	iv
LIST OF PLATES	V
LIST OF ABBREVIATIONS	vii
ABSTRACT	viii
ABSTRAK	ix
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Significance of Study	3
1.4 Objectives of Study	4

## **CHAPTER 2: LITERATURE REVIEW**

2.1 Corn (Zea mays)	5
2.1.1 Background of Corn	5
2.1.2 Taxanomy of Corn	
2.1.3 Importance of Corn	8
2.1.4 Health Benefits of Corn	9
2.1.5 Medical Value of Corn	11
2.2 Antifungal Test	12
2.2.1Disc Diffusion	12
2.3 Fungi	13

### **CHAPTER 3: METHODOLOGY**

3.1 Materials	14
3.1.1 Raw Materials	14
3.1.2 Apparatus	14
3.1.3 Chemicals	14
3.2 Methods	15
3.2.1 Sample Preparation	15
3.2.2 Solvent Extraction	16
3.2.3 Disc Diffusion	18

# **CHAPTER 4 : RESULTS AND DISCUSSION**

4.1 Disc Diffusion	22
CHAPTER 5 : CONCLUSION AND RECOMMENDATIONS	36
CITED REFERENCES CURRICULUM VITAE	38 42

#### ABSTRACT

#### ANTIFUNGAL ACTIVITY FROM SILK, HUSK AND CORNCOB OF Zea mays (CORN)

Corn (Zea mays) is an economically important cereal crop often used as a food product which contains essential vitamin and mineral which are necessary for the human health. Corn is the second most plentiful cereal grown for human consumption, and many cultures around the world have lived on this grain. However, parts of corn which are silk, husk and corncob are not be taken as consideration due to the less application in production. In facts, these parts bring much benefits to the society instead of being thrown away and will cause environmental pollution and bring harms to the environment as well as society. The aim of the study was to determine anti-fungal activity from silk, husk and corncob of Zea mays (corn). Plant material was collected from local area at Sungkak Corn Plantation. The anti-fungal potential of all three samples were determined against two fungal species Aspergillus spp and Candida albicans using disc diffusion susceptibility assay. All the extracted sample with five different concentration which are 200mg/mL, 100mg/mL, 50mg/mL, 25mg/mL and 12.5mg/mL were applied on a sterile disc to conduct disc diffusion test. Based on the result analysis showed that there were no zone of inhibition for all three extract sample of silk, husk and corncob of corn for each concentration. All the extract does not show variable degree of inhibitory zone by using disc diffusion method against fungi. Therefore, future study can be continued in determining the anti-fungal activity of silk, husk and corncob of Zea mays (corn) by using different extraction method, type of fungi and antibiotic.