

**ISOLATION OF MICROORGANISMS FROM LANDFILL SOIL AND  
THE PRODUCTION OF ENZYME**

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**BACHELOR OF CHEMICAL ENGINEERING  
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THE PRODUCTION OF ENZYME**

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for the award of the degree of  
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## **SUPERVISOR'S DECLARATION**

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Chemical Engineering.

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**STUDENT'S DECLARATION**

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurrently submitted for award of other degree

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*Dedicated to my beloved family.  
For their endless love, support and encouragement.*

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## TABLE OF CONTENTS

	<b>Page</b>
<b>SUPERVISOR’S DECLARATION</b>	<b>ii</b>
<b>STUDENT’S DECLARATION</b>	<b>iii</b>
<b>ACKNOWLEDGEMENT</b>	<b>v</b>
<b>ABSTRACT</b>	<b>vi</b>
<b>ABSTRAK</b>	<b>vii</b>
<b>TABLE OF CONTENTS</b>	<b>viii</b>
<b>LIST OF TABLES</b>	<b>x</b>
<b>LIST OF FIGURES</b>	<b>xi</b>
<b>LIST OF SYMBOLS</b>	<b>xii</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xiii</b>
<b>CHAPTER 1 INTRODUCTION</b>	<b>1</b>
1.1 Background of the Study	1
1.2 Motivation	3
1.3 Problem Statement	3
1.4 Objectives	4
1.5 Scopes of Study	4
<b>CHAPTER 2 LITERATURE REVIEW</b>	<b>5</b>
2.1 Introduction	5
2.2 Municipal Solid Waste (MSW)	5
2.3 The Management of MSW	6
2.4 Landfill Soil	8
2.5 Soil Microorganisms	11
2.6 Cellulose – Degrading Bacteria (CDB)	13
2.7 Cellulase Enzyme	15
<b>CHAPTER 3 METHODOLOGY</b>	<b>17</b>
3.1 Overview of research methodology	17
3.2 Soil Sample Collection	18
3.3 Medium Preparation	18
3.3.1 Nutrient agar plate	18
3.3.2 Nutrient broth	18
3.3.3 Nutrient agar slant	18
3.4 Isolation and Characterization of Bacteria from Landfill Soil	18
3.5 Screening of Cellulolytic Bacteria	19

3.6	Inoculum and Crude Enzyme Preparation	19
3.7	Cellulase Activity Assay	19
3.7.1	Endoglucanase Assay (CMCase)	20
3.7.2	Total Cellulase Assay (FPase)	20
3.8	Production of Cellulase Enzyme	20
<b>CHAPTER 4 RESULTS AND DISCUSSION</b>		<b>21</b>
4.1	Introduction	21
4.2	Isolation of bacteria	22
4.3	Characterization of bacteria	23
4.3.1	Morphological study	23
4.3.2	Gram staining	24
4.4	Qualitative analysis of cellulolytic bacteria (screening)	25
4.5	Quantitative analysis of cellulolytic bacteria (Enzyme Assay)	27
4.6	Production of cellulase enzyme	29
<b>CHAPTER 5 CONCLUSION AND RECOMMENDATION</b>		<b>31</b>
5.1	Conclusion	31
5.2	Recommendation	32
<b>REFERENCES</b>		<b>33</b>
<b>APPENDIX</b>		<b>38</b>



**LIST OF TABLES**

<b>Table No.</b>	<b>Title</b>	<b>Page</b>
Table 2.1:	Method of waste disposal in Malaysia	7
Table 2.2:	Dominant bacterial phyla in soil (adapted from Aislabie, 2013)	12
Table 2.3:	Bacteria having cellulolytic abilities and it sources	14
Table 4.1:	Number of isolates found in landfill soil.	22
Table 4.2:	Gram characteristic and bacterial shape of the isolates	25
Table 4.3:	Enzyme production of bacteria from landfill soil.	26

**LIST OF FIGURES**

<b>Figure No.</b>	<b>Title</b>	<b>Page</b>
Figure 1.1:	Solid waste management in Malaysia for 2013 (CleanMalaysia, 2016)	2
Figure 2.1:	Basic solid waste management system (adapted from Zamali et al., 2009)	7
Figure 2.2:	Typical soil profile showing horizons and microbial habitats (adapted from Aislabie et al., 2013)	10
Figure 3.1:	Research methodology	17
Figure 4.1:	Development of microorganism on NA plate with different dilution factor.	23
Figure 4.2:	The morphological characteristic form, elevation and margin	24
Figure 4.3:	Different color and morphology of bacterial isolates A) bacilli; B) cocci; C) coccobacilli).	24
Figure 4.4:	Screening of enzyme production in CMC agar (A) plate with positive result of enzyme production, (B) negative result of enzyme production)	25
Figure 4.5:	Cellulase activity assay of bacterial isolates.	28
Figure 4.6:	Growth profile and enzyme activity of bacterial isolate D1 during cellulase production on CMC.	29
Figure 4.7:	Dry cell weight of cellulase production	30

**LIST OF SYMBOLS**

$m$	Slope
$I_{CMC}$	Indices of Relative Enzyme Activity
rpm	Revolutions per minute
°C	Degree Celsius
$hr$	Hour
$c$	Y-intersect

**LIST OF ABBREVIATIONS**

$(\text{NH}_4)_2\text{SO}_4$	Ammonium Sulphate
ABC	Action Plan for a Beautiful and Clean Malaysia
CAPEX	Capital Expenditure
CDB	Cellulose Degrading Bacteria
CMC	Carboxy Methyl Cellulose
CMCase	Endoglucanase
DNS	3,5-Dinitrosalicylic acid
GHG	Greenhouse Gases
I <sub>CMC</sub>	Indices of Relative Enzyme Activity
IUPAC	International Union of Pure and Applied Chemistry
$\text{K}_2\text{HPO}_4$	Dipotassium phosphate
M	Molar
$\text{MgSO}_4$	Magnesium Sulphate
MSW	Municipal Solid Waste
NA	Nutrient Agar
NaCl	Sodium Chloride
NB	Nutrient Broth
OD	Optical Density