

LIST OF CONTENT

COVER TITLE PAGE.....	i
UNDERGRADUATE THESIS	ii
APPROVAL SHEET	iii
PREFACE.....	iv
LIST OF SYMBOLS AND ABBREVIATIONS	vi
LIST OF CONTENT	vii
LIST OF FIGURES	x
LIST OF TABLES	xi
ABSTRACT.....	xii
INTISARI	xiii
CHAPTER I INTRODUCTION	1
1.1 Background.....	1
1.2 Problem	4
1.3 Objectives	4
1.4 Benefits.....	4
CHAPTER II LITERATURE REVIEW AND HYPOTHESIS	6
2.1 Literature Review	6
2.1.1 Chitosan as a Natural Preservation Agent	6
2.1.1.1 Chitosan.....	6
2.1.1.2 Edible Coating	7
2.1.2 Mushroom-Derived Chitosan as an Alternative.....	8
2.1.3 <i>Hypsizygus</i> sp.....	9
2.1.4 Fourier Transform Infrared Spectroscopy (FTIR) in Chitosan	11
2.1.5 Food Spoilage and Preservation.....	13
2.1.5.1 Food Spoilage	13
2.1.5.2 Spoilage in Dairy Product.....	14
2.1.5.3 Preservation	15
2.1.6.1 Cheese.....	15
2.1.6.2 Dangke Cheese	16
2.1.6.3 Microbial Spoilage.....	18
2.2 Hypothesis	18
CHAPTER III RESEARCH METHOD.....	19
3.1 Tools and Materials.....	19
3.1.1 Tools.....	19
3.1.2 Materials.....	19
3.2 Methods.....	19



3.2.1	Preparation of Fungal Chitosan	19
a.	Mushroom Drying.....	19
b.	Extraction of <i>Hypsizygus</i> sp. Chitosan.....	19
3.2.2	FTIR Analysis.....	20
3.2.3	Morphological Identification.....	21
3.2.4	Proximate Analysis of Coating Cheese	21
a.	Determination of Moisture Content	21
b.	Determine of Protein Content	22
c.	Determine of Ash Content	23
d.	Determine of Carbohydrates Content	23
e.	Determine of Fat Content.....	23
3.2.5	Sensory Analysis	24
3.2.6	pH Analysis	24
3.2.7	Microbial Analysis	25
a.	Total Plate Count (TPC)	25
b.	Enterobacteriaceae	25
c.	Lactic Acid Bacteria	26
d.	Yeast and Mold.....	26
3.3	Data Analysis.....	26
CHAPTER IV RESULT AND DISCUSSION.....		27
4.1	Identification of <i>Hypsizygus</i> sp. Chitosan	27
4.2	Physicochemical Analysis on Dangke Cheese.....	30
4.2.1	Proximate Analysis	30
4.2.2	pH Measurement on Dangke Cheese	33
4.2.3	Morphological and Sensory Analysis	34
4.3	Effect of <i>Hypsizygus</i> sp. Chitosan in Microbiological Quality of Dangke Cheese.....	35
4.3.1	Total Plate Count	36
4.3.2	<i>Enterobacteriaceae</i>	38
4.3.3	Lactic Acid Bacteria	39
4.3.4	Yeast and Mold.....	41
CHAPTER V CONCLUSION AND SUGGESTION.....		43
A.	Conclusion.....	43
B.	Suggestion	43
BIBLIOGRAPHY		44
APPENDIX.....		51
1.	Extracted chitosan	51
2.	Microbial Analysis.....	51
2.1	Total Plate Count.....	51
2.2	Enterobacteriaceae	51



Bioprospecting of Chitosan derived from Hypsizygus sp. as an Edible Coating for Dangke Cheese Preservation

Zahra Fitri Annisa, Sari Darmasiwi, S.Si., M.Biotech., Ph.D

Universitas Gadjah Mada, 2025 | Diunduh dari <http://etd.repository.ugm.ac.id/>

UNIVERSITAS
GADJAH MADA

2.3	Lactic Acid Bacteria.....	51
2.4	Yeast and Mold	52
3.	Raw data.....	52
3.1	Yield.....	52
3.2	Concentration	52
3.2.1	Low Concentration.....	52
3.2.2	High Concentration	52
3.3	Total Plate Count.....	52
3.4	Enterobacteriaceae	53
3.5	Lactic acid.....	54
3.6	Yeast and Mold	55
3.7	pH Analysis.....	56
4.	Screenshot of SPSS analysis	56
4.1	Moisture Content.....	56
4.2	Ash content.....	57
4.3	Fat content.....	57
4.4	Protein content	58
4.5	Carbohydrate content	58