

## TABLE OF CONTENTS

TITLE PAGE.....	i
INSIDE COVER .....	ii
VALIDATION PAGE.....	iii
PLAGIARISM STATEMENT .....	iv
PREFACE .....	v
LIST OF ABBREVIATIONS AND SYMBOLS .....	vi
TABLE OF CONTENTS .....	vii
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
LIST OF ATTACHMENTS .....	xii
<i>INTISARI</i> .....	xiii
ABSTRACT.....	xiv
I. INTRODUCTION .....	1
A. Scientific Background .....	1
B. Research Problems .....	2
C. Research Objectives .....	3
D. Research Benefits .....	3
II. LITERATURE REVIEW & HYPOTHESIS .....	4
A. Literature Review .....	4
1. Soybean .....	4
2. Soymilk .....	5
3. Soymilk By-product (SMB) .....	8
4. Lactic Acid Bacteria .....	9
5. Fermentation by Lactic Acid Bacteria.....	10
6. Lactic Acid Bacteria (LAB) Isolation and Identification by 16s rRNA Sequence .....	13
B. Hypothesis .....	16
III. RESEARCH METHODS .....	17
A. Time and Place of Research .....	17
B. Research Materials .....	17
C. Research Tools.....	18
D. Procedure.....	19



1. Preparation of soymilk and soymilk by-product (SMB).....	20
2. Isolation of Lactic Acid Bacteria (LAB) from soymilk.....	20
3. Morphological characterization of the isolated LAB .....	21
4. Physiological and biochemical characterization of the isolated LAB....	22
5. Genomic DNA extraction and identification by 16S rRNA.....	23
6. Growth of isolates and <i>Lactobacillus plantarum</i> in SMB and MRS medium .....	24
7. Soymilk fermentation by selected isolate and <i>Lactobacillus plantarum</i>	25
E. Data Analysis .....	26
IV. Results & Discussion .....	27
A. Morphological characterization of isolated lactic acid bacteria.....	27
B. Physiological and biochemical characterization of the isolated lactic acid bacteria .....	30
C. Genomic DNA extraction and identification by 16S rRNA.....	34
D. Growth of isolates and <i>Lactobacillus plantarum</i> in Soymilk by-product (SMB) and MRS medium.....	37
E. Soymilk fermentation by selected isolate and <i>Lactobacillus plantarum</i> ...	40
V. Conclusion & Suggestions.....	45
A. Conclusion.....	45
B. Suggestions.....	45
VI. References .....	47
VII. ATTACHMENTS.....	52