## **TABLE OF CONTENTS**

	Page
Acknowledgements	iii
Abstract Their	iv
Abstract English	vi
Table of contents	vii
List of Tables	ix
List of Figures	X
Chapter 1 Introduction	1
1.1 Principles, theory, and rational	1
1.2 Purpose of the study	2
1.3 Application advantages	$\begin{pmatrix} 2 \\ 2 \end{pmatrix}$
1.4 Scope of study	2
Chapter 2 Literature review	3
2.1 Confectionery	3
2.2 Soft candy	3
2.3 Processing of toffee	9
2.4 Toffee texture	15
2.5 Sweeteners	15
2.6 Yogurt	30
Chapter 3 Methodology	34
3.1 Materials	34
3.2 Equipment	35
3.3 Methods	35
THINTY BY	•
Chapter 4 Results and discussion	39
4.1 Production of soft candy	39
4.2 Production of soft candy prototype	39
4.3 Effect of sugar alcohols on the soft yogurt candy quality	43
4.4 Effect of honey on the soft yogurt candy quality	44
4.5 Effect of packaging materials and storage temperatures on the soft yogurt candy quality	45
4.5.1 Physical quality of soft yogurt candy during storage	46
4.5.2 Chemical quality of soft yogurt candy during storage	48
4.5.3 Sensory evaluation of soft yogurt candy during storage	53
4.5.4 Microbiological quality of soft yogurt candy during storage	55
Chapter 5 Conclusion	57
References	59

	Page
Appendices	61
Appendix A Pictures	62
Appendix B Physical chemical and microbiological analyses	66
Appendix C Sensory evaluation forms	73
Appendix D Data of soft yogurt candy during storage	77
Appendix E Statistical analysis	84
Curriculum vitae	122



## LIST OF TABLES

Page
8
16
17
20
29
29
39
40
41
41
42
43
43
44
45
53
54
54
55

ลิขสิทธิมหาวิทยาลัยเชียงใหม Copyright<sup>©</sup> by Chiang Mai University All rights reserved

## LIST OF FIGURES

Figure	Page
2.1 Low-type mixer on a tubular frame	10
2.2 Toffee plant	12
2.3 Chemical structure of maltitol	16
2.4 Composition of hygroscopicity of glycerol, sorbitol and maltitol syrup	17
2.5 Production of sorbitol and maltitol	19
2.6 The chemical structures of sorbitol and mannitol	24
2.7 The planar configurations of sorbitol and mannitol	24
2.8 Mannitol and sorbitol metabolism	25
2.9 Outline of the stimulation and the inhibition of the growth of yoghurt	30
bacteria in milk.	
3.1 Production of soft candy prototype	36
4.1 a <sub>w</sub> of soft candy affected by packaging materials and storage temperatures during 3 months storage period	46
4.2 L* values of soft candy affected by packaging materials and storage temperatures during 3 months storage period	47
4.3 a* values of soft candy affected by packaging materials and storage Temperatures during 3 months storage period	47
4.4 b* values of soft candy affected by packaging materials and storage temperatures during 3 months storage period	48
4.5 Total acidity (% lactic acid) of soft candy affected by packaging materials and torage temperatures during 3 months storage period	48
4.6 Moisture content (%) of soft candy affected by packaging materials and storage temperatures during 3 months storage period	49
4.7 Total solids (%) of soft candy affected by packaging materials and Storage temperatures during 3 months storage period	49
4.8 Total soluble solids (% Brix) of soft candy effected by packaging materials and storage temperatures during 3 months storage period	50
4.9 Reducing sugars before inversion (g/100g) of soft candy affected by packaging materials and storage temperatures during 3 months storage period	51
4.10 Reducing sugars after inversion (g/100g) of soft candy affected by packaging materials and storage temperatures during 3 months storage period	51
4.11 Sucrose (g/100g) of soft candy effected by packaging materials and storage temperatures during 3 months storage period	52
	<sup>52</sup> e