

**PRODUCTION OF COOKIES INCOPORATED WITH
MANGOSTEEN PEEL EXTRACT**

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT	iii
TABLE OF CONTENT	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	ix
ABSTRACT	x
ABSTRAK	xi
CHAPTER 1 INTRODUCTION	
1.1 Background of study and problem statement	1
1.2 Significant of study	2
1.3 Objectives of the study	3
CHAPTER 2 LITERATURE REVIEW	
2.1 Mangosteen	4
2.2 The mangosteen peel	7
2.3 Colour	9
2.4 Phenolic compound	12
2.5 Flavonoid	14
2.6 Anthocyanin	16
2.6.1 Co-pigmentation	20
2.6.2 Metal complexation	22
2.7 Cookies/Biscuit	23
2.8 Lipid oxidation	25
2.8.1 Initiation	26
2.8.2 Propagation	27
2.8.3 Termination	28
2.9 Analysis on the by production of rancidity	29
2.10 Sensory Analysis	30
CHAPTER 3 METHODOLOGY	
3.1 Materials	31
3.1.1 Lists of chemicals	31
3.1.2 The lists of equipment	31
3.2 Raw material	31
3.3 Overall procedure	32
3.4 Extraction of pigment	32
3.5 Colour absorbance of the anthocyanin	33
3.6 Preparation of cookies	34

3.7	Evaluation of colour on cookies	35
3.8	Sample preparation for PV	35
3.9	Peroxide Value	36
3.10	TBA test	38
3.11	Sensory Test	39
3.12	Statistical Analysis	40
CHAPTER 4 RESULTS AND DISCUSSION		
4.1	Extraction of pigment	41
4.2	Absorption spectra of anthocyanin	42
4.3	Freeze-dried of mangosteen peel extract	44
4.4	Production of cookies	44
4.5	Colour stability in cookies	45
	4.7.1 Lightness	46
	4.7.2 Redness	48
	4.7.3 Yellowness	50
4.6	Peroxide value (PV)	51
4.7	Thiobrombituric acid (TBA) value	53
4.8	Sensory evaluation (Hedonic Scale)	55
CHAPTER 5 CONCLUSION AND RECOMENDATIONS		59
CITED REFERENCES		61
APPENDICES		66
CURRICULUM VITAE		74

ABSTRACT

PRODUCTION OF COOKIES INCORPORATED WITH MANGOSTEEN PEEL EXTRACT

Mangosteen was scientifically known as *Garcinia mangostana L.* The peel has been reported to contain natural pigment called anthocyanin which is potential to be natural colourants and antioxidant. Therefore, the mangosteen peel extract (MPE) was obtained by water extraction method and two formulations of cookies incorporated with MPE were produced to investigate the oxidative stability of cookies. The acceptability of cookies and the colour stability of cookies incorporated with MPE were also investigated. Prior to this investigation, the colour stability of MPE at different pH was determined by using UV-Vis Spectrophotometer and it was detected at lambda maximum (λ_{max}) of 515.78 nm. The results showed that the lower the pH the higher the absorbance reading and the more stable the anthocyanin was. The effect of the MPE on cookies against oxidative reaction was measured by conducting the analysis on Peroxide Value (PV) and Thiobarbituric Acid (TBA) for four week of storage period. Cookies incorporated with MPE showed the lowest PV and TBA compared to the control cookies. However, cookies with MPE treated at lower pH (3.00) showed the lowest PV and TBA value compared to the others. The colour stability of cookies during four week of storage study was determined by using Minolta-Chromameter. Cookies incorporated with MPE exhibited low L^* values and b^* values but higher in a^* values compared to the control cookies. This indicated that the incorporation of MPE in cookies results in an attractive red tonality of colours. The L^* , a^* and b^* values of the cookies incorporated with MPE showed a non significantly decreased in colour for the first 3 weeks and insignificantly decreased in colour during the fourth week of storage. The acceptability of cookies was measured by using 9-point Hedonic scale and 64 panelists were used. The mean score for the overall acceptability of cookies incorporated with MPE were around 6 which showed the acceptability of panelist to this product.