

**PRODUCTION OF *FICUS ELASTICA ROBUSTA* LEAF JUICE
(DAUN TAPAK GAJAH)**

NOR AISHAH AHMAD NOR AZMI

**BACHELOR OF SCIENCE (Hons.)
FOOD SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCES
UNIVERSITI TEKNOLOGI MARA**

NOVEMBER 2008

ACKNOWLEDGEMENTS

In the Name of Allah. The Most Merciful and Most Beneficent.

Alhamdulillah. Praise be to Allah, Lord of the Universe. I would like to express my deepest appreciation and gratitude to Mr Woon Kon Sung, my supervisor, for his understanding, patience, invaluable guidance, suggestion and constant encouragement throughout the planning and execution of the thesis.

I would like to thank assistant lecturer Cik Hairiyah Hashim and Food Technology Department Laboratory staff, Pn Siti, and Pn Nora for their help during my experiment.

The support, suggestion and insightful comment given by all my friends are greatly acknowledged. You all make everything worthwhile.

Last but not least, I am greatly indebted to my parent for their understanding and encouragement throughout the course of this study. What would I do without all of you? This is as much your accomplishment as it is mine.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	v
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	vii
ABSTRACT	viii
ABSTRAK	ix
CHAPTER 1 INTRODUCTION	
1.1 Background	1
1.2 Significance of study	2
1.3 Objectives of study	2
CHAPTER 2 LITERATURE REVIEW	
2.1 <i>Ficus Elastica Robusta</i>	3
2.2 Chemical composition	5
2.2.1 Nutritive value	6
2.3 Action, Medical usage	8
2.3.1 Anti-Inflammatory	10
2.4 Composition and characteristics of herbal juices	12
2.4.1 Definitions	12
2.4.1.1 Juice concentrates	13
2.5 Production of Juice	13
2.6 Other ingredients in juice production	16
2.6.1 Citric acid	16
2.6.2 Xanthan gum	18
2.6.3 Sugar	19
2.6.4 pH	20
2.6.5 Sodium benzoates	21
CHAPTER 3 METHODOLGY	
3.1 Production of <i>Ficus Elastica Robusta</i> juice	22
3.1.1 Raw materials used	22
3.1.2 Formulation	22
3.1.3 Method	23
3.1.3.1 Juice processing	24
3.2 Physical analysis	25
3.2.1 Colour measurement	25
3.2.2 Viscosity	25

ABSTRACT

PRODUCTION OF *FICUS ELASTICA ROBUSTA* LEAF JUICE (DAUN TAPAK GAJAH)

Ficus Elastica Robusta leaf juice was formulated with TSS 55°Brix and 60°Brix with pH 4.2. *Ficus Elastica Robusta*, family *Moraceae* was obtained from Botanical Garden at Semenyih, Negeri Sembilan. Sensory analysis, mineral and crude fiber content, viscosity and colour measurement were carried out. The parameter was determined in order to know the acceptability of *Ficus Elastica Robusta* leaf juice. From this study, the formulation with lower TSS (55°Brix) was most accepted by the panelists with mean score 6.5. From the analysis, formulation with 55°Brix contains 511.6 ppm of potassium and 33.02 ppm of calcium which was higher than formulation with 60°Brix. While, the percent of crude fiber in formulation 55°Brix was about 1.56% as compared to formulation 60°Brix was about 1.54% but there was no significantly difference between these two formulations. From this study, formulation with lower TSS (55°Brix) was recommended to produce the juice due to the higher mineral and crude fiber content compared to others.

CHAPTER 1

INTRODUCTION

1.1 Background and problem statement

Functional foods and beverages are finding global success, due to consumer trends toward health maintenance. Increased attention has been given to the protective effects of fruits and vegetables and their roles in the prevention of various degenerative diseases (Burda and Oleszek, 2001). Juice is one form or another consumed universally by nearly the entire world population. In the United States their popularity stems from tradition and habit, such as orange juice for breakfast or because of their nutritional and therapeutic value. Most juices are consumed straight, in the single strength state. Even if they are purchased in the concentrated form, proper reconstitution will recover their natural traits.

People today especially in developed countries are very concerned with their health and nutrition. They are always interested in healthful product that can provide many beneficial effects, include, keeping them healthy and they are concerned about what they eat. Therefore, many food factories try as best as they can to produce these kinds of products to meet customer need.