

UTILIZATION OF SUGAR PALM (*Arenga pinnata*) SYRUP IN
TROPICAL FRUIT COCKTAIL PRODUCTION

THESIS

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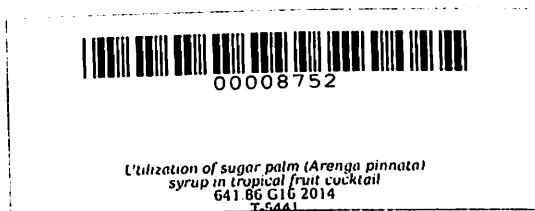
Indang, Cavite

April 2014

UTILIZATION OF SUGAR PALM (*Arenga pinnata*) SYRUP IN TROPICAL FRUIT COCKTAIL PRODUCTION

**Undergraduate Thesis
Submitted to the Faculty of the
College of Agriculture, Forestry, Environment and Natural Resources
Cavite State University
Indang, Cavite**

**In partial fulfillment
of the requirements for the degree
Bachelor of Science in Food Technology**



BON MARIE P. GARCIA
April 2014

ABSTRACT

GARCIA, BON MARIE P. Utilization of Sugar Palm (*Arenga pinnata*) in Tropical Fruit Cocktail Production. Undergraduate Thesis. Bachelor of Science in Food Tehcnology. Cavite State University, Indang, Cavite. April 2014. Adviser: Dr. Fe N. Dimero

The potential of sugar palm (*Arenga pinnata*) syrup in tropical fruit cocktail production was evaluated at the Food Processing Laboratory, Institute of Food Science and Technology, Cavite State University, from January to March 2014. Specifically, the study aimed to develop a process in utilizing sugar palm syrup in tropical fruit cocktail production; characterize the sugar palm syrup used in tropical fruit cocktail in terms of sensory properties: color, cloudiness and general acceptability; characterize tropical fruit cocktail with sugar palm syrup in terms of sensory properties: color, aroma, texture, flavor and general acceptability; determine the physico-chemical properties of tropical fruit cocktail in sugar palm syrup: pH, total soluble solids and titratable acidity; determine the microbial properties of tropical fruit cocktail in sugar palm syrup; compare consumer acceptability of tropical fruit cocktail in sugar palm syrup with that in cane syrup; and determine the production cost of tropical fruit cocktail.

Processing of tropical fruit cocktail using sugar palm syrup required 15 min of processing time. After preparing the sugar palm syrup, fruits were washed, peeled and cut into cubes. After transferring the fruits and syrup (75 percent:25 percent by volume ratio)

into the container, it was processed in a pressure cooker for 15 minutes. It was then cooled, sealed and stored. The finished product has a pH value of 3.69, has total soluble solids of 32 °Brix and titratable acidity of 2.12 percent. The processing method used was proven in sterile condition as indicated by <1 cfu/ml microbial count after two weeks of storage. The syrup used was rated with a moderately acceptable color and flavor. It was slightly turbid and was rated acceptable for its general acceptability. The color, aroma and flavor of fruit cocktail were moderately acceptable while the texture was acceptable. It was also slightly sweet and slightly sour. Its general acceptability was acceptable. One jar of fruit cocktail in sugar palm syrup could be sold for P105.00 from 3 kg raw materials having a return of investment (ROI) of 14.04% versus 4.80 % ROI in processing tropical fruit cocktail using cane syrup.

Generally, sugar palm syrup could be utilized as a potential substitute for cane sugar or other packing medium used in the production of tropical fruit cocktail.

TABLE OF CONTENTS

	Page
APPROVAL SHEET	ii
BACKGROUND INFORMATION	iii
ACKNOWLEDGMENT	iv
ABSTRACT	vi
LIST OF TABLES	xii
LIST OF FIGURES	xiii
LIST OF APPENDICES	xiv
LIST OF APPENDIX FIGURES	xv
INTRODUCTION	1
Statement of the Problem	2
Objectives of the Study. . .	2
Significance of the Study. . .	3
Scope and Limitation of the Study	3
Time and Place of the Study	4
REVIEW OF RELATED LITERATURE	5
Sugar Palm	5
Syrup	5

Processing of Sugar Palm Syrup	5
Tropical Fruit Cocktail	6
Proportion of fruits	6
Packing media	6
Preparing the produce	8
Filling jars	8
Sealing jars	8
Canning	9
Checking seals and storage	9
Physico-Chemical Properties of Canned Fruit Cocktail.	10
pH	10
Total soluble solids	10
Titratable acidity	10
Microbial Standards for Fruit cocktail in Syrup	10
Sensory Properties of Tropical Fruit Cocktail	11
Clearness of packing medium	11
Color	11
Defects	12
Character	12
Peach.	12
Pear	12
Pineapple.	12

Grape.	12
Cherry	12
METHODOLOGY	14
Selection of Raw Materials.	14
Processing of Sugar Palm Syrup.	14
Treatments of the Study.	14
Processing of Tropical Fruit Cocktail	15
Physico-Chemical Analysis.	15
pH	15
TSS.	15
Total Titratable Acidity	15
Sterility Test	16
Sensory Evaluation	16
Consumer Acceptability	17
Statistical Analysis	17
RESULTS AND DISCUSSION	18
Processing Technology for Tropical Fruit Cocktail	19
Physico-chemical Properties.	20
Microbial Analysis	21
Sensory Properties of Tropical Fruit Cocktail in Sugar Palm Syrup . .	21
Color of sugar palm syrup	21
Turbidity of sugar palm syrup	22
Flavor of sugar palm syrup	23

Acceptability of sugar palm syrup	23
Color of fruit cocktail	23
Aroma of fruit cocktail	23
Texture of fruit cocktail.	24
Flavor of fruit cocktail	24
Sourness of fruit cocktail	25
Sweetness of fruit cocktail	25
Acceptability of fruit cocktail	25
Sensory Properties of Fruit Cocktail in sugar Palm Heavy Syrup	
Compared to Sensory Properties of Fruit cocktail in Cane Syrup	25
Consumer Acceptability	27
Production Cost	27
SUMMARY, CONCLUSIONS AND RECOMMENDATION	31
Summary	31
Conclusion	32
Recommendation	32
LITERATURE CITED	33

LIST OF TABLES

Table		Page
1	Proportion of basic fruits in tropical fruit cocktail	7
2	Proportion of basic fruits in tropical fruit salad	7
3	Different physico-chemical properties of tropical fruit cocktail in sugar palm syrup	20
4	Microbial counts of tropical fruit cocktail in sugar palm syrup	21
5	Mean sensory scores for sugar palm syrup	22
6	Mean sensory scores for tropical fruit cocktail	24
7	Comparison of mean sensory scores for sugar palm syrup of T_0 and T_2 ..	26
8	Comparison of mean sensory scores for fruit cocktail of T_0 and T_2	26
9	Production cost for tropical fruit cocktail in sugar palm syrup	29
10	Production cost for tropical fruit cocktail in cane syrup	30

LIST OF FIGURES

Figure		Page
1	Process flow for tropical fruit cocktail processing	19
2	Consumer acceptability of tropical fruit cocktail in sugar palm syrup cooked for 15 minutes	28

LIST OF APPENDICES

Appendix		Page
1	Sensory Evaluation Sheets	36
2	pH Determination	38
3	Total Soluble Solids Determination.	39
4	Titrateable Acidity Determination	40

LIST OF APPENDIX FIGURES

Appendix Figure		Page
1	Titrateable acidity determination	42
2	Sterility test of tropical fruit cocktail in sugar palm syrup	43
3	Sensory evaluation of tropical fruit cocktail in sugar palm syrup	44
4	Consumer acceptability of tropical fruit cocktail in sugar palm syrup	45
5	Tropical fruit cocktail in sugar palm syrup.	46

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Undergraduate thesis submitted to the Faculty of the Institute of Food Science and Technology, College of Agriculture, Forestry, Environment and Natural Resources, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Food Technology with Contribution No. _____. Prepared under the supervision of Dr. Fe N. Dimero.

INTRODUCTION

The sap of sugar palm, an indigenous plant in upland Cavite locally known as “kaong” or “irok” that has been processed into syrup was proven to possess different nutritional properties beneficial to our health (Alilam, 2012). More importantly, it was found that it has a low glycemic index compared to cane syrup (Lapitan and Dimero, 2013). Glycemic index, or GI, measures how a carbohydrate-containing food raises the blood sugar and could help diabetics to plan their meal. A food with high GI raises blood glucose more than medium or low GI foods (Diabetes Organization, n.d.).

Canned tropical fruit cocktail is one of the commercially available fruit preserves which utilize syrup in its production. It is a mixture of different fruits which may be fresh, frozen or canned, packed in a suitable packing medium with the specific °Brix and is processed by heating in an appropriate manner after being sealed in a container so as to prevent spoilage (CAC, 1981).