

DEVELOPMENT OF SUGAR PALM JUICE WITH FRUIT PULP

THESIS

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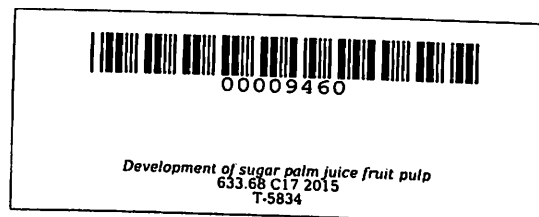
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**DEVELOPMENT OF SUGAR PALM JUICE WITH FRUIT PULP**

Undergraduate Thesis  
Submitted to the Faculty of the  
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## ABSTRACT

**CARASCO, MARY JOICE R. Development of Sugar Palm Juice with Fruit Bits.** Undergraduate Thesis. Bachelor of Science in Food Technology, Cavite State University, Indang, Cavite. April 2015. Adviser: Dr. Fe N. Dimero.

A study was conducted to develop sugar palm juice with fruit bits. Specifically, it aimed to determine raw material requirements in terms of physico-chemical and sensory properties of sap of different holding periods prior to processing; develop a formulation of sugar palm juice with fruit bits; describe a processing flow for sugar palm juice with fruit bits; evaluate the sensory properties of the product; and evaluate consumer acceptability of sugar palm juice with fruit bits.

Sap sample was divided into 7 treatments with different holding periods prior to processing. Physico-chemical properties specifically total soluble solids and titratable acidity were evaluated to determine the adjustments that should be applied to each treatment to conform to product standards. Sugar palm sap was adjusted to obtain 12 °B, 1% TA and 2% TA.

The sap was filtered through cheesecloth to remove suspended solids and foreign materials. Filtered sap was filled into 380 mL glass bottle with 300 mL juice and 40% *kaong* fruit. The juice was processed at 100 °C for 10 min.

Results of physico-chemical analysis show that as holding period increases, total soluble solids decreased and titratable acidity increased due to possible conversion of sugars into acids through fermentation. Results of sensory evaluation show no significant difference among treatments in all attributes except for sourness and off flavor. Increasing the holding period up to 8 hr can increase the acceptability level of the

product. Based on consumer acceptability test, sugar palm juice from sap with 8-hr holding period ( $T_5$ ) was evaluated to be moderately acceptable.



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**Mary Joice R. Carasco**

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## **INTRODUCTION**

Sugar palm (*Arenga pinnata*) grows in tropical country like the Philippines. This palm tree can be a source of raw materials for the production of different products and is now becoming popular for its excellent economic uses. Since palm sap is rich in sugars (10-17%) and, unless it is collected under hygienic conditions, rapid fermentation and conversion reactions to acids and alcohols occur (Iwuoha and Eke, 1996). The sap can be used for the preparation of juice. It can also be used to produce vinegar, alcohol, syrup and brown sugar. Aside from these products, new developments are now arising because of the multi-benefits provided by this palm tree.

Juice is one of the most favored beverages normally composed of aqueous liquids or nectars which are extracted from fruits and vegetables. The juice is prepared by suitable processes, which maintain the essential physical, chemical, organoleptic and nutritional characteristics of the juices of the fruit from which it comes. The addition of sugars or acids can be permitted but must be endorsed in the individual standard (FAO, 1992).