



# COCOA PULP JUICE

## INTRODUCTION

At present, most of the cocoa beans are used in the production of cocoa products such as chocolate, cocoa powder (for drink, colouring and flavouring agent), chocolate syrup and other product enrobed with chocolate.

Utilization of cocoa beans (for cocoa powder and cocoa butter production) is only 10% of the gross weight of cocoa pod. This means that 90% of the total pod weight is discarded as cocoa waste. Since a large proportion of the cocoa pod is thrown away, effort has to be made to convert the husk and sweating into beneficial by-products. The by-products that can be produced include cocoa juice, jam and jelly from cocoa mucilage; pectin, animal feeds and biogas from pod husk; as well as biochemical such as alcohol, acetic acid and esters from cocoa sweating.



Pulp covering seeds of cacao

Cocoa pulp contains 80 - 90% water, 10 - 15% sugar, 0.4 - 0.8% citric acid, 1% pectin and other constituents in minute quantity. Cocoa pulp extracted from fresh cocoa beans using 'Cocoa Depulper' is suitable for conversion into economic products.



Cocoa Pulp Juice

## PRODUCTION OF COCOA PULP JUICE

The selection of cocoa pods is important for the production of quality juice. The most suitable pods will be those three-quarter ripe and yellowish-green in colour. Ripe pods are generally dry and brown in colour. This will affect the quality of juice produced.

## PULP EXTRACTION

Studies indicated that the average yield of pulp which can be extracted from one tonne of beans is 154 liter. The pulp was approximately 15 - 18% of the wet bean and 25 - 30% of the total pulp weight. Cocoa pulp was extracted and juice was formulated as shown in Figure 1.

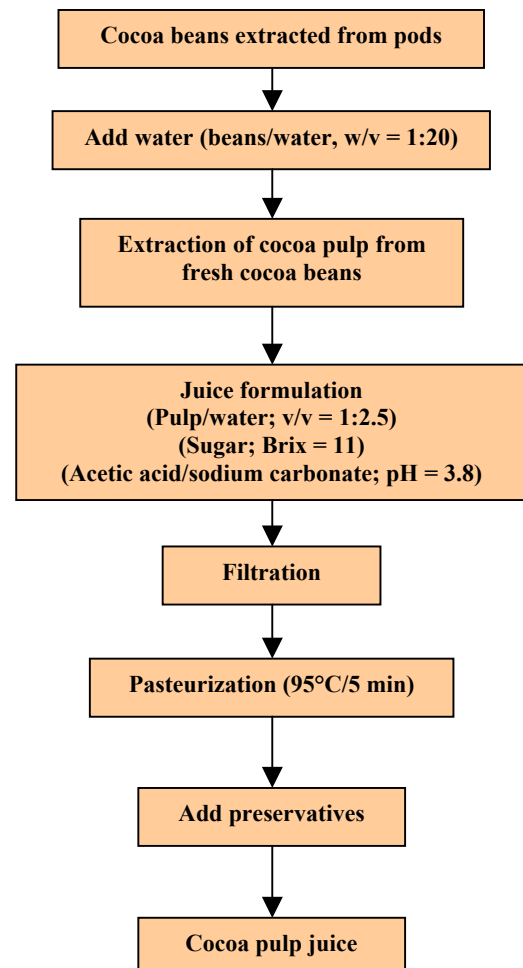


Figure 1. Extraction and formulation of cocoa pulp juice

Generally, the shelf-life of the juice can be prolonged by adding preservatives. Browning reaction can be controlled using sodium metabisulphite.



**Locally fabricated cocoa depulper for pulp extraction**

## **CONCLUSION**

In general, cocoa pulp can be formulated into drink by adding water, sugar and citric acid. However, preservatives have to be added to control the browning reaction. The flavour of the juice can also be enhanced by adding other fruit juices such as sour-soup, lime, mango and others.

## **ENQUIRIES**

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