



## Processing of Nungu (Ice Apple) into Milk Shake

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### Abstract

Now a days many cool drinks avail in market with different names can help us to hydrate our body during Summer which is harmful practice as these products are filled with different chemicals, pesticides etc.

Nungu (Ice apple) can hydrate our body and can supplement healthy nutrients to our diet.

Processing of the fruit makes it stay fresh for long time with the same nutrient content and flavour and processing can make the product attractive to the children and easy way of consuming the same nutrients.

**Keywords:** Nungu; Ice Apple; Milkshake

### Introduction

Borassus flabellifer, commonly known as dou palm, palmyra palm, tala palm, toddy palm, wine palm, or ice apple is native to the Indian subcontinent and Southeast Asia, including Nepal, India, Bangladesh, Sri Lanka, Cambodia, Laos, Burma, Thailand, Vietnam, Malaysia, Indonesia and the Philippines. It is reportedly naturalized in Pakistan, Socotra and parts of China.

Borassus flabellifer commonly known as Nungu is a robust tree which is identified universally for its growing feature. The tree reaches to a height of 30 metres (98 ft) and lives more than 100 years. In the initial stage, the young palmyra palm grows slowly, but grows faster with age. Looped with leaf scars, the covering can be seen with green-bluish leaves together with several dozen fronds diffusing 3m (9.8 ft) diagonally. Ringed with leaf scars, the large trunk of the tree bears a resemblance to that of the coconut tree.

### Fruit

Borne in clusters, the fruit is just about 4 to 7 inches in diameter and has a black shell. In order to let slip the three sweet jelly seed sockets, the top portion of the fruit must be cut off. These sockets are translucent pale-white in color, akin to that of the lychee, but it exudes a milder flavor and comes with no pit. The fruit has a part that is just like jelly and it is covered with a thin, yellowish-brown skin. The fleshy white body contains watery fluid; however the fi-

brous and ripened outer layer of the palm can also be eaten raw, boiled or roasted.

Ice apple (palm fruit) is a seasonal fruit of the sugar palm tree and is widely available during the sizzling summer. The fleshy fruit loaded with translucent, juicy fluid has excellent cooling properties.

Ice apple is very similar to litchi fruit in texture and tastes like a slightly sweet tender coconut. It provides the perfect blend of minerals and sugars for the body during the summer season. The fruit is called tadgola in Hindi, nungu in Tamil, taati munjalu in Telugu.

### Nutritional compositions of Nungu fruit

Water	87.6g
Protein	.8g
Fat	.1g
Carbs	10.9g
Fiber	1g
Calcium	27mg
Phosphorous	30mg
Iron	1mg
Thiamin	.04mg
Riboflavin	.02mg
Niacin	.3mg
Vitamin C	5mg

**Rational**

Most people intake fortified vitamins supplements. Certain vitamins, particularly those that are fat soluble, can be overdosed on. Overdoses can range from mild to severe, and include symptoms such as fatigue, nausea, vomiting, constipation, diarrhoea, insomnia, sweating, anxiety, depression, heart palpitations, difficulty breathing, kidney failure, and a whole slew of other things. Vitamins to watch out Nungu has vitamin A, C, B7, K and iron that are extremely essential for health. Nungu has minerals, sodium and potassium that help regulate fluids in the body and quench thirst though we have Vitamin and minerals made of chemicals. This Nungu processed milk shake can supplement required vitamins and minerals and this is a healthy practice It also helps prevent dehydration which can be a prominent health issue during summer.

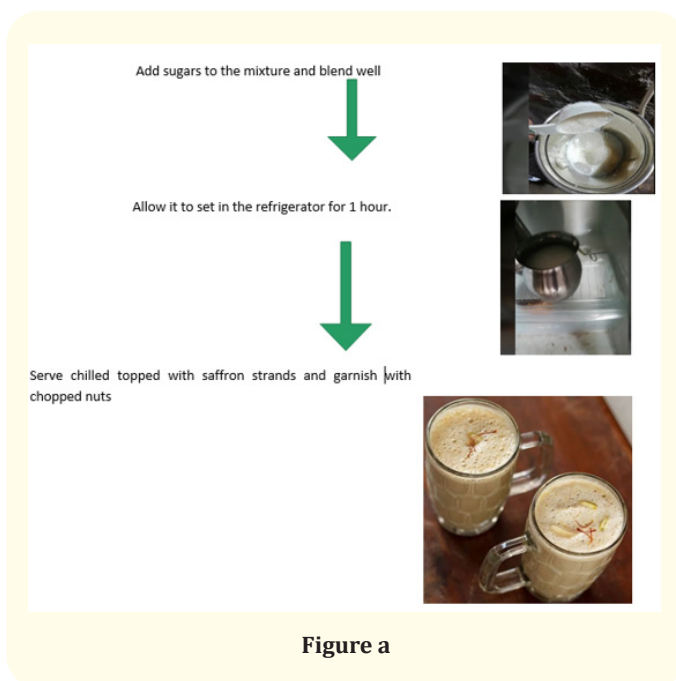
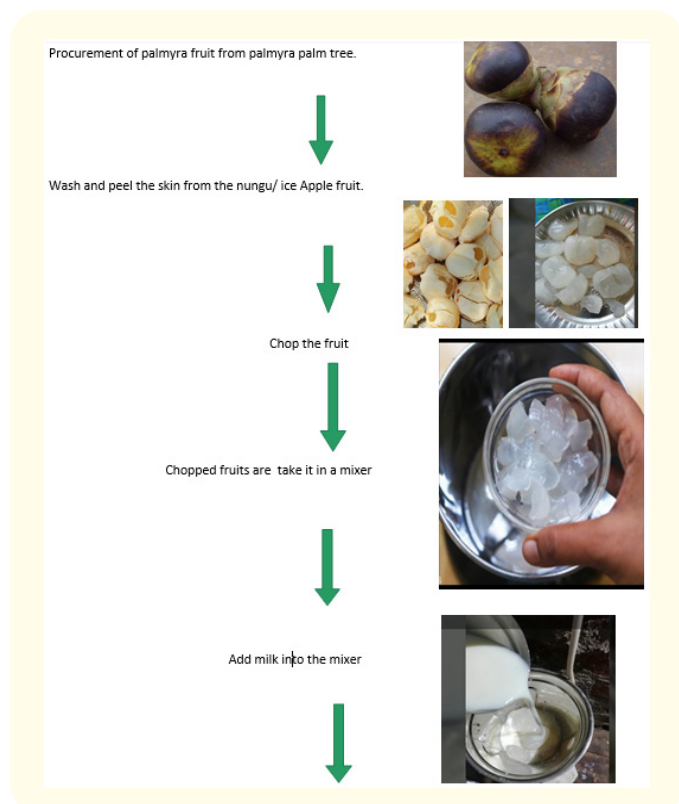
**Description**

**Raw materials used in making nungu milkshake**

- Medium-sized tender ice apples
- Milk
- Sugar
- Chopped almonds
- Few strands saffron.

**Technical plan**

Steps in preparation of nungu milkshake



**Figure a**

**Objectives and benefits**

- To produce milkshake for both vitamins and medicinal properties.
- To produce nungu milkshake of high quality, reduce weight gain.
- Helps relieve digestive problems.
- Helps relieve skin related problems.
- Palm fruit is a natural coolant and helps to keep the body cool during summer.
- Palm jaggery helps to reduce migraines.
- Prevention of diabetes.
- Palm fruit is rich in several phyto chemicals that possess strong antioxidant and anti-inflammatory properties.
- To produce nungu milkshake at cheaper rate.
- Less investment and more profit in nungu milkshake.

**Milestones to achieve goals:**

- Achieve customer loyalty
- Developing marketing strategies
- Profitable business model
- Reach significant number of sales
- First repeat client
- Realistic scalable marketing strategy
- Train a solid team for communication with consumer.

## Summary

Palmyra fruits are edible in all the stages. The male and female flowers are always produced in two different plants. The flowers are small, and pale yellow growing in clusters with a white string like inflorescences. Fruits are sub globose, and again in clusters. Usually a single tree will produce anywhere between 50 to 300 fruits. The size of the fruits range from 4 - 8 inches diameter, and are black, greenish white and black when ripe. The upper part of the fruit must be cut off to reveal the sweet jelly seed sockets to eat. There is one to a maximum of five jelly sockets in a single fruit although it is most commonly found to have three sockets. The kernel which is soft as jelly and translucent like ice is accompanied with sweetish water. This liquid has medicinal properties and is used by the local people to treat skin diseases. Each fruit consists of 1-3 seeds, each enclosed within a woody endocarp. Being rich in minerals and vitamins, sugar palm fruits are a healthy option for people on diet or suffering from diabetes. It is a rich source of vitamins B and C, iron, zinc, potassium, calcium, phosphorus, thiamine, and riboflavin. Palm fruit is a natural remedy for several stomach ailments and digestive problems. It helps in relieving constipation and in promoting normal bowel movements. It also helps in preventing acidity and stomach ulcers. Pregnant women are encouraged to eat ice apple, for it helps ease some of the minor stomach ailments and nausea that often occur during pregnancy. Palm fruit is an excellent cure for some of the common skin problems. Palm fruit is a natural coolant and helps to keep the body cool during summer. In this project we focused in preparation of nungu milkshake with trade mark use as well as adopting good unit packaging system. During the entire project plan we have studied viability of the project after giving the value addition in the form milkshake. By this study we made a conclusion that the initial investment for the preparation office apple milkshake was Rs 260/-, but the net profit is Rs 340/- upon total income of Rs. 600/-. Hence developing ice apple milkshake are economically viable means of approach for getting fruitful returns. Finally, it can be concluded that good unit packaging system along with attractive portable selling compartment at high public stop overs resulted in maximizing the sales.

## Challenges and constraints

- Improper selection of ice apple fruits
- Improper grinding of nungu fruit
- Improper storage of ice apple milkshake
- Ice apple milkshake short shelf life
- Partial packaging of capsules.

## Analysis of alternatives

- Easily available
- Least price
- Grinding of ice apple properly
- Keep the ice apple milkshake from diseases and pest free place
- Medium bottle ranges 150 ml to 200 ml
- Using of high-quality package material, with proper packing.

## Market plan

### Product:

- Product variety
- Quality
- Design
- Features
- Brand name
- Packaging
- Returns.

### Price

- List price
- Discounts
- Allowances
- Payment period
- Credit terms.

### Place

- Channels
- Coverage
- Assortments
- Locations
- Inventory
- Transport.

### Promotion

- Sales promotion
- Advertising the products by using leaflets
- Promotional literature by printing the leaflets along with product details

- Offering the real value or price
- Direct marketing
- The prime target for the product promotion lies between the 25 to 60 years of age group who is having different ailments and lifestyle diseases.

**Financial analysis**

Packaging material	Prepared no	Cost per each item	No of items sold	Money gained
Packed covers	10	50 Rs	8	400 Rs
Medium bottles	2	100 Rs	2	200 Rs
Total				600 Rs

Total expenses: 260 Rs

Total income: 600 Rs

Net profit = 600 - 260 = 340 Rs

Cost benefit ratio = Expected benefit/Associated cost

= 340/260

= 1.30%.

**Achievements**

- Better price realisation
- Better sale
- Better consumer response.

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