

# Moulded Coconut Sugar from Fresh Coconut Sap

Coconut sugar is derived from the coconut (*Cocos nucifera* L.). Sugar can also be derived from other palms like *Arenga pinnata*, *Borassus flabeliver* and *Nipa fructicans*. Since coconut has long been commercially cultivated prior to other palms, coconut sugar has dominated palm sugar production.

The following technology sheet for coconut sugar production was sourced from the Institute for R&D of Agro-based Industry (IRDABI), Ministry of Industry.

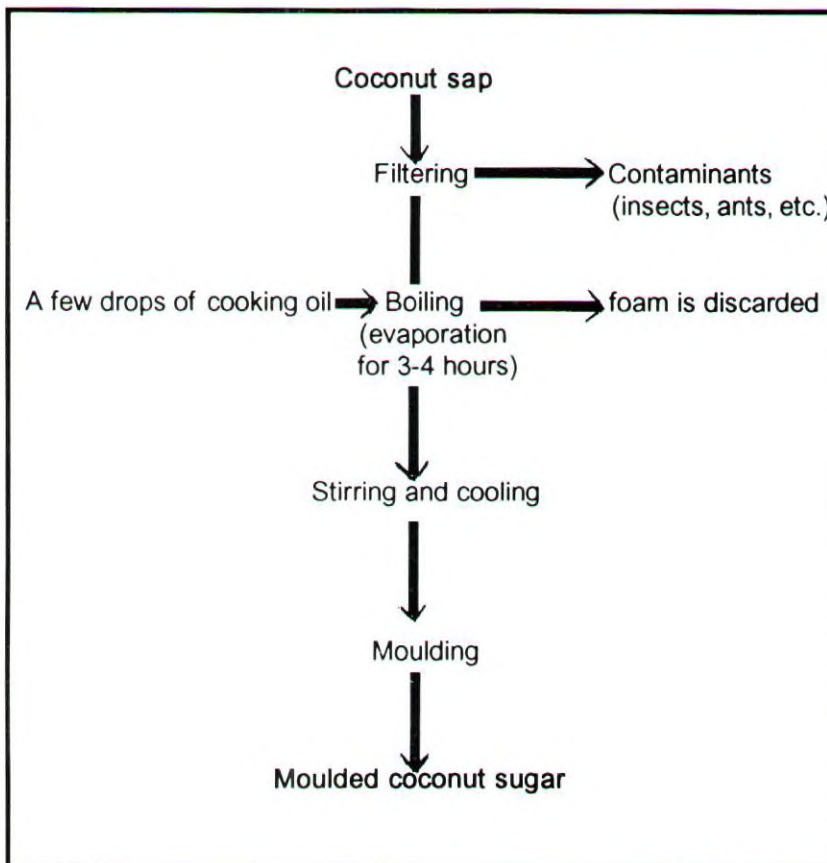
**Technology sheet for:** Moulded coconut sugar from fresh coconut sap (cottage industry).

**Uses of finished product:** Used for edible purposes such as sweetening agent in many traditional food preparations and food products.

**Country of origin:** Indonesia

**Equipment:**

- Bamboo vessels for sap collection.
- Aluminium cooking pan, capacity 25 liters.
- Wooden stirrer.
- Traditional stoves for cooking process.
- Half coconut shell or small bamboo vessels for moulding the sugar.
- Muslin cloth for filtering the sap.
- pH indicator paper for testing acidity of the sap.



Process flow diagram

- Knife for tapping the sap.

**Capacity:** The production capacity is 6-7 kilograms of sugar per day.

**Description of process:**

- *Treatment of collection vessels*  
The collection vessels are washed with clean water, followed with hot water, and then dried. Alternatively,

the clean vessels are smoked using firewood for 10 to 15 minutes. These treatments are done to reduce microbial contents. Pour into the vessels 1 tablespoon of lime in the form of paste or a few pieces of mangosteen bark or other natural preservatives to prevent spoilage of sap during tapping.

- *Collection of sap*  
Collection of sap from the palm tree is done twice a day at 6 to 7 o'clock in the morning and 4 to 5 o'clock in the



Photo by J.G.N. Timhoff

*Toddy tapping*

afternoon. The collected sap is tested for acidity using pH indicator paper. However, not all of home processors do this method. The fermented or spoiled coconut sap is not suitable for making brown sugar.

*Filtration*

The sap is filtered through muslin cloth to remove insects, ants and other contaminants. The filtered sap is then collected in a cooking pan.

*Evaporation*

The filtered sap is boiled at the temperature of 100°C - 110°C for 3 hours. The sap then becomes thick liquid. Foam that results from boiling should be discarded. A few drops of cooking oil or grated coconut is added to the mash to prevent excessive foam formation. The mash is heated for another one hour with occasional stirring. Heating is done slowly to avoid caramelization of sugar. When the mash is very thick and suitable for moulding, the cooking pan is lifted

from the stove and cooled to 60°C. The cooled mash is poured into clean coconut shell halves or small bamboo vessels for cooling and setting. The coconut sugar is removed from the mould and packed in plastic bags, dried coconut leaves, tin cans or other packaging materials.

**Quality:** The quality of finished product varies from processor to processor. The sugar is dark brown or light brown and has a characteristic flavour of coconut. The sugar content of moulded coconut sugar is 80 per cent. □



Photo by J.G.N. Timhoff

*Cooling and setting the mash*



Photo by Z. Herman

*Coconut sugar*