Neera and its products in international trade
Major producers of coconut in the world

- India
- Indonesia
- Philippines
- Srilanka
- Thailand
- Malaysia
unopened flower of coconut tree

Coconut Development Board
Coconut flower syrup in Phillipines

Coconut Development Board
Coconut Development Board
Coconut palm sugar

Coconut Development Board
Vessel used for collection of Neera in Philippines

Coconut Development Board
Manufacturers of Neera and its products in the world

- Philippines: 38%
- Indonesia: 18%
- Thailand: 22%
- Malaysia: 8%
- Srilanka: 14%
INDONESIA

• Production - 6 lakh MT annually

Demand:

• Local demand

• Institutional demand eg.
  • Indofood - 30,000 MT per year
  • Unilever - > 30,000 MT

• Export
A surging trend in production and market demand as healthy and natural product from 2007 to present.

**EXPORT VOLUME**

Current Export Price:
US$ 4.50 - 6.50 per pound

![Coco Sugar Export Volume (Kg)]

*Partial Data / Source: PCA-MDD, 2011*
EXPORT DESTINATION

- CANADA
- USA
- NORWAY
- FRANCE
- MIDDLE EAST
- S. KOREA
- JAPAN
- ASIA
- PHILIPPINES
- AUSTRALIA
- NEW ZEALAND

Source: MDD
CLASSIFICATION OF
GLYEMIC INDEX (GI)
OF FOODS

<table>
<thead>
<tr>
<th>GI</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>(GI)</td>
<td>(75-100)</td>
<td>(56-74)</td>
<td>(55 or &lt;)</td>
</tr>
</tbody>
</table>
Comparative GI’s of Sugars

Glycemic Index (GI) below 55 is considered low.

Source: FNRI GI Results (Trinidad, 2011)
IRON, ZINC AND CALCIUM CONTENT OF COCONUT SAP SUGAR AND SYRUP

[Bar chart showing the comparison of Iron, Zinc, and Calcium content between Coco Sap Sugar and Coco Sap Syrup.]
SODIUM AND POTASSIUM CONTENT OF COCONUT SAP SUGAR AND SYRUP

<table>
<thead>
<tr>
<th>Sodium</th>
<th>Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coco Sap Sugar</td>
<td>200</td>
</tr>
<tr>
<td>Coco Sap Syrup</td>
<td>1200</td>
</tr>
</tbody>
</table>

Coco Sap Sugar | Coco Sap Syrup
IRON (Fe) AND ZINC (Zn) CONTENT OF SUGARS*
(mg/100 g Sample)
# APCC Standard for Coconut Sugar

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Light yellow/cream to dark brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet pleasant nutty aroma</td>
</tr>
<tr>
<td>Taste</td>
<td>sweet</td>
</tr>
<tr>
<td>Others</td>
<td>Free from filth and extraneous matter</td>
</tr>
<tr>
<td>Moisture Content (%)</td>
<td>Cube/block : max 10 Granular : Max</td>
</tr>
<tr>
<td>Glucose (%)</td>
<td>2.8-3.0</td>
</tr>
<tr>
<td>Fructose (%)</td>
<td>1.0-4.0</td>
</tr>
<tr>
<td>Sucrose (%)</td>
<td>78.0-89.0</td>
</tr>
<tr>
<td>Ash (%)</td>
<td>&lt;2.4</td>
</tr>
</tbody>
</table>
# APCC Standard for Coconut Sugar

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total plate count</td>
<td>Cube/block : 10000 cfu per g</td>
</tr>
<tr>
<td></td>
<td>Granular : &lt;10 cfu per g</td>
</tr>
<tr>
<td>Coliform count</td>
<td>Cube/block : 100 cfu per g</td>
</tr>
<tr>
<td></td>
<td>Granular : &lt;10 cfu per g</td>
</tr>
<tr>
<td>E Coli</td>
<td>Negative</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>Negative</td>
</tr>
<tr>
<td>Salmonella</td>
<td>Negative</td>
</tr>
<tr>
<td>Yeast/Mould</td>
<td>&lt; 10 cfu per g</td>
</tr>
</tbody>
</table>
## APCC Standard for Coconut Sugar - Contaminants

<table>
<thead>
<tr>
<th>Heavy Metals</th>
<th>Value (mg per Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>Max 40.0 mg per kg</td>
</tr>
<tr>
<td>Mercury</td>
<td>Max 0.03 mg per kg</td>
</tr>
<tr>
<td>Tin</td>
<td>Max 40 mg per kg</td>
</tr>
<tr>
<td>Copper</td>
<td>Max 10 mg per kg</td>
</tr>
<tr>
<td>Lead</td>
<td>Max 2.0 mg per kg</td>
</tr>
<tr>
<td>Arsenic</td>
<td>Max 1.0 mg per kg</td>
</tr>
</tbody>
</table>
PROJECTED REQUIREMENT FOR ALTERNATIVE SWEETENER

Assumptions
1. 346 M people are diabetics worldwide, (WHO, 2011);
2. Computation of daily sugar intake is based on the Recommended Daily Intake (RDI) for diabetic which is 5g daily;
3. Computation of annual requirement of alternative sweetener is based on the percentage of diabetics multiplied by RDI of sugar and number of days
   \[ \frac{[\{(346M \times 0.01) \times (5 \times 365)\]/(1000g/Kg)}{(1000Kg/MT)} \]
4. Percentage of target diabetics: 2012-1%; 2013-2%; 2014-3%; 2015-4%; and 2016-5%

Basic Source of Data: WHO

Coconut Development Board
DIABETES STATISTICS

Estimated percentage of people ages 20 years or older with diagnosed and undiagnosed diabetes, by age group, United States, 2005–2008

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20–44</td>
<td>3.7%</td>
</tr>
<tr>
<td>45–64</td>
<td>13.7%</td>
</tr>
<tr>
<td>≥65</td>
<td>26.9%</td>
</tr>
</tbody>
</table>


Estimated number of new cases of diagnosed diabetes among people ages 20 years or older, by age group, United States, 2010

About 1.9 million people ages 20 years or older were newly diagnosed with diabetes in 2010.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>20–44</td>
<td>465,000</td>
</tr>
<tr>
<td>45–64</td>
<td>1,052,000</td>
</tr>
<tr>
<td>≥65</td>
<td>390,000</td>
</tr>
</tbody>
</table>

Source: 2007–2009 National Health Interview Survey estimates projected to the year 2010
INDUSTRY MILESTONES

2011-present
Intensive promotion as PCA's promising product pushed by Admin Forbes

2007
PCA funded GI Analysis of Coco Sugar thru FNRI-DOST
Dr. Trinidad Trinidad
March 7: Press Release about the GI Introduction in Korean Market
Promotion in the Export Market

2002-05
Coco Sugar Technology Development thru COGENT in Balingasag, Misamis Oriental
RM Cruz, Luisa Molo and Joy Gamolo and Erlene Manohar

2008-2010
Commercialization Coco Natura Branding & Packaging
Establishment of Aroman Women's Natural Food Producer
Ms. Erlene Manohar; Mr. Tammy Jalos; Ms. Elvira Silva; and Engr. Evelyn Caro

2006
Introduced the Coco Sugar in the Coco Week Trade Fair - RM Cruz and Ms. Erlene Manohar
Coco Sugar Processing Project supported by former Admin. Garin

1997-2001
SCTNP Technology was developed - Dr. Magat

1995
Coco Sugar Project of PCA Funded by FAO in ZRC - Dr. Magat
Coconut sap drink in Philippines

Coconut Development Board
Neera in Thailand
According to Gandhi, coconut blossom sugar provides a way to solve the world’s poverty, as an antidote against misery.

“The juice of the coconut tree can be transformed into a sugar as soft as honey... Nature created this product such that it could not be processed in factories. Palm sugar can only be produced in palm tree habitats. Local populations can easily turn the nectar into coconut blossom sugar. It is a way to solve the world’s poverty. It is also an antidote against misery.”

Mohan das K. Gandhi 3.5.1939

Mahatma Gandhi largely experimented with food; it was important to him. His personal diet was vegetarian and consisted of 1 litre of goat’s milk; 150g wheat and rice; 75g leaf vegetables; 125g other vegetables; 25g lettuce; 40g ghee and 40-50g coconut blossom sugar.

Excerpts from Internet: http://www.noble-house.tk
Coconut sap drink in Philippines
Packed Neera in Karnataka

Coconut Development Board
Coconut flower syrup

Coconut Development Board
Coconut palm sugar

Coconut Development Board
DIFFERENT BRANDS OF COCONUT SUGAR
PRODUCT BRANDS GLOBALLY AVAILABLE
THE PHILIPPINE BRANDS
Improved Product Utilization

- Raw Sugar
- Bottled Sugar
- Other Uses
Market potential for Neera and its products in India

- 468 cities and towns in India
- 9 metro cities with over 4 million population
- 43 Cities with over a million population
- JNNURM cities
- 50% of towns with population above 1 lakh
- Towns with population above 1 lakh
Neera - the health drink of tomorrow