

Neera: The coconut sap: A review

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Abstract

Coconut is a very popular member of palm family-*Arecaceae*. It is the only accepted species of genus *cocos*. It is also a part of daily diet of many people. This is a very popular fruit as it has some cultural and religious significance, beside that every part of this fruit is use in different works. Neera is a product that is coming from the flower of coconut. It is a nectar type liquid. Neera is sweet, translucent in color and also has very high nutritional value. It is a very good source of vitamins, minerals and amino acid. Neera syrup is used as a health drink in connection with Ayurveda and other systems of medicine. Palm gur (jaggery), Palm sugar and other by products are produced by heating fresh neera and concentrating it.

Keywords: coconut, neera, endosperm, nectar, jaggery

Introduction

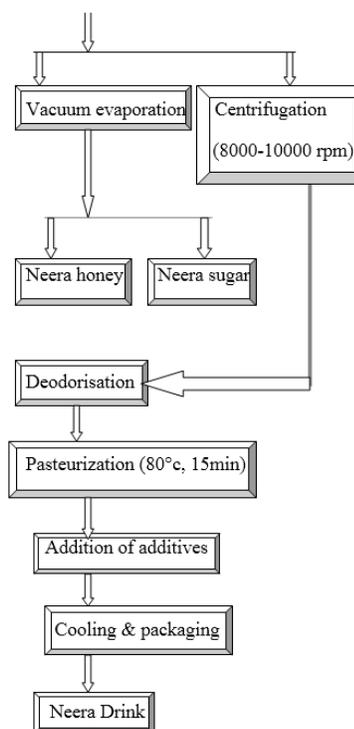
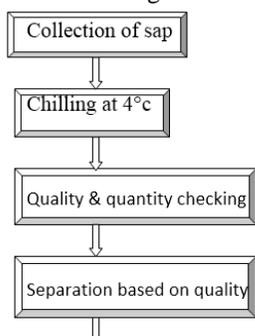
Neera, the sweet sap of the coconut palm has a high nutritive value, delicious taste and a good flavor. It is obtained by trapping the unopened inflorescence of the coconut palm. It is nonalcoholic and notorious drink. Neera is a source of sugars, minerals and vitamins. It is sweet, oyster white in color and translucent. It is tapped from the coconut inflorescence & is filtered, pasteurized and bio preservatives added to preserve the product. Treated neera can be preserved in cans up to 2 months at room temperature. It can also be packed in tetra packs or glass bottles.

Nutritional Composition of Neera

Total solids(g/100ml)	15.2-19.7
pH	3.9-4.7
Specific gravity	1.058-1.077
Total sugar(g/100ml)	14.40
Original reducing sugar(g/100ml)	5.58
Total reducing sugar (g/100ml)	9.85
Total ash(g/100ml)	0.11-0.41
Citric acid(g/100ml)	0.50
Alcohol in %	nil
Iron (g/100ml)	0.15
Phosphorus (g/100ml)	7.59
Ascorbic acid(mg/100ml)	16-30
Total Protein(g/100ml)	0.23-0.32

Processing of Neera

The process flow chart is given below-



This is the total processing steps of neera drink and it's by products.

Collection of Neera

Neera is collected every morning just at sunrise. This also very important as per my practical knowledge and from the theoretical inputs from various scientists for the basic fact that as soon as the sun light hits the surface the very process of fermentation starts. The sap is extracted and collected by a tapper. The sap is collected from the cut flower of the Coconut. A container is fastened to the flower stump of collect the sap. The white liquid that initially collects tends to be very sweet and non- alcoholic. Neera is brought down from the top of the tree in either earthen pots or vessels, and then poured into stainless steel containers and bigger vessels, after being

filtered through a fine mesh cloth or wire-mesh. Neera is very much susceptible for fermentation at room temperature so after collection it will kept at low temperature & treated with some preservatives.



Fig 1: Collection of neera

Some Good Effects of Neera

- It is wholesome, cool & good for improving the health.
- Supplement for iron & vitamin deficiency.
- Clinical studies indicate medical applications for-asthma, tuberculosis, bronchial suffocation & piles.
- Believed to facilitate clear urination and prevent jaundice.
- High amount of glutamic acid which is the amino acid used by the body to build proteins.
- High in inositol which beneficial for the treatment of eye abnormalities, eczema etc.



Fig 2: Neera sap

Uses of Neera

Neera is popular as a delicious health drink. It is good for digestion, facilitates, clear urination & prevent jaundice. The nutrient rich sap has low Glycemic Index (GI of only 35) and hence diabetic friendly since very low amount of the sugar is absorbed into the blood. It is an abundant source of minerals, 17 amino acids, vit-C, B vitamins & has nearly natural ph. Coconut crystal can be made out of this pure, low glycemic natural sap. Sap crystals contain only 0.5% glucose, 1.5% fructose, 16% sucrose and 82% inulin- a prebiotic that promotes digestive health, it can be used as a good sweetener.

Value Added Products from Neera

Palm syrup

Palm syrup is produced when fresh neera is heated and concentrated into syrup. In many countries palm syrup is used

as a health and wellness drink and prevalently used in Ayurveda and other system of medicine.



Fig 3: Palm syrup

Palm jaggery

Neera converted into a solid or a semisolid crystalline mass ready for direct consumption is called palm jaggery. It has got wide use as sweetening agent in Indian village food products.



Fig 4: Palm jaggery

Palm honey

It is produced at 78 brix level. It is thick liquid syrup like honey. It is used as table syrup as a sweetener in confectionary items like ice creams. It is a rich source of iron for anemic patients and hence it is mainly used in pharmaceuticals formulation.



Fig 5: Palm honey

Palm sugar

Crystalline sugar made from neera or palm gur with or without classification is known as palm sugar. Ordinary palm sugar has a polarization value of 96°-98°. Here juice is de-limed filtered and boiled.

Chocolate toffees and confectionery items are made by palm sugar



Fig 6: Coconut palm sugar

Palm Candy

Like palm gur, palm candy has also importance among the products of neera. It is being produced and used since procuring sweet neera from Palmyra has been known. It has got its various uses in Ayurvedic medicinal preparations.



Fig 7: Palm candy

Molasses

Coconut molasses is sweet syrupy material obtained as a by-product of coconut sugar. Golden syrup and cattle feed are the other products made from molasses. Biochemical products like ethyl alcohol, acetic acid, citric acid etc. can be prepared out of molasses by fermentation methods.

Coconut vinegar

Coconut vinegar can be produced from the inflorescence sap other than from matured coconut water. Fresh sap is poured in a wide large plastic container with clean netted cover to allow aeration and prevent entry of dirt & foreign objects, after about ten days fermentation in well ventilated room, the sap can be harvested vinegar. Vinegar has the extensive use of preservative in Figle industry and flavoring agent in food processing sector.



Fig 8: Coconut vinegar

Popular Products Made By Neera

Neera soft drink

Chilled neera is a nutritious drink. It contains a number of minerals & salts, acids like ascorbic acid, nicotinic acid, riboflavin & also protein & vitamin-c. It has less calorific value apart from being sweet & delicious. It has been medically proved that neera is better than mineral water.



Fig 9: Neera soft drink

Neera cookies

These type of cookies is made with flour, grated coconut and jaggery powder. These are the good choice for diabetic patients. It is known that having healthy snacks between main meals will help maintain glucose levels in diabetic patients. Cookies made with neera jaggery is fit for this purpose since its glycemic index (GI) is very low (GI 35). Different type of cookies are possible with varied main contents like oats, multigrain, arrow root, corn, whole wheat & Fige.



Fig 10: Neera cookies

Neera Chocolate

Consumer may no longer have to worry about calories while eating chocolate. There is a good news for children and also for the adults who are chocolate lover. Mangalore based Central Arecannt and Cocoa Marketing & Processing Cooperative (Campo) Ltd. on this July 2016 launch a chocolate that will have sugar made from “Neera” or sap of coconut palm which will be safe for consumption even for diabetic.



Fig 11: Neera chocolate

Neera Sweet

This is a very fruitful confectionery product for diabetic patient who are fond of sweets. It is made and marketed by famous sweet producer and seller of West Bengal- Felu Modak. The sweet is made with kheer as a main ingredient and coconut sap or neera as sweetener. The color of the sweet is yellowish and named as Keshar Peda or sometimes Neera. The price of this peda is Rs. 15/pc. This sweet is a blessing for diabetic patients and they like it so much this days.



Fig 12: Neera sweets (prepared by Felu Modak)

Conclusion

Neera is safe & perhaps the best health drink for patients suffering from diabetes. Beside of the drink various types of value added products and confectionaries like cake, ice cream, and sweets can be produced from this sap which has low GI index, and this is a very good news for diabeticians who are afraid of taking such sweet foods. Now they can easily take their favorite confectioneries without any harmful effect on blood sugar level.

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