

# Coconut milk- the real facts

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Coconut milk is the liquid made from the grated meat of coconut. The term coconut milk is conventionally defined as the aqueous products, free from fiber, extracted from solid coconut endosperm but optionally may include a small amount of coconut water. This definition was proposed by the Standard Task Force of the Asian and Pacific Coconut Community (APCC) in the year 1994. People who cannot drink cow's milk can easily switch to the more flavourful and healthy coconut milk. The colour and rich taste of coconut milk can be attributed to the high oil content. Coconut milk is a very popular food ingredient used in Southeast Asia.

## Nutritive value of coconut milk

One cup of coconut milk (about 240 gm) contains 13 gm carbohydrates, 5 gm fibre, 5 gm protein and 57 gm fats (mainly saturated fats). One cup of coconut milk can provide about 552 calories. Coconut milk is rich in numerous minerals, giving at least 10 percent of our daily recommendation of several types. It contains higher level of iron to help with oxygen transportation to cells, magnesium, phosphorus and manganese. Coconut milk benefits overall health by giving selenium and zinc to improve immune functions. It does contain small amounts of B vitamins to support body metabolism and gives energy, in addition to vitamin K for blood-clotting processes. Coconut milk also contains vitamin C and vitamin E, nutrients that safeguard cells and get rid of free radicals.

Nutrient content of Coconut milk (240g)	
Nutrient	Coconut milk 1 cup (240 g)
Calorie	552 cal
Total Fat	57.2 g
Cholesterol	0 mg
Sodium	36 mg
Total Carbohydrates	13.3 g
Proteins	5.5 g
Vitamin A	0 %
Vitamin C	11 %
Calcium	4 %
Iron	22 %

## Health Benefits

Coconut milk is rich in lauric acid, a medium-chain fatty acid that is abundant in mother's milk. Lauric acid has antibacterial, antifungal and antiviral properties. Lauric acid may also reduce cholesterol and triglyceride levels, which lowers heart disease and stroke risks. Fat in coconut milk may increase metabolism and perhaps increase weight loss on a reduced-calorie diet. The medium-chain saturated fatty acids in coconut milk may also improve heart health. The fatty acids in coconut milk are a natural antiseptic and may help treat dandruff, skin infections, wounds and dry, itchy skin. Today many products like shampoo and soaps are

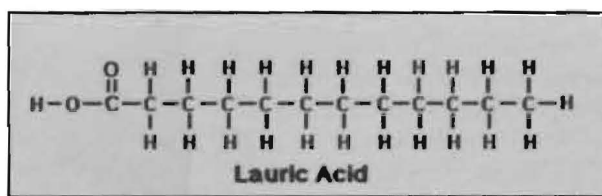
available in the market.

In Southeast Asia, Africa and even South America, coconut milk is used in curries, soups, sauces and even sweets, such as rice puddings and some baked goods. Unlike cow's milk, coconut milk is lactose free and can be used as a milk substitute by those with lactose intolerance. It is a popular choice with vegans and makes a great base for smoothies, milk shakes or as a dairy alternative in baking. Coconut milk is widely used in cooking by many cultures, especially Caribbean and Southeast Asian, where the milk provides scrumptious flavour as well as healthy nutrients. Almost all Indian dishes have coconut as its base. All vegetable and fish curries, coconut stew, payasam, kheer and pulao, are some common delicious recipes made out of coconut milk.

## Production

Coconut milk is produced by grinding the white coconut meat and then squeezing out the milk which may include water or liquid endosperm (coconut water). It is a combination of equal parts of shredded coconut and water, simmered and then strained through cheese cloth, squeezing out as much of the essence of the pulp as possible. Fresh coconut milk

## Structure of Lauric Acid



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normally contains over 34 % fat content and most of it is saturated fat. Coconut milk powder is the dehydrated form of the coconut milk. This product has a good keeping quality and retains the natural flavor, texture and taste of coconut milk. Coconut Development Board in collaboration with the Central Food Technological Research Institute has developed technology for spray drying of coconut milk, which is the most potential method for preservation of flavour and texture of coconut milk with good keeping quality. The process involves deshelling, paring disintegration of the kernel, squeezing the comminuted kernel in a screw press, standardization of coconut milk with maltodextrin and sodium cassiate, pasteurization spray drying and packing in aluminum packets. The powder is easily dissolved in water to form a milky white liquid with the flavour and texture of coconut milk.

To make coconut cream, it is suggested to mix or blend 100g powder with 120 ml water. The product contains 60.5 per cent fat, 27.29 per cent carbohydrates, 9.6 per cent protein, 1.75 per cent ash, 0.8 to 2.0 per cent moisture and 0.02 per cent crude fibre. The product has consumer demand in both domestic and international markets. Spray dried milk powder is produced on a commercial scale in the Philippines, Indonesia, Malaysia, Thailand and India.

### Technology used in preservation

#### Spray dryer

Coconut milk powder is whole coconut milk that has undergone five major processing steps : extraction of the coconut meat to get the milk, formulation, pasteurization, homogenization and spray drying.

The spray dried coconut milk

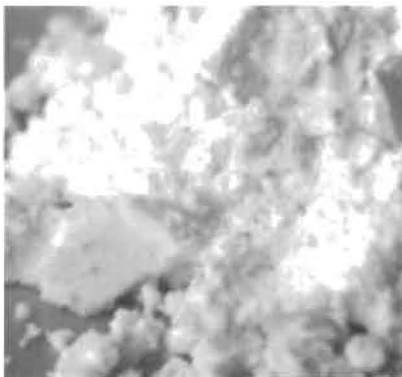


Spray dryer

powder is now available in convenient and ready to use packs with same freshness of fresh coconut milk. It has a longer shelf life and is convenient to use. This can be used in place of fresh coconut milk for food preparations / beverages in households and food industries by dissolving it in water.

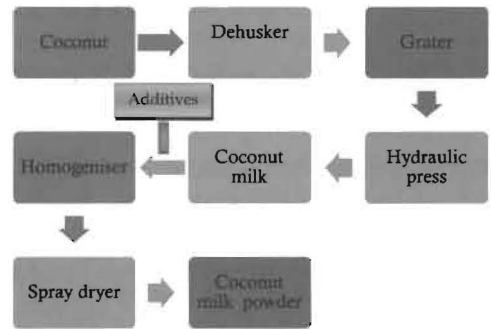
### Value added products from coconut milk

**Coconut milk powder:** Coconut milk powder is prepared by dehydrating the milk under controlled conditions. The composition of the milk is adjusted with fat percentage in the range of 50-60 per cent of the total solids. The emulsifiers and stabilizers are also added to the formulation. The most crucial step is the dehydration stage for which spray drier is employed at high temperature (around 180°C). Instant dehydration takes place converting each tiny droplet into



Coconut milk powder

### Production of Coconut Milk Powder



microcapsules with fine droplet of the oil inside.

**Coconut cream:** The concentrated milk extracted from fresh matured coconuts can either be used directly or diluted with water to make various curry preparation, sweets, desserts, puddings etc. Processed and packed coconut cream has a shelf life of six months and once opened it should be stored in refrigerator for subsequent use. Coconut cream, a concentrated form of coconut milk is a convenient product prepared from mature and fresh coconut.



coconut cream

**Coconut syrup:** Coconut syrup, a translucent, free-flowing liquid prepared by cooking coconut milk with an equal amount of refined sugar and di-sodium-phosphate equivalent to 0.25 per cent of the volume of the milk, until the mixture attained a TSS content of 68-70 per cent. It is used as a topping for bakery products or as a mixer in alcoholic drinks or may be diluted in water and used in cooking rice cakes and other delicacies.



Coconut syrup

**Coconut honey:** Coconut honey is viscous, free-flowing syrup, similar to coconut syrup but less creamy and less nutty in flavour was used as topping for pancakes and waffles. One part of skim milk is mixed with half part of refined sugar and half part of glucose, and then blended with sodium alginate at 0.5 per cent as stabilizer. Coconut cream may be added to improve the flavour of the product. The mixture is heated for 15 minutes, homogenized and cooked with constant stirring in steam-jacketed kettle to a TSS of 75 percent.



Coconut honey

**Sweetened condensed coconut milk:** Coconut skim milk is used in the preparation of sweetened condensed coconut milk. Powdered dairy skim milk is added for protein fortification and other ingredients such as corn oil, coconut cream and sugar are added. The skim milk is first pasteurized for 30 minutes at 80-90°C and mixed with other ingredients. The mixture is blended or passed through a colloid mill and heated in a steam jacketed kettle with constant stirring to a TSS content of 68%. It is packed hot in sterile tin



Coconut milk

cans and cooled immediately in cooling tanks.

Since coconut milk contains the essential nutrients as that of cow's milk, it could partially or fully substitute cow's milk. Food products containing milk could be replaced by coconut milk and supplemented to lactose intolerant patients. Since coconut milk contains Lauric acid it would promote immunity in the young and old. Coconut being an indigenous nut of India, can be used as a nutritious supplement for people of all age groups.

## India is hosting 51<sup>st</sup> ministerial meeting of the Asian and Pacific Coconut Community

The 51st ministerial meeting of the Asian and Pacific Coconut Community (APCC) will be held from February 2 to 5 in Kochi, Kerala, India. India is one of the founder members of the APCC, and is currently holding chairmanship of the organisation. The Asian and Pacific Coconut Community is an intergovernmental organisation founded in 1969, under the aegis of the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP).

It has 18 coconut-producing member countries, comprising of the Federated States of Micronesia,

Fiji, India, Indonesia, Kiribati, Malaysia, Marshall Islands, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Tonga, Vanuatu and Vietnam as full members; and Jamaica and Kenya as associate members. The APCC member countries together account for 90 per cent of the world's coconut production and export of coconut products.

The high-level meeting of ministers and delegates from the 18 member countries will review the condition of the coconut sector across the world and discuss issues related to coconut cultivation,

processing, marketing and trade, so as to evolve appropriate policies for the development of the sector. The APCC has invited representatives from 20 non-member countries also, where coconut is cultivated, to explore the prospects of establishing an international centre of excellence.

Observers from various organisations under the UN and international donor organisations will also attend the meeting. The meet is expected to make inroads into the development of trade in coconut and coconut products between the member countries.