

PRODUCT DESCRIPTION



The **Coconut Cheese** is a soft white cheese made of 18% coconut milk and 11% animal milk (non-fat dry milk, NFDM). Its production technology has been simplified by utilizing plain vinegar, instead of expensive animal rennet, to coagulate the cheese curd. The coconut milk is known to be rich in fat (20-40%) and contains proteins (2-5%) such as albumin, globulin, prolamin and glutelin which are easily coagulated by heat at pH 4 (Banzon et al., 1990). Addition of vinegar improves coagulation of both proteins and fat and separate them from the liquid portion, or whey.

Coconut Milk-a white emulsion obtained by manual or mechanical extraction of comminuted coconut meat with or without water.



'Kakang Gata' is the coconut milk obtained from single-stage extraction without added water.

Pasteurization – is the process of heating the product to a predetermined temperature and holding it until all or nearly all objectionable microorganisms, which may be present, are killed.

Coagulation - is defined as the change in the structure of protein (from a liquid form to solid or a thicker liquid) brought about by heat, mechanical action or acids. Enzymes may also cause protein coagulation e.g. cheese making (IFST, 2017).



COCONUT CHEESE PRODUCTION

Ingredients:

- ⇒ 625 g skimmed milk powder (NFDM)
- ⇒ 90 g salt
- ⇒ 1000 g coconut milk/'kakang gata'
(approx. 1014 ml) filtered
- ⇒ 3375 g (mL) water
- ⇒ 200 g (mL) vinegar

Materials and Utensils:

- ⇒ stainless casserole/mixing bowls
- ⇒ high heat-resistant spatula
- ⇒ food thermometer
- ⇒ cheesecloths
- ⇒ stainless steel skimmer
- ⇒ perforated basin/basket (for draining)

Note: Materials and utensils that have direct contact with the product should be clean and sterilized.

Basic Equipment used:

- Weighing scale for weighing ingredients
- Stove for pasteurization
- Chiller for storage

Procedure:

1. Mix the skimmed milk powder and salt (dry ingredients).



2. Mix the filtered coconut milk and water in a separate casserole (coconut milk solution).



3. Add the dry ingredients to the coconut milk solution and mix until fully dissolved.



4. Pasteurize the mixture at 70-72°C for 20 minutes with continuous stirring.



5. Put off the heat and add the vinegar. Mix thoroughly then heat at 85°C for 30 minutes without stirring.



6. Scoop the curd and drain overnight in the chiller.



7. Slice in a desired size. Pack in a suitable packaging material and seal properly.



NUTRITIONAL COMPOSITION OF COCONUT CHEESE

The coconut cheese is comparable to the appearance and texture of the 'kesong puti' made from cow's milk. They are similarly good sources of fat and protein, but the coconut cheese has higher phosphorus and calcium content (Table 1).

Fat from coconut milk is regarded as healthy since it is composed primarily of medium chain triglycerides (MCTs) which are abundant in mother's milk



particularly, lauric acid (Journal of the American Oil Chemists' Society, 1996). Lauric acid is converted in the body into a highly beneficial compound called monolaurin, an antiviral and antibacterial that destroys a wide variety of disease causing organisms (Alyaquobi, 2015). Lauric acid may also reduce cholesterol and triglyceride levels, which lowers heart disease and stroke risks (Brown, 2014).

Table 1. Nutritional composition of Kesong Puti and Coconut Cheese

PARAMETERS Per 100 g	KESONG PUTI*	COCONUT CHEESE**
Moisture, g	52	56.9
Ash, g	4.5	3.09
Fat, g	25	18.4
Protein, g	13.2	13.1
Carbohydrates, g	5.3	8.46
Phosphorous, g	166	324
Calcium, g	323	384
Sodium, mg	865.0	574.5
pH	-	5.99

Source: *Food and Nutrition Research Institute, 1997
**PCA-Food Product Development Division, 2019 (Analysis by third party laboratory)

One pack (40 grams serving size) of coconut cheese could provide 3% of the recommended energy intake of the body. It is a good source of protein (9% of the Recommended Nutrient Intake), dietary fiber (8% of RNI) and minerals such as phosphorus (31% of RNI), calcium (22% of RNI), and sodium (46% of RNI) which are essential for structural and functional properties of the body (Figure 1).

Nutrition Facts		
Serving Size 40 grams		
Servings Per Container		
Amount per Serving		% RNI*
Calories (kcal) 72	Calories from Fat 16	3%
Total Fat 2g		
Saturated Fat 2g		
Trans Fat 0g		
Cholesterol 3mg		
Sodium 229mg		46%
Total Carbohydrate 7g		
Dietary Fiber 2g		8%
Sugar 2g		
Protein 6g		9%
Vitamin D 0mcg		0%
Calcium 163mg		22%
Potassium 85mg		4%
Iron 0.5mg		4%
Vitamin A 0mcg RE		0%
Phosphorus 216mg		31%

Figure 1. Sample nutrition label for coconut cheese.

MICROBIOLOGICAL STANDARD (Cheese and Cheese Products)

Reference Criteria	m
<i>S. aureus</i> (coagulase +), cfu/g	10 ²
<i>E. coli</i> , MPN/g	11
<i>Salmonella</i> /25g	0
<i>Listeria monocytogenes</i> /25g	0
Coliforms, MPN/g	11
Psychrotrophic bacteria, cfu/g	10 ²

m – acceptable level of microorganism determined by a specified method; The values are generally based on levels that are achievable under GMP

Source: Food and Drug Administration Philippines, 2013

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COCONUT PROCESSING
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COCO CHEESE

(White Soft Cheese)

