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File name: developed\_from\_oil\_and\_nanocellulose\_obtained\_from\_coco...

File size: 13.15M

Page count: 165

Word count: 50,643

Character count: 282,100

Submission date: 26-Jul-2024 10:30AM (UTC+0530)

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#### Chapter 1

#### Intro

Coconut (Cocos mucifera L.) is a popular tropical plant grown in more than 90 countries; India, Philippines and the Indonesia are the major producers of coconut in the world, accounting for 75% of total world production (Alyaquobic et al., 2015). India Brand Equity Foundation (2022) reported that India contributed approximately 31.45% to the total worldwide output of eccount during 2021-22 with a substantial production of 19.247 million nuts. The coconuts are used for corpra processing, ecconut oil extraction, and coir manufacturing.

Coconut is in great demand for its tender water, oil, meat, and milk. Coconut milk is obtained after direct squeezing or addition of water; the extracted milk has falt, protein, and carbohydrate (Wang et al., 2020). It is an important ingredient in Asian cooking as well as other cuisines throughout the globe. Several factors affect occonut milk composition, including variety, age, ecconut growth environment, cultural customs, preparation technique, and extraction process variables, such as temperature and extent of water addition (Tangsuphoom and Coupland, 2005). Coconut milk has several vitamins, electrolytes, and minerals, including calcium, potassium, and chloride. Coconut milk is reported to reinforce the body's immune system (Benaissa et al., 2019). The major fatty acid present in occonut oil was Lauric acid, has been reported to inhibit neuroinflammation and provide an efficient cellular antioxidant activity, which protects the cells (Ramya et al., 2022). Coconut milk (CM) normally contains around 54% moisture, 35% fat, and 11% solid non-fat, and is classified as an oil in water emulsion. It is stabilized by naturally existing proteins like globulins, albumins and phospholipids like cephalin and lectribin.

Within five to ten hours of manufacturing, natural CM separates into cream and serum layers (Tangsuphoom and Coupland, 2005; Jirapeangtong et al. 2008). The separation of CM into water and cream phase is considered as the actual defect of CM and several techniques have been developed to stabilize the emulsion. Many factors account for the stability of the oil in water emulsion like fat content, type of stabilizing agents used, homogenizing pressure, and thermal process conditions. Marina et al. (2009) reported that during the virgin coconut oil extraction by chilling method, coconut milk is subjected to centrifugation to separate the coconut cream from the aqueous phase (coconut skim milk). The aqueous phase known as CM whye is a protein-cich (2-396) by-product of virgin coconut oil industry and is presently being disarded in the environment without any value addition. Adsacr and Annaere, 2021 I. This

Evaluation of defatted coconut milk and pineapple juice based beverage with curcumin-enriched Pickering nanoemulsion developed from oil and nanocellulose obtained from coconut

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